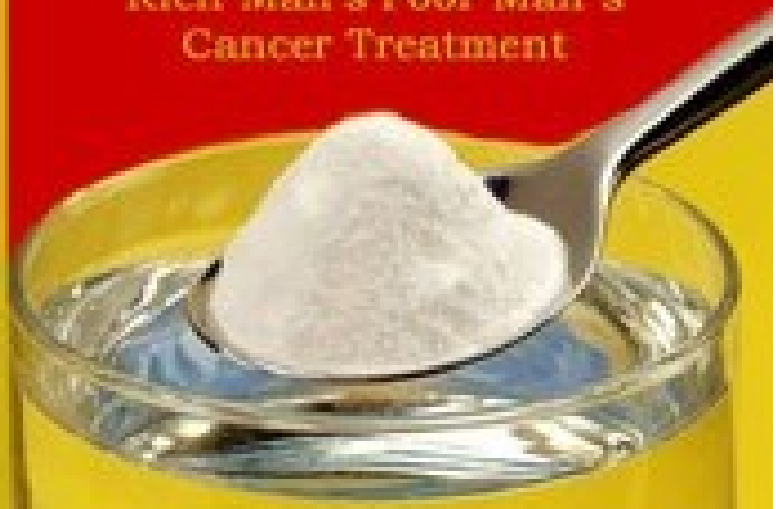
FULL MEDICAL REVIEW

Sodium Bicarbonate

2nd edition

Rich Man's Poor Man´s Cancer Treatment



Mark Sircus, Ac., OMD

About the Author

My name is Mark Sircus Ac., OMD and I am the director of the International Medical Veritas Association (IMVA). I was trained in acupuncture and oriental medicine at the Institute of Traditional Medicine in Santa Fe, N.M., and in the School of Traditional Medicine of New England in Boston. I served at the Central Public Hospital of Pochutla, in Mexico, and was awarded the honorary title of doctor of oriental medicine for my work there in the early eighties and I was one of the first nationally certified acupuncturists in the United States. That was in the early part of my life. For many years I lived the life of a recluse exploring inner ground and wrote poetry, music, and then dived into intense writings on a wide variety of subjects in the area of psychology and spirituality.

When my third child was born in 2003 I started researching vaccines and was inspired in a very short period of time to write and publish **Cry of the Heart**, which is about childhood vaccination. **The Terror of Pediatric Medicine** came three years later, which I launched as a cruise missile against the western medical establishment. It's available as a free ebook download from the IMVA site. As you will see from the first page it is Robert F. Kennedy Jr. who is spearheading a confrontation with the worst elements of the medical industrial complex. A colossal mistake has been made and it threatens the very fabric of western medicine, whose integrity is smashed, intelligence questioned.

IMVA International Medical Veritas Association

his book confronts the cancer industry's basic philosophy and practice by presenting comprehensive answers and a new paradigm for cancer treatment all of which is supported by empirical medical science.

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Preface

This book is going to come as a shock to the medical establishment, which is built on the foundations of increasingly expensive, dangerous and abusive treatments. The idea will be sorely resisted that something as inexpensive as sodium bicarbonate will outperform the most expensive pharmaceuticals. Across a wide range of disorders, including cancer and diabetes we find conclusive evidence and plenty of theoretical backing to suggest that sodium bicarbonate is a front line universal medicine that should be employed by all practitioners of the healing and medical arts for a broad range of disorders that are afflicting contemporary man.

When it comes to sodium bicarbonate it is an open and shut case. It is already in wide use and has been for decades, even by oncologists who do not want their patients dropping dead too quickly because of the tremendous toxicity of their treatments. Sodium bicarbonate is used routinely to keep the toxicity of chemotherapy agents and radiation from killing people or from destroying their kidneys.

Millions of people around the world either consume bicarbonate ions in drinking water or have been treated clinically with bicarbonate in hospitals, medical centers, or emergency units for the prevention and treatment of clinical acidosis as well as numerous other conditions. **Sodium bicarbonate helps to save countless lives every day.**

> Dr. Boris Veysman specialist in emergency medicine at the Robert Wood Johnson University Hospital in New Jersey describes one emergency room experience: “The emergency department is always noisy, but today the triage nurse is yelling “not breathing!” as she runs toward us pushing a wheelchair. A pale, thin woman is slumped over and looking gray. Without concrete proof of a “Do Not Resuscitate” order, there’s no hesitation. Click, klang, and the patient has a tube down her throat within seconds. I do the chest compressions. **On the monitor, she is flat-lining—no heartbeat.** I synchronize my words with the compressions and call out for an external pacemaker. Pumping ... thinking: Cardiac standstill … after walking in ... with cancer ... on chemo. This resuscitation isn't by the book. “**Get two amps of bicarbonate**,” I say to the intern. The jugular line takes seconds, and I flush it with sodium bicarbonate. This probably will correct the blood's extreme acidity, which I suspect is driving up the potassium. The external pacemaker finally arrives. Potent electric shocks at 80 beats per minute begin to stimulate her heart. The vitals stabilize.[1]

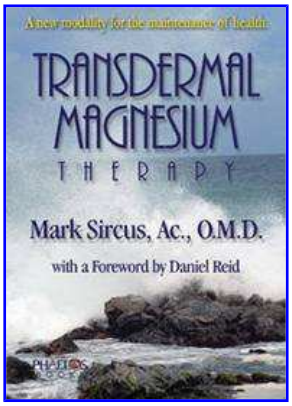
Baking soda (sodium bicarbonate) lives up to the image on the Arm & Hammer’s box; it is the **ultimate heavyweight workhorse medicine** that every healthcare professional and parent should be knowledgeable about and using on a routine basis. When combined with other strong but basic natural substances such as magnesium chloride and iodine, one has at one’s fingertips a trinity of medical superheroes ready to perform scientific medical miracles in a single bound.

Sodium bicarbonate is a wonder drug and a friend, and it is a substance you want on hand in quantity, especially in today’s times of economic and health hardships. It certainly qualifies as a survival medicine and in case of nuclear attack you will want quite a bit of it on hand to protect your family’s kidneys and other sensitive tissues. You will want it on hand for more reasons than you can possibly imagine, so go out and buy 25 to 50 pounds of it. Did you know you can buy 50 pounds of it for less than 50 dollars?

Sodium bicarbonate lessens the development of polycystic kidney disease in rats. Chronic administration of 200 mM sodium bicarbonate to rats inhibited cystic enlargement and prevented the subsequent development of interstitial inflammation, chronic fibrosis, and uremia.[2]

We are talking about serious medicine when we talk about sodium bicarbonate. Earlier and more frequent use of sodium bicarbonate is associated with higher early resuscitability rates and with better long-term neurological outcomes in emergency units. **Sodium bicarbonate is very beneficial during CPR**.[3]

Sodium bicarbonate is a natural compound about which we all need to be well-versed because it is amazingly helpful in so many different areas. Whether practitioner, patient or parent, all should know how to wield the mighty muscle (the famous Arm & Hammer logo is the appropriate image for sodium bicarbonate) of baking soda, knowing intimately its power and flexibility of application. Like magnesium chloride, **administration possibilities are versatile: intravenous, oral, transdermal lotion and baths, via catheter; it can be vaporized directly into the lungs and can be used in enemas and douches**.



I wrote *Transdermal Magnesium Therapy*, which has inspired clinicians around the world to treat their patients through the skin with magnesium chloride in the form of what is called magnesium oil. Sodium bicarbonate likewise can be applied topically, and pounds of it can be thrown into a bathtub for a great therapeutic effect. Magnesium chloride and sodium bicarbonate work together seamlessly making a dynamic duo that one day will tear down a great part of the pharmaceutical empire.

This book is the first full medical review on the extraordinary properties and clinical uses for which this essential nutritional substance can be used. Speaking about superheroes and miracles might seem a little over the top to the orthodox mind, but the evidence indicates I am well within my rights (and reasonable mind) to use passionate words and images. Water is a wonder drug that we can also talk passionately about for it is guaranteed to give life or restore it when one is dangerously dehydrated. Bicarbonate has a similar commanding power over a **central biological axis of life**—the pH buffer system and thus the relative alkalinity of the body's tissues.

Bicarbonate is present in all body fluids
and organs and plays a major role in
the acid-base balances in the human body.

Bicarbonate deficiency is the most unrecognized medical condition on earth even though it is extraordinarily common. Problems from acid pH levels (relative deficiency in bicarbonate ions) take a large toll from human physiology and the more acid a person gets, the larger the problem for cell physiology. Every biochemical reaction is pH sensitive with enzymes being especially sensitive. Our diet plays an important role in maintaining appropriate pH levels in the body.

Most modern diets give rise to unhealthy acidic pH conditions. An imbalanced pH will interrupt cellular activities and functions to extreme levels, especially as pH drops further. Excessive acidic pH leads to cellular deterioration, which eventually brings on serious health problems such as cancer, cardiovascular disease, diabetes, osteoporosis and heartburn. The fact that the biological life functions best in a non-acidic (alkaline) environment speaks volumes about the usefulness of baking soda.

"I have used intravenous sodium bicarbonate therapy mostly as a naturopathic treatment for patients who consistently react to allergens or who have chemical sensitivities. This is a great therapy during the Vancouver allergy seasons of spring and fall. The alkalinizing sodium bicarbonate IV can often immediately stop an allergic reaction or asthmatic attack since **such reactions cannot persist in an alkaline environment**. Some of my patients also get benefit from taking an alkalinizing drink every night to reduce their chemical sensitivity symptoms," writes Dr. Eric Chan. "All of my Vancouver and Richmond patients have tolerated this therapy markedly well."

"**Uniformly, increasing the alkaline buffer of the tissues of an ill patient makes him feel better.** As mentioned above, this is particularly true in chemically sensitive patients and can actually be a "cure" in the sense that we are increasing the body's ability to react in a healthy way to noxious stimuli. If I use the intravenous sodium bicarbonate in such patients, it is usually given twice a week for a period of 4-5 weeks. **Sodium bicarbonate is a very effective way to directly improve cellular health by making the tissue more alkaline**," concludes Dr. Chan.

Sodium bicarbonate loading and continuous infusion was
associated with a lower incidence of acute renal dysfunction in

cardiac surgical patients undergoing cardiopulmonary bypass.[4]

Sodium bicarbonate is the time honored method to 'speed up' the return of the body's bicarbonate levels to normal. Bicarbonate is inorganic, very alkaline and, like other mineral-type substances, it supports an extensive list of biological functions. Sodium bicarbonate happens to be one of our most useful medicines because bicarbonate physiology is fundamental to life and health. Being so helpful and elementary, it's even instrumental in helping sperm swim up and enter the cervical canal.[5]

It is not possible to be a fully educated medical professional without coming up to speed on vital medical information about sodium bicarbonate. This book is full of contributions from universities, hospitals and clinicians who have for decades been researching and using sodium bicarbonate for many medical applications. **Baking soda is an essential medicine**, and no emergency room or intensive care ward would be caught without it. This book represents a full medical review that combs through all corners of the medical universe to lay bare the full knowledge and scope of sodium bicarbonate's use in medicine.

Everything I know about bicarbonate you should know and when you do, you will know more than anyone else who has neither taken the time nor has had the interest to learn. Just imagine knowing so much more about such a basic vital substance to human physiology than anyone else around you including your doctors and the medical officials behind them. Take the journey and sail through bicarbonate seas. Read and learn and soon you will understand the medical truth about sodium bicarbonate.

This book also gives the keys to understanding the vast fraud and intended rip off of the labeling of carbon dioxide (CO2) as a poisonous gas. In these pages you will find the truth about CO2 because it is a great part of the secret about sodium bicarbonate (baking soda), which, when mixed with water, turns into CO2 in the stomach. As we shall see, sodium bicarbonate, CO2 and oxygen (O2) are all tied together. All three are essential for biological existence on planet earth. CO2 is no more a poison than water.

Sodium bicarbonate (baking soda) is probably one of the most useful substances in the world; no wonder the pharmaceutical companies don't want doctors or anyone else to know much about it. Sodium bicarbonate is an important medicine—of the safest kind—and it is essential when treating cancer, kidney disease and more.

Having problems with your pool? Dump 20 pounds of Arm & Hammer's baking soda into it. Baby has diaper rash? You already have the answer. Nuclear war? Well at least you have on hand the Army's recommended way of protecting the kidneys from radiation damage. Sodium bicarbonate is the best substance to replace toothpaste as it offers the very best in oral care.

I once bought an e-book on bicarbonate and it was a 35-page list of household uses. My wife loved me for buying the book because we had just had a baby. Bicarbonate leads you up to the shore land of foundational physiology, that place where we see CO2 dancing around with bicarbonate and how the two influence oxygen carrying capacity.

My knowledge about sodium bicarbonate continues to grow and I am only now coming to see how important it is for everyone to have lots of bicarbonate around the house—as much as can be stored. I feel the same about magnesium chloride and after that, iodine, and for sure we would not be caught dead without a supply of good clay, one type for oral use and another for external packs.

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[1] *Health Affairs*, 29, no. 2 (2010): 324-326 doi: 10.1377/hlthaff.2009.0407

[2] Torres VE, Cowley BD, Branden MG, Yoshida I, Gattone VH. Nephrology Research Unit and Division of Nephrology, Mayo Clinic, Rochester, Minn 55905, USA. Exp Nephrol. 2001;9(3):171-80. torres.vicente@mayo.edu

[3] Resuscitation outcome in emergency medical systems with increased usage of sodium bicarbonate during cardiopulmonary resuscitation. Bar, Joseph G et al; Acta Anaesthesiol Scand. 2005 Jan;49(1):6 Entrez PubMed

[4] Acute inflammation alters bicarbonate transport in mouse ileum. The Journal of Physiology. March 1, 2010, 588 (5) Hui Zhang, Nadia Ameen, James E. Melvin and Sadasivan Vidyasagar

[5] Okamura *et al.* 1985, Speroff *et al.* 1994.

Second Edition

The first 25 chapters or almost 200 pages are my new writings on bicarbonate since publishing the first edition, bringing new insight for cancer patients as well as general information for its use in a broad range of both acute and chronic disorders. Chapters might not be in the order of your principle interest so navigate as you please. I've written another new book entitled *Bicarbonate and Magnesium Medical Baths* that completes this volume, giving full instructions on the application of transdermal bicarbonate therapy for both spas and home bathing experiences.

Doctors and others who warn against sodium bicarbonate are doing the public a great disservice. We have to understand that there are doctors who are against safe and effective medicine. They prefer to deal with poisons like mercury, injecting it into babies while saying it is safe. There are those who warn against drinking too much water, of being too hydrated, when the real problem with patients is usually dehydration. Realize that pediatricians get sued for ignoring hydration issues more than anything else. It really matters who we trust in medicine; it can mean the difference between life and death.

Medicine and medical practice need to stand dead center on a new organizing principle of diagnosis and treatment of disease. That center is **pH Medicine**, and sodium bicarbonate would be the principle medical substance for controlling overall pH of the body. It's so simple that you don't even have to be a doctor to practice **pH Medicine**. Every practitioner of the healing arts needs to educate and teach pH Medicine to their clients as well as practice it on themselves.

Even people who eat raw food diets, which more or less guarantees that the pH in all the body tissues is appropriately alkaline, need to realize they too will benefit from the use of baking soda for everything from using it as a shampoo to brushing their teeth with it to using it as an alternative deodorant. It's essential in oral care and dentists are using it in their newest generation of oral cleaning instruments.

Broader uses in homes and hospitals are being found for sodium bicarbonate (baking soda) even though pharmaceutical interests are browbeating this simple substance since there is no money in its use for them or for doctors. But because of its strong pharmaceutical properties, its future is assured no matter how many studies or medical officials get up on their soapboxes to say differently. Baking soda's continued allure results from a combination of its proven effectiveness and its position as an environmentally-friendly substance.

There are many reasons to use baking soda, but one overall reason is that **sodium bicarbonate is a natural substance that will not harm us, our children or the environment because is it not a chemical compound that effects nature negatively in any way**. Baking soda is actually a compound that is found throughout nature—in the ocean, in the soil, in our foods, and in our bodies. Baking soda is a neutralizer of many other compounds, which makes it extremely helpful as a medicine in this age of toxicity that we are all presently passing through.

Sodium bicarbonate gets many rave reviews from gout sufferers as well as many others who have succumbed to chronic diseases like cancer, diabetes, neurological disorders and even heart disease and stroke. It has long been known that sodium bicarbonate can prevent the formation of uric acid kidney stones and can help dissolve existing uric acid stones especially when it is used alongside magnesium chloride. Sodium bicarbonate easily soothes the itchy skin that can occur from poison ivy, poison oak or prickly heat and can be used in combination with magnesium chloride and iodine to clear up just about any dermal condition.

All you need to do to relieve skin discomfort with baking soda is as follows: Add 1/2 cup to two or three pounds of baking soda to a bath with magnesium chloride or Dead Sea salt.

This most common substance is useful for so many disorders that it will take the full length of this book to explain both the why and the how of it. Few people have studied baking soda as extensively as I have and everything I know is in this book, so after you read it you will be a world-class expert on bicarbonate. This book is the authority on the subject representing as it does the work of many researchers, clinicians and companies like the Arm & Hammer Company, which has over 125 years of experience with people using baking soda.

Wonder Drug

The future of medicine is being changed and it's not the pharmaceutical madmen who will have their days extended for eternity but, instead, Mother Nature who will provide the basic medicinal substances that will provide protection and a return to health. This is the first full medical review of sodium bicarbonate in the history of medicine; it will change the way we think about baking soda, the way we practice medicine and the way we take care of our children.

The information in this book takes a big step toward transforming the field of pediatrics into something safer and more humane. **It also will change the way we treat cancer and other serious diseases**. Both chronic and acute disorders are resolved more easily when this strong-arm medicine is used to treat discomfort and disease.

The current controversy over sodium bicarbonate and its use in oncology might be relatively new but baking soda has a long history of helping people get through the worst medical conditions. *The Eloquent Peasant*, an Egyptian literary work dated around 2000 B.C., refers to a peddler selling natron, a natural blend of sodium bicarbonate, chloride and sodium carbonate used in mummification, just one of hundreds of uses for this compound. Baking soda's first widespread use was probably as a leavening agent for bread and other baked goods. It has been used commercially since 1775, although the now-famous Arm & Hammer brand wasn't introduced until 1867.[1]

Sodium bicarbonate (NaHCO3) is recognized by most as ordinary baking soda, which is found in deposits around the globe. Its backbone characteristic is to maintain balance of carbon dioxide, bicarbonate and pH. Sodium bicarbonate is available and sold in every supermarket and pharmacy in the world; is widely used in emergency rooms and intensive care wards in injectable forms; it is sold as a common household substance that is used for 500 different things according to one book about its general use.

Life-threatening asthma in children is often resistant to treatment with bronchodilators and systemic corticosteroids. Recent research suggests that administering sodium bicarbonate—an ingredient commonly found in kitchens—in intravenous (IV) form can significantly improve pH and PCO2 in children with life-threatening asthma.[2] **Sodium bicarbonate can save the day when nothing else can**. The only other substance about which we can say the same is magnesium chloride, which when injected will save a person during cardiac arrest and pull one out of a stroke if given soon enough.

An inflammation will not
manifest in an alkaline milieu.
Dr. Konrad Werthmann

This is one of the main reasons medicine has got to understand the basic elements of pH Medicine. What doctor Werthmann is saying is crucial, as is understanding inflammation's intimate connection with magnesium levels. In the second edition of my *Transdermal Magnesium Therapy* book I extensively cover the reality of how magnesium deficiencies lead directly to inflammation conditions and why magnesium chloride would be a primary substance to use as an anti-inflammatory. This book has a chapter called **Magnesium Bicarbonate** and it highlights the usefulness of almost always using sodium bicarbonate with magnesium chloride for greatest effect. Together they team up to supercharge everything from the mitochondria to vanquishing inflammation in a way that does no harm to the body. There are no side effects with such medicinals when they are used with prudence. Add iodine and one has the formula for infectious disease control in the 21st century, the age of toxicity and antibiotic-resistant infections.

"I have found that **in the case of an allergy, the simplest and most effective remedy a patient can**

be prescribed is sodium bicarbonate. Yet, more often than not, practitioners do not adequately consider bicarbonate's usefulness as an anti-allergic," writes Dr. Konrad Werthmann. Anti-allergic, anti-inflammatory, fungicide, anti-acid, and buffering characteristics are just some of sodium bicarbonate's life-enhancing properties.

An intravenous infusion of a solution of sodium bicarbonate reduces respiratory distress and excessive acidity of body fluids in children with life-threatening asthma flare-ups. Dr. Corinne M. P. Buysse and her colleagues point out in the medical journal *Chest* that high blood acidity, or acidosis, causes the heart to contract less strongly, reduces the effectiveness of beta-agonist bronchodilators used to treat asthma, and may stimulate rapid, shallow breathing. They explain that treatment with sodium bicarbonate has been shown to relieve bronchial spasm and restore the response to bronchodilators.

However, doctors have avoided the use of intravenous sodium bicarbonate for fear of increasing levels of carbon dioxide in the blood, never even thinking they can bypass injections, which can stress out the blood. Instead of injecting sodium bicarbonate, it is much simpler, safer and vastly less expensive to simply place our patients in baths full of bicarbonate or by having them drink it or both. Injections will always be used in emergency situations but when bicarbonate and magnesium chloride are used correctly we can avoid many emergency situations from developing.

"The use of sodium bicarbonate in cancer therapy, according to one protocol by Dr. Tullio Simoncini, uses 500 ml of a 5% sodium bicarbonate solution for patients weighing over 50 kg. A dosage of 500 ml of **5% sodium bicarbonate is on the upper end of dosing for this medicine**; in conventional medicine this dosage is used only in severe cases where the blood is in danger of becoming too acidic," writes Dr. Eric Chan.

When we employ transdermal and oral routes of administration, we are dealing with the broader issues of tissues and interstitial fluids shifting their pH levels radically into the alkaline while leaving the blood in its normally tightly controlled pH mostly unchanged. With these methods we do not have to worry so much about blood pH, which we do not in fact want to shift too hard in an upward direction. But despite the complications, which may be associated with intravenous sodium bicarbonate infusion, the use of this agent is often a necessity in patients with metabolic acidosis.

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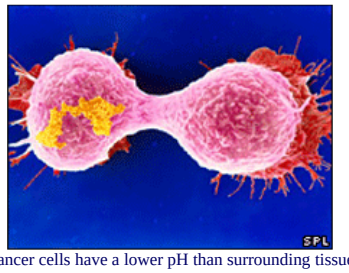
[1]Baking soda, used since B.C., is better than effervescent; sodium bicarbonate - good old NaHCO3 - is moving out of the refrigerator and into an amazing array of commercial products from shampoo to industrial cleansers.
findarticles.com/p/articles/mi_m1571/is_n17_v11/ai_16862358/

[2]Buysse CMP, de Jongste JC, de Hoog M. Life-threatening asthma in children: treatment with sodium bicarbonate reduces Pco2. Chest. 2005;127:866-870.

Baking Soda

Every Cancer Patients Best Friend



Cancer cells have a lower pH than surrounding tissue

As if it were not humiliating enough for orthodox oncologists to learn that the lowly chemical sodium bicarbonate (baking soda) is important in the treatment of cancer, now they have to swallow the research pointing to the fact that bicarbonate can also be used to *diagnose* cancer in its earliest stages. Oncologists do understand that bicarbonate is necessary to protect their patients from the toxicity and harm done by highly toxic chemicals used in chemotherapy. They also know it is extraordinarily helpful to patients receiving radiation treatments in protecting the kidneys and other tissues of the body from radioactive damages.

Oncologists should also know that bicarbonate-induced extracellular alkalinization leads to significant improvements in the therapeutic effectiveness of certain chemo agents. A number of studies have shown that the extracellular pH in cancers is typically lower than that in normal tissue and that an **acidic pH promotes invasive tumor growth in primary and metastatic cancers**. The external pH of solid tumors is acidic as a consequence of increased metabolism of glucose and poor perfusion. Acid pH has been shown to stimulate tumor cell invasion and metastasis *in vitro* and in cells before tail vein injection *in vivo*.

Researchers have investigated the very reasonable assumption that increased systemic concentrations of pH buffers would lead to reduced intratumoral and peritumoral acidosis and, as a result, would **inhibit malignant growth**. It has been shown that increased serum concentrations of sodium bicarbonate (NaHCO3) can be achieved via oral intake. These researchers found that consequent reduction of tumor acid concentrations significantly reduces tumor growth and invasion without altering the pH of blood or normal tissues.[1]

Oral NaHCO3 selectively increased the pH of tumors and reduced the formation of spontaneous metastases in mouse models of metastatic breast cancer. NaHCO3 therapy also reduced the rate of lymph node involvement and significantly reduced the formation of hepatic metastases. Acid pH was shown to increase the release of active cathepsin B, an important matrix remodeling protease.[2]

We know that bicarbonate dissolved in water easily turns to CO2 as it enters the stomach, but few know that **cancerous tissue turns bicarbonate into carbon dioxide (CO2)**. A few years ago a United Kingdom Cancer Research team found that MRI scans were able to track changes in bicarbonate and therefore identify cancers even in the very early stages.

All cancer has a lower pH, meaning it is more acidic than surrounding tissue. Working with mice, the researchers boosted the MRI sensitivity more than 20,000 times. **Using MRI, they looked to see how much of the tagged bicarbonate was converted into carbon dioxide within the tumor. In more acidic tumors, more bicarbonate is converted into carbon dioxide**.

Lead researcher Professor Kevin Brindle, from Cancer Research UK's Cambridge Research Institute at the University of Cambridge, said: "This technique could be used as a highly-sensitive early warning system for the signs of cancer. By exploiting the body's natural pH balancing system, we have found a potentially safe way of measuring pH to see what's going on inside patients. MRI can pick up on the abnormal pH levels found in cancer and it is possible that this could be used to pinpoint where the disease is present and when it is responding to treatment."

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[1] *Cancer Research* 69, 2677, March 15, 2009. Published Online First March 10, 2009;doi: 10.1158/0008-5472.CAN-08-2394

[2] Cancer Res 2009;69(6):2260–8

Cancer Intelligence

The U.S. Food and Drug Administration has approved a first vaccine to treat prostate cancer. The price tag? $93,000. Of course, this "vaccine", Provenge, doesn't actually prevent cancer. It also doesn't cure cancer. So what does it do? According to USA Today*: "... studies show that the vaccine does* ***help men with advanced prostate cancer live four months longer*** *... Many men on Provenge developed mild symptoms, such as fevers, chills and headaches.* ***One in four patients had a serious side effect ... with 3.5 percent suffering a stroke*** *..."*

The USA Today article went on to say that, "Although doctors still have many questions about the vaccine, many now believe it works and plan to use it soon on patients, says Otis Brawley, the Cancer Society's chief medical officer. Dendreon, the vaccine's maker, said the vaccine will cost $93,000 for the series of three shots. A February analysis by J.P. Morgan estimates that Provenge has the potential for blockbuster sales of $1.5 billion a year."

The above approach to cancer is lacking in intelligence. The cost, the side effects and the clear lack of reasonable result (buying a few months of life) exposes the desperate measures the medical industrial establishment will go to preserve its power. Dr. Joseph Mercola writes about this issue saying, "Naturally, many will say that you can't put a price tag on life, no matter how short, but what I'm questioning is not someone's urge to live as long as possible, but rather it's a question of what constitutes a successful cancer treatment worthy of such an exorbitant price. To me, it seems more like a last ditch effort to squeeze every last penny out of a dying man and his family, without offering any significant hope of prolonged life in return."

Immune Intelligence

A person's immune system is truly an amazing sentinel, quickly spotting trouble and doing away with it. It starts with the skin, which keeps most invaders at bay. It continues with complex cells produced deep in the bone marrow that attack and remember unwanted guests. As effective as it is, the immune system can be overwhelmed by highly specialized enemies such as cancer cells. But what if we could harness the power of the immune system? Could it fight more effectively? Could it beat cancer?

Intelligent doctors know the answer to these questions is affirmative. Having a diminished immune system offers one a quick ticket to cancer so strengthening it has got to help enormously. The Provenge vaccine has got to be the worst way of going about strengthening anything in the body. Vaccines in general have a weakening immune effect. Chemo and radiation therapies are famous for the immune destructive side effects. Even surgery can compromise immune system strength especially when essential physiology is ignored, as it usually is for most surgeons do not pay any attention to pre and post operative magnesium needs.

Dr. Chuck Morris tells us that, "Cancer is a systemic, not a localized, disease; it is a warning from your body that our diet and lifestyle need to be changed. 80% of our genetic predisposition towards disease can either be activated or held in check by proper diet and lifestyle which have direct implications for ones immune system strength. Every one of us has some cancer cells in our body every day, and our immune system is usually successful in destroying it, so a strong immune system is a key to fighting cancer. We only notice cancer if it overwhelms our immune system and grows into a noticeable tumor."

One of the biggest challenges oncologists face comes about after treatment; how to keep tumors from coming back once the patients leave the clinic and resume their normal lifestyles and diets? To prevent cancer's reoccurrence, one must keep the immune system strong with diet, lifestyle, some (not excessive) exercise, nutritional supplementation, and especially, a positive mental attitude.

Dr. William Li presents a new way to think about treating cancer and other diseases: anti-angiogenesis, preventing the growth of blood vessels that feed a tumor. The crucial first (and best) step: Eating cancer-fighting foods that cut off the supply lines and beat cancer at its own game. There are many ways to skin a cat the old saying goes and many ways to beat cancer but some are just supremely more intelligent than other ways.

Cancer survivors might want to try yoga to sleep better and have more energy, according to a new study to be presented at the American Society of Clinical Oncology Annual Meeting in June. It was found that those who did yoga were able to cut back on sleeping pills and slept better, as measured by a **22 percent increase in sleep quality** on a commonly used scale. That was nearly twice the improvement of survivors who didn't do the exercises. Yoga also cut fatigue by close to half, and led to an increase in quality of life.

A New Paradigm in Medicine

We do not have to die from cancer nor do we have to wait to go blind or amputate our feet because of diabetic conditions. With cancer and diabetic rates going through the roof the time to start treating oneself for both conditions is right now. Prevention of cancer and diabetes could also be called life extension treatments for they go hand in hand; they are really one and the same so why wait till one receives the diagnosis?

The mainstream model of cancer is dying a slow death, too slow to save hundreds of thousands from a cruel death. It's hard to believe but a "significant proportion of terminally ill cancer patients spend most of their final days and weeks subjected to grueling radiation therapy (radiotherapy). What makes this extra heartbreaking and downright outrageous is that irradiating dying cancer patients does absolutely nothing for the vast majority -- except to cause more end-of-life suffering and to keep countless people in the hospital, instead of allowing them to die at home," wrote S. L. Baker. This is just one example of pathological medical thinking, philosophy and practice.

Medicine is ignorant and becoming more and more so because it refuses to keep up with medical science. Worse it refuses to acknowledge medical truth even when it is published and widely accepted science. For instance it is well established that exposure to ionizing radiation can result in mutations or other genetic damage that cause cells to turn cancerous but that has not stopped oncologists from using radiation therapy. Now a new study led by researchers with the U.S. Department of Energy's Lawrence Berkeley National Laboratory (Berkeley Lab) has revealed another way in which **radiation can promote cancer development**. Working with cultures of human breast cells, the researchers discovered that radiation exposure can alter the environment surrounding the cells so that future cells are more likely to become cancerous. "Our work shows that **radiation can change the microenvironment of breast cells, and this in turn can allow the growth of abnormal cells with a long-lived phenotype that has a much greater potential to be cancerous**," says Paul Yaswen, a cell biologist and breast cancer research specialist with Berkeley Lab's Life Sciences Division.

There are extraordinarily simple, safe and effective ways of treating the diseases of our time that are affordable to most if not all of humanity. These treatments can be organized into a new form of medicine, which can be mainstreamed because they are backed by medical research and science. This is not to say that patients do not have to resolve crucial, difficult and complex issues of mind, emotion and spirit but it does mean that the physical body does not have to be surrendered to an expensive and terrorist form of dated medicine that hurts more than it helps.

When we penetrate the relationships between diabetes, cancer and several key factors like chemical toxicity and nutritional deficiencies the picture of cancer and what to do about it becomes clearer. Albert Einstein throughout his life dreamed of a grand unification theory to explain and pull together everything in the physical and energy universe of time and space. What follows is as close as we will get to something like this in medicine - tying together diabetes, cancer, bicarbonate deficiencies, acid conditions, magnesium and iodine deficiencies, mercury, nutritional deficiencies and fungi and yeast overgrowth into a comprehensible whole.

Cancer and diabetes are grim reapers culling ever larger percentages of people from health, harmony and a life lived without suffering. There is no way to measure in terms of human misery how much harm these two diseases inflict around the world each year. But we do know that the American Cancer Society indicated 559,650 deaths from cancers in the United States in their 2007 Surveillance Research.[1]

A paradigm is a set of criteria that we use to define what's important and to determine how to do things. A paradigm is a viewpoint and a set of rules and in modern medicine these rules are not healing.

The present medical paradigm is a closed model that fails badly to explain and address problems with living biological systems. The basic assumptions at the heart of allopathic medicine are severely distorted coloring everything mainstream doctors see and do.

For two centuries, vaccination has been the dominating approach to develop prophylaxis against viral infections through immunological prevention. It's a dangerous paradigm because it's a wrong paradigm. A new paradigm for cancer and diabetes is obviously needed and it certainly is not the vaccine paradigm that will come to our rescue though several companies and the federal government feel differently.

According to Stephen Neidle, DSc, PhD, professor of chemical biology and director of the Center for Cancer Medicines at the School of Pharmacy, University of London advocates a more global approach to cancer treatment, which would focus on global differences between normal cells and cancer cells. Dr. William Li presents a new way to think about treating cancer and other diseases: anti-angiogenesis, preventing the growth of blood vessels that feed a tumor. There is no shortage of good ideas that can safely and effectively be affected with nutritional medicines that can be concentrated and injected for life saving effect. Natural emergency medicine is in reality harnessed in emergency rooms and intensive care units around the world every single day for what we are talking about is sodium bicarbonate, magnesium chloride and iodine.

Opening Up a Whole New Way of Thinking

Gene mutations are part of the process of cancer, but mutations alone are not enough to explain cancer. Cancer involves an interaction of some kind between rogue cells and surrounding tissue but what those rouge cells are exactly and what are the characteristics of the surrounding tissues still are open questions. Researchers are finally plunging into studying tumors in the context of their cellular environments for they just have not been able to resolve their war on cancer along the strict model provided by the genetic mutation theory.

Focusing on cancer's surroundings (cellular environments) is a major shift in thinking for the mainstream medical mind. The furthest mainstream medical scientists are willing to go is thinking that cancer cells cannot turn into a lethal tumor without the cooperation of cells nearby. If cancer forms because normal cells surrounding them are traumatized, sick, or slowly dying then it suggests an entirely different and new line of approach in terms of treatment.

Cancer might be kept under control by preventing healthy cells around tumors from rotting. Perhaps what doctors really need to learn is how to prevent healthy cells from deteriorating into cancer. These ideas have all been expressed in the mainstream medical press. In the New York Times we see Dr. Susan Love, a breast cancer surgeon saying, "What it means, if all this environmental stuff is right, is that **we should be able to reverse cancer without having to kill cells. This could open up a whole new way of thinking about cancer that would be much less assaultive**."

In the same Times article we even find an unabashed cancer geneticist Dr. Bert Vogelstein, director of the Ludwig Center for Cancer Genetics and Therapeutics at John Hopkins saying, "One cannot fully understand that disease unless one understands the tumor's environment."

We have known for a while that people with diabetes are at increased risk for developing some cancers, and are more likely than nondiabetics to die of cancer. Now a study published by the American Diabetic Association reports that they also have a higher risk of dying in the weeks just after cancer surgery. **It found that the patients with pre-existing diabetes were 50 percent more likely than nondiabetic patients to die within a month of surgery, regardless of the type of cancer**.[2]

A study of diabetic conditions and what underlies them presents perhaps the best overall view of deteriorating cellular environments and it is no surprise that we find a direct correlation between diabetes and cancer and also between infection, cancer and diabetes. The same holds true for low grade inflammation, magnesium and other mineral deficiencies and a rising tide of mercury and other chemical and radiation toxicities that need to be detoxified or chelated out of the body.

In the following chapter we are going to look at pancreas and the bicarbonate that it produces and what happens when bicarbonate system levels become depleted. We are treading down a path that is leading us to a conclusion that will rock the medical world. Our insights are pharmaceutically catastrophic for what gets revealed is that lowly sodium bicarbonate - the cheapest medicine on the planet - is in the end the best of all the medicines for both diabetes and cancer. Its pharmaceutical properties direct themselves exactly to the

border where these two major diseases meet. And when combined with magnesium chloride and iodine – well what can we say but miracles in medicine will occur.

We are walking in the fields of medicine with these statements but the stalks of nutritional medicine are all around us. Equally we need to embrace emotional medicine and even spiritual medicine with our treatments knowing it's the whole man, woman or child we treat. In this book we are talking about one of the main aspects of Natural Allopathic Medicine. In this volume it's all about bicarbonate physiology and treatment of bicarbonate insufficiency.

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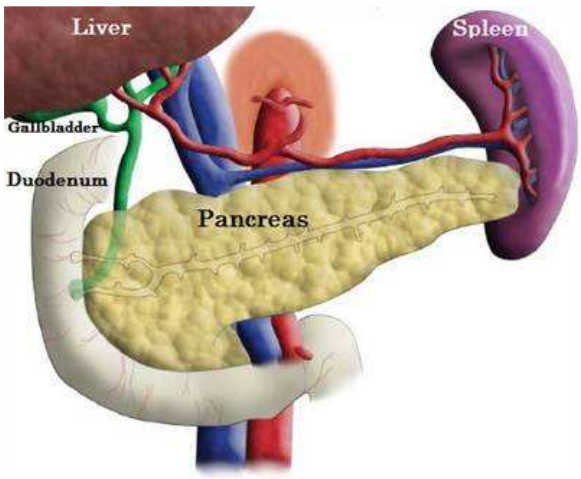
[1]www.ncbi.nlm.nih.gov/pubmed/17237035

[2]Postoperative Mortality in Cancer Patients With Preexisting Diabetes. Systematic review and meta-analysis. Bethany B. Barone, Hsin-Chieh Yeh, Claire F. Snyder, Kimberly S. Peairs, Kelly B. Stein, Rachel L. Derr, Antonio C. Wolff, MD3 and Frederick L. Brancati.

The Pancreas, Bicarbonate and Diabetes



Bicarbonate physiology is entirely ignored in diabetes as it is in oncology though a wide range of clinicians use sodium bicarbonate for a host of medical problems. Who would stop long enough to think deeply enough to make the connection between acid producing diets (junk foods) and destruction of the pancreas after decades of obsessing with sugar as the main culprit?

Parhatsathid Napatalung from Thailand writes, "**The pancreas is harmed if the body is metabolically acid as it tries to maintain bicarbonates. Without sufficient bicarbonates, the pancreas is slowly destroyed, insulin becomes a problem and hence diabetes becomes an issue.** Without sufficient bicarbonate buffer, the effect of disease is far reaching as the body becomes acid."

Understanding of the use of sodium bicarbonate begins with a trip to the pancreas, which is the organ most responsible for producing the bicarbonate our bodies need. The pancreas is a long, narrow gland which stretches from the spleen to about the middle of the duodenum. It has three main functions. Firstly, it is to provide digestive juices, which contain pancreatic enzymes in an alkaline solution to provide the right conditions for the digestive process to be completed in the small intestines. Secondly, the pancreas produces insulin, the hormone which controls blood sugar by the metabolism of sugar and other carbohydrates. Thirdly, it produces bicarbonate to neutralize acids coming from the stomach to **provide the right environment** for the pancreatic enzymes to be effective.

Allergies generally start with the body's inability to produce a certain enzyme, or to produce enough enzymes for the digestive process to work effectively. **In conjunction with this is an inability to produce enough bicarbonate essential for the pancreatic enzymes to function properly.** When this happens undigested proteins penetrate the bloodstream inducing more allergic reactions. Inflammation in such a scenario is systemic but can focus on the pancreas forcing decreases in the production of bicarbonate, insulin and necessary enzymes. [1]

The bicarbonate ion acts as a buffer to maintain the normal levels of acidity (pH) in blood and other fluids in the body. Bicarbonate levels are measured to monitor the acidity of the blood and body fluids. The acidity is affected by foods or medications that we ingest and the function of the kidneys and lungs. The chemical notation for bicarbonate on most lab reports is HCO3- or represented as the concentration of carbon dioxide (CO2).

The normal serum range for bicarbonate is 22-30 mmol/L. A bicarbonate test is usually performed along with tests for other blood electrolytes. Disruptions in normal bicarbonate levels may be due to diseases that interfere with respiratory function, kidney diseases, metabolic conditions and a failing pancreas.The pancreas, an organ largely responsible for pH control,[2] is one of the first organs affected when general pH shifts to the acidic. "Monitoring of blood-sugar levels, insulin production, acid-base balance, and pancreatic bicarbonate and enzyme production before and after test exposures to potentially allergic substances reveals that the **pancreas is the first organ to develop inhibited function from varied stresses,**[3] writes Dr. William Philpott and Dr. Dwight K. Kalita in their book *Brain Allergies.*

Dr. Robert Young, states, "Excess acidity is a condition that weakens all body systems. The pancreas is

one of our body's organs charged with the awesome responsibility to "alkalinize" us. Can you start to see how our serious acidosis has overwhelmed our pancreas' ability to operate effectively, which then results in a state called "diabetes?"

Vulnerable Pancreas

When one of many possible biological stresses weigh down on the pancreas it will, as any other organ will, begin to function improperly. When this happens the first thing we will see is a reduction in pancreatic bicarbonate production. Once there is an inhibition of pancreatic function and pancreatic bicarbonate flow there naturally follows a chain reaction of inflammatory reactions throughout the body. The reactions would include the brain as acidic conditions begin to generally prevail. Decreasing bicarbonate flow would boomerang hardest right back on the pancreas, which itself needs proper alkaline conditions to provide the full amount of bicarbonate necessary for the body.

A highly acidic pH level puts the pancreas, liver, and all the body's organs at risk. Because of the important role played by the liver in removing acid waste from the body, liver function is also particularly at risk when acids accumulate. When acidity prevents the liver and pancreas from regulating blood sugar, the risk of diabetes and thus cancer increases.

There are many causes of diabetes. Heavy metals, toxic chemicals and radiation contamination will affect, weaken and destroy pancreatic tissues. **When the body is bicarbonate sufficient it is more capable of resisting the toxicity of chemical insults**. That is why the army suggests its use to protect the kidneys from radiological contamination.[4] Much the same can be said for magnesium levels. Magnesium, bicarbonate and iodine all protect us from the constant assault of noxious chemicals and radiation exposure we are subjected to everyday in our water, food and air.

The Centers of Disease Control (CDC) in Atlanta declares that
33% of the babies born this year will be diabetic by the year 2050.
Dr. Alan Cantwell

Diabetes, which is expanding rapidly, can in part be traced to the increasing radiation to which we are all being exposed. Every physician knows that radiation can lead to cancer, but making a connection between depleted uranium (DU), for example, and diabetes seems ludicrous at first glance but is not. Most medical doctors have never heard of this but neither have they paid attention to the fact that mercury and other toxic chemicals are also primary causes of diabetes.

Diabetes is a fundamental disease that affects the entire colony
of cells in a person because it has to do with energy metabolism
and the vastly important hormone insulin and its receptor sites.

Diabetes is actually an extremely serious warning to civilization; it is an announcement that the rising tide of radiation, mercury, other deadly chemicals and pharmaceutical drugs are poisoning humanity. We even have to look at how antibiotics are leading to diabetes as well as a host of other problems for the human body. These toxic insults are slamming head on to nutritional deficiencies in the body and the results are telling though still being ignored by the orthodox medical establishment, which has its heart dead set on adding not subtracting to these insults

Dr. Lisa Landymore-Lim in her book ***Poisonous Prescriptions*** explains how many drugs used by the unsuspecting public today, are involved in the onset of impaired glucose control and diabetes. She explains using the example of the drugs streptozocin and alloxan, which are both used in research to make lab rats diabetic. Vacor is a rat poison known to cause insulin dependent diabetes in humans. Allopathic medicine will eventually have to face up to the fact that many drugs, including most surprisingly, the antibiotics including penicillin, as well as an entire host of others, causes changes in the beta cells affecting both insulin and bicarbonate production.

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[1] www.docstoc.com/docs/24767241/
Allergy-Effects-On-The-Pancreas-And-Small-Intestine/

[2] Epithelial cells in pancreatic ducts are the source of the bicarbonate and water secreted by the pancreas. Bicarbonate is a base and critical to neutralizing the acid coming into the small intestine from the stomach. The mechanism underlying bicarbonate secretion is essentially the same as for acid secretion parietal cells

and is dependent on the enzyme carbonic anhydrase. In pancreatic duct cells, the bicarbonate is secreted into the lumen of the duct and hence into pancreatic juice.

[3] Brain Allergies: The Psychonutrient and Magnetic Connections.By William Philpott, Dwight K. Kalita Published by McGraw-Hill Professional, 2000

[4] www.remm.nlm.gov/int_contamination.htm

Diabetes and Cancer

We have known for a while that people with diabetes are at increased risk for developing some cancers, and are more likely than nondiabetics to die of cancer. Now a study published by the American Diabetic Association reports that they also have a higher risk of dying in the weeks just after cancer surgery. **It found that the patients with pre-existing diabetes were 50 percent more likely than nondiabetic patients to die within a month of surgery, regardless of the type of cancer**.[1]

In their book *Infectious Diabetes* Doug Kaufman and Dr. David Holland describe a significant link between diabetes and cancer, pointing out that when our immune system is compromised and unable to fight off fungal invasions that we succumb to cancer more easily. They say that it is **not coincidence** that diabetics have a 4 times greater rate of liver cancer. Diabetics also have double the risk of pancreatic cancer compared to non-diabetics according to studies presented to the Third Annual Frontiers in Cancer Prevention Research Meeting in Seattle in 2004.[x] Kaufman and Dr. Holland present a compelling account of how fungi may be the underlying cause of diabetes, and now we have Dr. Tullio Simoncini telling us much of the same thing when it comes to cancer.

I have written chapters called *Vapors from Hell* (from mercury containing dental amalgam), *The Hun Hordes of Mercury* and *Fungi and Yeast Invaders*, which starts with: "The aggressive power of fungi is so great as to allow it, with only a cellular ring made up of three units, to tighten in its grip, capture and kill its prey in a short time notwithstanding the prey's desperate struggling." Fungus, which is the most powerful and the most organized micro-organism known, seems to be an extremely logical candidate as a cause of neoplastic proliferation, says Dr. Tullio Simoncini.

> *My work is based on the conviction, supported by many years of observations, comparisons and experiences, that the necessary and sufficient cause of the tumor is to be sought in the vast world of the fungi, the most adaptable, aggressive and evolved micro-organisms known in nature.*
>
> *Dr. Tullio Sumancini*
> Oncologist, Rome Italy

The above three chapters deal extensively with mercury as a direct cause of diabetes and cancer and with fungi and yeast which eat mercury for breakfast. Fungi and yeast thrive on the rising tide of mercury toxicity so we need to look closely at how these **pathogens and mercury toxicity together are causing both cancer and diabetes**.

Mercury pollution is similar to radioactive substances after an atomic blast, it is penetrating through everything. In fact, the FDA itself says, "Mercury is everywhere!"[2]Environmental mercury levels have been increasing dramatically and are now present "all over the globe at levels that adversely affect humans and wildlife. Even regions with no significant mercury releases, such as the Arctic, are adversely affected due to the transcontinental and global transport of mercury," reports the United Nations Environment Programme. (UNEP)[3]

> *Mercury is a strange substance. It cycles back and forth between the atmosphere and the ground. It's not a problem deep in the earth - it's a problem when it gets in the air.*
> *Dr. Mike Abbott*

"We have just reached the crisis level on mercury. Now, we're finding it in our food, our water, our soil, our babies, everywhere," writes Dr. Marie Steinwachs of the University of Missouri, and the yeast and

fungi invaders just love it.

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[1] Postoperative Mortality in Cancer Patients With Preexisting Diabetes. Systematic review and meta-analysis. Bethany B. Barone, Hsin-Chieh Yeh, Claire F. Snyder, Kimberly S. Peairs, Kelly B. Stein, Rachel L. Derr, Antonio C. Wolff, MD3 and Frederick L. Brancati.

[2] www.fda.gov/OHRMS/DOCKETS/ac/02/briefing/3872_Advisory%207.pdf

[3] www.chem.unep.ch/mercury/report/Key-findings.htm n

Cancer, Diabetes and Fungi Infections

Viruses, bacteria, fungus and yeast proliferate and evolve in compromised biological environments. Bacteria, primarily in the coccus-like form in microscopic tissue sections, have also been found in various forms of cancer.

Fungi feed on the sugar in the blood stream, as well as in the liver where glycogen is stored for the body's energy needs. Glycogen is the form in which carbohydrate is stored in the body. The Aspergillus mold toxin, aflatoxin B1, inhibits the breakdown of both glucose, or simple sugar, and glycogen. Fungi and the mycotoxins they produce can also impact our genetic code, causing alterations that are found in a majority of cancers, reports Doug Kaufman.

"Altering a cell's DNA amounts to changing the environmental code of that cell. Once changed the cell may respond differently – or not at all to outside chemicals that normally stimulate it to perform necessary functions. As one example of genetic alteration, **aflatoxin B1 causes a break in DNA that alters the p53 tumor expression gene**. Changes in this particular gene allow the cell to proliferate out of control. So it's no accident that this same mycotoxin can also go on to cause liver cancer"

The Aspergillus mold toxins are commonly found in corn, wheat, peanuts, barley and other grains. Pennicillium and Aspergillus mold produce a mycotoxn called ochratoxin, which causes apoptosis (cell death) and depletes our stores of Gluthatione (GSH), which is an important toxin-neutralizing substance, also known to have a significant role in insulin sensitivity. Diabetics typically test low in glutathione levels. [1]

Fungi are parasites whose mission is to invade a larger host. Given a chance they will alter our body chemistries to suit their needs.

The presence of fungi in the oral cavity, digestive tract, genital organs and skin lesions of 77 diabetic patients (age range 39 to 82 years) was studied in Poland. Fungi were detected in 61 patients (79.6%). Fungal strains were detected in oral cavity (77.9%), anus (33.8%), vagina discharge (11.6%) and vulva (14.3%). Fungi were observed in one focus (exclusively in the oral cavity) in 28 (36.4%) patients, whereas they occurred in multifocal infections in 33 (42.9%) patients. The isolated fungal strains were classified into 4 genera (*Candida*, *Saccharomyces*, *Trichosporon*, *Aspergillus*) and 12 species.[2]

Kaufman and Holland present a compelling account of how fungi may be the underlying cause of diabetes and its complications, as well as many other autoimmune disorders. The premise behind their book is that diabetes is actually caused by microbes and toxins in the foods we eat.[3]

Fungal mold toxins have the ability to signal the beta cells in the pancreas to shut themselves off. These beta cells produce insulin. Mycotoxins, the acid byproducts of fungi, even when successfully neutralized by our immune defenses, will contribute to the general increase in acidity of our bodies, according to Gary Tunsky, author of The Battle for Health Is Over pH.

It is entirely plausible that an invading mycotoxin has altered beta cells, remained undetected yet set off the body's immune defense system who are unable to destroy the offending toxin allowing it to continue to invade other beta cells and progressively lead to total destruction and a complete lack of insulin. The extremely manipulative ways that fungal mycotoxins work to ensure their own food supply is their highest priority - to stay alive at the expense of the host. Powerful and toxic anti-fungal drugs, like Nystatin given early in the onset of diabetes have been shown to reverse diabetes and stop its progression.

The dietary connection to environmental health is increasingly being made clear in that the causation of the major diseases related to diet are not due to the food but rather to the fungi and mycotoxins present in the food chain.
A.V. Constantini

A.V. Constantini, MD, former head of the WHO Collaborating Center for Mycotoxins in Food and pulmonologist and clinical professor at the University of California has spent 20 years studying and collecting data on the role fungi and mycotoxins play in devastating diseases. In his research he found **a number of mycotoxins that demonstrate specific toxicity to the pancreas**. The fusarium toxin fumonisin, T-2 mycotoxin and diacetoxyscripenol, all common in corn and its products, produce pancreatic cell damage. Fumonisin contaminates corn with the greatest frequency and is present in corn in particularly high concentrations. Virtually all corn is contaminated with mycotoxins of one type or another.

Americans rely on corn for the majority of all the nutritive sweeteners they consume. Corn refiners produce three major classes of sweeteners: **corn syrups**, **dextrose**, and **fructose**. Another mainstay of the industry and of the U.S. economy -- is **Starch**. Americans rely on corn refiners for over 90 percent of their starch needs. In addition to starches, sweeteners and ethanol -- all made from the starch portion of the corn -- refiners produce **Corn oil** and a variety of important **feed products**. The mycotoxins, unregulated in the US, are in these products we are ingesting every day.

Dr David Wallinga gives us an added dimension and nightmare to consider when he says, "Given how much high fructose corn syrup is consumed by children, it could be a significant additional source of mercury never before considered." Researchers in the US have found that much of the high fructose corn syrup that is increasingly replacing sugar in processed foods is **tainted with mercury**. They also tested many branded food products and found they too contained mercury. The findings come from two studies, one of which is published in the journal *Environmental Health* and the other is by the Institute for Agriculture and Trade Policy (IATP).

Treatment of Diabetes with Bicarbonate

We already know that sodium bicarbonate dramatically slows the progress of chronic kidney disease but few have followed the conclusion that it would also be a front line defense against diabetes. From prevention to treatment and to part of a cure, common Baking Soda is an essential tool in working with diabetic and metabolic syndromes.

Pancreatic secretion of bicarbonate decreases in severe malnutrition and it is known that most obese people are malnourished. The famous junk food diet that leads to diabetes is a diet guaranteed to create malnutrition and thus decreased bicarbonate flow as well as severe magnesium deficiencies, which itself is a major cause of diabetes. The more acid the foods the more bicarbonate is needed; so the pancreas gets further and further behind as the demand increases for alkaline buffers.

Sodium bicarbonate injections are already indicated in the treatment of metabolic acidosis, which may occur in severe renal disease, uncontrolled diabetes, and circulatory insufficiency due to shock or severe dehydration, extracorporeal circulation of blood, cardiac arrest and severe primary lactic acidosis. **But sodium bicarbonate can be used safely at home orally and transdermally (and should always be used with magnesium chloride for greatest effect) during all stages of diabetes.**

Improper pH balance puts diabetics at greater risk for complications such as kidney failure, gangrene and blindness. A diabetic suffers from an excess of glucose in the bloodstream, glucose that cannot be delivered properly to the body's cells due to lack of insulin. As the liver absorbs more and more of the excess glucose, its ability to remove toxins from the body becomes impaired.

At the moment, against fungi there is no useful

remedy other than, in my opinion, sodium bicarbonate.
Dr. Tullio Simoncini

"The anti-fungins that are currently on the market, in fact, do not have the ability to penetrate the masses (except perhaps early administrations of azoli or of amfotercin B delivered parenterally), since they are conceived to act only at a stratified level of epithelial type. They are therefore unable to affect myceliar aggregations set volumetrically and also masked by the connectival reaction that attempts to circumscribe them," says Simoncini who continues, "We have seen that fungi are also able to quickly mutate their genetic structure. That means that after an initial phase of sensitivity to fungicides, in a short time they are able to codify them and to metabolise them without being damaged by them – rather, paradoxically, they extract a benefit from their high toxicity on the organism."

Sodium Bicarbonate has been successfully proven its antifungal value in agriculture to resolve fungal issues in vegetation, including many destructive diseases such as anthracnose, powdery mildew, black spot in crops and horticultural industries. It has been successfully used to protect crops from fungus during storage. So when it comes to treating cancer and diabetes with sodium bicarbonate **it is important to appreciate that not only is bicarbonate alkalinizing the body eliminating bicarbonate deficiency but it is also taking on fungi and yeast colonies at the same time.**

It is not the symptoms of diabetes that should be treated, which end up in a lifetime of medicating with pharmaceutical drugs such as insulin and other toxic drugs. Organic diet, exercise and an understanding of the roles that magnesium, iodine, sodium bicarbonate and natural heavy metal chelators have in addressing the causes and wiping out the toxins and metals thus allowing our immune system to successfully do its job.

Conclusion

Go out and buy some simple and inexpensive pH strips and see for yourself how acid you are and start practicing pH medicine or what could be called bicarbonate medicine. Bring yourself back up to a healthy pH using sodium bicarbonate and magnesium chloride and see how much better you feel. Doctors and professors of medicine should be the first to rush out and take notes about their own personal experiences instead of waiting a few centuries for the truth to sink in.

What oncologists now have to concede is a direct relationship between what is causing diabetes and what is causing cancer; with the diabetic condition itself contributing in a strong way to cancer. Then the medical schools will have to start looking at treatments that would address both conditions simultaneously – they will have to comprehend that all along they have been using that treatment, that medicine, which is one of the principle keys to overall physiology and health.

The bicarbonate system has to come to the theater of medicine with sodium bicarbonate and magnesium bicarbonate put in spot lights on center stage. Unfortunately most medical doctors and public health officials that control the show don't have the spiritual fortitude to swallow their pride and arrogance because that is what it would take to ingest the idea that humble baking soda is the universal medicine that address diabetes, cancer and kidney disease at the same time.

It is humiliating and outright devastating for pharmaceutically minded people to come to the realization that if they spent a trillion dollars on research and a thousand years looking they will never find a replacement for or anything superior as a medicine than sodium bicarbonate. The only thing close they will find is magnesium chloride and iodine, appropriate and necessary sun exposure, clean water and air and even that necessary and healthy gas carbon dioxide, which sodium bicarbonate helps us create.

We live in a failing civilization that does not want the answers. So rotten are our core and principle institutions that we turn from what is right and true to what is most foul and this foulness is at the heart of medicine, which would rather inject mercury into babies and poison the public's water and food supplies then study and apply basic chemistry in medicine.

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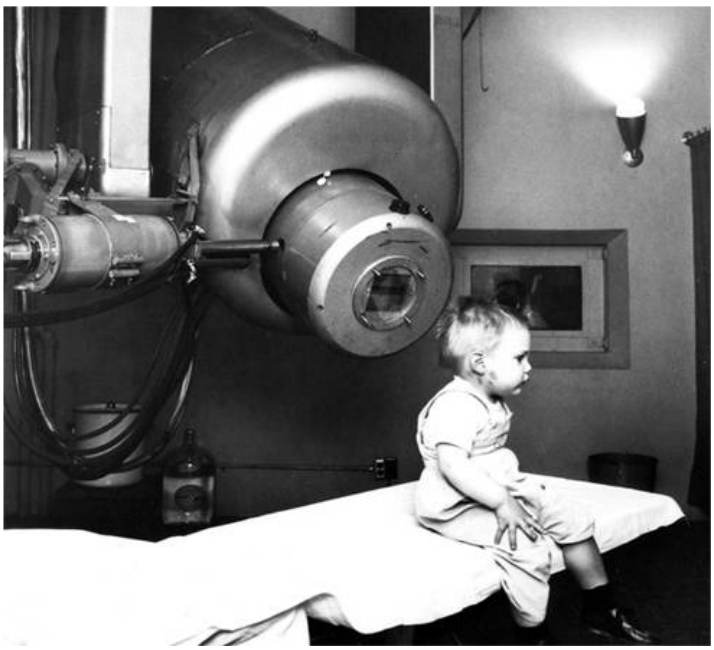
[1] www.glutathione-for-health.com/metabolic-disorders.html

[2] www.ncbi.nlm.nih.gov/pubmed/16859020

[3] Interview with Doug Kaufman and David Holland, M.D.
www.mercola.com/2003/may/10/infectious_diabetes_interview.htm

Radiation Medicine and Sodium Bicarbonate



Dr. Edward Golembe, who directs a hyperbaric oxygen chamber at Brookdale University Hospital in Brooklyn, said he had treated serious radiation injuries to the jaw and called them “a horrible, horrible thing to see.” **When we deal with radiation we deal with death for it is the death principle** that doctors are trying to harness with terrible results. Most people who employ radiation in their treatments for cancer suffer horribly but some worse than others.

Just being alive today is to walk through the valley and shadow of death in terms of radiation exposure. Background radiation on earth has increased in the nuclear age coming from all the above ground testing of the last century, nuclear plants, nuclear waste, uranium mining, and from depleted uranium weapons that are commonly used in the American, British and Israeli armies and navies and air forces. In addition there is constant and increasing exposure to other forms of radiation from microwave towers, cell phones, wireless phones and computer systems.

And if that were not enough the medical establishment throws all caution to the wind and subjects more and more people to higher and higher levels of radiation with medical testing. The late Dr. John W. Gofman, former Professor Emeritus of Molecular and Cell Biology at the University of California, Berkeley, estimated that about three-quarters of all breast cancer cases in the United States are induced by radiation — including medical X-rays, and including mammograms to detect breast cancer.[1]

It’s a medical fact that X-rays cause cancer. This is very well known and accepted. It’s not controversial. Those painless, invisible rays that doctors aim at your chest or a broken bone or an arthritic joint are dangerous. That doctor or dentist is pointing a death ray right at you or your child and they have their reasons and habits that justify the whole experience. X-rays cause healthy cells to mutate, and mutated cells are ones well-known cause of cancer. It is not the only cause but it is one of the principle causes along with heavy metals, heavy chemical exposure as well as nutritional deficiencies, surgery and biopsies and even heavy emotional upset.

Medical radiation, received even at very low doses, is an important cause of death from Ischemic Heart Disease; the probable mechanism is radiation-induction of mutations in the coronary arteries, resulting in dysfunctional clones (mini-tumors) of smooth muscle cells.
Dr. John W. Gofman

And about **half of all people with cancer are treated with radiation therapy,** either alone or in combination with other types of cancer treatment. **Radiation therapy** uses ionizing radiation to kill cancer cells and shrink tumors. Unfortunately it can kill you. We certainly do not see doctors running for this kind

of treatment when they have cancer themselves and the majority of doctors are smart enough to avoid chemotherapy as well. The nadir of medical intelligence that oncologists display, is their use of treatments and diagnostic procedures to test and treat cancer with tests and treatments that cause cancer!

Many patients experience the brutality of radiation. Doctors believe radiation is helpful for both the diagnosis and treatment of cancer even though it inflicts unspeakable pain. According to the Times, "**Americans today receive far more medical radiation than ever before. The average lifetime dose of diagnostic radiation has increased sevenfold since 1980, and more than half of all cancer patients receive radiation therapy**."[2]

CT scans can deliver the radiation equivalent of 400 chest X-rays. An estimated 70 million CT (for computed tomography) scans are performed in the United States every year, up from three million in the early 1980s, and at least 29,000 cases of cancer and 14,500 deaths in the United States every year, according to a study published in the *Archives of Internal Medicine*. A second study published in the same issue and conducted by researchers from the University of California-San Francisco suggests that the reality is even worse. When doctors play around with death, which is what they are doing with these machines, one would expect to see a lot of people dying from cancer.

Recently the New York Times reported on Scott Jerome-Parks who lay dying from a fatal radiation overdose — "which left him deaf, struggling to see, unable to swallow, burned, with his teeth falling out, with ulcers in his mouth and throat, nauseated, in severe pain and finally unable to breathe. A New York City hospital treating him for tongue cancer had failed to detect a computer error that **directed a linear accelerator to blast his brain stem and neck with errant beams of radiation**. Not once, but on three consecutive days."[3]

Radiation exposure became a major concern in October 2009 after the FDA said it was investigating 206 cases of patients being exposed to toxic doses of radiation during CT scans of the brain at Cedars-Sinai Medical Center in Los Angeles. High doses of radiation can cause skin burns, cataracts and other injuries — and, in extreme cases, cancer and death. The FDA said it received 1,182 medical device reports about problems between December 31, 1999, and Feb. 18, 2010. A review of the reports showed that **linear accelerators — machines that deliver a concentrated beam of electron radiation directly to the tumors — accounted for 74 percent of the complaints**.

Urgent warnings by government experts about the risks of routinely using powerful CT scans to screen patients for colon cancer were brushed aside by the Food and Drug Administration, according to agency documents and interviews with agency scientists.

Those who receive radiation harm can experience many discomforts including skin sores in areas of treatments. The skin can break out and peal to the point of exposing the flesh. When treating lung cancer with radiation there is risk of injury to the chest wall, the skin, muscle, bone and the lung tissue itself. Dr. John Gofman, M.D., Ph.D., was a nuclear physicist and author of *Radiation from Medical Procedures in the Pathogenesis of Cancer and Ischemic Heart Disease*. His findings strongly indicate that over **50% of the death-rate from Cancer today, and over 60% of the death-rate from Ischemic Heart Disease today, are x-ray-induced**.

During the 1985-1990 period, the number of diagnostic medical x-ray examinations performed per year in the USA was approximately 200 million, excluding 100 million dental x-ray examinations and 6.8 million diagnostic nuclear medicine examinations. The source of these estimates warns that 200 million

could be an underestimate by up to sixty percent. Any x-ray photon may be the one which sets in motion the high-speed high-energy electron which causes a carcinogenic or atherogenic mutation. The x-ray is a proven mutagen and a proven cause of Cancer.[4]

The fact that ionizing radiation is a uniquely potent mutagen, and the finding that radiation from medical procedures is a major cause of both Cancer and Ischemic Heart clearly indicate that it would be appropriate for doctors to stop using it for the diagnosis and treatment of disease. Since they are not going to do that we need to learn how to protect ourselves from the harm of radiation as much as possible.

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[1] *Gofman, John; Preventing Breast Cancer;* San Francisco; The Comittee for Nuclear Responsibility;1995

[2] www.nytimes.com/2010/03/29/health/policy/29fda.html

[3] www.nytimes.com/2010/01/24/health/24radiation.html?pagewanted=2

[4]x -rays are capable of causing virtually every known kind of mutation -- - from the very common types to the very complex types, from deletions of single nucleotides, to chromosomal deletions of every size and position, and chromosomal rearrangements of every type. When such mutations are not cell-lethal, they endure and accumulate with each additional exposure to x-rays or other ionizing radiation

Reducing Radiation Damages with Bicarbonate

So deep are the protective, buffering and neutralizing properties of bicarbonate that it is used even with radiation exposure to protect the kidneys and other tissues. In a world that is already overexposed to uranium and mercury, sodium bicarbonate becomes even more important because mercury and uranium oxide directly attack the nuclear material and mitochondria of the cells.

The oral administration of sodium bicarbonate diminishes the severity of the changes produced by uranium in the kidneys.[1]

The kidneys are usually the first organs to show chemical damage upon uranium exposure. Old military manuals suggest doses or infusions of sodium bicarbonate to help alkalinize the urine if this happens. This **makes the uranyl ion less kidney-toxic and promotes excretion of the nontoxic uranium-carbonate complex**. The oral administration of sodium bicarbonate diminishes the severity of the changes produced by uranium in the kidneys.[2]

It does this for all the heavy metals and other toxic chemicals including chemotherapy agents, which are highly lethal even in low dosages. After depleted uranium weapons were used starting in the first Gulf War, the United States has polluted the world with uranium oxide and it is showing up more and more in tests doctors perform. With a half life of several billion years we had better be prepared to get used to dealing with the toxic effects and help our bodies clear it more easily through the kidneys. Sodium bicarbonate is an absolute must item in any field hospital and it should be in used and recommended in all clinics and be present in every home medicine cabinet.

In reality we need a more descriptive image for bicarbonate. Its pharmacological characteristics, even though widely used, are not well understood. What does bicarbonate really do? Well, instead of a muscleman with a mallet, an even better image would be a strong janitor mopping up the messes and carrying the poisons away. This strong janitor protects tissues and leaves an alkaline film or trail behind to make sure everything stays safe. In medicine, sodium bicarbonate is the cleaning and security man proven loyal through decades of faithful service and he can be brought in to provide some sort of protection in cases where people are suffering from radiation toxicity.

So useful and strong is sodium bicarbonate that at Los Alamos National Laboratory in New Mexico, researcher Don York has used baking soda to clean soil contaminated with uranium. **Sodium bicarbonate binds with uranium, separating it from the dirt; so far, York has removed as much as 92 percent of the uranium from contaminated soil samples**. I started writing about baking soda after discovering that the United States Army recommends the use of bicarbonate to protect the kidneys from radiation damage.

Blaise W. LeBlanc, a former research chemist with the U.S. Department of Agriculture identified the byproduct hydroxymethylfurfural, (HMF) as a potential culprit in colony collapse disorder of bees. LeBlanc has a solution to minimize HMF toxicity: **By adding bases (such as sodium bicarbonate, or baking soda, lime, potash or caustic soda) to HFCS, the pH rises and HMF levels drop**. Sodium bicarbonate can safely remove paint, grease, oil and smoke residue, decreasing workers' exposure to harsh chemicals and eliminating much of the hazardous waste associated with other cleaners. "Sodium bicarbonate is able to clean in areas where other substances pose fire hazards, because baking soda is a natural fire extinguisher," says Kenneth Colbert, a general manager for Arm & Hammer. This is the reason it’s used by oncology centers to control chemo agent spills and its actually used intravenously to protect patients from the hazardous toxicity of chemotherapy.

Bicarbonate and Nuclear Fallout

If the bombs start dropping anywhere on earth you will need to have a large amount of sodium bicarbonate on hand. Minimum stocks should be 25 or 50 pounds. You will also need iodine, magnesium chloride, spirulina and a long list of survival items. I am recommending that one stocks up on bicarbonate, which is extraordinarily inexpensive.

Normally I recommend someone start with using one pound of bicarbonate in a bath but that could easily be two or three pounds in an emergency situation. It is not a joke that one can get fifty pounds of the most powerful medicines on earth for thirty five bucks. You will also need a lot of magnesium salts and the very best and most penetrating of them is the magnesium chloride in the form of magnesium bath flakes.

Clay is also very important to have on hand for medical, environmental and nuclear emergencies. Clay baths are a very strong way of removing heavy metals from the body and would increase our chances of survival if exposed to nuclear fallout. Spirulina has been used heavily by the Russians after the Chernobyl nuclear plant disaster. And the Japanese love their miso soup and that was said to help some of their citizens survive the fallout after the Americans attacked two of their cities full of innocent men, women and children. Sadly, it appears that few Americans lost any sleep over it, for it was fully justified in the history books if you can believe any of them.

On Wednesday the 14th of April 2010 four top representatives of the Obama administration told Congress they are urgently pursuing new sanctions on Iran and added that **a military strike has not been ruled out**. President Barack Obama has said he won't "take any options off the table with respect to Iran," Undersecretary of Defense Michele Flournoy said. "Now, that means to me **that military options remain on the table**."

Smart people today are preparing for social, economic, climate change and even disaster. There is no longer war without nuclear materials (depleted uranium weapons) being spent on the battlefield as it has already happened in Iraq twice, in Afghanistan, and even in Lebanon. That nasty stuff called uranium oxide is going to be kicking up dust among us for the next several billions years, so get used to it. Being told to get used to it by a psychopath talking to the families of his victims is one thing but being told as I am doing here, suggests defensive medical preparations and for that you have magnesium chloride, iodine, sodium bicarbonate, spirulina and clay.

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[1] *A study of the acidosis, blood urea, and plasma chlorides in uranium nephritis in the dog,* and the protective action of sodium bicarbonate. The Journal of Experimental Medicine, Vol 25, 693-719, Copyright, 1917, by The Rockefeller Institute for Medical Research New York www.jem.org/cgi/content/abstract/25/5/693

[2] ibid

Sodium Bicarbonate and Cancer

(Baking Soda Cure)

Dr. Tullio Simoncini

Most of us were amazed to find out that there is an oncologist in Rome, Italy destroying cancer tumors with sodium bicarbonate or what is commonly known as baking soda in every supermarket in the world.[1]I was very impressed with Dr. Tullio Simoncini, so much so I went and dug a hole to China in excavating research about bicarbonate from every university and clinical study that exists around the world. I ended up writing *Sodium Bicarbonate – Rich Man's Poor Man's Cancer Treatment* and now this second edition includes over 200 pages of additional information about how bicarbonate can be used in virtually every medical situation.

The principal lesson to learn for anyone facing cancer is that there are hundreds of ways to kill cancer cells and get the body back in balance. What all cancer patients need to understand is that **nothing will heal or actually cure cancer until we address and treat the underlying cause of the cancer.** The problem here is that there is a complexity of causes and they are layered one on top of the other so it is not exactly easy to identify the principle cause in each case and not always easy to address it in an appropriate way.

"Cancer is a systemic, not a localized, disease; it is a warning from your body that your diet and lifestyle need to be changed. 80% of your genetic predisposition towards disease can either be activated or held in check by proper diet and lifestyle. Every one of us has some cancer cells in our body every day, and our immune system is usually successful in destroying it, so a strong immune system is a key to fighting cancer. We only notice cancer if it overwhelms our immune system and grows into a noticeable tumor. Even when you've beaten cancer, it is important to maintain a healthy diet and lifestyle so that you won't get it back, especially since already know that you have a tendency to get cancer. In one study, they found live breast cancer cells still circulating in people who were pronounced "cured" 7-22 years later! This emphasizes the importance of taking care of ourselves even after we're cured," writes Dr. Charles Morris.

For some patients it's an emotional shock and off the scale stress that is at the root of their cancer and with others it's the mercury in their mouths' and some nasty complications that come from root canals. For some its even periodontal disease and a spreading Candida infection and with others it is a sever deficiency in vital nutrients especially of magnesium, iodine, selenium and bicarbonate. For most it's a combination of all the above.

No matter what is going on though bicarbonate will help. Dr. Simoncini is a modern day medical hero and is the founder of the bicarbonate approach to cancer. He is a most dignified man that should be taken seriously. Dr. Simoncini deserves the thanks of humanity for bringing the power of sodium bicarbonate to the cancer world but instead of thanks he has been crucified and had his license taken away.

Though Simoncini has many devoted followers the mainstream has torpedoed the audacious idea that baking soda would be something useful to consider for the treatment of cancer. Fortunately not all clinicians see eye to eye with the mainstream and most oncology treatment centers do secretly use bicarbonate but use it, in their minds and in practice to protect patients from the harmful effects of both radiation and chemotherapy. Sodium bicarbonate is nothing short of a wonder drug and can be used to protect the kidneys and all other tissues from toxic and inflammatory stress.

Dr. Simoncini has courageously provoked controversy the world over with many coming down hard without much understanding of what sodium bicarbonate is and how it has been used extensively in medicine for well over a hundred, some say thousands of years. Sodium bicarbonate is an extraordinary medicine that literally everyone should be familiar with. So useful is this substance medicinally that knowledge of its pharmaceutical profile should be basic to all healthcare practitioners. Every family should have it and know how to use it.

When it comes to attacking Tullio Simoncini's work most of the writers demonstrate ignorance not knowledge of sodium bicarbonate. It has taken me almost 400 written pages to sail the bicarbonate seas and it has been a most interesting journey. Many universities and clinicians (through the course of many decades) have contributed much knowledge for this basic and necessary substance that our bodies struggle to make enough of everyday.

These images of sailing and shores are appropriate when you get to know more about bicarbonate with it being a beautiful thing on both land and sea. So good is bicarbonate you will probably wish there was more in your water. Beware and take care for you might even run the risk of falling in love with baking soda. It can also be doctor's best friend as well as yours every time you have a cold or flu.

It's a good moment to read Dr. Morris warning, "The main problem with people trying natural protocols and failing, as many people who have "tried" one or two supplements for a serious disease like cancer is that these people have, in my experience, all died because they would not follow a comprehensive protocol, take the proper supplements and amounts, change to a very good diet and lifestyle, address the spiritual aspects of good health, and totally commit to doing whatever it takes to defeat their illness."

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[1] candida-international.blogspot.com/2007/03/is-cancer-caused-by-candida-fungus.html

Oral Vs Intravenous

Sodium Bicarbonate Cancer Treatments

I was very impressed with Dr. Tullio Simoncini and I hold him up as a true modern day medical hero. But some people think he is not the great healer that he pretends to be. Some vicious people harp on the fact that he lost his license and that some people have died from his treatments but who knows an oncologist or alternative practitioner working with cancer patients who have not had patients die on them? People like to forget that working with cancer is working with life and a lot with death.

I never met Simoncini but my assistant Claudia French, RN did and she felt him to be a noble man but it is hard to hear people complaining about the costs, which I have always estimated at about 20,000 dollars to go to Rome and be treated; but online I have seen accusations that the costs were double that. The bicarbonate aspect of one's cancer treatment should not cost more than 30 dollars a month and that's with a big allowance for heavy transdermal use in baths. Now if inexpensive administration did not work we could understand but that is not the case.

Oncologist Tullio Simoncini is the founder of the bicarbonate approach to cancer, and he does believe that several types of cancer can be approached through oral application. But he suggests expensive and hard to get (meaning few physicians will do them) medical procedures (placement of catheters) and IVs to get the bicarbonate as close to the tumors as possible. Such procedures have their own risks and putting a 5 percent solution directly into the blood creates its own problems for blood zeta potential.

Dr. Simoncini never fully realized that when bicarbonate is taken orally the full body pH is shifted dramatically higher affecting all tissues including the brain and bones. He does not understand that oral administration is actually a superior method in the treatment of all cancers because **higher pH and oxygen levels can be maintained 24 hours a day constantly wearing down tumors and individual cancer cells wherever they might be.** Baking soda lives up to its muscular image on the Arm and Hammers box, it is the first thing one should turn to treat cancer and kidney disease but always used in conjunction with magnesium chloride and iodine and some other important things including every dermatologist's enemy – the sun.

Dr. Simoncini does not believe that the pH changing effect is what annihilates the cancer, which he insists is a fungus. One can say he is right if one does not look at what happens when pH is shifted to the alkaline. Everyone knows that pH controls the speed of all enzymes in the body and it also has a strong effect on oxygen carrying capacity and diffusion of O2 into the cells. We know now that higher O2 levels increases our chances of beating cancer and there are several ways of raising oxygen levels. The big three are bicarbonate intake, breathing techniques and exercise. Doing all three together offers a lightning fast method of dramatically increasing O2 levels with almost no cost.

It is risky to dramatically subject the blood to pH shift because
pH is so tightly controlled in the blood, as are magnesium levels.
The slightest change in the blood of either can kill via cardiac arrest.

The difference in costs between oral and transdermal dosing with bicarbonate and catheters and IVs is huge and I personally know very few people who can afford to fly off to Rome or anywhere else. The cost factor alone can make the difference between life and death for millions of people who cannot afford expensive treatments so I don't understand why Dr. Simoncini does not address this issue. Also when treatments are not easily available or when few doctors do it (and the ones that do hide the fact or face persecution) we don't have a medical approach that is very helpful to us in the short or long term view of things.

I recommend people contemplating doing the oral and transdermal methods read this book because one needs to understand what they are doing. We can be our own barefoot doctors but one has to have knowledge and take care. In another chapter we learn about how bicarbonate can **dramatically slow the progress of chronic kidney disease.** Sodium bicarbonate is a mandatory medicinal aid, medicine and concentrated nutritional agent house hold cleaner all rolled into one and should be used with magnesium chloride for greatest effect in both cancer and kidney disease as well with asthma and diabetes. The two together make up *The Ultimate Mitochondrial Medicine*, another chapter you will find in this book.

Now is the time for all good practitioners come to the aid of their fellow man with powerful and affordable answers that will serve humanity in its time of need. Every one of us, even the strongest and healthiest of us needs to be as strong as we can be to face the developing crisis in the world. Same goes for those who have already fallen to chronic disease, they need to be as strong as they can be to reverse damage already done. We need these work horse super medicines that come to the rescue even when we are at deaths door. Medicine does not get any better.

Well actually that is not true. It does get better and a lot better if you bring the greatest superhero in the solar system into the picture and that is the sun with its life giving rays and capacity to stimulate the body to create vitamin D. Add pure mineralized water, vitamin C of course, selenium and some full spectrum super foods like spirulina and we have the A team at work. And talking about medical super heroes Iron Man himself shows up in the form of iodine and please never forget a good probiotic and some pure clay. Bicarbonate is not a one man show and should not be used alone as a solution to cancer or anything else and superheroes do work better together then alone when up against formidable opponents like cancer.

Bicarbonate (Baking Soda) Cancer Treatment

We can thank Dr. Ralph Moss for bringing to our attention that for more than a decade there has been work going on at the University of Arizona, using bicarbonate (baking soda) as a potential treatment for cancer. Robert J. Gillies and his colleagues have demonstrated that pre-treatment of mice with sodium bicarbonate results in the alkalinization of the area around tumors. (Raghunand 2003) This type of treatment has been found to "enhance the anti-tumor activity" of other anticancer drugs. This is very similar to the recently published research of injecting O2 directly into tumors where such direct administration of Oxygen also facilitated the action of chemotherapy.

This year these same researchers reported that bicarbonate increases tumor pH (i.e., make it more alkaline) and also inhibits spontaneous metastases (Robey 2009). They showed that **oral sodium bicarbonate increased the pH of tumors and also reduced the formation of spontaneous metastases in mice with breast cancer. It also reduced the rate of lymph node involvement**.

Though Dr. Moss is not a big fan of Dr. Simoncini he found it striking that the oral administration of bicarbonate was able to reduce the spontaneous formation of metastases in mice with breast cancer saying, “This is impressive work that needs to go forward.” This is in contrast to what you will find referenced[1]as to his and his staffs feelings about the good doctor from Rome. Sodium bicarbonate has been used for decades in chemotherapy but until the last few years baking soda has received little attention. Now as Moss maintains there are fifty thousand web sites with information on the subject.

It is dismaying how ostensibly Dr. Moss and others treat Dr. Simoncini and his theories. One of the obstacles for many people is Dr. Simoncini’s declaration that cancer is a fungus. There is little dispute that cancer is an ACID condition or can be measured in terms of tumor pH. Previous research has found that cancers are significantly more acidic than normal tissues and that manipulation of pH with intravenous bicarbonate enhances some chemotherapy Acidic tissues are low in oxygen. When alkalinity increases the supply of oxygen to the cancerous tissue, the oxygen combines with the excessive hydrogen ions, creating water and neutralizing the acid.

Bicarbonate is the universal mainstream treatment of acidosis and is used by oncologists to neutralize the heavy acid nature of their chemo agents, which are quite dangerous to the patient. It is also used routinely in many clinical situations:

1) Severe diabetic ketoacidosis[2]
2) Cardiopulmonary resuscitation[3]
3) Pregnancy[4]
4) Hemodialysis[5]
5) Peritoneal dialysis[6]
6) Pharmacological toxicosis[7]
7) Hepatopathy[8]
8) Vascular surgery operations[9]

Medics and doctors are used to participating in a flurry of activity when trying to save a person who's had a cardiac arrest -- inserting IVs, placing a breathing tube, performing defibrillation to restart the heart. Sodium bicarbonate is a constant performer under such conditions and is more commonly used then magnesium injections, which should be on top of every doctor’s protocol for cardiac arrest.

We can certify bicarbonate’s usefulness for cancer patients from a number of different angles without pinning all our hopes on the fungus thesis. When doctors like Moss tear down the “cancer is a fungus” theory they conveniently forget to inform their readers that even mainstream oncologists recognize the routine involvement of late stage infections in cancer and that experts concede that as high as forty percent of cancers are caused by pathogens.[10]The most recent research in this area demonstrates how even viruses

can be responsible for up to fifty percent of certain types of cancers.[11]

I have written several chapters on the subject of fungus and late stage infections for this book and it is obvious that there is no simple definition of cancer. But……this is probably the biggest but in the medical world; we can in fact reduce cancer to an image level. One has to admit that cancer is a rot that is destroying the body and will kill it left unchecked. When the body is rotting, when its cells are demonstrating dire distress, when certain colonies of cells reproduce without stop and change their type of metabolism we have a certain condition that takes shape and form depending on where the cancer is and what is causing it.

No matter where we would like to drop our concepts and numerous names for different kinds of cancer it should be obvious that - like any type of rot - pathogens will be attracted and in late stages the fungi colonies will rule the roost. Whether cause, effect or byproduct of the fungi, mold and yeasts like Candida will be found in evidence. Dr. Simoncini intelligently observed that, "Over acidification of the body leads to the development of chronic yeast and fungal infections and ultimately cancer."

Cancer is, fundamentally, a relatively simple oxygen
deficiency disease and the use of bicarbonate
increases oxygen carrying and reaching capacity.

It is dull though, not to include even deeper definitions of cancer. If someone wants to say cancer is a fungus he might as well say cancer is a nutritional deficiency and relative state of poisoning. One is not likely to fall to cancer if one's body is humming in a heightened state of nutritional sufficiency and that includes full hydration and plenty of healthy sun exposure. Add plenty of restful sleep, relaxed conflict free existence and a pristine environment (something that does not exist anymore on our planet sadly) then we can start talking about health. One must include freedom from dental amalgam, fluoride, chlorine and vaccines to talk about health and a cancer free existence.

Cancer is not so easy to define because it defines
modern man. Humanity is in deep trouble with cancer
for we are in deep trouble with ourselves and our civilization.

There are no real medical precedents to draw on when it comes to the use of sodium bicarbonate; it is that useful, safe and effective for a wide range of illnesses. But it seems that much of the medical debate over its use has more to do with illogical thought processes than reality, that is at least what sociologists are finding or saying in the public debate about universal health care. People often work backward from a firm conclusion to find supporting facts, rather than letting evidence inform their views.

A totally rational person would evaluate objectively the pros and cons of sodium bicarbonate and its use in cancer treatment but even the best professionals get attached to their beliefs. We form emotional attachments that get wrapped up in our personal identity and sense of medicine and health irrespective of the facts of the matter making our theories more potent than pragmatic answers.

Just about everybody is vulnerable to the phenomenon of holding onto our beliefs even in the face of evidence to the contrary. It is a challenge to reevaluate world views and medical belief systems but we have to do it to continue to be of service to our patients. Patients depend on us to offer the latest and the best information. Our egos do get in the way though, and some doctors are known for their great egos.

No matter what your ego says, the world of fungi and all the problems they bring are important in medicine. Sodium bicarbonate's action dramatically changes the intracellular environment and this is wonderful when conditions are acidic.

Its action is, for all intent and purpose, instant and as a cancer treatment a course runs about two weeks, which can be repeated. Some people are able to kick cancer off their back in one round though we can well see that for many it will be several rounds or constant rounds and of course maintenance rounds. In the end though bicarbonate is not a healthy alternative or substitute for an alkaline diet and good alkaline water.

Sodium bicarbonate - that simple white stuff called baking soda we can buy in any supermarket in the world **is a world class anti-fungal**. You want to punch a late stage infection of any kind in the face? Use sodium bicarbonate. You want to wipe out fungal, yeast or mold colonies baking soda is your number one bet and every good doctor knows this. If we have fallen to cancer we can make ourselves good fungi fighters with bicarbonate in our hand and that is exactly what Dr. Simoncini does with the stuff. He uses it like a fire extinguisher spraying tumors as well as he can with it as directly as he can, though when used

orally and transdermally it reaches cancers in all parts of the body through systemic effect.

Traditional anti-fungal drugs are ineffective in treating tumors because the solid colonies can be attacked only on the surface of their volume, and after the first administrations they become resistant. A solid tumor with fungal infection is powerful and they resist attack and adapt quite readily to pharmaceutical drugs. After all fungi love to chew on rocks and they eat mercury for breakfast so you got to hit them correctly in a all out frontal attack with sodium bicarbonate.

Dr. Simoncini is the medical genius who has identified the substances uniquely able to penetrate these volumetric tumors: for cancer of the internal organs it is sodium bicarbonate; and the best substance to eliminate skin cancer is iodine when it is spread onto the growth. Other doctors use iodine internally in high doses and this does have the same effect on internal cancers. Combine with bicarbonate and we have two panzer divisions we are letting loose to mop up cancer no matter where we find it in the body.

Bicarbonate, when used in conjunction with other equally safe substances, can form the basis for a natural chemotherapy, which will prove itself in the end compared to vastly more toxic interventions. Everyone knows in their gut the horrors that await those who travel down the chemo, surgery and radiation roads. Why travel down these pits to hell when safer, vastly more inexpensive, natural and potentially highly effective answers like sodium bicarbonate are there on the supermarket shelves for the taking?

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[1] www.cancerdecisions.com/content/view/228/2/lang,english/

The below statements by Louise Lubetkin, the Research Director of The Moss Reports, were bought to my attention in November of 2007.

"Dr. Simoncini is a charlatan who is currently the subject of a serious lawsuit in Italy. Dr. Moss investigated this matter through his many colleagues and friends in the medical field in Italy earlier this year and discovered that there is no plausible basis for the claims that Simoncini has made."

I responded back with:

Interestingly I just started reading **Complementary Oncology** by Dr. Moss. I am going to make these comments of yours public and I would like you and your organization to publicly substantiate your statements. Are you just trying to smear another doctor or are you throwing out sodium bicarbonate as a incredibly useful emergency medicine? This is not clear. Bicarbonate is used in emergency rooms and intensive care wards around the globe so not sure what your beef is with a doctor who champions its use. I sent my research assistant recently to meet him and I know of several doctors who have done the same and they all report good things about both him and his work.

I am a very sensitive to how people project themselves and the way you have communicated your organization it is you who seem to be what is disturbing you about Dr. Simoncini...meaning you seem to be the charlatans and it might be you who have a law suit aimed at your statements. It really is hard for me to believe someone from Dr. Moss's organization would communicate in the way you did.

Louise's responses to the above letter are again in red, my comments are in blue.

"I am reliably informed that Mr. Simoncini has been erased from the Medical Register in his native country and is no longer permitted to practice medicine."

Yes I am well aware of this and what does this have to do with the price of beans? Medical truth and medical science happens to be independent of medical politics or medical law. For many doctors that I know this above fact would position Dr. Simoncini in a strong not weak position and you insult him further by calling him Mr. They can take away his license to practice medicine but they cannot undo his education and the respect due him and the fact that he is a doctor and has been and will be until he dies.

"I am also not aware of any evidence whatever that cancer is caused by a fungus, which is the fundamental tenet underpinning Simoncini's assertions."

I think you got it slightly wrong, he indicates cancer is a fungus not that it is caused by it. What causes cancer is diverse, many things have been scientifically shown to cause cancer or cause the conditions in which late state infections (cancer) invite yeast and fungi to form colonies that attach to sickly human

cells...which are themselves one of the causes of cancer...as are heavy metals, pesticides, fluoride and on and on.....then of course we have the nutritional deficiencies that set the entire stage. Don't you know anything about cancer? We even have people who define people as multidimensional human beings meaning that sometimes or even often emotional trauma and shock or never ending stress and conflict disrupt the immune system severely weakening its ability to clear cancers from the system.

"While bicarbonate is undoubtedly a useful and legitimate instrument of therapeutic good in certain specific situations, it is not and never has been shown to be an effective approach to cancer, Simoncini's assertions notwithstanding."

Well it is clear you are biased because you will not even accept his word for his own life's work. Everyone I know who has listened to the man in person has respect for him. Your obvious disrespect has earned the Moss Organization distrust in my eyes. Dr. Simoncini has clearly shown to many that sodium bicarbonate has to be on that protocol list and medical science supports him. As you yourself say, "Of course sodium bicarbonate is a very useful and medically proven remedy for all manner of accidents, injuries and circumstances." That word circumstances though hides quite a bit

"You can read about the case that led to the conviction for fraud and manslaughter, as well as the revocation of Simoncini's medical license here:"

Did not help much that it was in Italian but again here you show your undignified bias but let's say for a moment that I agree with you. If every oncologist was put to the same litmus test they would all be on death's row for they would have all been convicted for multiple homicides for the vast majority of oncologists patients die on them. Mass murderers it looks like you would condemn them to be and I have to agree with you here. Dr. Moss himself says, "Real improvements in overall survival for the solid tumors of adults are rarely demonstrated in rigorous trials with chemotherapy." So could you please tell me if that inclines you and Dr. Moss to judge and condemn all orthodox oncologists as you do Dr. Simoncini?

What I can't believe is Moss' organization is not even appearing willing to take a critical look at the evidence supporting the fact that cancer can be a fungus. They just dismiss it outright.
Claudia French RN

In the judgment against Dr. Simoncini he was admonished to not abandon recognized therapies and that he should not suggest that bicarbonate could offer patients good results without providing documentation and publications recognized by the international scientific community. Unfortunately the international medical and scientific communities in the cancer area are the last people we can trust with our or our loved ones lives when it comes to cancer.

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[3]Levy, M.M., "An evidence-based evaluation of the use of sodium bicarbonate during cardiopulmonary resuscitation" (Crit Care Clin 1998 Jul;14(3):457-83). Vukmir, R.B., Sodium bicarbonate in cardiac arrest: a reappraisal (Am J Emerg Med 1996 Mar;14(2):192-206). Bar-Joseph, G., "Clinical use of sodium bicarbonate during cardiopulmonary resuscitation--is it used sensibly?" (Resuscitation 2002 Jul;54(1):47-55).

[4]Zhang. L.,"Perhydrit and sodium bicarbonate improve maternal gases and acid-base status during the second stage of labor" Department of Obstetrics and Gynecology, Xiangya Hospital, Hunan Medical University, Changsha 410008. Maeda, Y., "Perioperative administration of bicarbonated solution to a patient with mitochondrial encephalomyopathy" (Masui 2001 Mar;50(3):299-303).

[5]Avdic. E., "Bicarbonate versus acetate hemodialysis: effects on the acid-base status" (Med Arh 2001;55 (4):231-3).

[6]Feriani, M., "Randomized long-term evaluation of bicarbonate-buffered CAPD solution." (Kidney Int 1998 Nov;54(5):1731-8).

[7]Vrijlandt, P.J., "Sodium bicarbonate infusion for intoxication with tricyclic antidepressives: recommended inspite of lack of scientific evidence" Ned Tijdschr Geneeskd 2001 Sep 1;145(35):1686-9).

Knudsen, K., “Epinephrine and sodium bicarbonate independently and additively increase survival in experimental amitriptyline poisoning.” (Crit Care Med 1997 Apr;25(4):669-74).

[8]Silomon, M., “Effect of sodium bicarbonate infusion on hepatocyte Ca2+ overload during resuscitation from hemorrhagic shock.” (Resuscitation 1998 Apr;37(1):27-32). Mariano, F., “Insufficient correction of blood bicarbonate levels in biguanide lactic acidosis treated with CVVH and bicarbonate replacement fluids” (Minerva Urol Nefrol 1997 Sep;49(3):133-6).

[9]Dement'eva, I.I., “Calculation of the dose of sodium bicarbonate in the treatment of metabolic acidosis in surgery with and deep hypothermic circulatory arrest” (Anesteziol Reanimatol 1997 Sep-Oct;(5):42-4).

[10]**"I believe that, conservatively, 15 to 20 percent of all cancer is caused by infections; however, the number could be larger -- maybe double,"** said Dr. Andrew Dannenberg, director of the Cancer Center at New York-Presbyterian Hospital/Weill Cornell Medical Center." Dr. Dannennberg made the remarks in a speech in December 2007 at the annual international conference of the American Association for Cancer Research.[1] And if omitting infections as a cause of cancer is not bad enough nowhere in Watson’s article do we see mention of:

[11]A sexually transmitted virus that causes cervical cancer is also to blame for half of all cases of cancer of the penis
news.yahoo.com/s/nm/20090824/hl_nm/us_cancer_penis

Sparkling Water's Chemistry

Baking Soda Carbon Dioxide Connection

Carbonated water contains dissolved CO2 gas.

The Journal of Nutrition conducted a study of sparkling and still mineral water. The study participants were asked to drink 1 liter of either the sparkling or still each day for two months, followed by two months on the other water. It was found that drinking sparkling water[1]brought about **significant reductions in the level of low density lipoprotein (LDL) cholesterol** (generally regarded as a risk factor for heart disease), as well as a **significant increase in levels of high density lipoprotein (HDL) cholesterol** (generally taken to reduce heart disease risk). These and other biochemical changes induced by drinking sparkling water were **estimated to reduce the women's risk of developing heart disease over the next decade by about a third**.[2]

The study participants were asked to drink 1 litre of either the sparkling or still each day for two months, followed by two months on the other water. During the study, the study participants underwent a number of tests including blood pressure checks and measurement of a variety of blood components including cholesterol. Interestingly, the Journal of Nutrition study found that the drinking of the sodium-rich mineral water did not lead to any increase in blood pressure. One reason for this is that sparkling waters tend to be rich in bicarbonate. Sodium bicarbonate is not known to increase blood pressure despite the presence of sodium.

According to a study in the American Journal of Medicine the perfect water would have more than 48 milligrams of magnesium and 85 milligrams of calcium per liter, and fewer than 195 milligrams of sodium per liter. Obviously it would also have bicarbonate as the above study with women strongly suggests. A significant part of this book directly addresses the reasons why bicarbonate and CO2 are profoundly important for human health and why both are necessary for the successful practice of medicine and the treatment of cancer.

Carbonated water is made by passing pressurized carbon dioxide through water. The main point to understand is the connection between drinking sparkling water, which has had CO2 injected into it to make it fizzy, and drinking sodium bicarbonate in water, which turns to CO2 in the stomach. Some people think drinking bicarbonate is a waste of time because it turns to CO2 in the stomach but they could not be more mistaken.

Baking soda (sodium bicarbonate) immediately reacts when it mixes with stomach acid. **NaHCO(3) + HCl ---> NaCl + H(2)0 + CO(2)**. That is: Sodium bicarbonate + stomach acid yields salt + water + carbon dioxide.

Carbonation can occur naturally in spring water that picks up carbon dioxide stored in rocks, or it can be forced in by the manufacturer or by you at home with an inexpensive seltzer maker. Call it sparkling water, soda water, club soda or seltzer it's the same and those who avoid such drinks are missing a healthy and very delightful way to hydrate the body.

Claims have been made that carbonated water erodes teeth and bones, leaches calcium and increases acidity in the stomach have not been borne out by experiment. In a healthy human, carbonation of water does not lead to ill health effects. In fact it is quite healthy and can be made even more so by adding more bicarbonate and magnesium chloride to the mixture.

It is very simple to write off a good thing like bicarbonate when one does not understand the complexity of CO2 and its relationship to bicarbonate. It is exactly because it turns to CO2 that it provides such a great reason to use it in medicine and at home as a principle item for home care, oral treatment and maintenance, sports medicine, and diabetes and kidney medicine as well as cancer treatment.

A lack of carbon dioxide (and thus oxygen) is a starting point for different disturbances in the body. If a carbon dioxide deficiency continues for a long time then it can be responsible for diseases, ageing and even cancer.

Bicarbonate deficiency is the most unrecognized medical condition on earth. Clinical observation shows that low oxygen and low carbon dioxide occur together. Therapeutic increase of carbon dioxide, by inhalation of this gas diluted in air, is often an effective means of improving the oxygenation of the blood and tissues.[3]The same thing can be accomplished by taking bicarbonate orally and to everyone's surprise you can dive into a bath full of bicarbonate for intense therapeutic effect.

The reason this above study yields these surprising effects on blood chemistry is because increasing CO2 levels is healthy. It supports the natural bicarbonate system of the body which in today's world is stressed to the limit. The pancreas is killed if the body is metabolically acid as it tries to maintain bicarbonates. Without sufficient bicarbonates, the pancreas is killed, insulin becomes a problem and hence diabetes becomes an issue.

The secret that everyone needs to understand is provided by a penetrating look at bicarbonate physiology. From my book Sodium Bicarbonate – Rich Man's Poor Man's Cancer Treatment we find:

CO2 is a gas at room temperature, and consists of a central carbon atom and two oxygen atoms arranged in a linear fashion. When dissolved into water, the CO2 becomes hydrated to form carbonic acid (H2CO3). This hydration step takes a few seconds, though that may seem fast, many organisms from bacteria to humans use an enzyme called carbonic anhydrase to greatly speed up the process.

Once carbonic acid forms, it very quickly equilibrates with the other acids and bases in solution. It can, for example, lose one or two protons (H+). The extent to which this happens depends upon the pH and a variety of other factors. In seawater at pH 8.1, most of it (87 percent) will lose one proton to form bicarbonate, a small amount will lose two protons to form carbonate (13 percent), and a very small amount will remain as H2CO3 (<>1 percent). **All of these forms, however, interconvert faster than the blink of an eye, so one cannot identify one as carbonate and one as bicarbonate for more than a tiny fraction of a second.** All one can really say is that on average X percent is in the form of bicarbonate, and Y percent in the form of carbonate.[4]

Total CO2 is defined as the sum of carbonic acid and bicarbonate.

Carbonic acid plays a very important role as a buffer in our blood. The equilibrium between carbon dioxide and carbonic acid is very important for controlling the acidity of body fluids, and the carbonic anhydrase increases the reaction rate by a factor of nearly a billion to keep the fluids at a stable pH. Carbon dioxide does change the pH of water. This is how it works:

Carbon dioxide dissolves slightly in water to form a weak acid called carbonic acid, H2CO3, according to the following reaction:

CO2 + H2O --> H2CO3

After that, carbonic acid reacts slightly and reversibly in water to form a hydronium cation, H3O+, and the bicarbonate ion, HCO3-, according to the following reaction:

H2CO3 + H2O --> HCO3- + H3O+

In the basement of human physiology are these lightening fast translations so for all intent and purpose drinking sparkling water is very similar to drinking bicarbonated water. And in fact we can add sodium bicarbonate to the sparkling water we can easily and joyfully make at home. **Scientists have found out in animal studies that sparkling water stimulates HCO3- secretion in both the stomach and the duodenum[5]**but I am not sure whether it is actually being secreted or just transformed. The point is clear though that CO2 and HCO3- (bicarbonate ions) are closely related and are interchangeable in the presence

of water.

The normal ratio of bicarbonate to carbonic acid at normal pH is around 20:1; total CO2 will therefore be about 5% higher than serum bicarbonate. When you observe a difference between total CO2 and bicarbonate that is larger than 5%, the patient will be acidic. In aqueous solution, carbonic acid dissociates into a bicarbonate ion and a proton or into carbon dioxide and water depending on the conditions such as pH and the relative concentrations of each of the products, i.e., carbon dioxide and bicarbonate.

The carbonic acid, carbon dioxide bicarbonate axis represents the main buffers against dangerous pH changes; a buffer is a substance that resists changes in pH (acid concentration) by undergoing a reversible reaction. When weak acids are added to a buffer solution, the resulting change in pH is less than it would have been if the buffer were not present. When hydrogen ion (H+) is added, much of the hydrogen is taken up by the salt of the buffering acid. With bicarbonate, H+ bonds to HCO3- to form H2CO3, which is a weak acid. The main characteristic of a buffer is that the reaction is reversible — the hydrogen ion can be given back.

Perfect Water

If all the above is confusing it's understandable unless you have a background in chemistry. What is vital to know and understand is that raising the pH increases oxygen binding to hemoglobin, allowing more total oxygen to be carried. Drinking alkaline water, ingesting sodium bicarbonate, and even drinking sparkling water, especially if it contains high bicarbonate levels, will alkalinize the blood and increase oxygen delivery to the cells.

The perfect water would be rich in magnesium (magnesium also increases O2 carrying capacity) and calcium and low in sodium chloride," says Roberta Anding, director of sports nutrition at the Texas Medical Center, and a dietitian for the Houston Texans football team. According to a study in the American Journal of Medicine, that means more than 48 milligrams of magnesium and 85 milligrams of calcium per liter, and fewer than 195 milligrams of sodium per liter. Just because water has bubbles, either because they've been forced in by the manufacturer, by you at home or because they occurred naturally from a spring, doesn't mean it also contains more or less of certain minerals than still water.

When people consume carbonated water the experience is quite distinctive especially when one takes the care to do this oneself at home exactly to ones taste. Some people enjoy drinking carbonated water plain, enjoying the bubbly texture and the mild flavor. Connoisseurs of carbonated water may even prefer waters from a specific spring or bottling facility, which is why some restaurants offer several sparkling water choices on the menu. Carbonated water can also be mixed with juice, flavoring syrups, and other ingredients to create a flavored drink.

Historically, some people thought that carbonated water was beneficial to health, and some people continue to believe that it can settle an upset stomach. Some companies add minerals to their carbonated water, or carbonate natural mineral water to produce a flavored sparkling water. Tonic water, a variation on carbonated water, is classically made with quinine, a bitter substance which prevents malaria.

Mineral water has been around for centuries, used for bathing and drinking due to its health benefits. The Encyclopedia Britannica states that since ancient times, the water from mineral springs, especially hot springs, have been used for therapeutic purposes such as relief from skin ailments, arthritis and rheumatism. Many of the natural springs have become sites for spas and resorts such as Bath, Somerset, England; and Saratoga Springs, New York. Since the 1970s, mineral water has become popular as a beverage and it has been bottled and exported from springs in France and Italy, along with locations in the United States and Canada with varying degrees of sparkle.

Staying Safely Hydrated

Diabetics and everyone else need to make a conscious effort to keep fully hydrated. Lack of water can lead to dehydration, a condition that occurs when you don't have enough water in your body to carry on normal functions. Even mild dehydration - as little as a 1 percent to 2 percent loss of your body weight - can sap your energy and make you tired. Dehydration poses a particular health risk for the very young and the very old.

Substitute sparkling water for alcoholic drinks, coffee and colas, all of which are acidic and dehydrating is a pleasurable way of increasing hydration. Water is the most basic of all medicines and it is possible to make increased water intake pleasurable and highly medicinal.

If you want to make seltzer water even more healthy for you, you may want to consider making your own mixtures. You can mix this carbonated water with various fruit juices to get a healthy drink, which is like a soda, to fill your "fizzy" craving. Seltzer water also make great additives with warm versions, like apple cider as well. Having a great tasting drink and a healthy drink no longer have to be different things. You can have a great tasting drink that is healthy for you as well, without drinking a great deal of empty calories that will add to your waistline.

All in all, more Americans should probably be making the switch to these seltzer and soda waters instead of drinking so much soda. While sodas tend to dehydrate you, these tasty waters can help you stay hydrated and will have you feeling much better as well. If you want a healthy alternative for you and even for your children, these drinks can be great choices.

Physical Activity Increases CO2

Those who engaged in moderate- to high-intensity
exercise for at least 30 minutes a day were 50 percent
less likely to develop cancer compared with the other men.

Increased oxygen consumption associated with moderate- to high-intensity exercise appears to reduce the risk of cancer, a new study has found. The Finnish study included 2,560 men, aged 42 to 61, whose leisure-time physical activity was assessed over one year. None of the men had a history of cancer, according to the report published online July 28 in the British Journal of Sports Medicine. The researchers found that an increase of 1.2 metabolic units (oxygen consumption) was related to a decreased risk of cancer death, especially in lung and gastrointestinal cancers, after they took into account factors such as age, smoking, alcohol consumption, body mass index, and fiber/fat intake.

As we can see CO2 is very important in health and medicine. CO2 is the key to increasing Oxygen and is the main reason why sodium bicarbonate is so effective in the treatment of cancer or its prevention. Sparkling water is a delightful method of increasing ones intake of CO2 and bicarbonate as well as a help in keeping the body full hydrated. Thus it would help prevent serious diseases like cancer, diabetes and heart disease.

Special Note: For those who can afford it one can purchase water filter and alkaline water making unit and hook it right to your kitchen faucet -- filters tap water to remove contaminants, chlorine, and chemicals. The water is treated with ultraviolet to disinfect germs, bacteria and viruses. Then the water is **ionized by an electric current, creating alkaline water**, which provides a host of important health benefits, as well as acidic water for external use. The Ionizer Plus is distributed all over the world by High Tech Health International, I know these reputable people who sell one of the best infrared sauna units and they claim that more than 1,000 health practitioners - mostly MDs - recommend ionized water to their patients for conditions ranging from digestive problems to cancer.

Making Your Own Soda Water

Soda water can be made at home, by use of a readily available 1 l (1.1 US qt) rechargeable soda-siphon, and disposable one-shot screw-in carbon dioxide cartridges. A simple recipe is to chill filtered tap water in the fridge, add one quarter to one half a level teaspoon of sodium bicarbonate (baking soda) to the rechargeable soda-siphon, pour in the chilled water and add the carbon dioxide. A pH testing kit can be used to alter the amount of sodium bicarbonate per litre of carbonised water to neutralise acidity. The siphon should be kept in the refrigerator to preserve carbonation of the contents, and brought out for use, but many rechargeable soda-siphons are handsome objects in their own right, and are kept out for viewing on the drinks tray in many homes. Soda water made in this way tends not to be as 'gassy' as commercial soda water although chilling of the water before carbonation helps.

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[1] Gas bubbles in carbonated water are created by adding carbon dioxide to plain water. Carbonated water does not contain phosphoric acid, which strips bones of calcium and causes blood acidity. Carbonated water has one ingredient that soft drinks lack: bicarbonate. Bicarbonate minimizes calcium loss from the bones. Since blood acidity is not excessive when consuming carbonated water due to bicarbonate, more calcium stays in the bones.

[2] American Society for Nutritional Sciences J.Nutr.134:1058-1063, May 2004

[3] Henderson, Y. Carbon Dioxide. Article in Encyclopedia of Medicine. 1940.

[4] www.fishchannel.com/saltwater-aquariums/aquarium-frontiers/co2-friend-or-foe.aspx?cm_sp=InternalClicks-_-RelatedArticles-_-saltwater-aquariums/aquarium-frontiers/co2-friend-or-foe

[5] Stimulation by sparkling water of gastroduodenal HCO3- secretion in rats. Med Sci Monit. 2009 Dec;15 (12):BR349-56. Division of Pathological Sciences, Department of Pharmacology and Experimental Therapeutics, Kyoto Pharmaceutical University, Misasagi, Yamashina, Kyoto, Japan.

Carbon Dioxide

One of Life's most Essential Nutrients

On Friday the 17th of February 2009 The Environmental Protection Agency formally declared carbon dioxide and five other heat-trapping gases to be pollutants that threaten public health and welfare, setting in motion a process that will regulate the gases blamed for global warming. The E.P.A. said the science supporting its so-called endangerment finding was "compelling and overwhelming." The EPA believes that concentrations of these gases are very likely responsible for the increase in average temperatures even though global cooling is being reported as the sun cycles down for a period of minimum activity. (see climatechange.imva.info)

The federal government is ready to use the Clean Air Act to require power plants, cars and trucks to curtail their release of climate-changing pollution, especially carbon dioxide.

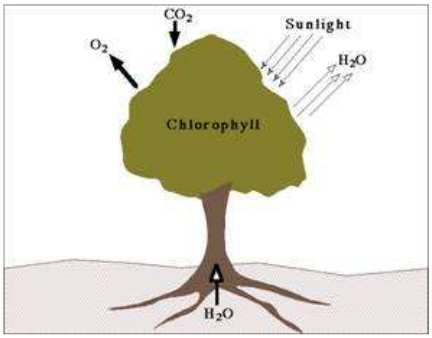
The main issue with CO2 is not global warming its health and life itself. Carbon dioxide like air, water and oxygen is essential for life and health in general and specifically it holds the key to resolving asthma, cancer and many other chronic diseases. Carbon dioxide is an essential constituent of tissue fluids and as such should be maintained at an optimum level in the blood. The gas therefore is needed to supplement various anaesthetic and oxygenation mixtures for use under special conditions such as cardio-pulmonary by-pass surgery and the management of renal dialysis.

CO2 is not the beginning and end of climate change.
Dr. Lowell Stott

Carbon dioxide is a nutrient as well as a product of respiration and energy production in the cells and its lack or deficiency is of itself a starting point for different disturbances in the body.It is very interesting to note that in comparison with most of the Earth's geological history we live today in a world that is in a state of relative carbon dioxide starvation, especially for optimal plant growth; just ask the commercial tomato growers who use enhanced levels of carbon dioxide in their greenhouses to expedite crop growth.

Dr. Gerald Marsh tells us that five hundred million years ago, carbon dioxide concentrations were over 13 times current levels; and not until about 20 million years ago did carbon dioxide levels drop to a little less than twice what they are today.[1]Since 1750 the concentration in the air has risen from of CO2 278 parts per million (ppm) to more than 380 ppm, **making it easier for plants to acquire the CO2 needed for rapid growth.** Scientists generally suggest that raised CO2 levels will boost the yields of mainstream crops, such as maize, rice and soy, by about 13 per cent.

A molecule of carbon dioxide (CO2) consists of one carbon and two oxygen atoms. Colorless and odorless, it is hard to detect. The amount of carbon dioxide in the atmosphere has been in flux throughout the Earth's history and there was a point when there was a lot more. When one looks at carbon dioxide it is best to go back to basic biology to understand its central role in both plant and animal physiology.



Plants survive by extracting CO2 from the air
using magnesium at the center of chlorophyll
and sunlight to convert it into proteins and sugars.

Public opinion tends to think of carbon dioxide as a waste product or even a poison. (It is sometimes confused with carbon monoxide, which is a poison). Way back in the 19th century, Zuntz, in Berlin, recognized that carbon dioxide, unlike oxygen, is not carried by haemoglobin. He showed that in the blood, **carbon dioxide is combined with bases, chiefly as sodium bicarbonate,** which plays a part in acid-alkaline balance. Most of the carbon dioxide is dissolved in the plasma, both in simple solution and that combined with alkali into the bicarbonates.

In medicine, up to 5% carbon dioxide is added to
pure oxygen for stimulation of breathing after
apnea and to stabilize the O2/CO2 balance in blood.

A study by the University of Leeds, published in the science journal Nature, measured the girth of 70,000 trees across 10 African countries and compared them with similar records made four decades ago. On average, the trees were getting bigger faster and researchers found that each hectare of African forest was trapping an extra 0.6 tons of CO2 a year compared with the 1960s.[2]Yes you are beginning to hear the real story about CO2, which has little or nothing to do with climate change and global warming. We are actually in a period of global cooling due to diminished solar activity combined with decreased industrial output of pollutants due to economic contraction. Plus the trees, if we don't cut them all down, are sucking up more CO2 as CO2 levels rise.

One more time we are having the hood pulled over our eyes with terrible misinformation. Carbon is not an enemy or a terrorist organization and certainly it's not a reason to break people's backs with a new tax on it. We have so many examples lately of how wrong people can be and how our media just lies about reality. They keep kicking up the carbon story because they don't want to say anything about the current disaster with mercury pollution coming out of the smoke stacks of coal burning electrical plants. Mercury, a deadly neuropoison is the enemy not carbon dioxide.

When we begin to understand the physiology of carbon dioxide and also the fact that the higher levels of anxiety, fear and outright panic people are feeling (which makes them over-breathe) is helped by higher concentrations of carbon dioxide we can start to comprehend the massive mistake being made. We have done this before and will continue to make dangerous things seem safe and safe things seem dangerous.[3]

People are having panic attacks over the state of the economy. With the acknowledgment each month of
increased economic destruction we are
seeing a plague hitting the emotional and mental framework of society.

According to the Verigo-Bohr effect (which we will look at below), we can state that a CO2 deficit caused by deep breathing leads to oxygen starvation in the cells of the body. This state is known as hypoxia and it badly affects the nervous system. Chronic hidden hyperventilation (over-breathing) is very common amongst western populations **leading to impaired oxygenation** of body tissues. But what is actually driving down the O2 levels is the hyperventilation, its getting rid of too much CO2. Meaning we need the CO2 almost as much as we need the O2 because, as we shall also see below, the two are married to each other in an eternal physiology dance.

With more layoffs expected, the threat of foreclosure
looming over so many and our savings disappearing, even

the best parents can feel stressed out and overwhelmed
leading to more anxiety and even increased violence in the home.[4]

There are many reasons why people over-breath, including anxiety and pollution. Years of poor posture, anxious thinking, tension and pressure will usually result in breathing patterns which are less-than-ideal. Over breathing can be counted amongst panic attack symptoms, or amongst causes, as one 'feeds' off the other. About 60% of attacks are accompanied by hyperventilation and many panickers over breathe even whilst relaxed.

Most doctors have never heard of carbon dioxide
therapy. Yoga or deep breathing exercises
actually increase CO2 levels and this is good.

Most people have unhealthy breathing habits. They hold their breath or breathe high in the chest or in a shallow, irregular manner. These patterns have been unconsciously adopted, accidentally formed, or emotionally impressed. Certain "typical" breathing patterns actually trigger physiological and psychological stress and anxiety reactions. Babies know how to breathe and you can see their belly expand as the diaphragm moved down. Adults breathe more through expanding their chest cavity and it takes training and discipline to return to more natural breathing patterns.

Little does anyone know that a lack of carbon dioxide is
harmful and even less understand that carbon dioxide is
as fundamental a component of living matter as oxygen.

If a carbon dioxide deficiency continues for a long time then it can be responsible for diseases, ageing and even cancer. The ancient forms of medicine knew that for increased vitality and freedom from disease good habits of breathing must be formed. They knew that poor breathing reduces our vitality and opens the door to disease.

The principle role of breathing is, of course, to stay alive! One of the ways in which breathing does this is through seeking to maintain an optimum internal oxygen-carbon dioxide balance. **The important thing is not how much oxygen or how much carbon dioxide you have in your system but rather the relationship between the two gases - between carbon dioxide and oxygen.** Too much oxygen (relative to the level of carbon dioxide) and we feel agitated and jumpy. Too much carbon dioxide (again, relative to the level of oxygen) and we feel sluggish and sleepy and tired.

Poor oxygenation or hypoxia appears to be a favorable environment
for cancer development whereas good oxygenation favors healthy
tissue growth. Increasing Co2 levels through the use of sodium
bicarbonate is good in cancer treatment because bicarbonate drives
up CO2 levels in the blood which increases oxygenation to the cells.

"Another natural misconception is that oxygen and carbon dioxide are so far antagonistic that a gain of one in the blood necessarily involves a corresponding loss of the other. On the contrary, although each tends to raise the pressure and thus promote the diffusion of the other, the two gases are held and transported in the blood by different means; oxygen is carried by the haemoglobin in the corpuscles, while carbon dioxide is combined with alkali in the plasma. A sample of blood may be high in both gases, or low in both gases. **Under clinical conditions, low oxygen and low carbon dioxide generally occur together. Therapeutic increase of carbon dioxide, by inhalation of this gas diluted in air, is often an effective means of improving the oxygenation of the blood and tissues".[5]**

Few people know that a **decreased level of carbon dioxide in the blood leads to decreased oxygen supply** to the cells in the body including in the brain, heart, kidneys etc. Carbon dioxide (CO_2) was found at the end of the 19th century by scientists Bohr and Verigo to be responsible for the bond between oxygen

and haemoglobin. **If the level of carbon dioxide in the blood is lower than normal, then this leads to difficulties in releasing oxygen from haemoglobin.** Hence the Verigo-Bohr law:

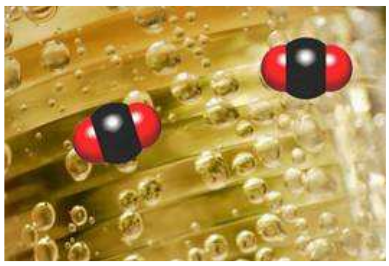
According to the Verigo-Bohr effect, we can state
that a CO2 deficit caused by deep breathing
leads to oxygen starvation in the cells of the body.

What we are staring at here is the primordial yin and yang in human physiology. Oxygen the Yang fire cannot be separated from its Yin counterpart, where these is one there is the other. They cannot be separated from each other depending as they do on the others existence. Pulmonary function measurement is an indicator of general health and vigor and literally the primary measure of potential life span. Our respiration is what balances oxygen with CO2.

You can see normal breathing in a healthy baby. Normal
breathing is invisible, through the nose, and is so quiet
that you can hardly hear it. ***With normal breathing the***
content of carbon dioxide in alveolar air should be 6.5%.

Researchers at the Max Planck Institute for Solar Research in Germany report the sun has been burning more brightly over the last 60 years, accounting for the 1 degree Celsius increase in Earth's temperature over the last 100 years. Dr. Timothy Patterson, professor of geology and director of the Ottawa-Carleton Geoscience Center of Canada's Carleton University, says that "**CO2 variations show little correlation with our planet's climate on long, medium and even short time scales.**"

So it's really not the carbon we have to worry about it's the more deadly poisons that comes out of the smokestacks of industry, principally mercury which will deny us our future. Carbon dioxide we need and having more in the air is not threatening us in the present or foreseeable future. In fact most people, especially **the chronically ill are deficient in carbon dioxide because of the acid conditions paralleled by anxious over-breathing coupled with the lack of exercise.**



A Russian doctor named Konstantin Buteyko is most responsible for drawing attention to the importance of carbon dioxide for body metabolism and how the lack of it can cause chronic diseases; this constitutes a major breakthrough in medical science. Yoga teachers the world over labor to help their students with their breathing knowing as they do that breathing is the key to health, relaxation and meditation.

Biologist Dr. Ray Peat tells us that "breathing pure oxygen lowers the oxygen content of tissues; **breathing rarefied air, or air with carbon dioxide, oxygenates and energizes the tissues**; if this seems upside down, it's because medical physiology has been taught upside down. And respiratory physiology holds the key to the special functions of all the organs, and too many of their basic pathological changes." [6]

People who live at very high altitudes live significantly longer;
they have a lower incidence of cancer (Weinberg, et al., 1987)
and heart disease (Mortimer, et al., 1977), and other
degenerative conditions, than people who live near sea level.

Dr. Peat continues saying that, "**Breathing too much oxygen displaces too much carbon dioxide, provoking an increase in lactic acid**; too much lactate displaces both oxygen and carbon dioxide. Lactate itself tends to suppress respiration. Oxygen toxicity and hyperventilation create a systemic deficiency of carbon dioxide. It is this carbon dioxide deficiency that makes breathing more difficult in pure oxygen, that impairs the heart's ability to work, and that increases the resistance of blood vessels, **impairing circulation**

and oxygen delivery to tissues. In conditions that permit greater carbon dioxide retention, circulation is improved and the heart works more effectively. **Carbon dioxide inhibits the production of lactic acid**, and lactic acid lowers carbon dioxide's concentration in a variety of ways."

The presence of lactic acid, which indicates stress or defective respiration, interferes with energy metabolism in ways that tend to be self-promoting. Harry Rubin's experiments demonstrated that cells become cancerous before genetic changes appear. **The mere presence of lactic acid can make cells more susceptible to the transformation into cancer cells.** (Mothersill, et al., 1983.) The implications of this for the increased susceptibility to cancer during long term stress are obvious.

The lactic acid system is capable of releasing energy to resynthesise ATP without the involvement of oxygen and is called anaerobic glycolysis. Glycolysis (breakdown of carbohydrates) results in the formation of pyruvic acid and hydrogen ions (H+). A build up of H+ will make the muscle cells acidic.

"Otto Warburg established that **lactic acid production is a fundamental property of cancer.** It is, to a great degree, the lactic acid which triggers the defensive reactions of the organism, leading to tissue wasting from excessive glucocorticoid hormone," says Dr. Peat. Tumors do tend to be efficient at exporting lactate which drops the pH in the milieu of the tumor. The breakdown of glucose or glycogen produces lactate and hydrogen ions - for each lactate molecule, one hydrogen ion is formed.

It is carbon dioxide deficiency that impairs circulation and oxygen delivery to tissues. ***Carbon dioxide inhibits the production of lactic acid****, and lactic acid lowers carbon dioxide's concentration in a variety of ways.*
Dr. Ray Peat

Thus we can begin to see that it is the lack of carbon dioxide in the body which is a cause of many disturbances in the metabolism of cells and tissues, which, in turn, can lead to disease. Dr Buteyko said, "CO2 is the main source of nutrition for any living matter on Earth. Plants obtain CO2 from the air and provide the main source of nourishment for animals, while both plants and animals are nourishment for us. The great resource of CO2 in the air was formed in pre-historical times when the amount was about 10%."

The best way to produce carbon dioxide is from physical activity but most people with chronic illness and cancer unfortunately do not exercise. Understanding how important sodium bicarbonate can be to the chronically ill person involves understanding the basic physiology of carbon dioxide. This leads us directly to our breath and we must understand and take conscious control of it so we optimize our breathing and CO2 and thus Oxygen levels. **Over breathing really is a kind of self suffocation** when taken to the extreme because we are driving down CO2 levels and that actually decreases oxygen to the cells.

There are different techniques designed for increasing carbon dioxide levels in the blood. Dr Buteyko developed a system where by breathing techniques controlled asthma. The ancient yogis with their yogic breathing and NASA controls spaceship climates with these issues in mind. Natural medicine makes proper breathing important because the central mechanism to maintain CO2 levels is correct breathing.[7]The clinical choice often is IV injection of bicarbonate in emergency situations but the rest of us can take the easy inexpensive way using oral sodium bicarbonate.

About 80% of the CO2 formed by metabolism is transported from tissues to lungs as bicarbonate ions dissolved in the water phases of red cells and plasma. The catalyzed hydration of CO2 to bicarbonate takes place in the erythrocytes but most of the bicarbonate thus formed must be exchanged with extracellular chloride to make full use of the carbon dioxide transporting capacity of the blood. This is an important reason why magnesium chloride is not only the ideal form of magnesium but also the reason to combine magnesium chloride with bicarbonate. Chloride is another basic substance that runs parallel biological processes.

The anion transport capacity of the red cell membrane is among the largest ionic transport capacities of any biological membrane. Exchange diffusion of chloride and bicarbonate is nevertheless a rate-limiting step for the transfer of CO2 from tissues to lungs.[8]

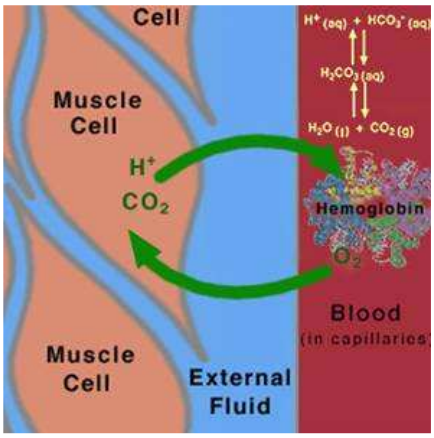
Baking soda (sodium bicarbonate) immediately reacts when it mixes with stomach acid. NaHCO(3) + HCl ---> NaCl + H(2)0 **+ CO(2)**. That is: Sodium bicarbonate + stomach acid yields salt + water **+ carbon dioxide.** This is the physiological reason why bicarbonate is such an effective medicine; it instantly offers a return to more normal CO2 levels which drives more Oxygen into the tissues. This is not something cancer cells enjoy.

CO2 is a gas at room temperature, and consists of a central carbon atom and two oxygen atoms arranged in a linear fashion. When dissolved into water, the CO2 becomes hydrated to form carbonic acid (H2CO3). This hydration step takes a few seconds, though that may seem fast, many organisms from bacteria to humans use an enzyme called carbonic anhydrase to greatly speed up the process.

Once carbonic acid forms, it very quickly equilibrates with the other acids and bases in solution. It can, for example, lose one or two protons (H+). The extent to which this happens depends upon the pH and a variety of other factors. In seawater at pH 8.1, most of it (87 percent) will lose one proton to form bicarbonate, a small amount will lose two protons to form carbonate (13 percent), and a very small amount will remain as H2CO3 (<>1 percent). **All of these forms, however, interconvert faster than the blink of an eye,** so one cannot identify one as carbonate and one as bicarbonate for more than a tiny fraction of a second. All one can really say is that on average X percent is in the form of bicarbonate, and Y percent in the form of carbonate.[9]

A bicarbonate anion is considered "labile" since at a proper concentration of hydrogen ion (H+) it may be converted to carbonic acid (H2CO3) and thence to its volatile form, carbon dioxide (CO2). Little did this clinician know that **a lack of carbon dioxide is itself a starting point for different disturbances in the body. If a carbon dioxide deficiency continues for a long time then it can be responsible for diseases, ageing and even cancer.**

Sodium (Na+) is the principal cation of the extracellular fluid and bicarbonate (HC03 †) is a normal constituent of body fluids and the normal plasma level ranges from 24 to 31 mEq/liter.



This diagram shows the diffusion directions for H+, CO2, and O2 between the blood and the muscle cells during exercise. The resulting concentration changes affect the buffer equilibrium, shown in the upper right-hand corner of the diagram (yellow). If the amounts of H+ and CO2 exceed the capacity of hemoglobin, they affect the carbonic acid equilibrium, as predicted by Le Châtelier's Principle or the quantitative treatment in terms of equilibrium constants. As a result, the pH of the blood is lowered, causing acidosis. The lungs and kidneys help regulate pH by removing CO2, HCO3-, and H+ from the blood.

So now that we know something about carbon dioxide it’s not something we need to be afraid of and certainly we don’t want anyone putting a tax on it for the trees, at least, are loving that there is more of it in the air. If there is any truth in the fact that more CO2 in the air has a warming affect then perhaps in the end we will be thankful when it gets really cold that it is not as cold as it might be if we had not filled the air with so much of it due to human activity.

That does not mean we do not have a huge pollution problem that is harming everyone especially in the northern hemisphere. People in cities everywhere are exposed to unacceptable levels of air pollution that are killing people. And again it is the mercury that is put out to the tune of about 20 tons a day that is the real threat to the future of humanity not the carbon dioxide. Remember it’s only about a gram of mercury that will pollute a lake so 20 tons a day is threatening and even causing neurological disorders like autism downwind of smokestacks. This is just one more lesson to teach us that we trust the wrong people to decide the future destiny of our lives. Parents especially need to be aware for their children’s lives are in the wrong hands.

[1] By Dr. Gerald Marsh: Five hundred million years ago, carbon dioxide concentrations were over 13 times current levels; and not until about 20 million years ago did carbon dioxide levels dropped to a little less than twice what they are today. It is possible that moderately increased carbon dioxide concentrations could extend the current interglacial period. But we have not reached the level required yet, nor do we know the optimum level to reach. So, rather than call for arbitrary limits on carbon dioxide emissions, perhaps the best thing the UN's Intergovernmental Panel on Climate Change and the climatology community in general could do is spend their efforts on determining the optimal range of carbon dioxide needed to extend the current interglacial period indefinitely. We ought to carefully consider this possibility before we wipe out our current prosperity by spending trillions of dollars to combat a perceived global warming threat that may well prove to be only a will-o-the-wisp. Dr. Gerald Marsh is a retired physicist from the Argonne National Laboratory and a former consultant to the Department of Defense on strategic nuclear technology and policy in the Reagan, Bush, and Clinton Administration.

[2] If this is replicated across the world's tropical rainforests they would be removing nearly 5 billion tons of CO2 a year from the atmosphere. Professor Martin Parry, head of plant science at Rothamsted Research, Britain's leading crop institute, said: "There is no doubt that the enrichment of the air with CO2 is increasing plant growth rates in many areas. Humans are believed to generate about 50 billion tons of the gas each year. .telegraph.co.uk/earth/environment/climatechange/5109251/Trees-are-growing-faster-and-could-buy-time-to-halt-global-warming.html

[3] I once wrote an essay called medical insanity, which I defined as the making of dangerous pharmaceuticals (vaccines with mercury for instance) legal and reject marijuana, the safest drug in existence, making it a crime to use for suffering and pain.

[4] news.yahoo.com/s/ap/20090410/ap_on_re_us/meltdown_domestic_abuse

[5] Henderson, Y. Carbon Dioxide. Article in Encyclopedia of Medicine. 1940.

[6] raypeat.com/articles/aging/altitude-mortality.shtml

[7] www.positivehealth.com/article-view.php?articleid=1436

[8] Chloride-Bicarbonate Exchange in Red Blood Cells: Physiology of Transport and Chemical Modification of Binding Site. Wieth, J. O.; Andersen, O. S.; Brahm, J.; Bjerrum, P. J.; Borders, C. L., Jr. Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences, Volume 299, Issue 1097, pp. 383-399

[9] .fishchannel.com/saltwater-aquariums/aquarium-frontiers/co2-friend-or-foe.aspx?cm_sp=InternalClicks-_-RelatedArticles-_-saltwater-aquariums/aquarium-frontiers/co2-friend-or-foe

Nebulizing Bicarbonate and other Medicinals

Nebulization and Transdermal Medicinal Baths are Prime
Therapeutic Options for Medication Administration for Children

Sometimes very sick people or even animals with a lung ailment do better when taking drugs by nebulization as opposed to orally, because then the embattled system doesn't need to go through breaking down the medications in the stomach and then delivering them to the lungs through the blood stream. With nebulization medicines get sprayed directly onto the lung tissues where they can most easily be absorbed locally by the lung and brachial cells.

Dr. Shallenberger says, "A nebulizer is able to convert a liquid into tiny bubbles that are so tiny that they can only be seen under a microscope. When these bubbles come out of the nebulizer, they are so small that they look just like smoke. And that's the magic of a nebulizer. The bubbles are so small that they can be inhaled deep down into the deepest regions of the lungs without any discomfort or irritation. It's a great way for asthmatics to get the medication they need to open up their lungs."

Few practitioners consider the systemic effects of nebulizers. When we hear from patients using nebulizers with pharmaceuticals that it makes them feel the side effects just as badly as when the doctors were giving the same drug intravenously in the hospital, we are actually hearing that the medicines are not only being delivered to the lungs but also being delivered directly into the blood stream and systemically into the rest of the body.

This is very important to understand and appreciate because it opens a wonderful delivery system that is important for certain populations like infants, children, intensive care patients and to all those who are trying to care for themselves or loved ones at home. And that's when Dr. Shallenberger thought, "Why not use the nebulizer delivery system to deliver treatments not just to the lungs but to the whole body?"

Most of the published research about nebulization is on standard usages like asthma but this delivery system can be used to treat lung cancer, pneumonia, tuberculosis, as well as the influenza, chemical poisoning, and actually any syndrome requiring the administration of a medicinal. For pediatricians and parents nebulizers are a God send because our babies cannot pop pills and we don't really want to be sticking needles in them every day. Transdermal medicine offers the most to the world of pediatrics with the administration of medicines through their baths and their breathing.

The great strength of nebulizers though is their capability of delivering medications and moisture directly to the tracheobronchial tree. Contrary to other treatment options, higher concentrations in respiratory secretions can be achieved with aerosol therapy. With the use of this localized delivery system effective antimicrobials can have a direct effect on surface organisms in the bronchial system.

1) Nebulization thins secretions & mucus making it easier to expel pulmonary secretions
2) Nebulization makes coughing easier while lessening the need to cough
3) Nebulization keeps your windpipe & trachea lining and stoma moist & healthy
4) Nebulization moistens the air that goes into your lungs
5) Nebulization hydrates & moisturizes your nasal passages, mouth and throat

Nebulizers are good for young children, people who have trouble using metered dose inhalers, and people who have severe asthma. Within 10 to 15 minutes, the medication is used up and symptoms are gone, or prevented for six to eight hours. Even babies can breathe the mist and nebulizer treatments are fast becoming pediatrician-approved alternatives to over-prescribed antibiotics.

Several devices are available to create the drug aerosol particles. These include jet nebulizers,

ultrasonic nebulizers, metered-dose inhalers, and dry powder inhalers through which particles can reach the upper and lower respiratory tracts and be quickly absorbed into the bloodstream.

Aerosolized drugs have several advantages including quick onset of action and low incidence of systemic adverse effects.[1]Delivery of aerosolized medications typically does not cause pain to the patient, and it is frequently a more convenient method of drug delivery. Studies show that the device used really doesn't matter, as long as it's used properly. All methods work just as well when the correct technique is used.[2]Nebulizing is generally carried out for ten, twenty to thirty minutes each time and for best results one may need to nebulize up to five times a day.

Transdermal medicine delivers medications
to the exact site of injury, pain or disease.

Transdermal medicine applied through a nebulizer is ideal for direct treatment to the lungs. Transdermal methods of delivery are increasingly being used because they allow the absorption of medicine directly through the skin and in this case we conceptualize the lungs as an inner skin. Such treatments ensure that medications reach the site of needed action directly; bypassing the stomach and liver meaning a much greater percentage of the active ingredient gets to target tissues.

At the Ohio State University Medical Center, pharmacists, respiratory therapists, and pulmonologists endorse what they call off-label nebulization. Off-label nebulization is a rapidly growing area of patient care and in time new research and practical experience will bring us much more information on how magnesium and other agents like sodium bicarbonate, iodine, peroxide and glutathione can be administered directly into the lungs for many difficult-to-treat conditions. Even DMSO has been used in veterinarian medicine and naturopaths have used Tea Tree Oil from Australia, which is used topically as fungicide antiseptic and germicide. Eucalyptus oil has also been used forever because it is a known bronchial-dilator.

Nebulized Magnesium

Magnesium chloride oil should be nebulized as an isotonic solution - delivering 7.5g magnesium chloride per 100ml of distilled water - closely equal to 3.5 tsp of magnesium oil per 100ml. Nebulization of magnesium is an alternative method of treatment for patients with pulmonary problems or infections, or for those undergoing bronchoscopy. Magnesium nebulized directly into the lungs offers all the same positive therapeutic effects that other types of administration methods do but concentrates the effects in the lung and bronchial tissues.

Nebulised inhaled magnesium sulfate in addition to 2-agonist in the treatment of an acute asthma exacerbation, appears to have benefits with respect to improved pulmonary function in patients with severe asthma. Heterogeneity between trials included in this review precludes a more definitive conclusion.[3] Nebulized magnesium is well tolerated without any adverse effects.[4]

Currently, the most widely accepted treatments for asthma include ß2-adrenergic agonists and corticosteroids. The search for treatment alternatives for bronchoconstriction in acute asthma has led to the use of nebulized magnesium.[5]Magnesium has been associated with cellular homeostasis and frequently acts as a cofactor in enzymatic reactions. It has also been suggested that magnesium acts as a smooth muscle relaxant by interfering with calcium uptake. Research also suggests that magnesium may have a counteracting effect against bronchoconstricting agents such as sodium metabisulfite, methacholine, and histamine. Research into nebulized magnesium focuses on treating asthma and the potential to counteract bronchoconstricting agents.

A randomized, double-blind, controlled clinical study compared nebulized magnesium sulfate with nebulized albuterol in 33 patients with asthma (ages 12–60 years).[6]The study concluded that the serial doses of nebulized magnesium sulfate had bronchodilatory effects similar to those noted with nebulized albuterol.

Nannini et al.[7]examined magnesium sulfate as a vehicle for nebulized albuterol in treating acute asthma. The authors concluded that when nebulized magnesium and albuterol were used together, a higher peak flow could be achieved in comparison to albuterol plus 0.9% sodium chloride. The improvements could be seen within 10 minutes and lasted at least 20 minutes, and patients suffering from the most severe airway obstruction had a greater response to the combined treatment. Another study investigated the interactions between magnesium sulfate and sodium metabisulfite, a common preservative in food and drugs.[8]The investigators concluded that magnesium helped to minimize the bronchoconstriction effects

from sodium metabisulfite.

These studies strongly suggest that nebulized magnesium would be effective for safe treatment of acute exacerbations of asthma, either as a sole agent or in combination with other medications. For this application I recommend only the purest magnesium chloride. Even the pharmaceutical and higher grades have heavy metal contamination so are not suitable.

Nebulized Bicarbonate

The bronchial secretions during attack of bronchial asthma are acidic and the acidity imparts stickiness to the secretions and moreover there is high level of neuraminic acid, which possibly correlates with the stickiness. Thus sodium bicarbonate is an excellent choice for nebulization offering it's powerful and instant pH changing effects. Dr. Tullio Simoncini recommends aerosol use of bicarbonate for lung and bronchial adenocarcinoma. He recommends putting 1 soupspoon sodium bicarbonate in ½ liter water and inhaling it with a fast inhaler in half an hour. Six days on six days off when in IV break phases.

Dr. Lewis Nelson, a specialist in emergency medicine says, "Nebulized sodium bicarbonate has been shown to provide symptomatic relief in patients exposed to chlorine, and it is probably useful with all irritant gases that liberate acid. Through a neutralization reaction, the damaging effects of the acids are limited. Nebulized sodium bicarbonate should be used in concentrations of less than 2% (which generally means about a 4:1 dilution of standard 8% sodium bicarbonate)."[9]

Nebulized Peroxide

Hydrogen peroxide has been used for decades to conquer viral infections by thousands of doctors in thousands of patients all over the world. Hydrogen peroxide consists of a water molecule (H2O) with an extra oxygen atom (H2O2). It is the extra oxygen atom that makes it so deadly for viruses. Nebulization is a new way of administering hydrogen peroxide therapy that is almost as effective as the IV. And better than the IV method, this new treatment can be done at home, and is very inexpensive.

Nebulized peroxide is an efficient route of getting this oxygen utilizing catalyst into the body via the rich network of blood vessels in the lungs. This is not as strong a treatment as IV peroxide but it comes close. Caution: Do not mix your own peroxide, this can be dangerous. If you feel bad after the peroxide, with flu-like symptoms, headache, fever, diarrhea, fatigue, etc, this is too strong a catalytic stimulation with peroxide. Consult your physician before using peroxide in a nebulizer.

Dr. Shallenberger testimony: "When my wife developed the first symptoms of flu, instead of immediately plugging her into a hydrogen peroxide IV, I had her use the nebulizer for ten minutes every waking hour. Using the nebulizer treatment, she was able to get rid of the flu within 72 hours. I knew I was on to something, because IV hydrogen peroxide doesn't work much better than that. So I bought a dozen nebulizers and began offering the treatment to my patients."

"Since then I have treated hundreds of cases of colds, flus, sinusitis, and bronchitis all with the same great results. And I found that the nebulizer treatments actually have an advantage over the IV therapy that I hadn't considered at first. And that is, that not only is the hydrogen peroxide being disseminated into the entire body through the lungs, it is also going directly to the areas of the body that are most affected by viruses – the sinuses, throat, bronchial tract, and lungs."

Nebulized Iodine

In some countries nebulizers are given to people by prescription only because they give a person direct access to the bloodstream and this is an indication that this is serious medicine we are dealing with, so caution is advised. With nebulizers we in part get the same effect as with injections, medications quickly diffuse directly into the blood stream. **Thus a nebulizer holds the capacity to save lives.**

When it comes to using iodine in a nebulizer special caution is needed. The choice of iodine is important because putting in potassium, which is found in Lugol's, is dangerous. Potassium chloride, another salt of potassium, is used for lethal injection so I recommend only Nascent Iodine. Nebulization with iodine offers an extremely strong therapy which can clear the lungs quite rapidly of infections. Therapeutic concentrations can be increased for desired effect but it is recommended that dosages start at the low end unless there is an emergency situation. I would start my first iodine treatment with a weak solution, 3 - 5 drops and slowly increase to ten drops or more closely monitoring the experience. As long as the patient displays no discomfort or side effects concentration can be increased strongly especially when in

a life threatening situation. One should expect much quicker and more dramatic results with iodine then with H2O2.

Nebulized Glutathione

Glutathione has many profound roles in the body. One role is to enable the liver to remove toxins, medications and other substances from the body. Without it, these substances cannot be removed properly. One puts a special small daily amount of glutathione in a nebulizer, which will facilitate toxin removal and possibly tissue repair. The glutathione level of the epithelial lining fluid is decreased in severe inflammatory lung diseases including in cases with Cystic fibrosis.

Glutathione in the epithelial lining fluid (ELF) of the lower respiratory tract is thought to be the first line of defense against oxidative stress. Inhalation (nebulized or aerosolized) is the only known method that increases GSH's levels in the ELF.[10]

Dr. Michelle Alpert, D.O says, “Because oral glutathione is not well absorbed, I have also begun to experiment with nebulized glutathione, which patients can take at home between detox drips. According to a study in Alternative Medicine Review in 2000, nebulized glutathione has had remarkable success in emphysema and other lung disorders such as asthma and bronchitis. It appears that inhalation may have a systemic effect. Some patients are having even greater success with this combination.”[11]

In a case of a 95-year-old man with an acute respiratory crisis secondary to emphysema and apparent bronchial infection treatment with nebulized glutathione led to a rapid resolution of the crisis, as well as a marked improvement in the chronic course of the disease. This treatment has been used since for a number of patients with emphysema. The safety and bioavailability of this method of delivery have been established in human studies.[12]

Different people taking Nebulized Glutathione often have very different reactions. One person may tolerate Nebulized Glutathione well but not get the desired effect, another may have side effects or adverse reactions that make Nebulized Glutathione intolerable, and yet another may get the desired effect with no side effects.[13]

General Instructions

Procedure: The basic aim of a nebulizer is to facilitate a faster and more effective absorption of the medicine. This is achieved by breaking down the liquid medicine into very fine particles, which is inhaled by the patient. The first step is to add the liquid medicine to the cup attached to the device. It is important to understand that these devices accept medicine in the liquid form only, and medicine should be added at the time of usage and not before that. If the doctor has prescribed more than one medicine for nebulization, make sure if they can be mixed together or whether they should be taken separately. Once the medicine is put in the cup, close the cup and connect its tube to the air compressor. Turn the compressor on and when the compressed air reaches the nebulizer cup, it will vaporize the medicine, creating a mist. The mist is inhaled by the patient, through the mouthpiece or face mask.

Take deep breaths and inhale the vapor completely. Tap the cup regularly to ensure the right dispensation of medicine and don't remove the mask, until the medicine is used up completely. It will take about 10 to 20 minutes to finish nebulization depending on what type of medicinal is used. Turn on the air pump and a mist will come from the mouthpiece. Place the mouthpiece in your mouth and breathe in slowly. At full inhalation, hold your breath for a 2-4 count to allow absorption in the lungs. If you are treating colds or sinus problems, you can also alternate breathing through your nose.

Special Note: I have even heard of DMSO being used in combination with other medicinals just as it would be used topically on the skin.

Online Purchasing Information

www.outpatientmd.com/Nebulizers/
www.outpatientmd.com/prodDetails.cfm?itemID=1229
This second link is for a 30 dollar nebulizer with a five year guarantee.

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[1] Side effects wear off quickly but can include racing pulse, tremors, nausea and insomnia. Nebulizer

asthma treatments can also raise blood pressure and aggravate glaucoma.

[2] kidshealth.org/parent/medical/asthma/inhaler_nebulizer.html

[3]Inhaled magnesium sulfate in the treatment of acute asthma. Blitz M, Blitz S, Beasely R, Diner BM, Hughes R, Knopp JA, Rowe BH

[4]Blitz M, et al. Inhaled magnesium sulfate in the treatment of acute asthma. Cochrane Database Syst Rev 2005 Jul 20;(3) CD003898.

[5]Mahajan P, Haritos D, Rosenberg N et al. Comparison of nebulized magnesium sulfate plus albuterol to nebulized albuterol plus saline in children with acute exacerbations of mild to moderate asthma. J Emerg Med. 2004; 27:215.

[6]Mangat HS, D. Souza GA, Jacob MS. Nebulized magnesium sulphate versus nebulized salbutamol in acute bronchial asthma, a clinical trial. Eur Respir J. 1998; 12:3414.

[7]Nannini LJ, Pendino JC, Corna RA et al. Magnesium sulfate as a vehicle for nebulized salbutamol in acute asthma. Am J Med. 2000; 108:193–7.

[8]Nannini LJ, Hofer D. Effect of inhaled magnesium sulfate on sodium metabisulfite-induced bronchoconstriction in asthma. Chest. 1997; 111: 858–61.

[9] www.emedmag.com/html/pre/tox/0804.asp

[10] ecam.oxfordjournals.org/cgi/content/abstract/5/1/27

[11] www.prohealth.com/library/showarticle.cfm?libid=10906

[12]Altern Med Rev 2000;5(5):429-431

[13]Reasons for inhaled GSH's effectiveness include its role as a potent antioxidant, and possibly improved oxygenation and host defenses. Theoretical uses of this treatment include Farmer's lung, pre- and postexercise, multiple chemical sensitivity disorder and cigarette smoking. GSH inhalation should not be used as a treatment for primary lung cancer. Testing for sulfites in the urine is recommended prior to GSH inhalation. Minor side effects such as transient coughing and an unpleasant odor are common with this treatment. Major side effects such as bronchoconstriction have only occurred among asthma patients presumed to be sulfite-sensitive. The potential applications of inhaled GSH are numerous when one considers just how many pulmonary diseases and respiratory-related conditions are affected by deficient antioxidant status or an over production of oxidants, poor oxygenation and/or impaired host defenses.

Sodium Bicarbonate

Product Quality and Cost

Though I have been using Bob's Red Mill sodium bicarbonate I have recently received two boxes of Arm and Hammers and I sat for quite a while admiring their boxes and all the information on them. I have been in touch directly with the company and have been reassured of its absolute purity meaning **there is no aluminum in it**. Arm and Hammers is as aluminum free as Bob's Red Mill, which advertizes itself specifically to be aluminum free, and in the process has convinced most people I know that Arm and Hammers has aluminum when it does not.

The proper mixing of bicarbonate concentrate is an issue and certainly this is a major safety concern at every dialysis facility in the world, which use sodium bicarbonate every day. Oral sodium bicarbonate is used to treat metabolic acidosis in patients with renal tubular acidosis. Since infants and young children are unable to swallow tablets, those affected must ingest sodium bicarbonate in a powder or liquid form. Pharmacy-weighed sodium bicarbonate is expensive and inconvenient to obtain; some pharmacists are reluctant to provide it.

We determined that the sodium bicarbonate contained in 8-oz boxes of Arm and Hammer Baking Soda® was sufficiently constant in weight that dissolved in water to a given volume, it yielded a quantitatively acceptable therapeutic solution of sodium bicarbonate at a cost of approximately 3 percent of that of pharmacy- weighed sodium bicarbonate. **Grocery store baking soda can be a safe, economical, and convenient source of sodium bicarbonate for the treatment of chronic metabolic acidosis in infants and young children**.[1]

The Church & Dwight name may not be familiar to many people, but their ARM & HAMMER® brand is recognized and respected by just about everyone. That's because Church & Dwight has been producing ARM & HAMMER brand products for almost 160 years, ever since Austin Church, a physician, and John Dwight, his brother-in-law, began selling their high-quality sodium bicarbonate to grocers in New York City. The most demanding applications are in the area of healthcare, with hemodialysis in particular requiring exceptional purity and consistency. A leading force in modern bicarbonate hemodialysis Church & Dwight's contribution to modern dialysis dates back to the early 1980s, when medical literature about the benefits of bicarbonate-buffered dialysate over acetate began to appear.

Anecdotal reports, and then clinical studies, showed an improved response when patients were dialyzed with bicarbonate instead of acetate. Beginning in 1982, Church & Dwight applied their technological expertise to the task of establishing exacting standards for hemodialysis grade sodium bicarbonate. Within two years, they were meeting those standards in full-scale production. When USP specifications for sodium bicarbonate used in hemodialysis were published in 1987 and formally issued in 1988, Church & Dwight hemodialysis grade sodium bicarbonate not only met the specifications, it exceeded them.

Bob's Red Mill costs $2.61 a pound and Arm and Hammers costs less making it the least expensive medicine in the world. Personally I could not tell a difference between the consistencies in the two, both are equally fine. Sodium bicarbonate is widely available in most supermarkets and discount chains across the country at a cost of just over $2 per pound. Many different sizes are available depending on your needs ranging from 1 lb packages up to 14 lb packages. (normally used by people with pools to adjust pool water pH).

Do not confuse baking soda with baking powder which does or may contain aluminum. These are two very different products with baking **powder** having a mix of baking soda with various acidic ingredients.

Make sure you are purchasing pure 100% baking soda or sodium bicarbonate.

Special Note: For perfect therapeutic bath add one pound or more of sodium bicarbonate with one pound or more of magnesium bath flakes.

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[1] Clinical Pediatrics, Vol. 23, No. 2, 94-96 (1984) DOI: 10.1177/000992288402300205

Warnings and Contraindications

Everything needs to be taken in balance.

Sodium bicarbonate (baking soda) is generally well tolerated. However, high doses may cause headache, nausea or irritability. If any of these effects continue or become bothersome, inform your doctor. Notify your doctor if you develop: muscle weakness, slow reflexes and confusion, swelling of the feet or ankles, black tar-like stools, coffee-ground vomit. If you notice other effects not listed above, contact your doctor or pharmacist.

Do not use if you are on a sodium restricted diet unless directed by a doctor. Ask a doctor or a pharmacist before use if you are taking a prescription drug. Antacids may interact with certain prescription drugs. Do not administer to children under age 5 without careful consideration. To avoid injury do not take sodium bicarbonate until the powder is completely dissolved and it is very important not to take baking soda when overly full from food or drink. Consult a doctor if severe stomach pain occurs after taking this product.

"I nearly died after taking this stuff," said William Graves, who suffered a rupture through the wall of his stomach in 1979 after taking baking soda mixed in water for indigestion after a big meal. The 64-year-old resident of Bethesda,Md., who is editor of National Geographic Magazine, said that only emergency surgery saved his life and that six more operations were needed to repair the damage. Though there are only a few documented cases users need to know of the dangers.

The aim of all bicarbonate therapy is to produce a substantial correction of the low total CO2 content and blood pH, but the risks of over dosage and alkalosis should be avoided. In general, dose selection for pregnant women, young infants and elderly patients should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function and of concomitant disease or other drug therapy.

ADVERSE REACTIONS

Overly aggressive therapy with Sodium Bicarbonate Injection, USP can result in metabolic alkalosis (associated with muscular twitchings, irritability, and tetany) and hypernatremia. Caution should also be maintained when pushing oral dosages up to the maximum levels suggested for oral administration as well.

OVERDOSAGE

Should alkalosis result, the bicarbonate should be stopped and the patient managed according to the degree of alkalosis present. 0.9% sodium chloride injection intravenous may be given; potassium chloride also may be indicated if there is hypokalemia. Severe alkalosis may be accompanied by hyperirritability or tetany and these symptoms may be controlled by calcium gluconate.

For people with the rare illnesses of Bartter syndrome or Gitelman syndrome, bicarbonate may be contraindicated. These rare sufferers may add a few drops of Real-Lemon juice concentrate to any bicarbonate-containing beverage to neutralize it.

Serious precautions should be taken by individuals who suffer from chronic pulmonary problems. If a person has significant lung disease, their brain shifts to breathing in response to a lowered O2 level so it won't respond to the accumulating CO2. With the added CO2 and the lungs not removing it, the equation shifts left, meaning the added CO2 becomes H2CO3 (carbonic acid) and then you end up with an acidic patient

Sodium Bicarbonate Injection, USP is contraindicated in patients who are losing chloride by vomiting or from continuous gastrointestinal suction, and in patients receiving diuretics known to produce a hypochloremic alkalosis.

Solutions containing sodium ions should be used with great care, if at all, in patients with congestive heart failure, severe renal insufficiency and in clinical states in which there exists edema with sodium retention. In patients with diminished renal function, administration of solutions containing sodium ions may result in sodium retention. The intravenous administration of these solutions can cause fluid and/or solute overloading resulting in dilution of serum electrolyte concentrations, overhydration, congested states or pulmonary edema.

Extra caution needs to be taken with cancer patients with severe heart, renal, and hepatic problems. Dr. Simoncini says, “In any case, however, it is best to try to reach the maximum tolerable quantity, as a dosage that is too low or too thinly distributed over time cannot be effective in depth. In some patients, although not afflicted by other pathological conditions other than a tumor, if there are many masses or the masses have large dimensions we have sometimes observed a remarkable increase in the temperature up to 39 degrees centigrade in the first days of therapy with bicarbonate. This is the effect of the brutal lysis of the colonies, which in some cases is even responsible for the high amylaceous contents and for transitory renal insufficiency sometimes associated with a bladder urinary block which can be solved through catheterization. Hypertension or hypotension events as well as episodes of relapsing cephalea complete the picture of side effects which, it is wise to emphasize, are rare and brief. That is without negative after effects.”

Simoncini continues, “The therapy that is most indicated to counter all the instances described above is the fast intravenous infusion (about one hour) of glucose phlebos at 5% or 10 % solution with the addition of potassium chloride, and physiological solutions that are capable of complete resolution generally without the utilization of any symptomatic drug by helping the drains to bring the circulating catabolites back to the standard value.”

Dr. Simoncini routinely administers glucose with his IV treatments and this is the best indication for the use of either honey, maple syrup or black strap molasses especially for late stage cancer patients whose cells are starving.

Adverse reactions to the administration of sodium bicarbonate can include metabolic alkalosis, edema due to sodium overload, congestive heart failure, hyperosmolar syndrome, hypervolemic hypernatremia, and hypertension due to increased sodium. In patients who consume a high calcium or dairy-rich diet, calcium supplements, or calcium-containing antacids such as calcium carbonate (e.g., Tums), the use of sodium bicarbonate can cause milk-alkali syndrome, which can result in metastatic calcification, kidney stones, and kidney failure.

In rare cases, metabolic alkalosis develops in a person who has ingested too much base from substances such as baking soda (bicarbonate of soda). Severe metabolic alkalosis (ie, blood pH >7.55) is a serious medical problem. Mortality rates have been reported as 45% in patients with an arterial blood pH of 7.55 and 80% when the pH was greater than 7.65.

Administration of sodium bicarbonate in amounts that exceed the capacity of the kidneys to excrete this excess bicarbonate may cause metabolic alkalosis. This capacity is reduced when a reduction in filtered bicarbonate occurs, as observed in renal failure, or when enhanced tubular reabsorption of bicarbonate occurs, as observed in volume depletion.[1]

Metabolic alkalosis is the most common acid-base disturbance observed in hospitalized patients, accounting for approximately 50% of all acid-base disorders.

- **Severe alkalosis** causes diffuse arteriolar constriction with reduction in tissue perfusion. By decreasing cerebral blood flow, alkalosis may lead to tetany, seizures, and decreased mental status. Metabolic alkalosis also decreases coronary blood flow and predisposes persons to refractory arrhythmias.

- **Metabolic alkalosis causes hypoventilation**, which may cause hypoxemia, especially in patients with poor respiratory reserve, and it may impair weaning from mechanical ventilation.

- **Alkalosis decreases the serum concentration of ionized calcium** by increasing calcium ion binding

to albumin. In addition, metabolic alkalosis is almost always associated with hypokalemia (low potassium levels), which can cause neuromuscular weakness and arrhythmias, and, by increasing ammonia production, it can precipitate hepatic encephalopathy in susceptible individuals

The physical signs of metabolic alkalosis are not specific and depend on the severity of the alkalosis. Because metabolic alkalosis decreases ionized calcium concentration, signs of hypocalcemia (eg, tetany, Chvostek sign, Trousseau sign), change in mental status, or seizures may be present.

Symptoms of Alkalosis

- Confusion(can progress to stupor or coma)
- Hand tremor
- Light-headedness
- Muscle twitching
- Nausea, vomiting
- Numbness or tingling in the face or extremities
- Prolonged muscle spasms (tetany)

Tell your doctor if you have: pre-existing heart disease, kidney disease, liver disease, high blood pressure, or any allergies. Because this medication contains a large amount of sodium, remind your doctor if you are on a low sodium diet. This medication should be used only if clearly needed during pregnancy. Small amounts of sodium bicarbonate have been found to be present in breast milk. Discuss the risks and benefits with your doctor even though he or she probably will not be fully aware of the benefits since they have never tried using it as a systemic medicine for chronic diseases like cancer and diabetes.

Tell your doctor of any over-the-counter or prescription medication you may take and ask him about dangers and side effects that are common with such drugs. This medication has the potential to interact with many medications. Do not take any other medication within 1 to 2 hours of taking an antacid. If overdose is suspected, contact your local poison control center or emergency room immediately. US residents can call the US national poison hotline at 1-800-222-1222. Canadian residents should call their local poison control center directly. Symptoms of overdose may include irritability, muscle rigidity, and seizures.

Before taking sodium bicarbonate, tell your doctor if you are taking:

- mecamylamine (Inversine
- methenamine (Mandelamine)
- ketoconazole (Nizoral)
- antacids
- a tetracycline antibiotic such as tetracycline (Sumycin, Achromycin V, and others), demeclocycline (Declomycin), doxycycline (Vibramycin, Monodox, Doxy, and others), minocycline (Minocin, Dynacin, and others), or oxytetracycline (Terramycin, and others)

You may not be able to take sodium bicarbonate, or you may require a dosage adjustment or special monitoring during treatment if you are taking any of the medicines listed above.

If you miss a dose, take it as soon as remembered; do not take it if it is near the time for the next dose, instead, skip the missed dose and resume your usual dosing schedule. Do not "double-up" the dose to catch up. Store at room temperature between 59 and 86 degrees F (between 15 and 30 degrees C) away from heat, light and moisture.

Make sure you only take a small amount of baking soda solution at any given time, since alkaline substances can neutralize most if not all acids in the stomach, causing the stomach to create more acid. This can, in turn, lead to more heartburn, which will cause you to ingest more baking soda solution and start a dangerous cycle.

Folic acid is needed by the body to utilize Vitamin B12.[2]Antacids, including sodium bicarbonate, inhibit folic acid absorption.1 People taking antacids are advised to supplement with folic acid.

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[1] emedicine.medscape.com/article/243160-overview

[2] Russell RM, Golner BB, Krasinski SD, et al. Effect of antacid and H2 receptor antagonists on the intestinal absorption of folic acid. *J Lab Clin Med* 1988;112:458–63.

Sodium Bicarbonate as an Antiseptic

Sodium bicarbonate (baking soda) is used as an ingredient in some mouthwashes. It works as a mechanical cleanser on the teeth and gums, neutralizes the production of acid in the mouth, and is also used as an antiseptic to help prevent infections occurring. Antiseptics are antimicrobial substances that are applied to living tissue/skin to reduce the possibility of infection, sepsis, or putrefaction. Antiseptics are generally distinguished from antibiotics by their ability to be transported through the lymphatic system to destroy bacteria within the body, and from disinfectants, which destroy microorganisms found on non-living objects. A statistically significant ($p < 0.05$) reduction in numbers of mutans streptococci is seen when bicarbonate is used for oral care.[1]

Some antiseptics are true germicides, capable of destroying microbes (bacteriocidal), whilst others are bacteriostatic and only prevent or inhibit their growth. Antibacterials are antiseptics that have the proven ability to act against bacteria especially if they target systems which kill only bacteria. Microbicides which kill virus particles are called viricides or antivirals.

In a 1947 issue of British Medical Journal Dr. Hedda Gorz (Polish Hospital, Storrington) writes:

> During the insurrection in Warsaw we were very short of all drugs, particularly of antiseptics. We used a solution of 5% sodium bicarbonate for dressing of wounds and for operations. The results appeared to be excellent. All of us were greatly satisfied of obtained results and I used it afterwards in my further practice. For two months the patients were treated in cellars and other very inadequate conditions without water or drugs. Working in such terrible conditions------field hospitals set in cellars and underground shelters-----all patients whose wounds were open, dirty, and contaminated with dust of the bombed houses were only treated with the 5% solution of sodium bicarbonate, the only one obtainable there. All heavy cases in badly ventilated cellars became tolerable after dressing with this solution, even open lung wounds notorious for their fetor as well know to every surgeon.[2]

Bicarbonate Lotions

You can also or make a paste of baking soda and water (3 parts baking soda to 1 part water) and apply directly to more localized rashes and irritations. When you use this method the water evaporates quite quickly leaving a layer of baking soda on the skin.

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[1]Caries Res. 1995;29 (2):143-7. Effects of sodium bicarbonate dentifrices on the levels of cariogenic bacteria in human saliva. Legier-Vargas K, Mundorff-Shrestha SA, Featherstone JD, Gwinner LM. Department of Oral Sciences, Eastman Dental Center, Rochester, N.Y., USA

[2] www.bmj.com/cgi/pdf_extract/2/4533/844-c

Sodium Bicarbonate and pH Medicine

The Miracle of Baking Soda

Virtually all degenerative diseases including cancer,
heart disease, arthritis, osteoporosis, kidney and gall stones,
and tooth decay are associated with excess acidity in the body.

Naming or diagnosing a disease does not necessarily lead to its cure if you are working under the allopathic paradigm. It does give people more confidence when we tell them specifically what is wrong by naming the disease, but names unfortunately say little to nothing about a disease's cause or cure. Knowing one's disease is tantamount to being informed what ocean or lake one is in, but it does not save one from drowning (dying). So we are swimming in the North Atlantic with cancer or in the Indian Ocean with Diabetes and are trying to avoid the sharks (aggressive medicine) but luckily we brought along the one simple navigational beacon that is going to help us out of our predicament. We brought along our pH strips.

The body must heal itself. That's a novel idea to many doctors and many healthcare professionals fall into the trap of thinking it's their surgery, drug or healing technique that is the cure but the truth is something else. The most basic principle of pH medicine is that when a person's body chemistry is brought back to the proper biological norm then the body will have enough energy to cure itself. And nothing will help it do that better than helping the body regain its proper pH.

Take the cancer patient. The normal Medical procedure is to cut out the offending parts or bombard them with cancer provoking tests and treatments. Orthodox oncologists actually use tests exposing their patients to high levels of cancer forming radiation, or they use radiation itself and chemotherapy to poison cancer sufferers back to health. Not very difficult to understand why this does not work, why this approach almost never cures the problem.

Tumors can not only spread through the body by sending out tiny cells called seeds, but they can re-seed themselves, researchers at the Memorial Sloan-Kettering Cancer Center in New York have found and this may help explain why tumors grow back even after they are removed. Their findings, published in the journal Cell, state "Circulating tumor cells can also colonize their tumors of origin, in a process that we call 'tumor self-seeding'." Sounds like they are talking about the yeasts and fungi, which Dr. Tullio Simoncini says is the actual cancer more than genetically mutated cells.

The root cause of disease is too
much tissue acid waste in the body.

There is nothing that will make aggressive metastatic cells even more aggressive than having acid conditions ruling over the body. The right conditions in the body will enable cancer cells to grow faster and more robustly but **nothing will cut the rug from under cancer cells faster than sodium bicarbonate, which very quickly changes the basic terrain that cancers grow in.** Baking soda (sodium bicarbonate) replaces much harsher chemo agents and radiation therapy and even surgery can be avoided when we literally cut the legs out from cancer cells by rapidly changing the pH environment.

Forty percent of the 12 million people diagnosed with cancer worldwide each year could avert the killer disease by protecting themselves against infections and changing their lifestyles, experts said Tuesday. A report by the Geneva-based International Union Against Cancer (UICC) highlighted nine infections that can lead to cancer.

Sodium bicarbonate is widely used in personal care items such as toothpaste, deodorants and as a coating on dental floss. It is also used extensively in the pharmaceutical industry for over-the-counter medications, prescription drugs, hemodialysis products and related applications.

North Americans use a billion pounds of sodium bicarbonate each year, according to Bryan Thomlison,

director of public affairs for Church and Dwight, the world's major manufacturer of sodium bicarbonate located in Princeton, N.J. "Usage is up 3 percent per year. That's twice as fast as the population growth." The public is waking up more each year to how useful sodium bicarbonate is. Baking soda is moving out of the refrigerator and into an amazing array of commercial products from shampoo to industrial cleansers, tooth paste and now into cancer and other chronic disease treatments, where there is a desperate need for its chemistry balancing act.

The only thing essential about a swimming pool is that the water is fresh and clean and that depends on its pH. Pool alkalinity is a big part of pool water chemistry; therefore it is very important that one tests it on regular basis. When you are correcting the total alkalinity level of a pool, it is recommended that we do so in small increments. Reason being, that it is much easier to adjust slightly when it gets a little high or a little low. Pool owners should not wait for their total alkalinity levels to get way off and then try to bring it back under control all at once.

Pool water care requires you to maintain a proper total alkalinity (TA) level at all times. If the TA is too low, Marbelite and plaster walls will become etched, metals corrode, the pool's walls and floor can stain, the water can turn green and ones eyes will burn. Doctors can learn from pool technicians how to diagnosis and treat the basic biochemistry of the body. They can send their patients home with these inexpensive pH strips so they can test the pH of their own fluids.

All of the cells in our body require the proper pH balance to function at an optimal level. If our body is acidic or too alkaline, chemical reactions including enzyme activity, cellular repair, and cellular reproduction are inhibited. Raymond Francis writes, “On the pH scale, 7 is neutral; 0 to 7 is acidic, and 7 to 14 is alkaline. The normal pH inside a cell is 7.4, which is slightly alkaline. Maintaining normal pH in the fluid inside the cell as well as the other body fluids is crucial for keeping the body systems functioning normally.”

The blood is different though. While most of the body can still operate outside of the optimum pH zone, blood cannot. Dr. Ian Shillington writes, “Your blood operates between 7.3 and 7.5 on the alkaline side of this pH scale. If it goes out of this range, you’re dead!” And that’s why they use sodium bicarbonate in emergency rooms and intensive care wards where life is threatened routinely. It will instantaneously bring someone back from the cliff’s edge of death as the blood threatens to drop below a pH of 7.3.

Sodium bicarbonate is used as an antacid taken orally to treat acid indigestion and heartburn. It may also be used in an oral form to treat chronic forms of metabolic acidosis such as chronic renal failure and renal tubular acidosis. Sodium bicarbonate may also be useful in urinary alkalinization for the treatment of aspirin overdose and uric acid renal stones.

In cases of respiratory acidosis, the infused bicarbonate ion drives the carbonic acid/bicarbonate buffer of plasma to the left and, thus, raises the pH. It is for this reason that sodium bicarbonate is used in medically-supervised cardiopulmonary resuscitation. Infusion of bicarbonate is indicated only when the blood pH is marked (<7.1-7.0) low.

Using Sodium Bicarbonate

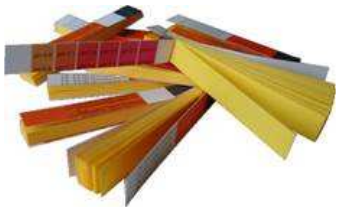
One should approach using baking soda with some measure of care and respect for warnings and contraindications, which you will see in another chapter. Did you know, for instance, that taking baking soda as an antacid can rupture your stomach if you take it when over full? There have only been a handful of cases during the last hundred years, but it does happen. People who have grossly overeaten and have had a severely distended stomach found that taking baking soda as an antacid can indeed generate enough carbon dioxide to rupture the stomach.

It can also be applied topically as a paste, with three parts baking soda to one part water, to relieve insect bites. Bicarbonate also makes an excellent bath salt and can be used in strong concentrations that way. Magnesium chloride or Dead Sea Salt should also be used in bicarbonate baths.

But it would be ridiculous to avoid this most universal of all medicines, which can be eaten right out of the box. One might as well call water toxic because you can drown in a small bucket of it. But special interests in the pharmaceutical world have managed to keep from doctors and patients eyes, the full and true story of sodium bicarbonate with all the wonderful potential it has as a medicine for healing.

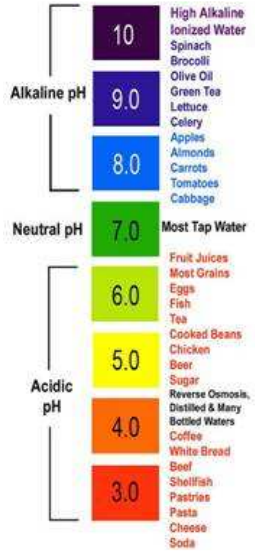
A healthy pancreas secretes sodium bicarbonate to neutralize stomach acid and create an optimal pH environment for pancreatic enzymes. Some of these enzymes circulate in the blood to destroy cancers that occur. Too much iron interferes with the ability of the pancreas to generate sodium bicarbonate and can lead to insulin resistance. Diabetes and cancer are linked because an unhealthy pancreas advances both diseases.

For those treating cancer or any other serious disease one should not neglect studying sodium bicarbonate and the best way is by reading my bicarbonate book. I hear about cancer patients who just take bicarbonate blindly thinking they can just get by without knowing what they are really doing. Unfortunately when it comes to pH medicine orthodox physicians have little knowledge or freedom to use sodium bicarbonate to treat cancer or any other significant disorder. So if one is forced to forgo medical consultation then one should really know what one is doing.



By using pH test strips, you can determine your pH factor quickly and easily in the privacy of your own home.

The first step with regards to pH medicine and using baking soda is to find out for sure if your body is acidic or not. If your body is acidic then follow the guidelines for restoring as near to 7.4 PH as you can. An acidic body can be implicated in much chronic ill health, including feeling tired. This is common in people who work and exercise too hard. An acid body is recognised as a factor in osteoarthritis and rheumatism. While the focus has traditionally been on acid foods, the problem is more due to the body being under capacity in its ability to buffer acidity. A healthy body should have no trouble tolerating acidic foods such as citrus and tomato.



A healthy person's pH level of their body fluids should be between 7.1 and 7.5.

The cells of the body in health are alkaline. In disease the cell pH is below 7.0. The more acid the cells become, the sicker we are and feel. We can remain in health by consuming a diet that is 70-80% alkaline and 20-30% acid. Most raw-foods diets are predominantly alkaline forming foods. When healthy, the blood pH is 7.365, the pH of spinal fluid is 7.4, and the saliva pH is 7.4. This ideal blood pH measurement means it is more alkaline than acid.To test the saliva, wait at least 2 hours after eating. Fill your mouth with saliva and then swallow it a couple of times before you put some saliva onto pH paper. The pH paper should turn blue, slightly alkaline at a healthy pH of 7.4. If it is not blue, compare the color with the chart that comes with the pH paper. If your saliva is acid (below pH of 7.0) wait two hours and repeat the test. The pH of a healthy person is in the 7.5 (dark blue) to 7.1 (blue) slightly alkaline range. The range from 6.5 (blue-green) is weakly acidic to 4.5 (light yellow) is strongly acidic. Most children are dark blue, a pH of 7.5.

If you are going to test urine: When urinary pH is continuously between 6.5 in the morning and 7.5 by evening, you are functioning in the healthy range. The blood plasma pH, under normal circumstances is slightly alkaline between 7.3 and 7.4. The urine tends to be a little lower with a healthy range of 6.8 to 7.0. Some believe the increased acidity of urine is reflective of the kidneys doing their job of excreting the excess acids in our body.

What we do, what we eat or drink, even your thoughts can make the body over acidic.
Dr. Robert Young

A highly acidic body can still be neutralized through the elimination of excessive acid and wastes from the body. This can be achieved by changing to a healthier diet. An alkaline-rich diet is the perfect diet program because an alkaline body can help reduce toxins and strengthen the immune system. In order to be completely healthy, we need to keep the chemical balance not only in our stomach but in our entire body system as well. Cleansing from the inside must be done to restore a healthy pH balance through the alkaline diet system for best long term results. We can assist and speed up this process with sodium bicarbonate though in the long run bicarbonate is not a substitute for a good alkaline diet.

Oral dosing of sodium bicarbonate is used to jump start the return of the body to a more healthy alkaline condition, followed by proper dietary intake of alkalinizing foods for maintenance. Sodium Bicarbonate provides the body what it has been lacking in the Standard American Diet (SAD).

The recommendation is up to 1/8 teaspoon per 8 oz. glass with a quarter slice of lemon (to balance the sodium with potassium) and no more than 1 1/2 to 2 teaspoon per 24 hour period.

pH Controls Key Cellular Pathways

In sport disciplines relying on speed endurance or strength endurance, anaerobic glycolysis provides the primary energy source for muscular contractions. The total capacity of the glycolytic pathway is limited by the progressive increase of acidity within the muscles, caused by the accumulation of hydrogen ions (Verbitsky et al., 1997). **The increase in acidity ultimately inhibits energy transfer** and the ability of the muscles to contract, forcing the athlete to **decrease** the intensity of exercise (Costill et al., 1984; Harrison and Thompson, 2005).[1]

In the life of a cell, the response to DNA damage determines whether the cell is fated to pause and repair itself, commit suicide, or grow uncontrollably, a route leading to cancer. A majority of genes in the mitochondrial, chaperone and proteasome pathways of nuclear DNA-encoded gene expression are decreased with decreased brain pH.

Dr. Robert O. Young, Director of Research at the pH Miracle Living Center suggests, "All genetic changes within any cell are always the result of an acidic change in the environment surrounding that cell. These cellular changes are generally caused by acidic contributing factors such as primary or secondary acidic smoke from cigarettes or living and/or working in acidic polluted environments. The best way to protect any cell from acidic genetic change that can lead to a cancerous condition is to maintain the delicate alkaline pH of the fluids surrounding that cell with an alkaline lifestyle and diet."

Beginning Symptoms of Acid Conditions

Acne
Agitation
Muscular pain
Cold hands and feet
Dizziness
Low energy
Joint pains that travel
Food allergies
Chemical sensitivities to odor, gas heat
Hyperactivity
Panic attacks
Pre-menstrual and menstrual cramping
Pre-menstrual anxiety and depression
Lack of sex drive
Bloating
Heartburn
Diarrhea
Constipation
Hot urine
Strong smelling urine
Mild headaches
Rapid panting breath
Rapid heartbeat
Irregular heartbeat
White coated tongue

Hard to get up in morning
Excess head mucous (stuffiness)
Metallic taste in mouth

Intermediate Symptoms

Cold sores (Herpes I & II)
Depression
Loss of memory
Loss of concentration
Migraine headaches
Insomnia
Disturbance in smell, taste, vision, hearing
Asthma
Bronchitis
Hay fever
Ear aches
Hives
Swelling
Viral infections (colds, flu)
Bacterial infections (staph, strep)
Fungal infections (Candia albicans, athlete's foot, vaginal)
Impotence
Urethritis
Cystitis
Urinary infection
Gastritis
Colitis
Excessive falling hair
Psoriasis
Endometriosis
Stuttering
Numbness and tingling
Sinusitis

Advanced Symptoms

Crohn's disease
Schizophrenia
Learning disabled
Hodgkin's Disease
Systemic Lupus Erythematosis
Multiple Sclerosis
Sarcoidosis
Rheumatoid arthritis
Myasthenia gravis
Scleroderma
Leukemia
Tuberculosis
All other forms of cancer

Source: Alkalize or Die, Dr. Theodore A. Baroody, 2001.

The Lemon Bicarbonate Formula

This simple formula will normalize many biological parameters, pH, ORP, phosphates, bicarbonates and antioxidants of vitamin C. It’s potential miracle water. One whole lemon freshly squeezed. Keep adding baking soda slowly bit by bit until the fizz stops. Then you will add water to one half glass. This is often taken twice a day. To be taken once in the morning and once before bedtime on an empty stomach. Lime can be substituted. Basically, this lemon/lime juice idea is also good for people who fear some sodium retention issues. Since the lemon is already high in potassium, adding the sodium to neutralize the acid along the way will also create a sodium potassium balance.

[1] Journal of Sports Science and Medicine | March 1, 2009| Zajac, Adam; Cholewa, Jaroslaw; Poprzecki, Stanislaw; Waskiewicz, Zbigniew; Langfort, Jozef

Arm & Hammer Soda Company

Using Bicarbonate Against the Swine Flu

Over 150 years ago Dr. Austin Church formed a business to produce and distribute Baking Soda. ARM & HAMMER® Baking Soda is derived from a natural occurring mineral called trona. It is 100% pure, safe, and natural. Baking Soda (also known as sodium bicarbonate) is a substance that is found naturally in all living things. Its purpose is to maintain pH balance in the bloodstream, which is necessary to sustain life. Due to its chemical and physical properties, sodium bicarbonate has unique medicinal capabilities that every healthcare practitioner, doctor and patient needs to know about.

The only problem is that Arm & Hammer Baking Soda
can replace many more expensive medicines and this
does not make the medical industrial complex happy.

In today's modern world of medicine the FDA just will not let companies that sell products make medical claims about them unless they have been tested at great expense and approved as a drug. But this was not always the case and as we can see in the information in this chapter, which is from a 1924 booklet, [1]published by the Arm & Hammer Soda Company. On page 12 the company starts off saying, "The proven value of Arm & Hammer Bicarbonate of Soda as a therapeutic agent is further evinced by the following evidence of a prominent physician named ***Dr.*** Volney S. ***Cheney,*** in a letter to the Church & Dwight Company:

> "In 1918 and 1919 while fighting the 'Flu' with the U. S. Public Health Service it was brought to my attention that rarely **any one who had been thoroughly alkalinized with bicarbonate of soda contracted the disease, and those who did contract it, if alkalinized early, would invariably have mild attacks.** I have since that time treated all cases of 'Cold,' Influenza and LaGripe by first giving generous doses of Bicarbonate of Soda, and in many, many instances within 36 hours the symptoms would have entirely abated. Further, within my own household, before Woman's Clubs and Parent-Teachers' Associations, I have advocated the use of Bicarbonate of Soda as a preventive for "Colds," with the result that now many reports are coming in stating that **those who took "Soda" were not affected, while nearly every one around them had the "Flu."**

Recommended dosages from the Arm and Hammer Company for colds and influenza back in 1925 were:

> During the first day take six doses of half teaspoonful of Arm & Hammer Bicarbonate of Soda in glass of cool water, at about two hour intervals.
>
> During the second day take four doses of half teaspoonful of Arm and Hammer Bicarbonate of Soda in glass of cool water, at the same intervals.
>
> During the third day take two doses of half teaspoonful of Arm and Hammer Bicarbonate of Soda in glass of cool water morning and evening, and thereafter half teaspoonful in glass of cool water each morning until cold is cured.

"Well the sodium bicarbonate cure for colds and sore throats.
A friend called as I was reading about it, I told her to try it.
She is rapt! Relief in a few hours, and she went to work the
following day! And she was miserable and could hardly talk,[2]
had just woken with it full on, and was planning on missing work."

In order to secure the best results with Arm & Hammer Pure Bicarbonate of Soda (Baking Soda) when taken internally, certain simple rules must be observed. Materia Medica, pharmacology and Therapeutics (Bastedo, Page 88) clearly outlines these rules to follows:

> "The effect of an alkali in the stomach will vary according to the nature of the stomach contents at the time of administration. In the resting period (after food is digested) sodium bicarbonate merely dissolves mucus and is absorbed as bicarbonate into the blood, to increase its alkalinity directly.
>
> "In the digestive period it reduces the secretion of gastric juice, neutralizes a portion of the hydrochloric acid, liberates the carminative carbon dioxide gas, and is absorbed as sodium chloride.
>
> "In cases of fermentation or 'sour stomach' it may neutralize the organic acids and so result in the opening of a spasmodically closed pylorus (the opening between the stomach and the small intestine); while at the same time it acts to overcome flatulency (accumulation of gas in the stomach and bowels).
>
> "The time of administration must, therefore, be chosen with a definite purpose. Usually for hyperchlohydria (excess of acid) one hour or two hours after meals will be the period of harmful excess of acid.
>
> "In continuous hyperacidity and in fermentative conditions a dose an hour before meals will tend to prepare the stomach for the next meal; or sometimes a dose will be necessary immediately after eating, because of abnormal acid or base having been present at the commencement of the meal. (For the average person one-half hour after meals is recommended).
>
> "A dose at bedtime tends to check the early morning acidity, or a dose on arising cleans the stomach of acid and mucus before breakfast."
>
> Whenever taking a bicarbonate solution internally the soda should be dissolved on cold water.

This is all very valuable information coming from the horses own mouth, the Arm and Hammer Baking Soda Company, which sells aluminum free baking soda. Clearly they knew what they had in their hands one hundred years ago; and its long use in medicine sustains the companies published medical views:

> "Besides doing good in respiratory affections, bicarbonate of soda is of inestimable value in the treatment of Alimentary Intoxication, Pyelitis (inflammation of the pelvis of the kidney), Hyper-Acidity of Urine, Uric Acid disturbances, Rheumatism and Burns. An occasional three-day course of Bicarbonate of Soda increases the alkalinity of the blood, assists elimination and **increases the resisting power of the body to all Infectious Diseases**."

Magnesium chloride is the only form of magnesium that has been reported to increase immune system strength though all forms of magnesium need to be counted in this regard. When one adds magnesium chloride to ones baths, puts it on the skin like suntan screen, or takes it orally with sodium bicarbonate one supercharges their defensive perimeter or what is called the anti-pathogen factor in Chinese Medicine. Add Iodine, Selenium, Vitamin C and some healthy sun exposure or Vitamin D and we have the heart of army we need to array against viral invaders. *Magnesium Bicarbonate - Ultimate Mitochondrial Cocktail* is the name of one of my chapters that explains why both these essential mineral ions need to be present in sufficient concentrations.

Testimonials:

My father was a veterinarian and as far back as I can remember (I was born in 1938 so my memory goes back to maybe 1943) **he would take sodium bicarbonate dissolved in a full glass of warm water whenever he felt a cold coming on. I don't remember him ever coming down with a full blown cold.** He would treat my cold symptoms likewise and I responded equally as well. He also treated farm animals for various illnesses with sodium bicarbonate via a gastric tube and they recovered quickly. So I've known about the benefits of sodium bicarbonate from early childhood on. Glad to see that its benefits are being more widely touted. Although my father was a doctor of Veterinarian medicine, he sometimes referred to himself as an MD (Mule Doctor).
Dr. David B Winter, DO

Dear Dr. Sircus,

Several weeks ago, I purchased your eBook about Sodium Bicarbonate. IT CHANGED MY LIFE. I believe that God is working through you and your staff to spread the word about the body's natural ability to heal, given the right elements. Thank you!!!

I've been reading your newsletter for some time now, and happened to see your eBook about baking soda. We don't have a lot of money, but I felt that your research might help me. Sure enough I can tell you that within the week following reading your book - and practicing what you preach - I have been practically hive/urticaria free.

I started with straight baking soda and water. Yuck! I could hardly make myself do it. But I was going for the PH balance you talked about. I read more about the different oral combinations and decided to try the Maple Syrup and Baking Soda. 3:1, it worked great and tasted great too. I couldn't believe I could eat that much sugar!

Right now I'm smiling and feeling great. **My mood is good, my energy is way up and most important the swellings and itching are gone. My hair is growing back thicker. My skin looks great. I'm not tired all the time.** I can't believe the difference in my health. Praise God for his goodness in inspiring your work.

I've recently added Nascent Iodine after reading some tips of yours. I was indeed deficient and that seems to be adding to the overall good effects. My children are benefiting from this research as well. I'm so happy to find alternatives to mainstream medicine.

Lane Carter,
Delaware, United States

Dear Dr. Sircus,

I have had Morgellons for over 6 years - very nasty - and I know you are aware of our plight. I am now ready to start your transdermal magnesium therapy treatments but first I have to tell you something.

I would like you to know that **bicarbonate baths really help me.** But, and this is a big BUT, I use it with about 3 Lb's of sea salt per bath and when I did **5 Lb's of bicarbonate - I put myself into an alkaline state**. The high salt content somehow opened up my skin to take in the bicarbonate - it came out of my skin for a few weeks!

Thank you,
Carola Dunham

The addition of a cup of baking soda to a hot bath after a long exhausting day alleviates tension and muscle aches. It exfoliates the skin to remove dead dry skin leaving fresh bright youthful skin behind without the high cost of the commercial skin exfoliates. The addition of baking soda to foot baths help with tired, achy feet when working in jobs such as waitressing or other heavy-walking type jobs. Combining the baking soda with magnesium chloride brings dramatic changes to human physiology and the only thing making this formula even better would be the addition of some sodium thiosulfate for a full hot springs therapeutic treatment.

When salt and baking soda are combined in the
bath, the combination may reduce the negative
effects of minor exposure to the radiation from X-rays.

Sodium bicarbonate, the monosodium salt of carbonic acid, is used as a gastric and systemic antacid and to alkalize urine; also used, in solution, for washing the nose, mouth, and vagina, as a cleansing enema, and as a dressing for minor burns.

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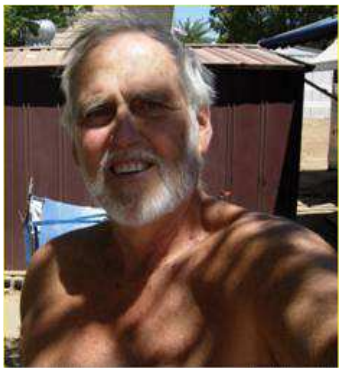
[1] cgi.ebay.com/ARM-&-HAMMER-BAKING-SODA-MEDICAL-USES-BROCHURE-1924_W0QQitemZ370285074486QQcmdZViewItemQQimsxZ20091104?IMSfp=TL091104191005r1063

[2]A testimonial left on my site by Laurel from Australia

Still Alive and Well

Confirmed Bicarbonate Cancer Cure



Vernon Johnston

Vernon Johnston, the gentleman that reached out to me when I was finishing my Sodium Bicarbonate book, was diagnosed with prostate cancer with metastasis to the bones. This was over 15 months ago and I wrote up his story and shared his treatment diary in my *Rich Man's Poor Man's Cancer Treatment* bicarbonate book. He was going to do a cesium chloride treatment but because his order got lost in the mail ended up doing sodium bicarbonate (baking soda) orally, managed to get his urinary pH up to 8.5 for five days and then within two weeks was back at his oncologists office for a test, which showed his bones being cleared of his cancer.

> Cancer tried to kill me. After a struggle or two . . . or three . . . or four . . . or more I said, "No!" Or at least I was hoping for a "No." I turned to Cesium, but ended up with Baking Soda. My goal was to change my pH quickly. I knew little or next to nothing what pH, Alkaline or Acidic meant. Happily I found out.
> **Vernon Johnston**

Talking to him on the phone was really nice for he seems just so full of life and is obviously alive and in very fine health and has not seen a doctor in a year. Now that is really good news. Dr. Tullio Simoncini would have said this is impossible for he believes that even his expensive treatment with IVs would not do the job but he was wrong and that is why I call for universal oral use in all cancers coupled with intensive transdermal use as well.

Vernon was written up in the Valley News this week and his new site can be seen at www.phkillscancer.com/home. If you are anywhere near Anza California this next weekend you can go to a free workshop (I suggest giving a donation) he will be giving on what he has been able to achieve independent of the medical establishment with sodium bicarbonate and breathing (also very important for increasing O2 levels) and some other health practices that have given him a completely new lease on life. (I owe my readership an essay on breathing for healing. I will say though that after talking to him and reading his page on breathing I was inspired this morning to do my own conscious breathing and I am ashamed for saying so little about this in my work.)

Sodium bicarbonate (baking soda) is the time honored method to
'speed up' the return of the body's bicarbonate levels to normal.
Sodium bicarbonate happens to be one of our most useful
medicines in existence treating as it does basic human physiology.
Rich Man's Poor Man's Cancer Treatment

I make it very clear in this book that I do not believe in single solutions or cures for cancer being a full protocol practitioner. My overall treatment philosophy for cancer is to trap the cancer in a deadly crossfire and beat the crap out of it with safe concentrated nutritional medicinals and solid health practices including plenty of sun exposure, exercise, touch via massage, and breathing techniques that you can see on Vernon's site. But, as Vernon's case demonstrates, the sodium bicarbonate is the lead Panzer Division that has the power to kick ass pretty much all by itself.

*Sodium bicarbonate is **the least expensive, safest and perhaps***

most effective cancer medicine there is. *Sodium Bicarbonate*
is a nothing to lose everything to gain treatment for cancer.
Rich Man's Poor Man's Cancer Treatment

Not sorry for the street language here because this is important information for humanity and in my *Winning the War on Cancer* book I use this analogy quite liberally. Even something as Yin as breathing can be used in quite a Yang way. Though I believe there are a hundred cures for cancer, many of them very good, and though I like to combine the strongest of them together into a comprehensive protocol, sodium bicarbonate is a no brainer that even the poorest person can afford and the richest man should use. Same can be said of iodine and magnesium chloride and it is heartening to hear more and more people using this combination.

The bad news is that people are dropping like flies all over the world from escalating cancer because of increased toxins in the air, water and food (mercury pollution for instance is still increasing and now they want to vaccinate the world with mercury containing swine flu and influenza vaccines) there is more uranium in the air because of the use of depleted uranium weapons by the American Military. Of course the quality of water most people are drinking and the stress levels from the death throes of the vicious corporate capitalist system is not helping anyone's immune system.

Vernon reminded me that originally Dr. Simoncini did not endorse any use of oral bicarbonate but it seems they have had a change of heart and at least are recommending it for certain cancers. I really do not understand what is going on with Dr. Simoncini and his followers. I tried to sign onto a yahoo group dedicated to his protocol and they rejected my application. My assistant Claudia French RN said after carefully reading their information that she felt they were closed minded and were not interested in the alkaline effect of sodium bicarbonate, which of course is absolutely bizarre since it is one of its main effects. Dr. Simoncini seems stuck on his Candida theory and the anti fungal properties of backing soda and just really does not want to look too deeply into bicarbonates medical profile, which includes rushing more Oxygen to cancer cells through radical pH shifts and increased CO2 levels.

I am not against the use of IVs and recently talked to a doctor in Africa who uses them to great effect against cancer and AIDS. I will not share her name openly at this point but I have known her for quite some time and am deeply impressed with her medical finesse. She says:

> "If Simoncini is correct that cancer is fungus the MMS, which becomes chlorine dioxide in the body given intravenously will kill off the fungus in the body. The MMS is quite foul and distresses many peoples' stomachs so the reason it is given intravenously is that you can get a higher dose in without the same side effects. Also I found my patients had side effects from the bicarbonate IVs using Simoncini's protocol so I give it orally. So we get the same effect just administering the agents differently. I found this worked best for the patients I was treating. It so easy to give and does not give any discomfort.
>
> My protocol for treating people is to give them magnesium and B6 with sodium chlorite intravenously and iodine and sodium bicarbonate orally. I premix magnesium sulfate or magnesium chloride and pyridoxine in a 200ml bag of saline, as follows: 40 ml magnesium 50% and pyridoxine 100mg/ml 40ml into the saline. I draw up 10ml 0f this mixture and that is given slowly intravenously via a 23 butterfly needle. This is followed by a 20ml syringe filled as follows.1-2 ml 28% sodium chlorite and 5% glucose to fill the 20ml syringe. This mixture is sometimes activated with 2ml of citric acid 10% and the sodium chlorite solution is reduced to 1/2 ml instead of the 1-2ml.
>
> So I am giving 30 ml into a vein. They feel of course the hot rush from the magnesium but they actually enjoy it because it does all the good magnesium things. Depending on the patient I do this either weekly or sometimes up to three times a week. I have these patients take half to a full teaspoon of sodium bicarbonate morning and evening and giving iodine mixed right into the bicarbonate. If it is a cancer patient I give a product with three types of vitamin C (ascorbic acid, calcium ascorbic and magnesium ascorbic which is mixed with L-Lysine but a few hours after the administration of the IV.

I have a doctor friend in Moscow who uses the MMS transdermally driving it in with DMSO and he also reports good results but I have never been very comfortable with the mania around MMS and the way it is marketed and put out with religious fever. I have heard of many bad stories but I have to concede to some good ones as well and my doctor friends seem to have avoided the down side by cutting out the use of it orally in favor of intravenous and transdermal application.

So Vernon is alive and well. Now of course he is not the only cancer survivor and many have made it through various natural means and some few even despite chemo and radiation therapy, which most alternative practitioners believe made cancer more not less dangerous. After all orthodox oncologists use treatments that cause cancer to cure it so we cannot expect life enhancing results. Surgical intervention, toxic chemo and radiation all are known to facilitate or cause cancer.

What is remarkable about Vernon's case is that his result, and the same goes for Dr. Simoncini's patients, shows a clear cause and effect relationship between cancer, its elimination and sodium bicarbonate, that simple household item that doubles behind hospital doors as an emergency room medicine. Yes some precautions need to be taken but most people can learn to use it themselves safely like Vernon did. In my book much is explained for professional and patient alike but one does not need to fully understand bicarbonate no physiology to brush ones teeth with bicarbonate (which I highly recommend for everyone) or take it from the minute, or even way before one suspects one has cancer.

The pH level of our internal fluids affects every cell in our body. Chronic over acidity corrodes body tissue, and if left unchecked will interrupt all cellular activities and functions. In other words, over acidity interferes with life itself. ***It is at the root of cancer****.*

Everyone should buy some pH strips and become familiar with this invisible side of our lives. It is sad that our schools do not teach us the rudiments of health and even medicine because it is not that difficult to fathom or practice. I intend to commit more time and energy to bring the bicarbonate story to the world for it seems like the message is not getting out enough and many still don't get how simple it is. When I read the Cancer Tutor site's information I felt sad because it so misinforms with such little information an extremely valuable and amazingly inexpensive basic treatment for cancer.

Kidney Disease

Bicarbonate - Magnesium

Sodium bicarbonate and magnesium chloride are not only excellent agents for natural chemotherapy but they also are the most basic medicines we have for kidney disease. New research by British scientists at the Royal London Hospital shows that sodium bicarbonate can dramatically slow the progress of chronic kidney disease. We don't need a thousand years of tests to understand something as simple as water and it is quite the same with bicarbonate, which is always present in the best drinking waters.

Bicarbonate acts to stimulate the
ATPase by acting directly on it [1].

The simple household product used for baking, cleaning, bee stings, treating asthma, cancer and acid indigestion is so effective in treating kidney disease that **it prevents patients from having to be put on kidney machines.** The findings have been published in the Journal of the American Society of Nephrology. Bicarbonate is a truly strong universal concentrated nutritional medicine that works effectively in many clinical situations that we would not normally think of. It is a prime emergency room and intensive care medicine that can save a person's life in a heartbeat and it is also a supermarket item that you can take right off the shelf and use for more things than one can imagine – including diaper rash.

The kidneys are usually the first organs to show chemical damage upon uranium exposure. Old military manuals suggest doses or infusions of sodium bicarbonate to help alkalinize the urine if this happens. This **makes the uranyl ion less kidney-toxic and promotes excretion of the nontoxic uranium-carbonate complex**. The oral administration of sodium bicarbonate diminishes the severity of the changes produced by uranium in the kidneys.[2]It does this for all the heavy metals and other toxic chemicals including chemotherapy agents, which are highly lethal even in low dosages. After depleted uranium weapons were used starting in the first Gulf War the United States has polluted the world with uranium oxide and it is showing up more and more in tests doctors make. With a half life of several billion years we had better be prepared to get used to dealing with the toxic effects and help our bodies clear it more easily through the kidneys. Sodium bicarbonate is an absolute must item in any field hospital and it should be in used and recommended in all clinics and be present in every home medicine cabinet.

Dr. SK Hariachar, a nephrologist who oversees the Renal Hypertension Unit in Tampa Florida stated, upon seeing the research on bicarbonate and kidney disease, "I am glad to see confirmation of what we have known for so long. I have been treating my patients with bicarbonate for many years in attempts to delay the need for dialysis, and now we finally have a legitimate study to back us up. Not only that, we have the added information that some people already on dialysis can reverse their condition with the use of sodium bicarbonate".

John, a dialysis technician at the same center as Dr. Hariachar, who used to be on dialysis himself for 2 years as a result of kidney failure, had his kidneys miraculously start functioning to the point where dialysis was no longer needed. He states that he was prescribed oral doses of sodium bicarbonate throughout his treatment, and still takes it daily to prevent recurrences of kidney failure. Dr. Hariachar maintains though that not everyone will be helped by taking bicarbonate. He says that those patients who have difficulty excreting acids, even with dialysis using a bicarbonate dialysate bath, that, "oral bicarbonate makes all the difference."

The exocrine section of the pancreas has been greatly ignored in the treatment of diabetes even though its impairment is a well documented condition. It is primarily responsible for the production of enzymes and bicarbonate necessary for normal digestion of food. Bicarbonate is so important for protecting the kidneys that even the kidneys get into the act of producing bicarbonate and now we know the common denominator between diabetes and kidney disease. When the body is hit with reductions in bicarbonate output by these two organs' acid conditions build and then entire body physiology begins to go south.

The kidneys alone produce about two hundred
and fifty grams (about half a pound) of bicarbonate
per day in an attempt to neutralize acid in the body.

The kidneys monitor and control the acidity or "acid-base" (pH) balance of the blood. If the blood is too acidic, the kidney makes bicarbonate to restore the bloods pH balance. If the blood is too alkaline, then the kidney excretes bicarbonate into the urine to restore the balance. Acid-base balance is the net result of two processes, first, the removal of bicarbonate subsequent to hydrogen ion production from the metabolism of dietary constituents; second, the synthesis of "new" bicarbonate by the kidney.[3]

It is considered that normal adults eating ordinary Western diets have chronic, low-grade acidosis which increases with age. This excess acid, or acidosis, is considered to contribute to o many diseases and to contribute to the aging process. Acidosis occurs often when the body cannot produce enough bicarbonate ions (or other alkaline compounds) to neutralize the acids in the body formed from metabolism and drinking highly acid drinks like Coke, Pepsi and all the rest of them. High protein diets are also a problem in this regard and in the long run give the kidneys a run for their money.

Acid-buffering by means of base supplementation is one of the major roles of dialysis. Bicarbonate concentration in the dialysate (Solution containing water and chemicals (electrolytes) that passes through the artificial kidney to remove excess fluids and wastes from the blood, also call “bath.”) should be personalized in order to reach a midweek pre-dialysis serum bicarbonate concentration of 22 mmol/l.[4] Use of sodium bicarbonate in dialysate has been shown in studies to better control some metabolic aspects and to **improve both treatment tolerance and patients' life quality.** Bicarbonate dialysis, unlike acetate-free biofiltration, triggers mediators of inflammation and apoptosis.[5]

One of the main reasons we become acid is from over-consumption of protein. Eating meat and dairy products may increase the risk of prostate cancer, research suggests.[6]We would find the same for breast and other cancers as well. Conversely mineral deficiencies are another reason and when you combine high protein intake with decreasing intake of minerals you have a medical disaster in the making through lowering of pH into highly acidic conditions. When protein breaks down in our bodies they break into strong acids.

Unless a treatment actually removes acid toxins
from the body and increases oxygen, water, and
nutrients most medical interventions come to naught.

These acids must be excreted by the kidneys because they contain sulfur, phosphorus or nitrogen which cannot break down into water and carbon dioxide to be eliminated as the weak acids are. In their passage through the kidneys these strong acids must take a basic mineral with them because in this way they are converted into their neutral salts and don't burn the kidneys on their way out. This would happen if these acids were excreted in their free acid form.

Substituting a sodium bicarbonate solution for saline
infusion prior to administration of radiocontrast
*material seems to **reduce the incidence of nephropathy**.[7]*
Dr. Thomas P. Kennedy
American Medical Association

Bicarbonate ions neutralize the acid conditions required for chronic inflammatory reactions. Hence, sodium bicarbonate is of benefit in the treatment of a range of chronic inflammatory and autoimmune diseases. Sodium bicarbonate is a scientific medicine with known effects. When a treatment can be looked at in a scientific light it can be more easily accepted. Sodium bicarbonate is effective in treating poisonings or overdoses from many chemicals and pharmaceutical drugs by also negating the cardiotoxic and neurotoxic effects.[8]It is the main reason it is used by orthodox oncology – to mitigate the highly toxic effects of chemotherapy.

Sodium bicarbonate possesses the property of absorbing heavy
metals, dioxins and furans. *Comparison of cancer tissue with*
healthy tissue from the same person shows that the cancer tissue
has a much higher concentration of toxic chemicals, pesticides, etc.

Sodium bicarbonate injection is indicated in the treatment of metabolic acidosis which may occur in severe renal disease, uncontrolled diabetes, and circulatory insufficiency due to shock or severe

dehydration, extracorporeal circulation of blood, cardiac arrest and severe primary lactic acidosis. The acid/alkaline balance is one of the most overlooked aspects of health, though many have written much about it. In general, the American public is heavily acid, excepting vegetarians, and even their bodies have to face increasing levels of toxic exposure.

Magnesium Bicarbonate

Without magnesium, our pancreas won't
secrete enough insulin--or the insulin it secretes
won't be efficient enough--to control our blood sugar.

Without sufficient bicarbonate buffer disease proliferates as the body becomes acid. **Without sufficient bicarbonates, the pancreas is slowly killed as are other tissues in the body.** As the pancreas struggles to keep up with the need for more and more bicarbonate it weakens and eventually we see its pathology in terms of insulin, which is responsible not only for controlling blood sugar but cellular levels of magnesium as well. Without sufficient magnesium in the cells (as compared to the serum) cell and tissues degenerate across a broad spectrum of physiology.

Low serum and intracellular magnesium concentrations
are associated with insulin resistance, impaired
glucose tolerance, and decreased insulin secretion.
[9],[10],[11]

Magnesium bicarbonate is not only the *Ultimate Mitochondrial Cocktail* it is also the wonder drug combination for diabetes, cancer, heart disease as well as kidney dysfunction. When one takes both magnesium chloride and sodium bicarbonate the effects and force of one reinforces that actions and medicinal power of the other. In terms of medicine they are as closely paired as oxygen and carbon dioxide. It does not make sense to separate one from the other and in fact it's a physiological impossibility. One will quickly kill someone with pure oxygen; one needs the CO2 even if our politicians think we don't.

In the presence of magnesium and bicarbonate ions,
less acid is produced by carbonic anhydrase enzyme.[12]

We need large amounts of magnesium and bicarbonate ions for smooth running physiology. That we have natural medicines, allopathic in nature, to safely effect dramatic change in the body is our great good fortune. Unfortunately pharmaceutical medicine not only neglects this foundational level of physiology it charges into the cellular sea with toxic drugs that make matters worse.

Alkalosis enhances magnesium reabsorption
in the juxtamedullary proximal nephron.[13]

Magnesium chloride and sodium bicarbonate are both considered medicines in their injectable forms and both provide almost immediate relief to physiological disturbances. Fortunately both are sold as food substances and can be used by anyone for both oral and transdermal use making them not only extremely useful in pediatric medicine but also in chronic pain management.

It is magnesium that modulates cellular events involved in
inflammation. Magnesium literally puts the chill on inflammation.
Magnesium deficiencies feed the fires of inflammation and pain.

Magnesium bicarbonate buffers the mitochondria in body cells from excess acid concentrations which improves mitochondrial function and allows more ATP to be produced. Magnesium bicarbonate protects the natural organic and inorganic phosphate buffers in the cytoplasm of cells. Magnesium bicarbonate neutralizes the acid produced as a result of metabolic processes and ATP hydrolysis. This allows more ATP to be hydrolyzed; that is, more energy can be utilized. The kidneys represent the water element in Chinese medicine and the most effective method of regulating its health and function is with these water elements, magnesium chloride and sodium bicarbonate, both of which are heavily present in the sea and in all good mineral waters.

Kidney infections and inflammation are
dangerous. Left untreated they can cause
blood poisoning, loss of a kidney, or even death.

Magnesium use when renal failure is present must be used with caution and under supervision as magnesium can quickly reach toxic levels when the kidneys can no longer excrete the body's excesses. But in the face of growing magnesium deficiencies calcium becomes increasingly more toxic to human physiology so it is important to supplement with magnesium. This is done most effectively and safely transdermally.

Calcium - Kidney Disease – Kidney Stones

The associations among valvular calcification,inflammation, carotid atherosclerosis, and arterial calcification suggest that valvular calcification is a marker of atherosclerosis and arterial calcification in patients with end stage renal disease.[14]

The most common cause of death in dialysis patients is cardiovascular disease. This is due in part to the presence of excess vascular calcification, particularly in the form of extensive coronary artery calcification, which can be observed even in very young dialysis patients.[15]The presence of coronary artery calcification in the dialysis population appears to correlate in part with the ingested quantity of calcium-containing oral phosphate binders.[16]Vascular calcification and arterial stiffening are independent predictors of all causes and cardiovascular mortality in chronic kidney disease (CKD).

Sodium bicarbonate-rich mineral water in conjunction with a low-salt diet has a beneficial effect on calcium homeostasis.[17]

People who have End Stage Renal Disease (ESRD) typically experience changes in how well their bodies absorb calcium, phosphorus and vitamin D. This can lead to weakened bones (renal osteodystrophy). **Unabsorbed calcium can lodge anywhere in our body.** For instance, if it lodges in your bones and joints, it mimics arthritis; if it lodges in you heart, it mimics arterial lesions. Calcification or calcium poisoning can manifest as heart disease, cancer, wrinkled skin, kidney stones, osteoporosis, dental problems, bone spurs, cataracts and many other health problems.

Magnesium is the mineral of rejuvenation and prevents the calcification of our organs and tissues that is characteristic of the old-age related degeneration of our body.

Metastatic calcification occurs in the kidneys and lungs and in many other tissues when the serum level of calcium climbs. Kidney stones are associated with pathologic calcification, the process in which organs and blood vessels become clogged with calcium deposits that can damage major organs like the heart and kidneys. Approximately 12 percent of men and 5 percent of women will develop kidney stones by the time they reach 70 years old. Some $5 billion is spent in the United States each year to treat patients with kidney stones.

Magnesium increases the solubility of calcium in the urine. Supplementing magnesium to the diet has demonstrated significant effect in preventing recurrences of kidney stones.

Kidney stones don't occur overnight. Stones tend to form when the kidneys suddenly develop a metabolic condition where it becomes unable to keep urinary wastes from clumping together. Once the blood carrying toxins is filtered by the kidneys, these dissolved wastes quickly move out of urine and begin forming solid blockages.

In essence, the real danger of excess acidity is the leeching of calcium that it causes. Simply put, excess acidity equals soft-tissue calcifications.

One of the most excruciating pains to bedevil mankind and the medical profession ever since the dawn of history is caused by kidney stones. The torture of passing a kidney stone was aptly described by one victim as "passing broken bottles, old razor blades, molten lead and sulphuric acid garnished with bits of rusty barbed wire."[18]Take a look at a kidney stone under a microscope, and you'll understand why the pain of passing a stone is unforgettable. Most stones are spiked with razor-sharp crystals. No wonder those who've gone through the experience say the agony is equivalent to a knife in the back.

Sodium bicarbonate administration increases urinary pH.

Urinary pH between 6.5 and 7.0 can keep uric acid ionized and prevent its crystallization in renal tubules.

Sodium bicarbonate can prevent the formation of uric acid kidney stones and can help dissolve existing uric acid stones. Sodium bicarbonate makes the urine less acidic, which makes uric acid kidney stone formation less likely. Kidney stones develop when urine concentrations of minerals and other dissolved substances get so high that the minerals can no longer remain dissolved. Stones can also form if the pH (acid-alkaline balance) of urine is too high or too low. In all cases, the minerals form insoluble crystals and precipitate, or drop out, of the urine, exactly the same way too much sugar drops to the bottom of a glass of iced tea. The crystals collect in the kidney ducts, slowly solidifying into stones.

Most doctors these days rely on both dietary measures and drugs, often diuretics (which decrease urinary calcium and increase urine flow), to keep kidney stones from coming back, but diuretics are famous for driving down magnesium levels in the body so in truth the orthodox allopathic treatment needs to be trashed.

The most common type of kidney stone, made of calcium oxalate, is found in more than 80 percent of cases.

There is no doubt that magnesium's potential for preventing stones has not been fully appreciated. "Doctors think it doesn't work because they don't try it," says Dr. Stanley Gershoff, professor of nutrition and dean emeritus at Tufts University School of Nutrition in Medford, Massachusetts. In a study that Dr. Gershoff did years ago, 149 people who had had at least two stones annually for five years saw their stone formation drop dramatically when they started taking 300 milligrams of magnesium a day.

Urine from people taking supplemental magnesium was capable of holding more than twice as much calcium oxalate in solution compared with urine from people not taking magnesium.
Dr. Stanley Gershoff

"Magnesium helps prevent calcium oxalate from crystallizing, although exactly how it does that isn't known," Dr. Gershoff says. When magnesium is deficient things begin to die. In reality one cannot take a breath, move a muscle, or think a thought without enough magnesium in our cells. **The problem that comes with low magnesium (Mg) levels is the calcium builds up inside the cells while energy production decreases as the mitochondria gradually calcify.** Thus taking magnesium chloride and sodium bicarbonate together is ideal for cellular environments turned acidic and calcified.

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Sodium Thiosulfate

Sodium thiosulfate (STS) is a calcium
chelating agent with antioxidant properties.
Dr. Carlos E. Araya

Sodium thiosulfate is emerging as a treatment for calciphylaxis. It is capable of donating its two unpaired electrons, is a scavenger of reactive oxygen - nitrogen species, and may generate glutathione. Additionally, it is an excellent chelator of calcium, which is a problem in diabetes resulting in medial vascular ossification. Sodium thiosulphate results in the formation of calcium thiosulphate in the urine, a compound with much higher solubility than the other calcium salts (phosphate, oxalate). Thus, sodium thiosulphate could not only inhibit further nephrocalcinosis, but in some degree it could contribute to decalcification of renal parenchyma[1].

The beneficial effects of sodium thiosulfate (STS) are thought to be due in part to its ability to enhance the solubility of calcium deposits. STS has a small molecular weight of 248 ($Na_2S_2O_3$) and in patients with normal renal function has a serum half-life of 15 min. STS facilitates the mobilization of calcium from vessels affected by calcium deposits.

Intravenous STS seems beneficial, has mild adverse
effects, and is well tolerated in children and young adults.
STS dosage was 25 g/1.73 m2 per dose intravenously.
Dr. Carlos E. Araya

Dr. Carlos E. Araya et al[2]successfully used this relatively nontoxic substance, which been reported as adjuvant treatment of several conditions involving disorders of calcium homeostasis. Yatzidis described its benefits by decreasing the rate of new kidney stone development in 34 patients with recurrent calcium urolithiasis. Prompted by these excellent results, intravenous STS was administered after hemodialysis to three patients with ESRD and tumoral calcinosis for a period of 6 to 12 mo. Two of the patients had regression of the calcified mass as well as improved motility of the affected joints. STS was given for a period of 9 yr to a patient with nephrocalcinosis as a result of renal tubular acidosis type 1. There was no further deterioration of his condition, and the discontinuation of the medication was accompanied by recurrence of renal colic.

Kidney Inflammation

Kidney inflammation is also called nephritis. The word comes from the Greek *nephro-* meaning "of the kidney" and *-itis* meaning "inflammation". The most common causes of nephritis are infection, auto-immune process, and toxic injury. Nephritis has the effect of damaging and closing up the microscopic filters in the kidney. This means that in addition to various toxic waste products backing up, the inflamed kidney filters out important proteins (larger molecules) from the blood. Therefore the characteristic symptom of nephritis is proteinuria - meaning the excessive removal of protein from the blood and its excretion in urine. The main symptoms of acute nephritis are a pain in the kidneys, extending down to the ureters, fever, dull pain the back and scanty and highly colored urine. In the chronic stage of nephritis, which may drag on for many years, the patient passes large amounts of albumin in the urine. Later, there may be a rise in the blood pressure and the patient may develop uremia. There may be frequent urination, especially during the night.

As protein levels in the blood fall,
excess fluid accumulates in the body.

In adults, diseases that frequently underlie nephritis include vasculitis (inflammation of the blood vessels), pneumonia, abscesses, infections such as measles, mumps or glandular fever, hepatitis, and a range of different immune disorders that cause types of glomerulonephritis. The treatment of nephritis aim is to reduce inflammation, limit the damage to the kidneys and support the body until kidney function is back to normal. When the kidneys are inflamed there is a loss of protein in the urine. The urine looks foamy when this happens. It is easy to know if what you're doing to reduce inflammation is working because the urine will be less visibly foamy.
The combination of magnesium chloride, sodium bicarbonate and iodine to directly address infection and inflammation together is a patient's best bet for handling nephritis. Special care needs to be taken with administration of magnesium the more serious the condition.

Dialysis

Kidney failure is a devastating diagnosis: “Suddenly you realize if you don't do this thing you're going to die. Your mortality is in your face,” wrote Karen Kitzky on dialysis for 16 years. Without the kidneys doing their job and without the machines to clear ones blood fluid backs up in the body like a capped water hose. Everyday vitamins and minerals turn to poison in the blood, swelling increases rapidly, patients then become lethargic and then die.

When the kidney fails the body no long is capable of converting
sunlight to Vitamin D, and all the benefits of Vit D are lost unless
Vit. D is supplied through oral or IV means during dialysis treatments.

Dialysis is not fun though it does keep one alive. Each week a person spends three hours, three times a week, having their blood drawn by a machine the size of a small refrigerator. When it's over, the fatigue that follows is almost crippling. Karen is one of more than 500,000 in the U.S. on dialysis for end-stage renal disease. Doctors assume that the numbers are rising because of correlating rises in diabetes and hypertension, the two most common factors in kidney failure. But they are really rising because of increasing levels of magnesium deficiency and as the body becomes more acid. Because the medical industrial complex is not treating diabetes and hypertension correctly these **mistreated patients end up on dialysis**.

Conclusion

Imagine its 3 month’s from today and your doctor glances up at you with a look of amazement and bewilderment. He grabs your test results again, and studies them intently; he doesn’t know what to make of them. It’s the first time that he has seen this before and is struggling to believe his own eyes. Your kidney function has improved, dramatically improved. He wants to know what you’ve been doing. And you give him a big smile enjoying every bit of the moment.

Well you can tell him you have been concentrating on basic cell physiology creating the conditions to not only support healthy kidney cell function but are actually protecting the kidney tissues from harm due to heavy metals, toxic chemicals and drugs. Through the correct combination therapy you are also protecting against calcification and inflammation.

Magnesium and bicarbonate ions are the secret that unlocks the code of kidney disease. The two together create a powerful healing system so strong that it reverses kidney disease and hugely reduces the chance of kidney failure. These ions will ease the pain and increase the quality of life and problems from further complications even for those with renal failure (stage 5 kidney disease) when used with great care.

If you really want to blow your doctors mind tell him you are treating the root cause of your kidney disease. Tell him you are out not only on a decalcification program but also are treating the blood sugar imbalance to reverse your kidney disease. Diabetes is the greatest cause of kidney disease so when you treat that basic condition you are going to do wonders for the kidneys. Magnesium bicarbonate targets the dysfunctional insulin and blood sugar systems of the body to work on removing your cause, your disease and your pain – and sometimes almost immediately.

The other good news you can tell your doctor is not only how safe your approach is but how inexpensive. One can keep costs to two dollars and sixty one cents for the bicarbonate a month. Magnesium chlorides costs vary widely depending on the quality of the source but one can easily contain costs under 25 dollars a month for treatment. When it comes to kidney disease one wants to use the purest source meaning when tested it’s the product that has the absolute lowest heavy metal profile. Sodium thiosulfate is not so

readily available but one can get some from a chemical supply house. It also can be used for pennies a day.

The signs and symptoms of renal failure are due to overt metabolic derangements resulting from inability of failed kidneys to regulate electrolyte, fluid, and acid-base balance; they are also due to accumulation of toxic products of amino acid metabolism in the serum. It makes perfect sense then to help the kidneys by directly treating electrolyte imbalance and we can do that most directly with magnesium chloride and sodium bicarbonate.

This chapter does not represent my full protocol for kidney disease. It concentrates though on the essential core treatments that all kidney treatments must be built around. The suggestions in this chapter do not represent a miracle cure and not everyone is going to come flying off their dialysis machines but responsible doctors will recognize the basic medical truth presented.

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Life and Death

Oxygen and Cancer

We can live a long time without food, a couple of days without drinking, but life without breath is measured in minutes. Something so essential deserves our full attention but rarely gets it unless you are a yoga practitioner. Breath is the most important of all the bodily functions and without it we simply are dead. In reality we take O2 for granted and with it our breathing, which most of us do quite badly. And now we even have a huge federal government wanting to make oxygen's twin into public enemy number one[1]and that is a sin.

Researchers found that an increase of 1.2 metabolic units (oxygen consumption) was related to a decreased risk of cancer death, especially in lung and gastrointestinal cancers.[2]

The makeup of the human body is largely composed of the element oxygen. Oxygen (O2) physiology takes us down to the foundation of life and it is there where we meet up with some other structural substances like water (H2O), carbon, bicarbonate and CO2 (Oxygen's necessary twin gas), magnesium, sulfur and then a host of other important substances like iodine and selenium and all the basic amino acids and on and on. We need all the basic building blocks of life and even the absence of one vitamin can make us deadly sick. But we need carbon and oxygen every moment of everyday or we will die. We humans are kind of like blow torches or blazing rockets, the flame of our lives are fed second to second from the twin gases of O2 and CO2.

The prime cause of cancer is the replacement of the respiration of oxygen in normal body cells by a fermentation of sugar.

Oxygen levels are sensitive to a myriad of influences. Toxicity, emotional stress, physical trauma, infections, reduction of atmospheric oxygen, nutritional status, lack of exercise and especially improper breathing will affect the oxygen levels in our bodies. **Any element that threatens the oxygen carrying capacity of the human body will promote cancer growth.** Likewise any therapy that improves the oxygen function can be expected to enhance the body's defenses against cancer. In order for cancer to 'establish' a foothold in the body it has to be deprived of oxygen and become acidic. *If these two conditions can be reversed cancer can, not only be slowed down, but it can actually be overturned.*

Oxygen is the source of health. Oxygen is essential to the human body, extending effects beyond breathing.

Dr. D. F. Treacher and Dr. R. M. Leach write, "Mammalian life and the bioenergetic processes that maintain cellular integrity depend on a continuous supply of oxygen to sustain aerobic metabolism. Reduced oxygen delivery and failure of cellular use of oxygen occur in various circumstances and if not recognized result in organ dysfunction and death. **Prevention, early identification, and correction of tissue hypoxia are essential skills.** An understanding of the key steps in oxygen transport within the body is essential to avoid tissue hypoxia. Although oxygen is the substrate that cells use in the greatest quantity and on which aerobic metabolism and cell integrity depend, the tissues have no storage system for oxygen. They rely on a continuous supply at a rate that precisely matches changing metabolic requirements. If this supply fails, even for a few minutes, tissue hypoxaemia may develop resulting in anaerobic metabolism and production of lactate."[3]

Not enough oxygen to the brain is the main cause of memory loss, inability to find the right words, getting words mixed up and not being able to speak in sentences.

In the 1920s Dr Otto Warburg carried out a great deal of work on cancer's basic mechanism and was awarded a Nobel Prize in 1932. Warburg's work clearly demonstrated that **cancer is, fundamentally, a relatively simple disease where cell oxygen levels fall to a level sufficiently low enough for the cell to change in nature.** Without a dependable supply of oxygen, the cells in our bodies cannot function properly. Nutrients in our diets must have oxygen present to convert their potential energy into usable energy. In order for new cells to be formed, hundreds of amino acids must link together using oxygen as the source of their energy.

All normal body cells meet their energy needs
by respiration of oxygen, whereas cancer cells meet
their energy needs in great part by fermentation.

Poor oxygenation comes from a buildup of carcinogens and other toxins within and around cells, which blocks and then damages the cellular oxygen respiration mechanism. As more acid wastes back up, and the body slowly stews in its poisonous wastes, a chronically over acidic body pH corrodes body tissue, slowly eating into the 60,000 miles of our veins and arteries like acid eating into marble. Clumping up of red blood cells slows down the bloodstream, and restricts flow of O2 into capillaries, which just adds to the worsening conditions. Even lack of the proper building blocks for cell walls, essential fatty acids and magnesium, restricts oxygen exchange.

Cancer needs anaerobic - airless - conditions to grow and spread. What orthodox oncologists don't see clearly is that cancer is not only human cells, which have changed their nature, but infectious entities that are thriving under these low O2 conditions. Doctors need to consider both the altered cells and the infectious pathogens thriving off these cells as the combined enemy we call cancer.

In 1966, after his efforts had been ignored by the cancer industry for over thirty years, Warburg addressed a group of fellow Nobel Laureates, reiterating his views and concluded, "Nobody today can say that one does not know what cancer and its prime cause be. On the contrary, there is no disease whose prime cause is better known." Dr Warburg's work has never been refuted but it certainly has been avoided by orthodox oncology.

So its no surprise on the first day of August 2009 that we find published in the journal Cancer Today **a ground-breaking study revealing that injecting oxygen into cancerous tumors significantly boosts the chances of recovery.** Scientists at Oxford University found slightly increasing the supply strengthened blood vessels in cancer cells, making chemotherapy more effective. [4] Scientists had previously tried to starve tumors of oxygen, believing a more stable blood supply would only help the cancer spread.

In all serious disease states we find a concomitant low
oxygen state. Low oxygen in the body tissues is a sure
indicator for disease. Hypoxia, or lack of oxygen in the
tissues, is the fundamental cause for all degenerative disease.
Dr. Stephen Levine
Molecular Biologist

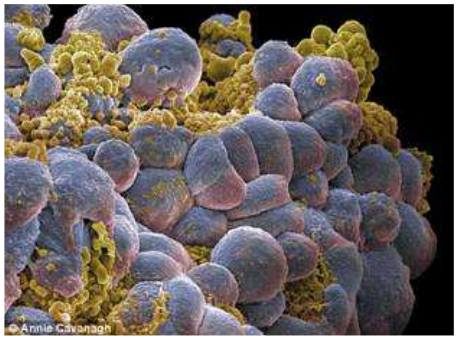
Medical scientists are excited to have uncovered what they thought was a brand new approach to cancer treatment. Because they never paid Warburg any attention they thought that by increasing an oxygen supply to tumor cells they would help them grow. But actually by oxygenating the cell they found the opposite and were able to do a better job of killing them. They even found in patients with pancreatic cancer, which is notoriously difficult to treat, that the results were also positive.

A CO2 deficit caused by deep breathing
leads to oxygen starvation in the cells of
the body. This state is known as hypoxia.

The response of a tumor to chemotherapy or radiation is directly related to the level of tumor hypoxia (low O2) so these researchers from England got excited because they saw their radiation and chemo protocols effectiveness increase. **More hypoxia corresponds with greater resistance to treatment as well as increased tendency to metastasize.** It is all laid out in front of us now; there is a growing consensus about this universal constant of cancer. Cancer thrives in low oxygen high acid conditions so we are practicing good medicine (appropriate oncology) when we increase total tissue O2 levels.

A healthy cell breathes oxygen for energy.
A cancer cell shuns oxygen and ferments

sugar instead for its energy requirements.



Because of this difference between healthy cells and cancer cells, Warburg argued, cancer should be interpreted as a type of ***mitochondrial disease****.*[5]
Science Daily

Hypoxemia or what might be called "blocked oxidation," is followed by fermentation of sugar in cells, which then leads to **the primary condition upon which cancer, infectious and inflammatory processes feed.** Viruses are "anaerobic" creatures which thrive in the absence of oxygen. Yeast, mold and fungus live in an anaerobic environment. Most strains of harmful bacteria (and cancer cells) are anaerobic and are not comfortable in the presence of higher oxygen levels so doctors will find cancer cells easier to kill when oxygen levels are increased. What they did not guess at is that O2 levels can be dramatically increased by the simple administration of sodium bicarbonate. Increasing Co2 levels through the use of sodium bicarbonate is good in cancer treatment because bicarbonate drives up CO2 levels in the blood, which **increases oxygenation to the cells**. This is discussed fully in the chapter on carbon dioxide.

There are many homeostatic adaptation responses that fight to maintain pH balance but the principle one is using high pH bodily fluids such as **water** as a solvent to neutralize acid residues. The second greatest resistance the body puts up against dropping pH is pulling **bicarbonate** from the pancreas and kidneys into the blood as an alkalizing agent. Bicarbonate ions are generated from carbon dioxide and diffuse into the plasma. Then there are other levels of protection but when they are all overwhelmed the end result is **accumulated acid residues at the cellular level that drown out oxygen.**

Sodium bicarbonate is safe when taken with appropriate caution[6]and knowledge, extremely inexpensive and effective when it comes to reducing cancer tissues. It's an irresistible chemical, cyanide to cancer cells for it hits the cancer cells with a shock wave of alkalinity, which allows much more oxygen into the cancer cells than they can tolerate. Cancer cells do not survive well in the presence of higher levels of oxygen.

Oncologist Dr. Tullio Simoncini, the founder of the bicarbonate approach to cancer, believes that only several types of cancer can be approached through oral application of bicarbonate. He suggests expensive and hard to get (meaning hardly any physician will do them in any country) medical procedures (placement of catheters) and IVs to get the bicarbonate as close to the tumors as possible.

Dr. Simoncini never realized that when bicarbonate is taken orally the full body pH is shifted dramatically higher affecting all tissues including the brain and bones. He does not understand that oral administration is actually a superior method for all cancers because higher pH and oxygen levels can be maintained 24 hours a day constantly wearing down tumors and individual cancer cells wherever they might be. The different in costs between oral and transdermal dosing with bicarbonate and catheters and IVs is enormous with the oral weighing in at pennies a day. That alone can make the difference between life and death for millions of people who could not get and cannot afford expensive treatments. I recommend people contemplating doing the oral method to also use bicarbonate heavily transdermally and to read my book *Sodium Bicarbonate – Rich Man's Poor Man's Cancer Treatment* because one needs to really understand what they are doing.

Just as there are many ways to skin a cat there are many important ways to approach cancer and the task of increasing O2 to all the bodies' tissues. Other doctors have concentrated on hydrogen peroxide, ozone and hyperbaric oxygen chambers. In following sections we address exercise, proper breathing (which is very important) and magnesium supplementation, which are basic elementary approaches available,

affordable and legal for all.

Oxygen Carrying Capacity and Magnesium

In another chapter we will see how important magnesium is when it comes to oxygen metabolism and oxygen carrying capacity. We will see that magnesium ions regulate the stability of the red cell membrane, which is crucial. Magnesium enhances the binding of oxygen to haem proteins and abnormal magnesium deprived red blood cells lack flexibility that allows them to enter tiny capillaries. Red blood cell (RBC) deformability is an important factor in determining movement of red blood cells through the microcirculation and appropriate magnesium levels help to insure the microcirculation does not contract and calcify.

Diet is very important and there is nothing like green leafy vegetables (lots of magnesium and chlorophyll, which has the same chemical structure as hemoglobin) and an all round alkaline diet for bringing up the oxygen carrying capacity of the body. Magnesium chloride and sodium bicarbonate are the perfect combination of concentrate nutritional substances helping to fire up the mitochondria's normal energy producing functions as well as increasing overall oxygen carrying capacity. Both can be taken orally as well as applied transdermally and they both can be added to mineral or distilled water to make ones water intake into medicine.

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[1] The element carbon is perhaps the single most important element to life. Virtually every part of our bodies is made with large amounts of this element. The carbon atom is ideal to build big biological molecules. The carbon atom can be thought of as a basic building block. These building blocks can be attached to each other to form long chains, or they can be attached to other elements. This can be difficult to imagine at first, but it may help to think about building with Legos. You can think of carbon as a bunch of red legos attached together to form one long chain of legos. Now, you can imagine sticking yellow, blue and green legos across the tops of the red (carbon) legos. These other colors represent other elements like oxygen, nitrogen or hydrogen. As you stick more and more of these yellow, blue and green legos to the red chain, it would start to look like a skeleton of legos with a "spine" of red legos and "bones" of yellow, blue and green legos. This is a lot like the way that big molecules are made in the body. Without carbon, these big molecules could not be built. Now, **virtually every part of your body is made up of these big molecules that are based around chains of carbon atoms.** This is the reason we are known as "carbon based life forms". Without carbon, our bodies would just be a big pile of loose atoms with no way to be built into a person.

[2] www.medicalnewstoday.com/articles/159225.php

[3]BMJ. 1998 November 7; 317(7168): 1302–1306

[4] www.dailymail.co.uk/health/article-1203600/Injecting-oxygen-cancerous-tumours-improves-chances-recovery.html

[5]Recent research from Boston College and the Washington School of Medicine is reigniting interest in Warburg's work. ("Nearly a Century Later, New Findings Support Warburg Theory of Cancer", Science Daily, January 14, 2009) Specifically, they examined mitochondrial lipids in a diverse group of mouse brain tumors and found a significant difference in a complex lipid known as cardiolipin.

[6]Even something as safe as sodium bicarbonate has to be used with caution. Case in point: A 68-year-old man presented to the Emergency Department with a severe metabolic alkalosis after ingesting large quantities of baking soda to treat his dyspepsia. His underlying pulmonary disease and a progressively worsening mental status necessitated intubation for respiratory failure. Laboratory studies revealed a hyponatremic, hypochloremic, hypokalemic metabolic alkalosis. The patient was successfully treated after cessation of the oral bicarbonate, initiation of intravenous hydration, and correction of electrolyte abnormalities. Sodium bicarbonate is an extremely well-known agent that historically has been used for a variety of medical conditions. Despite the widespread use of oral bicarbonate, little documented toxicity has occurred, and the emergency medicine literature contains no reports of toxicity caused by the ingestion of baking soda. Risks of acute and chronic oral bicarbonate ingestion include metabolic alkalosis, hypernatremia, hypertension, gastric rupture, hyporeninemia, hypokalemia, hypochloremia, intravascular volume depletion, and urinary alkalinization. Abrupt cessation of chronic excessive bicarbonate ingestion may result in hyperkalemia, hypoaldosteronism, volume contraction, and disruption of calcium and phosphorus metabolism. The case of a patient with three hospital admissions in 4 months, all the result of

excessive oral intake of bicarbonate for symptomatic relief of dyspepsia is reported. Evaluation and treatment of patients with acute bicarbonate ingestion is discussed.

Emotions, Oxygen and Acid

Dr. Gary Tunsky says, “As these organisms (pathogen infections) feed, they produce waste just like you do. Their urine and feces are called mycotoxins, which are very poisonous to humans. Being acids themselves, mycotoxins greatly worsen the acidity caused by an acidic diet and toxic acid emotions. They are spilled into the blood as well as inside cells, where they cause free radical damage to the genetic material of the cell eventually causing cell death. The dead necrotic cells also spill out acid wastes. The blood poisoning results in more cell and tissue poisoning furthering the disturbance of the microzyma triggering morbid forms of yeast, molds and viruses, which disrupts body chemistry causing disease to the systems. So it’s a vicious cycle. One acid condition creates anothet. **Acidic diet coupled with toxic acid emotions creates an acid pH to the cells.** This causes low oxygen levels *(hypoxia)*, which is necessary for keeping back destructive anaerobic microbes and immuno-suppression is the result. Then medical doctors come in and treat the acid condidon with another acid *(pharmaceuticals)*.

In stressful situations, we take faster, shallower breaths, decreasing the amount of oxygen. Our heart rate and blood pressure shift into overdrive to make up the difference. This triggers the fight-flee syndrome, muscles tighten, and our minds become more emotional and anxious.

Chronic hidden hyperventilation (over-breathing) is very common amongst western populations **leading to impaired oxygenation** of body tissues. But what is actually driving down the O2 levels is the hyperventilation, its getting rid of too much CO2. Meaning we need the CO2 almost as much as we need the O2 because, as we shall also see below, the two are married to each other in an eternal physiology dance.

There are many reasons why people over-breath, including anxiety and pollution. Years of poor posture, anxious thinking, tension and pressure will usually result in breathing patterns which are less-than-ideal. Over breathing can be counted amongst panic attack symptoms, or amongst causes, as one 'feeds' off the other. About 60% of attacks are accompanied by hyperventilation and many panickers over breathe even whilst relaxed.

Most doctors have never heard of carbon dioxide
therapy. Yoga or deep breathing exercises
actually increase CO2 levels and this is good.

Most people have unhealthy breathing habits. They hold their breath or breathe high in the chest or in a shallow, irregular manner. These patterns have been unconsciously adopted, accidentally formed, or emotionally impressed. Certain "typical" breathing patterns actually trigger physiological and psychological stress and anxiety reactions. Babies know how to breathe and you can see their belly expand as the diaphragm moved down. Adults breathe more through expanding their chest cavity and it takes training and discipline to return to more natural breathing patterns.

In the chapter on CO2 we saw Dr. RayPeat saying that, “**Breathing too much oxygen displaces too much carbon dioxide, provoking an increase in lactic acid**; too much lactate displaces both oxygen and carbon dioxide. Lactate itself tends to suppress respiration. Oxygen toxicity and hyperventilation create a systemic deficiency of carbon dioxide. It is this carbon dioxide deficiency that makes breathing more difficult in pure oxygen, that impairs the heart’s ability to work, and that increases the resistance of blood vessels, **impairing circulation and oxygen delivery to tissues.** In conditions that permit greater carbon dioxide retention, circulation is improved and the heart works more effectively. **Carbon dioxide inhibits the production of lactic acid**, and lactic acid lowers carbon dioxide's concentration in a variety of ways.”

Rich Man's Poor Man's Cancer Treatment

This book is about the application of **the least expensive, safest and perhaps most effective cancer medicine there is.** Sodium bicarbonate cancer treatment focuses on delivering natural chemotherapy in a way that effectively kills cancer cells while **dramatically reducing the brutal side effects and costs** experienced with standard chemotherapy treatments.

The costs, which are a factor for the majority of people with cancer, are basically zilch. That's the only problem with this treatment - it is too cheap. No one is going to make money from it so no one will promote it. Those that do will be persecuted for it. The trouble with doing new studies on bicarbonate is that they are expensive and no drug company is going to fund a study when they can't profit from the treatment.

One pound of sodium bicarbonate from one of the best sources is $2.61 plus shipping but you can get the same high quality at your supermarket even cheaper. For $2.61 or less one **has a nothing-to-lose-everything-to-gain-cancer-treatment.** None of us dreamed that sodium bicarbonate has been part of orthodox oncology included in many chemotherapy protocols to protect the patient's kidneys, hearts and nervous systems.

On top of everything bicarbonate is a world class anti-fungicide and could be responsible for the few cures allopathic oncology manages to come up with. This book puts oncologists in a very compromising situation. They are using extremely dangerous poisons and bicarbonate at the same time claiming it is the poisons that are helping when this book is more than suggesting it is the bicarbonate that is doing the heavy work. Worse for them, there are no studies separating the effects of bicarbonate from the toxic chemotherapy agents nor will there ever be. Administration of many forms of chemotherapy without bicarbonate would probably kill patients on the spot.

We are also talking about an **exceptionally safe medicine** when we talk about bicarbonate. Chemotherapy drugs and corticoids reduce the bone marrow production of cells. In addition, these drugs damage the integrity of the skin tegument, and of the respiratory and gastrointestinal tracts, facilitating the penetration of microorganisms into the host. Bicarbonate does none of this.

Sodium bicarbonate is used prior to, during, and after application of chemotherapy.[1]**Some studies actually have already shown how manipulation of tumor pH with sodium bicarbonate enhances chemotherapy[2]**pointing to the appropriateness of using bicarbonate as a principle medicinal substance with the potential of curing people of their cancers.

Since the very beginning sodium bicarbonate has been used with the premier chemotherapy agent made from mustard gas. Mechlorethamine also known as chlormethine, mustine, nitrogen mustard and HN2 and sold under the brand name Mustargen was the prototype anticancer chemotherapeutic drug. Use of mechlorethamine gave birth to the field of anticancer chemotherapy. Without baking soda orthodox oncology would never have been able to establish itself for all their patients would probably have died.

> You will also be given lots of fluids (as a drip) and a drug called mesna with your cyclophosphamide to help prevent bladder irritation. Sodium bicarbonate will be given to you – usually as a drip – before and during your methotrexate treatment, to help protect your kidneys.[3]

These chemo drugs are an analogue of mustard gas and were derived from chemical warfare research. Instructions for their use include: Dilute well with rapidly running IVF flush solution. After infusion is complete, give brisk bolus approx. 200 cc IVF to flush veins. **The basic substances used in IVF flushes are sodium thiosulfate**[4]**and sodium bicarbonate.** Without the bicarbonate and thiosulfate buffers patients would quickly succumb to the chemo poisons. It's a picture right out of hell using mustard gas instead of something vastly safer.

*Sodium bicarbonate, potassium chloride, and calcium chloride are used to **maintain pH** and electrolytes within normal values in intensive care units.*

On the other hand cancer treatments, including the most commonly used chemotherapy agents as well as the newest biologic and targeted therapy drugs, can harm a patient's heart - sometimes fatally. Cardiologists at The University of Texas found in their review of 29 anticancer agents that **there is no class of cancer drug that is free of potential damage to the heart**. It is the organ that seems to be most sensitive to toxic effects of anticancer agents. Even the newest targeted therapies, designed to attack only

cancer cells, can cause cardiotoxicity.[5]

Bicarbonate ions and water are two of
the most natural compounds on Earth.

We do not have to fear bicarbonate intake. And in fact, people who live in areas of the world with high amounts of bicarbonate in their drinking waters have a striking decreased mortality rate and a decreased prevalence of disease. Sodium bicarbonate, though often used as a medicine, is unlike pharmaceutical compounds. It is a natural non-toxic substance that does not require clinical trials for an assessment of toxicity. Spring waters contain bicarbonate ions which are coupled mainly with sodium, potassium, calcium or magnesium ions. A deficiency of bicarbonate ions in the body contributes to a range of diseases and medical conditions.

Sodium bicarbonate acts as a powerful, natural and safe antifungal agent,[6]which when combined with iodine, would probably cover the entire spectrum of microbial organisms. The efficacy of sodium bicarbonate against certain bacteria and fungi[7]has been documented. Its role as a disinfectant against viruses, however, is not generally known. Sodium bicarbonate at concentrations of 5% and above was found to be effective with 99.99% reduction viral titers on food contact surfaces within a contact time of 1 min.[8]Throughout this book we will see reports of doctors using bicarbonate to defeat fungal infections.[9]But it was not until Dr. Simoncini came along though that the concept arose that what these doctors where unknowingly doing was cutting down the fungal fields of cancer.

Not only is it good for diaper rash it can also kick the teeth out of just about any cancer when used appropriately.

This logo of the Arm & Hammer baking soda is not a joke. Sodium Bicarbonate is just as advertised, it comes into any job you use it for just like a muscleman wielding a hardened mallet. It's good that it is strong! This book is telling you to take him into your own home and use him to kick butt on your cancer and you can do that without the help of your local oncologist.

Sodium bicarbonate is the last medicine
in the world one needs to be afraid of.

Understand that it is perfectly legal to drink sodium bicarbonate or take a bath with one, two or three pounds of it in your bath. Just don't tell your doctor you are treating your cancer with it until after your cancer is gone. Better yet, tell him you have carefully studied chemo pharmacology and have decided that the most effective element in most protocols for cancer is the bicarbonate.

Tell him that you have been doing it at home without his permission or authority while exercising your legal right to eat anything and everything sold in the supermarket for oral consumption. But under no circumstance tell your oncologist you are treating your child this way for they in all likelihood will call child protection services and have your child forcefully taken from you to that chemotherapy and radiation treatments can be applied.

Anyone can go to the supermarket and follow, in part, the instructions right on the box for maximum oral doses. **Sodium bicarbonate is only classified as a medicine if it is in injectable form.** Otherwise it is a legal food item found in every supermarket useful for literally hundreds of applications.

We can be thankful that oncologists have been using bicarbonate all along. They have established it as a consistent part of their cancer treatment protocol. The embarrassment to them is that they did not know about the real significance of bicarbonate in their treatments. They do not appreciate their dependency on it and what it is really doing for their patients. It is like they had a chemical genius chained and enslaved in

the basement. Meanwhile upstairs, while sitting at their desks, they pretend bicarbonate is nothing more interesting than a saline solution or water. They end up giving the credit to their toxic treatments hiding as much as possible the terrible life threatening side effects, which they are diminishing as much as possible with baking soda.

The National Cancer Institute recommends that sodium bicarbonate for treatment of Oral mucositis, which is an inflammation of oral mucosa resulting from chemotherapeutic agents or ionizing radiation.[10]

Sodium bicarbonate is as safe as chicken soup (but please read the chapter on counter indications) and probably more effective than any other single element in any cancer protocol and it can be taken simply through oral administration and transdermally in baths making it a treatment for the masses as well as the elite who only want the best.

There are other substances like iodine, magnesium chloride and even THC (medical marijuana in oral form) which run neck and neck with bicarbonate's ability to confront cancerous tissues. And there are many other substances that should be used also to heighten effectiveness of treatment. THC, if legal, would cost little more than bicarbonate because it's a weed you can grow in our own backyard.

One also has to pay attention to the causes of cancer. One major cause is the high levels of mercury that come from dental amalgam and other sources like yearly flu vaccination shots, which mostly have mercury in them. God forbid you live anywhere downwind of a coal fired power station, a crematorium or even a municipal incinerator all of which put massive amounts of mercury into the air and nearby environments. This is a subject of a most important chapter later in this book.

Chelation of mercury is an absolute necessity and it is best to find the most natural ways of doing that. But when all is said and done nothing is easier then to pull down a box of Arm and Hammer off the shelves and start taking it orally to defeat your cancer. Nothing could be simpler and easier to start.

There are many life saving cancer-busting substances like bicarbonate that are easily obtainable. One has to be crazy not to take more than several of them at the same time one is using the bicarbonate. There is no reason to take chances or play Russian Rolette with one's cancer or life. Sodium bicarbonate is not a standalone cancer treatment though it has been used successfully that way.

It is certain that sodium bicarbonate is a cancer treatment because it is used by oncologists and other personnel associated with the treatment of cancer victims. But, as in anything, there are limits to the bicarbonate's power. It will not, for instance, overcome ones' magnesium, iodine and selenium deficiencies. A person still needs plenty of clean water and sun (vitamin D3). (See my 900 page book Winning the War on Cancer for a discussion of some of the issues including the Rising Tide of Mercury story and natural chelation methods. This work will also be presented in my upcoming book Natural Allopathic Medicine)

One of the most important things about magnesium chloride, iodine and bicarbonate is that they are not on Codex's list of controllable items.

Through all these years and multi-billion dollar cancer research projects we find out that it was probably the bicarbonate that has been saving cancer patients' lives. Certainly it saves some of the patients from oncology's madness in choosing deadly poisons. The choice of the word madness here is quite literally for several studies have shown chemotherapy drugs to do damage to the brain. It is going to come as a great embarrassment to oncologists to learn that the most basic substance in their chemo protocol – sodium bicarbonate – is not only the safest but the most effective item in their hands. It certainly will not give the patient "chemo brain," which can include suffering impaired concentration, memory loss, and even vision problems, dementia or seizures.

[1] SODIUM BICARBONATE 50mmol in each Liter of IV hydration fluid and/or SODIUM BICARBONATE 1000mg/m² PO q6h. Post-Chemotherapy Treatments: Serum Methotrexate levels- 30 minutes after infusion ends; q12h intervals from the start of the infusion x 2; then at 0800H daily for at least one day. For HYDRATION: Continue IV fluid at 100-125mL/hour, to maintain urine output >60mL/hr. Measure strict in and out q1h x 24 hrs. For ALKALINIZATION: Continue pre-chemo alkalinization for 24 hours after infusion ends.
www.cancercare.on.ca/pdfchemo/hdmtx-osteo.pdf

[2]Enhancement of chemotherapy by manipulation of tumour pH. Raghunand N, He X, van Sluis R, Mahoney B, Baggett B, Taylor CW, Paine-Murrieta G, Roe D, Bhujwalla ZM, Gillies RJ. Arizona Cancer Center.

[3] www.cancerbackup.org.uk/Treatments/
Chemotherapy/Combinationregimen/Hyper-CVAD

[4]This drug is HIGHLY TOXIC and both powder and solution must be handled and administered with care. Inhalation of dust or vapors and contact with skin or mucous membranes, especially those of the eyes, must be avoided. Due to the toxic properties of mechlorethamine (e. g., corrosivity, carcinogenicity, mutagenicity, teratogenicity), special handling procedures should be reviewed prior to handling and followed diligently. Extravasation of the drug into subcutaneous tissues results in a painful inflammation. The area usually becomes indurated and sloughing may occur. If leakage of drug is obvious, prompt infiltration of the area with sterile isotonic sodium thiosulfate (1/6 molar) and application of an ice compress for 6 to 12 hours may minimize the local reaction. For a 1/6 molar solution of sodium thiosulfate, use 4.14 g of sodium thiosulfate per 100 mL of Sterile Water for Injection or 2.64 g of anhydrous sodium thiosulfate per 100 mL or dilute 4 mL of Sodium Thiosulfate Injection (10%) with 6 mL of Sterile Water for Injection.

[5]The study was funded by the Department of Cardiology at M. D. Anderson Cancer Center. Co-authors include Michael Ewer, M.D., Ann Tong, M.D., Daniel Lenihan, M.D., S. Wamique Yusuf, M.D., Joseph Swafford, M.D., Christopher Champion, M.D., Jean-Bernard Durand, M.D., Harry Gibbs, M.D., and Alireza Zafarmand, M.D. www.news-medical.net/?id=2919

[6]There has been considerable interest in the use of baking soda (sodium bicarbonate, NaHCO3) and potassium bicarbonate (KHCO3) to control powdery mildew and other fungal diseases of plants. The use of baking soda as a fungicide is not a new idea. In Alfred C. Hottes' A Little Book of Climbing Plants, published in 1933 by the A.T. De La Mare Co. of New York, mention is made of using one ounce of baking soda per gallon of water to control powdery mildew (PM) on climbing roses. The author credits the idea to a Russian plant pathologist, A. de Yaczenski. In the August, 1985 issue of Organic Gardening magazine, a short article by Warren Shultz entitled "Recipe for Resistance" reports that researchers in Japan obtained effective control of PM on cucumbers, eggplants, and strawberries. They suggested weekly sprays of ¼ ounce baking soda per gallon of water. An article in the June, 1990 issue of Greenhouse Manager magazine summarizes the results of three years of testing baking soda as a fungicide for roses. Cornell University researcher Dr. R. Kenneth Horst observed suppression of PM and blackspot—both major problems for New York rose growers. Roses were sprayed every 3 to 4 days with a water solution of baking soda and insecticidal soap.
attra.ncat.org/attra-pub/bakingsoda.html

[7]Sodium Carbonate and Sodium bicarbonate were equal and superior to the other salts for control of green mold on oranges. Commun Agric Appl Biol Sci. 2007;72(4):773-7.

[8]International Journal of Food Microbiology. Volume 109, Issues 1-2, 25 May 2006, Pages 160-163. Virucidal efficacy of sodium bicarbonate on a food contact surface against feline calicivirus, a norovirus surrogate Yashpal S. Malik and Sagar M. Goyal. Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota. **The virucidal efficacy of sodium bicarbonate was enhanced when it was used in combination with aldehydes or hydrogen peroxide.**

[9]Prof. Bernard Paul said, “I have used the baking soda to stop the spread of the "powdery mildew fungus" on the grapevine at a time when the disease was going out of control! It did not cure the grapevine but did stop the spread of the disease.”

[10] www.cancer.gov/cancertopics/pdq/

supportivecare/oralcomplications/HealthProfessional/page6

Bicarbonate and Rapid pH Shifts

Dr. Tullio Simoncini

Most of us were amazed to find out that there is an oncologist in Rome, Italy destroying cancer tumors with sodium bicarbonate.[1]Sodium bicarbonate is safe, extremely inexpensive and effective when it comes to cancer tissues. It is irresistible cyanide to cancer cells. **It hits the cancer cells with a shock wave of alkalinity,** which allows much more oxygen into the cancer cells than they can tolerate. Cancer cells cannot survive in the presence of high levels of oxygen. Sodium bicarbonate is, for all intent and purposes, a quick killer of tumors. Full treatment takes only a few weeks. Follow up treatments are highly recommended.

> One of the first patients I treated was an 11-year-old child, a case which immediately indicated that I was on the right track. The child arrived in a coma at the paediatric haematology ward around 11:30 in the morning, with a clinical history of leukaemia. Because of the child's disease he had been taken from a small town in Sicily to Rome, through the universities of Palermo and Naples, where he underwent several chemotherapy sessions. His desperate mother told me that she had been unable to speak with the child for 15 days; that is, since the child had been on his journey through the various hospitals. She said she would have given the world to hear her son's voice once again before he died. As I was of the opinion that the child was comatose both because of the proliferation of fungal colonies in the brain and because of the toxicity of the therapies that had been performed on him, I concluded that if I could destroy the colonies with sodium bicarbonate salts and at the same time nourish and detoxify the brain with glucose administered intravenously, I could hope for a regression of the symptoms.
>
> And so it was. After a continuous intravenous infusion of bicarbonate and glucose solutions, at around 7pm, when I returned to the university, I found the child speaking with his mother, who was in tears. [2]
> Dr. Tullio Simoncini

The bicarbonate transport system is a simple yet central part of our body's normal functioning. So it should come as no surprise that disruption of bicarbonate transport underlies many diseases.[3]HCO3- is impermeable to biological membranes. Specialized plasma membrane bicarbonate transport proteins (bicarbonate transporter) are therefore required to facilitate HCO3- movement into and out of cells. Because HCO3- is a base, bicarbonate transporter-mediated influx induces cellular alkalinization, while efflux causes acidification.

Physiologically the bicarbonate transport system serves to:

1-regulate cellular pH,
2-regulate whole body pH,
3-regulate cell volume and fluid secretion,
4-dispose of the body's major metabolic waste product (CO2/HCO3-).

Though we have known that oral intake of sodium bicarbonate will have the 'Simoncini" effect on oral, esophagus and stomach cancer no one has focused on the systemic effect of bicarbonate taken orally. Every cancer patient and every health care practitioner should know that oral intake of **sodium bicarbonate offers a strong shift of body pH into the alkaline.** So strong is the effect that athletes can notice the difference in their breathing as more oxygen (and thus CO2) is carried throughout the system as more acids are neutralized.[4]The difference can be stunning for those whose respiration is labored under intense exercise loading.[5]This tells us to take very seriously the oral use of bicarbonate for cancer treatment **no matter what other treatment is used.**

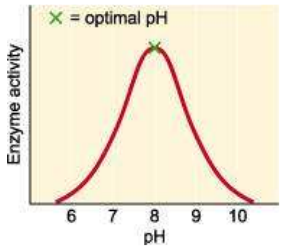
There are so many things to know about bicarbonate. A primary characteristic of it is its high pH. Bicarbonate has two roles in intestinal function: neutralization of stomach acid entering the intestine and water reabsorption. Neutralization of acid by bicarbonate is primarily accomplished by the high bicarbonate

concentration (125 mM) present in pancreatic fluid secreted into the intestine. In another chapter we will penetrate the pH story and establish it as a main barometer in health and medical treatment. One can push ones body pH up dramatically with bicarbonate.

Raising pH increases the immune system's ability to kill bacteria. This was the conclusion of a study conducted at The Royal Free Hospital and School of Medicine in London. This is a tip-off to an entirely new way allopathic medicine can look at disease and its treatment. By paying attention to basic physiology (pH) and effecting shifts from acid to alkaline we go a long way in reversing cancer and other chronic diseases.

All cancer sufferers, and in fact every chronic disease patient, should hold clearly in mind that **pH is the regulatory authority that controls most cellular processes.** The pH balance of the human bloodstream is recognized by medical physiology texts as one of the most important biochemical balances. Our body pH is very important because **pH controls the speed of our body's biochemical reactions.** It does this by controlling the speed of enzyme activity as well as the speed that electricity moves through our body - the higher (more alkaline) the pH of a substance or solution, the more electrical resistance that substance or solution holds.

Body pH level changes are intense in the profundity of their biological effects. Even genes directly experience external pH. Important changes in pH may not only affect the shape of an enzyme but it may also change the shape or charge properties of the substrate.[6] When pH is too acidic either the substrate cannot bind to the active site or it cannot undergo catalysis. Increased oxidative stress, which correlates almost exponentially with **pH changes into the acidic, is especially dangerous to the mitochondria,** which suffer the greatest under oxidative duress. Epigenetics, which may now have begun eclipsing traditional genetics, commonly describes how factors such as diet and smoking, rather than inheritance influence how genes behave.



Each enzyme works within quite a small pH range. There is a pH at which its activity is greatest (the optimal pH). This is because changes in pH can make and break intra- and intermolecular bonds, changing the shape of the enzyme and, therefore, its effectiveness.

Sodium bicarbonate injection is indicated in the treatment of metabolic acidosis, which may occur in severe renal disease, uncontrolled diabetes, and circulatory insufficiency due to shock or severe dehydration, extracorporeal circulation of blood, cardiac arrest and severe primary lactic acidosis. Sodium bicarbonate is further indicated in the treatment of drug intoxications, including barbiturates. **Sodium bicarbonate is effective in treating poisonings or overdoses from many chemicals and pharmaceutical drugs by negating the cardiotoxic and neurotoxic effects**. [7]

Substituting a sodium bicarbonate solution for saline infusion prior to administration of radiocontrast material seems to reduce the incidence of nephropathy.[8]
Dr. Thomas P. Kennedy
American Medical Association

It was over a year and a half ago that I was introduced to the work of Dr. Tullio Simoncini and I have concluded he deserves the thanks of humanity for bringing the power of sodium bicarbonate to the cancer world. I was introduced to him by Emma Holister, who runs the International Candida Foundation. It was not until a few weeks after being exposed to Dr. Simoncini's ideas that I saw Dr. Kennedy's statement and information from the U.S Army that forced my attention into high alert. Both the Army and Dr. Kennedy were saying that bicarbonate was effective in protecting the kidneys from radiation contamination.

Dr. Simoncini is a most noble person who was crucified[9]and had his license taken away. The reason why Dr. Simoncini was kicked out is because as an oncologist he refused to use conventional cancer

treatment methods. He chose instead to administer sodium bicarbonate (baking soda), which is harmless as opposed to the often lethal use of chemotherapy.[10]

"The therapeutic treatment of bicarbonate salts can be administered orally, through aerosol, intravenously and through catheter for direct targeting of tumors," says Dr. Tullio **Simoncini, whose** treatments with sodium bicarbonate are directed as specifically as possible to the organs involved. For example, vaginally as well as abdominally into the peritoneal space for cervical cancer, through the hepatic artery for liver cancer in order to get the solution as close to the affected area as possible.

Many have called me during this past year asking me how to reach Dr. Simoncini or others who are doing his intravenous and catheter treatments that often require interventionist radiologists. Communications have been very difficult with the good doctor who has been traveling much to spread the news that cancer is a fungus most easily treated by sodium bicarbonate. Please take a few moments to see the interview with him by Doug Kaufman.[11]

One does not have to spend 20,000 dollars to go to Rome though. Nor does one have to wait and worry in frustration looking desperately for a local doctor who will treat using the Simoncini's intravenous methods. Simoncini says that sodium bicarbonate administered orally, via aerosol or intravenously can achieve positive results only in some tumors. According to him, cancers such as the serious ones of the brain or the bones remain unaffected by his treatment. You will find in this book some new ideas about how to extend treatment into these hard to get to areas.

Dr. Simoncini still recommends radiation treatment for those with bone cancer. Imagine my surprise when I got a letter from an elated person who got a report back from his oncologist, after self administering sodium bicarbonate orally, that he had cured his bone cancer. The very day before, I had received a report from another doctor, who confirmed remission from stage two lung cancer, also after taking oral bicarbonate. For decades there have been reports of cancer remissions from bicarbonate taken orally but it is only now that we are receiving confirmed before and after tests from oncologists indicating its effectiveness.

Even Dr. Simoncini prescribes some oral bicarbonate when he gives his infusions. It is not a great leap to conclude that we do not in fact need orthodox doctors or dangerous hospitals flooded with drug resistant infections to take our bicarbonate. **Nor do we need to take our bicarbonate and mix it with extreme poisons to enjoy its anti-cancer benefits.** It does not say on the box mix with poisons and drink.

Dr. Simoncini's logic on the fungus argument is exceptionally tight and the fact that he has been able to readily reduce cancer sized by 1/2 or completely in a matter of days is something we need to pay attention to. However to use direct injection we run the risk of septicemia especially if it is I.V. People die in kidney dialysis not from kidney problem, but mostly from septicemia. Hence Dr. Simoncini's protocols that use catheters and intravenous methods are not practical for universal application like oral administration can be. Deaths and terrible bouts with infection are normal consequences of injection treatments; often this is just a mirror of hospital unsanitary behavior.

During these days I have been working with a man in Hawaii who has an out of control Candida infection in his intestines, something easily diagnosed as intestinal cancer. He is putting a cup of bicarbonate into a quart of water and using the mixture in his daily enemas. There are many ways to use bicarbonate. I had already published an essay on using bicarbonate with maple syrup and through these past months have received feedback from several people indicating positive results. Some had mixed the bicarbonate with black strap molasses or honey.

When I signed onto bicarbonate it was before I started my research into Simoncini's assertion that **CANCER IS A FUNGUS**. I did not need to buy into his conviction to understand that bicarbonate is a basic substance required for life and health and that it has many protective effects especially where the kidneys, vascular and nervous systems are concerned. In the end though, this book and author is totally in agreement with Dr. Simoncini though my definition of the condition of cancer extends quite a bit beyond. The title of the good doctors book **CANCER IS A FUNGUS** describes the central reality of cancer; its hard to imagine a cancer without an attached fungus.

Bicarbonate is an excellent antifungal. "Even patients who had been committed to mental hospitals have been helped by anti-fungal therapy. Other puzzling immunologic diseases, including multiple sclerosis, rheumatoid arthritis and lupus erythematosus, have responded better when attention was given to reduction of yeast and immune stress. **A wide spectrum of allergic disorders, from classical hay fever to**

chronic, delayed-onset type of food allergy and petrochemical sensitivity, have improved following anti-yeast therapy," says Dr. Elmer M. Cranton.[12]Sodium bicarbonate has its place in a wide spectrum of clinical disorders and it certainly has its place in oncology where dealing with what they call late stage fungal infections is important.

No one is perfect or carries the ultimate flag of medical truth up the summit alone. Dr. Simoncini is not to be faulted in assuming that oral usage cannot compete or even supersede intravenous and catheter administration methods. He made a similar mistake when he successfully applied topical iodine to stomp on skin cancer - but failed to realize iodine can be taken at high concentration levels internally through oral administration to do the same job on the inside that was already being accomplished on the outside on the skin.

"Methods allow the positioning of a small catheter directly in the artery that nourishes the neoplastic mass, allowing the administration of high dosages of sodium bicarbonate into the deepest recesses of the body. With this method, it is possible to reach almost all organs; they can be treated and can benefit from a therapy with bicarbonate salts." says Dr. Simoncini.

The conclusion of this author, however, is that this is not usually necessary. This is extremely good news for the world because it's almost impossible to find Simoncini influenced treatment centers. Besides, it is extremely expensive when one calculates in travel expenses to Rome or other far points in the world. The majority of humanity is still on the level of poverty that cannot afford expensive medical treatments and with world conditions set to get much worse this becomes even more of an issue.

My official position as director of the International Medical Veritas Association is that one should simply play the bicarbonate card with oral means and back it up with a full naturopathic protocol instead of a toxic one. Instead of surrounding bicarbonate with deadly pharmaceutical poisons, which most chemo agents are, we are going to surround it with other basic concentrated nutritional medicines like magnesium chloride, iodine, selenium and a full protocol of other known anti-cancer substances like vitamin C (not ascorbic acid). This is not to say I disavow the importance and need for intravenous application or the use of catheters to target tumors more directly and radically. It's another effect when you target tumors with concentrations of sodium bicarbonate. But if starting a protocol with bicarbonate at the center tomorrow resolves the problem quickly one does not have to progress to more radical and expensive treatments.

Be aware, however, when treating something as serious as cancer it is advantageous to have some kind of medical supervision from one of a number of different types of health care practitioners. There is indeed that much one needs to know and do. One would be making a serious mistake if they just gambled their life on bicarbonate. Though, if one was going to gamble, this is probably your best bet in the short term. In the long term nothing can substitute permanently for corrective changes in diet. You have a book in your hand though designed to convince you of just one thing: expose yourself to bicarbonate on a consistent basis.

Personally I keep in touch with bicarbonate by using it to brush my teeth everyday, as a deodorant, and for skin healing applications. I know people who shampoo with it and clean their houses with it. It probably can be used in many conditions that have not been directly explored but we know it's widely used for vaginal infections. You know that the dentists are hip to bicarbonate as it has finally found its way into their sonic cleaning devices. Lately I have been showing some signs of aging and am increasing my intake of bicarbonate to combat the probably acidic conditions from an over consumption of meat and dairy, both of which tend to create acidic conditions in the long run.

Doctors cannot legally use bicarbonate to treat cancer unless they add the chemo poisons to it. But regular doctors who do not subscribe to this insanity can use it to treat the acid conditions that are everyday parts of the condition we call cancer. It is almost impossible to find doctors who know or would be willing to administer bicarbonate IV treatments to cancer patients. So they will be relieved to be able to just send people home to take their oral dosages. Legally and medically it's not much different then telling people to taking some form of aspirin when suffering from a fever or headache. The big difference though is that sodium bicarbonate has a much better safety record than aspirin.

So instead of wrangling with frustration, give yourself a full course of bicarbonate remembering always that you are not going to rest the entire weight of your life on bicarbonate alone. One has to work with solid but basic medical principles. If one does not follow even the most basic common sense things what can one expect when it comes to winning ones personal war against cancer?

The most effective measure to treat RT-induced mucositis in patients

with head and neck cancer is frequent oral rinsing with a sodium bicarbonate rinse, to reduce the amount of oral microbial flora.[13]

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[1] candida-international.blogspot.com/2007/03/is-cancer-caused-by-candida-fungus.html

[2] candida-international.blogspot.com/2007/03/is-cancer-caused-by-candida-fungus.html

[3]Bicarbonate Transport in Cell Physiology and Disease. Emmanuelle Cordat and Joseph R. Casey. Membrane Protein Research Group, Department of Physiology1 and Department ofBiochemistry2 University of Alberta, Edmonton Canada T6G 2H7

[4]The breakdown of glucose or glycogen produces lactate and hydrogen ions - for each lactate molecule, one hydrogen ion is formed. The presence of hydrogen ions, not lactate, makes the muscle acidic that will eventually halt muscle function. As hydrogen ion concentrations increase the blood and muscle become acidic. This acidic environment will slow down enzyme activity and ultimately the breakdown of glucose itself. Acidic muscles will aggravate associated nerve endings causing pain and increase irritation of the central nervous system. The athlete may become disorientated and feel nauseous.

[5]By buffering acidity in the blood, bicarbonate draws more of the acid produced within the muscle cells out into the blood and thus reduce the level of acidity within the muscle cells themselves.

[6]Enzymes are protein catalysts that influence the rate of a reaction. The reactant substances upon which an enzyme acts are termed the substrates. The substances produced as a result of the reaction are the products. Enzyme-controlled reactions are mostly reversible and involve the formation of an intermediate enzyme-substrate complex.

[7]These include, Benzotropines (valium) cyclic antidepressants (amytriptayine), organophosphates, methanol (Methyl alcohol is a cheap and potent adulterant of illicit liquors) Diphenhydramine (Benedryl), Beta blockers (propanalol) Barbiturates, and Salicylates (Aspirin). Poisoning by drugs that block voltage-gated sodium channels produces intraventricular conduction defects, myocardial depression, bradycardia, and ventricular arrhythmias. Human and animal reports suggest that hypertonic sodium bicarbonate may be effective therapy for numerous agents possessing sodium channel blocking properties, including cocaine, quinidine, procainamide, flecainide, mexiletine, bupivacaine, and others.

[8]JAMA 2004;291:2328-2334,2376-2377.
www.urotoday.com/56/browse_categories/renal_transplantation_vascular_disease/sodium_bicarbonate_may_prevent_radiocontrastinduced_renal_injury.html

[9]"I am reliably informed that Mr. Simoncini has been erased from the Medical Register in his native country and is no longer permitted to practice medicine."

Yes I am well aware of this and what does this have to do with the price of beans? Medical truth and medical science happens to be independent of medical politics or medical law. For many doctors that I know this above fact would position Dr. Simoncini in a strong not weak position and you insult him further by calling him Mr. They can take away his license to practice medicine but they cannot undo his education and the respect due him and the fact that he is a doctor and has been and will be until he dies.

"I am also not aware of any evidence whatever that cancer is caused by a fungus, which is the fundamental tenet underpinning Simoncini's assertions."

I think you got it slightly wrong, he indicates cancer is a fungus not that it is caused by it. What causes cancer is diverse, many things have been scientifically shown to cause cancer or cause the conditions in which late state infections (cancer) invite yeast and fungi to form colonies that attach to sickly human cells...which are themselves one of the causes of cancer...as are heavy metals, pesticides, fluoride and on and on.....then of course we have the nutritional deficiencies that set the entire stage. Don't you know anything about cancer? We even have people who define people as multidimensional human beings meaning that sometimes or even often emotional trauma and shock or never ending stress and conflict disrupt the immune system severely weakening its ability to clear cancers from the system.

"While bicarbonate is undoubtedly a useful and legitimate instrument of therapeutic good in certain specific situations, it is not and never has been shown to be an effective approach to cancer, Simoncini's assertions notwithstanding."

Interesting that it is a standard part of chemotherapy, which can hardly be done without it.

[10] aromatherapy4u.wordpress.com/2008/08/05/974/

[11]ibid

[12]**CHRONIC FATIGUE IMMUNE DYSFUNCTION SYNDROME (CFIDS) Also Referred to as:YEAST SYNDROME or YEAST RELATED ILLNESSBy** Elmer M. Cranton, M.D.;

[13]Oncol Nurs Forum. 2002 Aug;29(7):1063-80. A research review of the current treatments for radiation-induced oral mucositis in patients with head and neck cancer.Shih A, Miaskowski C, Dodd MJ, Stotts NA, MacPhail

To Health Practitioners and Physicians

There are some important issues for healthcare practitioners to face with the materials and ideas presented in this book. The information offered will give the medical world a sense of vertigo because we consistently find that bicarbonate is being used in many instances and given no credit for the results.[1]It is a humbling experience to realize in one shocking illumination that the most humble medicine and food item is in fact one of the best if not the very best cancer treatment. But it is awe-inspiring to behold medical truth when it comes avalanching into our life and practice. We are being given a great tool with which to help our patients and ourselves.

Medical science knows that as we age we lose bicarbonates in the blood. Even with healthy people a noticeable decline begins at the age of 45. By age 90 we lose 18% of the bicarbonates in our blood. Bicarbonates are the alkaline buffers that neutralize acid, which results in the elimination of acidic waste in the body. Loss of bicarbonates hinders the blood from effectively managing the acid the body produces. This loss triggers the onset of acid-induced adult degenerative diseases such as acid reflux, kidney stones, diabetes, hypertension, osteoporosis, heart diseases, cancer, and gout.

Bicarbonate ions create the conditions for increased glucose transport across cell plasma membranes. As we will see later, it also helps magnesium get into the mitochondria. Hence, sodium bicarbonate should be of benefit in the treatment of diabetes, particularly Type 2 diabetes. Bicarbonate ions also create the alkaline conditions for maintaining the enzyme activity of pancreatic secretions in the intestines thus it should be of benefit in the treatment of pancreatitis. Bicarbonate ions neutralize the acid conditions required for chronic inflammatory reactions. Hence, **sodium bicarbonate should be of benefit in the treatment of a range of chronic inflammatory and autoimmune diseases.** Bicarbonate ions modify the acid conditions in osteoclast cells in bone and modify the acid conditions in Synovial Type A cells in joints thus it should be of benefit in the treatment of osteoporosis, osteoarthritis, and even bone cancer.

Bicarbonate ions neutralize the acid conditions required for acid protease enzyme activity as well as other lysosomal and endosomal enzyme activities. Therefore sodium bicarbonate should be of benefit in the treatment of many neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease, and many viral diseases such as influenza, HIV and SARS.

For practitioners of the healing arts bicarbonate is as useful and friendly as water. The two together make for powerful medicine. The bicarbonate story is actually fascinating, especially when you dig deeper. For instance we find out that intravenous vitamin C therapy, which is claimed to be an effective cancer treatment, is often given with sodium bicarbonate. “Given the amount of fluid, which is used as a vehicle for the ascorbate, sodium hydroxide/sodium bicarbonate is used to adjust the pH.”[2]

Sodium bicarbonate should be used as part of cancer treatment and not be considered a miracle cure since the term "miracle cure" translates into "quack cure" in the medical profession. Bicarbonate is no more a miracle than water. Though if you believe that life and water are miracles then one can understand miracles do occur in medicine. When we return to the basics of life, which include full hydration for health, we certainly can expect good things to happen. This book could have been called “The Water and Sodium Bicarbonate Cancer Treatment,” since it calls for bicarbonate and water. Even when bicarbonate is taken with honey, maple syrup or black strap molasses one still has to mind hydration issues for bicarbonate needs plenty of water to do its work.

In the case of sodium bicarbonate we don't have a miracle cure we have common sense basic biochemistry at work. It cleans up those toxic battle zones most people call cancer. Oncologist Dr. Simoncini had his license removed not for using bicarbonate, a drug that was deemed unsafe, but for treating cancer in an unapproved manner. This book is calling on all health care providers to get on the ball

with bicarbonate.

Legally we do not have to, nor should we say we are treating or trying to cure cancer. Let the legally authorized oncologists do their dirty work of trying to convince patients to treat their cancer with tests and treatments that cause cancer. That is their bailiwick and they are very happy about it. They have the government, the pharmaceutical companies and even the police on their side. Children and their parents do not have a choice when it comes to treating cancer. The authorities will probably call the police and social services to take the children if you disagree with their treatment plans. This is especially true if it looks like the parents are thinking about safer more productive alternatives.

This book is not saying that sodium bicarbonate
is the cure to cancer but it is saying that
almost every cancer patient should be taking it.

I am calling on every health care practitioner who reads this book to gather case studies and get that information back to me as quickly as possible. It will be used for publication of future editions of this book. **Sodium bicarbonate is a scientific medicine with known effects.** When a treatment can be looked at in a scientific light it can be more easily accepted. Sodium bicarbonate is such a treatment.

The fact that bicarbonate is extraordinarily inexpensive is meaningful to our practices. We already know how expensive full treatment programs are and it is sad when people cannot afford them. Now we have bicarbonate with the potential to play center forward on any cancer protocol for practically nothing. Bicarbonate has as its destiny in medicine to return us to a more humane form of medicine that cares about treating the masses, not just the affluent.

When we remember that a 20,000 dollar treatment is not affordable to five billion or more people on this planet we begin to understand that bicarbonate is offering medicine something truly astounding. The price of cancer drugs is rising at a rate of 15 percent per year, in particular as new and expensive biotechnology drugs hit the market. Some of these drugs may cost $100,000 or more for a course of treatment. Bicarbonate at just around two dollars suggests that pharmaceutical companies are overcharging.

Some people like health activist Mike Adams say that the real purpose of chemotherapy is not to extend life and cure patients from their cancer but, “To extract the life savings of cancer victims before they die.” The current contraction in financial markets and in the real economy is going to be a major force in changing modern oncology because all these people’s savings are being wiped out.

Let us all free the chained janitor in the basement and give him all the credit he deserves. Bicarbonate is a premier medicine/concentrated food substance that is a heavyweight contender in a line up of basic medicinal substances. No one should be without it.

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[1] With IV sodium bicarbonate still up and running, IV methotrexate (a chemotherapy agent) runs for four hours.
www.zenvirus.com/diary/chemotherapy-radiotherapy.html

[2] www.doctoryourself.com/riordan1.html

Sodium Bicarbonate

Yes, what is in this box can save your life. Sodium bicarbonate is a perfect medicine as is magnesium chloride and iodine. The use of antimicrobial agents (e.g., antibiotics, antiseptics, antifungal) plays an important part in current medical therapy. This is particularly true in the fields of dermatology as well as skin and wound antisepsis. Effective treatments for skin or mucous membranes, which are afflicted with bacterial, fungal, or viral infections or lesions, frequently include the use of topical antimicrobial agents.

Sodium Bicarbonate has successfully proven its antifungal value in agriculture to resolve fungal issues in vegetation, including many destructive diseases such as anthracnose, powdery mildew, black spot in crops and horticultural industries. It has been successfully used to protect crops from fungus during storage.

Dr. H. Takeuchi et al in Japan analyzed 20 cases of urinary fungal infection. Candida albicans was the most prevalent of the fungi affecting the urinary tract. Torulopsis glabrata and Candida tropicalis were also prevalent. Antibiotics, indwelling catheter and obstructive uropathy were the most prevalent predisposing factors of the fungal infection. Of 20 cases of fungal infection, 5 cases were cured only by elimination of the predisposing factors. **15 cases were treated and resolved by administration of sodium bicarbonate,** 5-fluorocytosine and or irrigation with amphotericin B. But one case of bilateral renal torulopsiosis developed into renal failure, and 4 cases died of the primary disease.[1]

Sodium bicarbonate neutralizes acids present in gases (in particular hydrochloric acid, suphur dioxide, hydrofluoric acid) to form sodium salts (sodium chloride, sodium sulphate, sodium fluoride, sodium carbonate), which are all known as Residual Sodium Chemicals. Sodium bicarbonate can be made into a paste salve with vinegar, it relieves burning from bug stings (particularly bee stings), poison ivy, nettles, and sunburn. It is used as an antacid to treat acid indigestion and heartburn. Mixed with water in a 10% solution can soften earwax for removal.

Sodium bicarbonate possesses the property of absorbing heavy metals, dioxins and furans. *Comparison of cancer tissue with healthy tissue from the same person shows that the cancer tissue has a much higher concentration of toxic chemicals, pesticides, etc.*

Because sodium bicarbonate has long been known and is widely used, it has many other names including sodium hydrogen carbonate, sodium bicarb, baking soda, bread soda, cooking soda, bicarb soda, saleratus or bicarbonate of soda. It is soluble in water. This white solid is crystalline but often appears as a fine powder. It has a slight alkaline taste resembling that of sodium carbonate. It is a component of the mineral natron, which is found dissolved in many mineral springs. It is also produced artificially. World wide production is on the scale of 100,000 ton/year. Sodium bicarbonate is primarily used in cooking (baking) where it reacts with other components to release carbon dioxide, which helps dough "rise."

Sodium bicarbonate administration increases urinary pH. Urinary pH between 6.5 and 7.0 can keep uric acid ionized and prevent its crystallization in renal tubules.

Sodium bicarbonate powder mixed with water is a very effective first aid remedy. This can be used as a mouth rinse and can be swallowed. Bicarbonate is a natural buffering compound manufactured daily in large quantities by the body. Canker sores (aphthous ulcers) are tiny ulcerations that occur in the oral cavity on or near the tongue and on the inner mucous membrane of the lip. They can be very painful to the point of

interfering with speech and eating. They also tend to heal slowly. The source of the problem is usually an acid condition in the body caused by food or chemical allergies. Sodium bicarbonate is effective for canker sores and ulcers.

It is commonly used to increase the pH and total alkalinity of the water for pools and spas. Sodium bicarbonate can be added as a simple solution for restoring the pH balance of water that has a high level of chlorine. It is sometimes used in septic tanks to control pH and bacteria.

Sodium bicarbonate-rich mineral water in conjunction with a low-salt diet may have a beneficial effect on calcium homeostasis.[2]

The native chemical and physical properties of sodium bicarbonate account for its wide range of applications, including cleaning, deodorizing, buffering, and fire extinguishing. Sodium bicarbonate neutralizes odors chemically, rather than masking or absorbing them. Consequently, it is used in bath salts and deodorant body powders. Sodium bicarbonate tends to maintain a pH of 8.1 (7 is neutral) even when acids, which lower pH, or bases, which raise pH, are added to the **solution**. Its ability to tabletize makes it a good effervescent ingredient in antacids and denture cleaning products. Sodium bicarbonate is also found in some anti-plaque mouthwash products and toothpaste.

pH of the blood is the most important factor to determine the state of the microorganisms in the blood.

Sodium bicarbonate also is indicated in severe diarrhea which is often accompanied by a significant loss of bicarbonate. Vigorous bicarbonate therapy is required in any form of metabolic acidosis where a rapid increase in plasma total CO2 content is crucial † e.g. cardiac arrest, circulatory insufficiency due to shock or severe dehydration, and in severe primary lactic acidosis or severe diabetic acidosis.

Research suggests that administering sodium bicarbonate in intravenous (IV) form can significantly improve pH and Pco2 in children with life-threatening asthma. Respiratory distress and level of consciousness both improved after the administration of sodium bicarbonate [3]

Sodium Bicarbonate Injection: USP is administered by the intravenous route. In cardiac arrest, a rapid intravenous dose of one to two 50 mL vials (44.6 to 100 mEq) may be given initially and continued at a rate of 50 mL (44.6 to 50 mEq) every 5 to 10 minutes if necessary (as indicated by arterial pH and blood gas monitoring) to reverse the acidosis. Caution should be observed in emergencies where very rapid infusion of large quantities of bicarbonate is indicated. Bicarbonate solutions are hypertonic and may produce an undesirable rise in plasma sodium concentration in the process. of correcting the metabolic acidosis. In cardiac arrest, however, the risks from acidosis exceed those of hypernatremia.

> Two minutes after intubation, premature ventricular contractions, ventricular fibrillation, bradycardia, and finally cardiac arrest were recognized. An increase of serum potassium from 3.19 to 8.64 mmol/L was observed in arterial blood. The patient was immediately resuscitated with chest compressions, intravenous adrenaline, atropine, lidocaine, and sodium bicarbonate.[4]

If the body's cellular metabolism and pH is balanced it is susceptible to little illness or disease.

Most people today cringe at the idea of finding a cancer then find themselves slashing, burning and poisoning it to smithereens. Most would agree that the mainstream cancer approach offers only marginal benefits at best. Providers push screening and aggressive treatment in part because they have nothing else to give and it is also very profitable. Bicarbonate, on the other hand is dirt cheap.

Sodium bicarbonate can be used with other non-prescription drugs for short-term treatment of various conditions to treat anything from fever to moderate pain.

Dr Tullio Simoncini says, "It is useful to consider the extreme sensitivity of fungi to saline and electrolytic solutions. These solutions, because of their extreme capacity for diffusion, are able to reach all the myceliar biological expressions, including the most infinitesimal ones. **Salts and bicarbonates, by making the "terrain" completely inorganic, eliminate the slightest organic fonts that fungi could use for nourishment.** In this context, sodium bicarbonate, which is currently used in children's oral candidoses, appears to be a simple and handy weapon capable of uprooting, inhibiting, or attenuating any neoplastic formation wherever it is possible to easily apply it."

Cancer is actually a four-letter word — ACID, especially lactic acid as a waste product due to the low oxygen level and waste products of yeast and fungus.

To assess statistically the efficacy of sodium bicarbonate baths in psoriasis patients, thirty-one with mild-moderate psoriasis were studied. Almost all patients who used NaHCO3− reported a statistically valuable improvement. NaHCO3− baths reduced itchiness and irritation; in general, the patients themselves recognized a beneficial impact on their psoriasis, so much so that they have continued to bathe in NaHCO3− even after the end of the study.[5]patients combine this with transdermal magnesium therapy and one will have a clear resolution of psoriasis.

Vigorous bicarbonate therapy is required in any form of metabolic acidosis where a rapid increase in plasma total CO2 content is crucial, e.g. cardiac arrest, circulatory insufficiency due to shock or severe dehydration, and in severe primary lactic acidosis or severe diabetic acidosis. Caution should be observed in emergencies where very rapid infusion of large quantities of bicarbonate is indicated. Bicarbonate solutions are hypertonic and may produce an undesirable rise in plasma sodium concentration in the process of correcting the metabolic acidosis. In cardiac arrest, however, the risks from acidosis exceed those of hypernatremia. If you take too much bicarbonate orally one will feel ones body resisting further ingestion.

Sodium bicarbonate injection is also indicated in the treatment of metabolic acidosis which may occur in severe renal disease, uncontrolled diabetes, and circulatory insufficiency due to shock or severe dehydration, extracorporeal circulation of blood, cardiac arrest and severe primary lactic acidosis. Sodium bicarbonate is further indicated in the treatment of drug intoxications, including barbiturates. Sodium carbonate has been found effective in treating poisoning or overdose from many chemicals and pharmaceutical drugs by **negating the cardiotoxic and neurotoxic effects.** [6]

An extremely simple therapy used by physicians who treat autism is to supply a mild antidote that neutralizes the excess acids. The most convenient product is a nonprescription drug called AlkaSeltzer Gold™. Do not use any other kind of AlkaSeltzer™. AlkaSeltzer Gold™ is simply a very safe product (sodium and potassium bicarbonate) that helps to neutralize excess acids of any kind.
Dr. William Shaw
Biological Treatments for Autism and PDD

One mother wrote, “It worked so well for both of my children that the die-off was an uneventful experience, even though they both had very high levels of yeast.” The restoring of acid/alkaline balance also relieves many allergies. “These children also had grave disturbances in electrolyte chemistry, and tended to be acidotic (low CO). The data that unfolded was fascinating and clearly earmarked the acidosis and hypoxic state (low serum bicarbonate = low O2 levels). Potassium bicarbonate, sodium bicarbonate, magnesium carbonate and the like were used. Now we began to understand why so many children responded to Buffered C (potassium bicarbonate, calcium carbonate, magnesium carbonate), and others needed a more specific buffer (in some children for example niacin was grossly depleted and they required niacin bicarbonate),” wrote Patricia Kane.

The acid/alkaline balance is one of the most overlooked aspects of health, though many have written much about it. In general, the American public is heavily acid, excepting vegetarians.

Viruses and bacteria that cause bronchitis and colds thrive in an acidic environment. To fight a respiratory infection and dampen symptoms such as a runny nose and sore throat, taking an alkalizing mixture of sodium bicarbonate and potassium bicarbonate will certainly help. It could and should be taken during an asthma attack and for severe headache as well as many other common aliments.

Sodium bicarbonate is commonly used as an antacid for short-term relief of stomach upset, to correct acidosis in kidney disorders, to make the urine alkaline during bladder infections and to minimize uric acid crystallization during gout treatment. Prescription sodium bicarbonate products are given by injection to treat metabolic acidosis and some drug intoxications. Sodium bicarbonate is available as a nonprescription medical as well as a general house hold item. It is also used with other non-prescription drugs for short-term treatment of various conditions to treat anything from fever to moderate pain.

Sodium bicarbonate-rich mineral water in conjunction with a low-salt diet may have a beneficial effect on calcium homeostasis.[7]

Distilled water is not safe. It lacks bicarbonates and minerals and yes, it is acid forming to the body. Yet it is an excellent aid in detoxification and chelation for its purity pulls on toxicities in the body. Part of the reason why our body is acid is that it lacks enough bicarbonate necessary to neutralize the acid. Whenever the water lacks the proper bicarbonates to neutralize the water in distilled water your body basically becomes a little more acid. But we can easily treat distilled or reverse osmosis water by adding bicarbonate and magnesium. Perhaps even adding some sodium thiosulfate would be a good idea.

pH of the blood is the most important factor to determine the state of the microorganisms in the blood.

In the current system, if a promising compound can’t be patented, it is highly unlikely ever to make it to market — no matter how well it performs in the laboratory or in emergency room situations. The hormone **melatonin**,[8]sold as an inexpensive food supplement in the United States, has repeatedly been shown to slow the growth of various cancers when used in conjunction with conventional treatments. Dr. Paolo Lissoni, another Italian oncologist has written many articles about this hormone and conducted clinical trials. But he has despaired over the pharmaceutical industry’s total lack of interest in his treatment approach.

The great variety of cancers must reflect a fundamental mechanism by which the disease arises, one that has not been so clearly apparent until now.

Though allopathic medicine already uses sodium bicarbonate it will not any day soon turn to its own arsenal of already available safe and inexpensive medications like sodium bicarbonate or magnesium chloride.

Sodium bicarbonate is an anti-fungin substance that is very diffusible and thus very effective.

For centuries, medicated baths have been one of the first lines of treatment for psoriasis. Even today, with sophisticated immunosuppressive treatments available, Dead Sea salts and spa waters are recognized to be beneficial in the management of psoriatic patients. To assess statistically the efficacy of sodium bicarbonate baths in psoriasis patients, thirty-one patients with mild-moderate psoriasis were studied.

Almost all patients who used NaHCO3− reported a statistically valuable improvement. NaHCO3− baths reduced itchiness and irritation; in general, the patients themselves recognized a beneficial impact on their psoriasis, so much so that they have continued to bathe in NaHCO3− even after the end of the study. [9]

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[1] Takeuchi H, Arai Y, Konami T, Ikeda T, Tomoyoshi T, Tatewaki K. Hinyokika Kiyo. 1983 Oct;29 (10):1273-7.

[2] Effect of sodium chloride- and sodium bicarbonate-rich mineral water on blood pressure and metabolic parameters in elderly normotensive individuals: a randomized double-blind crossover trial. J Hypertens. 1996 Jan;14(1):131-5. Department of Internal Medicine, Universitatsklinikum Benjamin Franklin, Free University of Berlin, Germany.

[3] Buysse CMP, de Jongste JC, de Hoog M. Life-threatening asthma in children: treatment with sodium bicarbonate reduces Pco2. Chest. 2005;127:866-870.

www.pulmonaryreviews.com/jun05/sodium.html

Corinne M. P. Buysse, MD, and colleagues retrospectively evaluated the use of sodium bicarbonate in 17 children with life-threatening asthma. Sixteen of these children had acidosis, indicating severe respiratory distress. The acidosis was classified as mixed respiratory and metabolic in 13 patients, predominantly respiratory in one patient, and metabolic in two patients. In one patient, the initial blood gas values before administration of sodium bicarbonate in the referring hospital could not be traced. A new protocol was initiated using IV magnesium sulfate and IV sodium bicarbonate as adjunctive therapy when respiratory distress persisted despite standard treatment. According to Dr. Buysse, a pediatric intensivist at the Erasmus MC–Sophia Children's Hospital in Rotterdam, Netherlands, "Administration of sodium bicarbonate was associated with a significant decrease in Pco2 in 17 children with life-threatening asthma. Improvement of respiratory distress was observed as well."

[4] www.pccmjournal.com/pt/re/pccm/abstract.00130478
-200703000-00016.htm;jsessionid=LftNGWdNXk8fRr0qDpdfkh
grCQv9J5NGSPxffZnG HNpJ5mTY7sXQ!542054210!181195628!8091!-1

[5] Old fashioned sodium bicarbonate baths for the treatment of psoriasis in the era of futuristic biologics: An old ally to be rescued; Journal of Dermatological Treatment; Volume 16, Number 1/February 2005

[6] These include, Benzotropines (valium) cyclic antidepressants (amytriptayine), organophosphates, methanol (Methyl alcohol is a cheap and potent adulterant of illicit liquors) Diphenhydramine (Benedryl), Beta blockers (propanalol) Barbiturates, and Salicylates (Aspirin). Poisoning by drugs that block voltage-gated sodium channels produces intraventricular conduction defects, myocardial depression, bradycardia, and ventricular arrhythmias. Human and animal reports suggest that hypertonic sodium bicarbonate may be effective therapy for numerous agents possessing sodium channel blocking properties, including cocaine, quinidine, procainamide, flecainide, mexiletine, bupivacaine, and others.

[7] Effect of sodium chloride- and sodium bicarbonate-rich mineral water on blood pressure and metabolic parameters in elderly normotensive individuals: a randomized double-blind crossover trial. J Hypertens. 1996 Jan;14(1):131-5. Department of Internal Medicine, Universitatsklinikum Benjamin Franklin, Free University of Berlin, Germany.

[8] One of the most important supplements for the breast cancer patient is high doses of the hormone melatonin at bedtime. Melatonin blocks estrogen receptors somewhat similarly to the drug tamoxifen without the long-term side effects of tamoxifen. Further, when melatonin and tamoxifen are combined, synergistic benefits occur. Melatonin can be safely taken for an indefinite period of time. The suggested dose of melatonin for breast cancer patients is 3 mg to 50 mg at bedtime. Caution: Although melatonin is strongly recommended for breast cancer patients, interleukin-2 (IL-2), which often is combined with melatonin, should be avoided by breast cancer patients. IL-2 may promote breast cancer cell division. www.lef.org/magazine/mag99/jan99-protocols.html

[9] Old fashioned sodium bicarbonate baths for the treatment of psoriasis in the era of futuristic biologics: An old ally to be rescued; Journal of Dermatological Treatment; Volume 16, Number 1/February 2005

Pain Relief from Oral Bicarbonate

Pancreatic secretion of bicarbonate decreases in severe malnutrition in spite of increased flow rate of pancreatic secretion.[1]

HCO3- enters duct cells across the basolateral membrane via a Na+-HCO3- cotransporter (NBC), thought to transport 1 Na+ for 2-3 HCO3-. Other studies show that HCO3- entry is also indirect, involving CO2 permeation, hydration by the carbonic anhydrase to HCO3- and H+, after which H+ is extruded out of the cell by the Na+-H+ exchanger, and/or the H+ pump. Since inhibition of carbonic anhydrase decreases HCO3- secretion by 60-80 % in most species, and since other lipid-soluble buffers can substitute for HCO3-/CO2, these two systems are important in secretion.[2]

Uses for Other Disorders

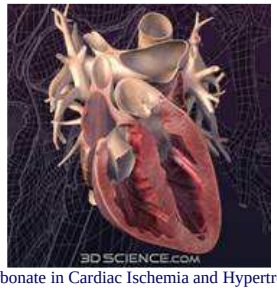
Sodium Bicarbonate has attractive and potent analgesic qualities. Dr. Tullio Simoncini recommends that his cancer patients, undergoing his bicarbonate protocols usually via IV administration, take 1 tsp. of sodium bicarbonate mixed in water per day, for pain control as well as to assist in keeping an alkaline internal environment. We are of course dropping the IV administration as a general recommendation. Though, for some cases it might be appropriate.

Many people have found bicarbonate to be significant to relieve unrelenting headaches as well as pain relief due to physical injury. Within minutes headaches begin to subside and are often completely gone within 30-60 minutes. "After suffering from a 4 hour long blinding headache for which nothing I took brought any relief. I tried the sodium bicarbonate with 1 tsp mixed in a glass of water. Within a few short minutes I could feel the headache abating and within the hour it was completely relieved! I tried this again when another headache occurred, and it worked just as miraculously."

“After suffering a shoulder injury that caused so much pain after even a few minutes of computer typing, and with none of the natural pain relieving methods providing much relief, sodium bicarbonate was suggested at the 2 hour dosing schedule.”

Sodium chloride 0.9%, or sodium bicarbonate are as effective as any other cerumenolytic ear drop.[3]

"This is the best pain reliever of all the ones I have been trying. I am amazed that something so simple would be so potent! I haven't exceeded 7 a day; but wish I could. It takes the pain away for about 2 hours. Nothing seems to work more then 2 hours at a time."



Bicarbonate in Cardiac Ischemia and Hypertrophy.

Regulation of cardiomyocyte pH is critical to: 1. cardiac contractile function under normal conditions, 2. myocyte survival following ischemia and 3. hypertrophic heart growth. In cardiac ischemia and hypertrophy, the alkalinizing role of the myocardial Na+/H+ exchanger, NHE1, has a central role. Here we will investigate in a less-studied direction: control of myocyte pH by Cl-/HCO3- exchangers (AE). Cl-/HCO3- exchangers can contribute to either alkalinization or acidification, depending on the directions of the transmembrane Cl- and HCO3- concentration gradients. Since control of cytosolic pH is critical to survival following ischemia, we propose to study the role of Cl-/HCO3- exchanger isoforms during recovery from ischemic acidosis. In studies of cardiac hypertrophy we found that the carbonic anhydrase inhibitor, ethoxyzolamide, prevents and reverts cardiomyocyte hypertrophy. We will explore the role of the hypertrophic transport metabolon in the progression of cardiac hypertrophy in animal models and in human heart biopsies.

[1] Impaired pancreatic bicarbonate secretion in chronic malnutrition. Indian pediatrics ISSN 0019-6061 1995, vol. 32, no3, pp. 323-329 (24 ref.)

[2] The Journal of Physiology , Ishiguro et al. (2000) use perfused interlobular ducts (100-150 µm in diameter) from guinea-pig pancreas and pHi measurements to study HCO3- permeability.

[3] Sodium bicarbonate 5% ear drops. Age from 6 months onwards. Sodium bicarbonate ear drops. Put 3 to 4 drops into the affected ear(s) 3 to 4 times a day for 3 to 5 days. cks.library.nhs.uk/earwax/view_whole_guidance
Alternate and use with iodine to combat ear infections.

Indications from Unlikely Places

Children with cancer often require pediatric intensive care; and thanks to such care, many of them have been able to overcome their leukemia. Intensive care resources are used even in incurable cases. Specifically used in order to relieve immediate symptoms and improve the quality of life. Practically all organs may be affected by cancer or by its treatment. The main complications include infections, hematological problems and electrolyte/ metabolic disturbances. Intensive care therapy is necessary to correct organic dysfunctions (cardiovascular, respiratory, renal, gastrointestinal, and neurologic).

Intensive care therapy in children with cancer is not futile. There has been seen a reduction in mortality and an improvement in the quality of life for these children in the medium and long terms. There is something being done to these children that is improving their survival rates.

> On day 5 of chemotherapy, he was admitted to our intensive care unit (ICU) with tumor lysis syndrome (urate 24.6 mg/dl, LDH 1120 U/l, phosphate 4.0 mmol/l) and acute renal failure (BUN 122 mg/dl, creatinine 3.3 mg/dl) (normal range: urate 3.5–7.0 mg/dl, LDH 0–248 U/l, phosphate 0.81–1.53 mmol/l, creatinine 0.7–1.3 mg/dl, BUN 16.7–45.8 mg/dl). He was treated with hydration, **sodium bicarbonate** and 16.5 mg (0.2 mg/kg) of rasburicase for 3 days. Uric acid levels dropped to 0.1 mg/dl on the next day and remained low during the following days (Figure 1). **Renal function improved and at discharge from hospital, plasma urate and creatinine were within the normal range.**

Dr. Rberto Sapolnik indicates that the interaction between the intensive care team and oncologists allows for the solution of extremely life-threatening situations for children with Leukemia. Intensive care in children with cancer is crucial for the improvement of survival rates of these children, with an increasing number of reports on the cure of neoplastic diseases.

Dr. Sapolnik writes, “Neoplasms are the second most common cause of death in children aged between 1 and 15 years throughout most of the world, being outrivaled only by accident-related traumas. 1 Leukemia is the most frequent type of childhood cancer, followed (in decreasing order) by brain tumor, lymphomas, sarcoma, and ectodermal tumors. Tremendous development has been made in cancer treatment in the last twenty years, especially with the advent of new chemotherapy drugs, radiotherapy and bone marrow transplant. However, these new therapies may cause several side effects and compromise almost all the organic functions. Cancer itself may cause clinical complications with immediate life threat, such as spontaneous tumor lysis syndrome or tumor compression causing renal insufficiency or intestinal obstruction. **Children with cancer often require pediatric intensive care; and thanks to such care, many of them have been able to overcome the most acute phase of the disease.**”

Something is happening in the intensive care wards that are not being explained or understood. Perhaps the intensive care staffs are unwittingly killing off the yeast, fungi and molds (cancer) that are choking off the life force of these unfortunate children. If Leukemia turns out to be a fungal infection of white blood cells called leukocytes then all will be explained.

When fungal colonization and mycotoxin contamination is maximal one finds cancer growing and mestastizing at a maximal rate.

Doctors in general are not very good at diagnosing fungal infections because their medical school training is based so heavily on the role of bacteria and viruses in the area of infectious diseases. Fungi have been a forgotten foe ever since the advent of antibiotics and this is perhaps one of biggest mistakes of allopathic medicine. The overuse and/or even occasional use of antibiotics can lead directly to deadly fungus infections. Laboratories display the same difficulty in diagnosing fungal infections: current tests for detecting the presence of fungi are both terribly scant and sorely antiquated. This is a serious problem for **fungi are late stage infections that are provoking or accompanying a range of life threatening diseases.**

Dr. Simoncini states, “At the moment, against fungi, there is no useful remedy other than, in my opinion, sodium bicarbonate. The anti-fungins that are currently on the market, in fact, do not have the ability to penetrate the masses (except perhaps early administrations of azoli or of amfotercin B delivered parenterally), since they are conceived to act only at a stratified level of epithelial type. In order to achieve the most detrimental effect on the tumors, the sodium bicarbonate must be put in direct contact with the damaged tissue. It is also possible to put specific catheters (port-a-cath) in the arteries that run to the different conventional endoscope methods. Furthermore there can be used clysters, drip infusions, irrigations and infiltrations at the places where the tumor has grown.”

Foundational Bicarbonate Physiology

Dr. Parhatsathid Napatalung

Without sufficient bicarbonate buffer, the effect of disease is far reaching as the body becomes acid. The brain glial cells that produces sodium nitrite (a chemical messenger Nitric Oxide which has broad body's physiology) necessary to control blood pressure and immune system suddenly degrades in presence of acidic pH and it is converted into nitric oxide gas, which more or less in a blood medium with water becomes nitric acid.

What's more interesting is the chemical messenger signals nitric oxide can't be transported to other parts of the body, especially far distance necessary to kill pathogens. Since nitric oxide is destroyed before reaching that area. This is why diabetics get their legs cut off whenever the leg has an infection.

There simply isn't enough alkalinity to transport the sodium nitrite to the extremities. Case in point, this idea can be demonstrated, take sodium nitrite and put in weak acid solution of any kind, whether they are citric acid, vinegar, or even ascorbic acid. The sodium nitrite will immediately degrade and convert itself to nitric oxide. However in a pH neutral or slightly alkaline solution, the sodium nitrite is stable. This means the sodium nitrite, if the blood has sufficient bicarbonates, can reach their target organs as intended. It is like if your body is acid, the telephone lines are cut off. In this case the chemical messenger is destroyed in an acid blood so lines of communication indeed are cut off.

Where does Nitric Oxide come in? Well nitric oxide causes the blood vessels to relax, thus reducing blood pressure and increase blood circulation. With increase blood circulation you get better immunity.

Bacteria, viruses and fungus are killed likewise. Assuming the sodium nitrite reaches the target infected organs. Since is a known fact that bacteria, viruses, and fungus produces waste materials that are acid, **the acid will react with sodium nitrite to produce nitric acid**. **When this occurs living bacteria, fungus and bacteria get literally nuked with nitric acid.** So in an alkaline blood medium, the sodium nitrite is more directed directly to the target pathogens to kill them. As you can see I have effectively dealt with autoimmunity in many cases including lupus. Baking soda really did help in many cases. **The remedy I used for autoimmunity in fact is 1/2 teaspoon of baking soda in a glass of water twice a day.**

In the event of a person with insufficient bicarbonates, and assuming the pancreas is acid, not only is the acidity killing it, but you literally come down with an autoimmune disease where your body attacks the pancreas. It is not just the acid, but destruction is also happening from the chemical messenger sodium nitrite that nukes you instead of the targeted pathogens. In other words you become enemy to yourself. Since the pathogens didn't get nitric acid but are destroyed by the body's own acid, it gives the pathogen an ideal playground to damage us, especially places where it is further from the brain, which produces the chemical messenger molecule.

The Ultimate Mitochondrial Cocktail

Magnesium Bicarbonate

There are good reasons many believe that there is nothing in mainstream medicine that addresses de-acidification, detoxification, fixing nutritional deficiencies, modulating and boosting the immune system, and increasing full body circulation. Medical science has failed in its attempts at curing degenerative, metabolic, or autoimmune diseases. Without removing toxins and acids from all organs, cells and tissues, and without providing the essential nutritional building blocks like magnesium, the body will not be able to heal completely.

Unless a treatment actually removes acid toxins from the body and increases oxygen, water, and nutrients most medical interventions come to naught. With most allopathic medicines themselves being mitochondrial poisons, what happens is that they often change the symptom picture that then almost always drives disorders into a deeper chronic state. When the body's tissues and cells become too acidic in conjunction with mitochondrial deficiency we set the stage for tissue inflammation and degeneration as we become breeding grounds for anaerobic pathogens.

It is time for allopathic medicine to understand that viruses, bacteria and fungi all thrive in acid conditions. Why is this so hard for orthodox doctors to understand? Tissues and cells are like factories with furnace mitochondria everywhere and everything gets very dirty with acid wastes that have to be cleared away every millisecond we are alive. There is no way around the reality that metabolism creates acid waste that can accumulate quite rapidly under the right conditions.

Increased oxidative stress, which correlates almost exponentially
with ph changes into the acidic, is especially dangerous to the mitochondria, which suffer the greatest
under oxidative duress.

Many in the alternative health field believe that there is not one drug on the market that reduces the acidity of the body or addresses any king of nutritional deficiency. This is not true! There happens to be two exceptional medicines that are excellent in addressing most of the issues mentioned above. **Magnesium chloride and sodium bicarbonate are both considered medicines in their injectable forms and both provide almost immediate relief to physiological disturbances.**

Patients receiving sodium bicarbonate achieved urine pH's
of 6.5 as opposed to 5.6 with those receiving sodium chloride.
This alkalinization is theorized to have a protective effect against
the formation of free-radicals that may cause nephropathy.4
Dr. Michael Metro

One of the fundamental approaches to medicine has to be the alkalinization of the body so it can dispose acids from our cells tissues, and organs. We can do this in many ways but often doctors have to do this in quick ways in emergency situations. Other times, when we have cooperative patients we can use food as medicines and accomplish things gradually with time.

The most powerful alkalizing foods on the planet are the ones that are highest in chlorophyll. In the second edition of my *Transdermal Magnesium Therapy* book is a chapter called *The Lamp of Life* and it's about the central role that magnesium has in life. It is also the central atom in the chlorophyll molecule. Without magnesium, without chlorophyll, life simply does not exist.

You just can't beat the cell-restoring potential of green foods such as wheat, barley, kamut, alfalfa, and oat grasses along with spirulina and chlorella. These foods are all high in magnesium and act readily as food medicines. They are thousands of times more powerful than ordinary green vegetables, because they are super concentrated in chlorophyll, alkaline minerals, rare trace minerals, vitamins, phyto-nutrients, and enzymes. My favourite has always been spirulina and I include it in all my protocols.

Though I believe in the power of raw food diets and healing medical approaches like the Gerson Diet, today we need exceptionally powerful medicinal medicines that are not really medicines in the way we normally think of medicines. **Both sodium bicarbonate and magnesium chloride are common items that when not injected are considered foods safe for consumption.** Luckily for everyone these two substances are affective for chronic and acute disorders when used orally and transdermally; we do not need to go to the emergency room for injections.

This chapter is specifically about the dynamics of using these two substances together. They offer a combination therapy that is natural, effective and safe and can be used readily with other protocol items, medicines and healing processes. Add some sun (vitamin D), iodine, ALA and Vitamin C and we will go a long way of helping the pharmaceutical giants to an early grave.

Magnesium bicarbonate is a complex hydrated salt that exists only in water under specific conditions. There are, however, a few companies sell magnesium bicarbonate formulas. The magnesium ion is $Mg2+$, and the bicarbonate ion is $HCO3-$. So, magnesium bicarbonate must have two bicarbonate ions: $Mg(HCO3)2$. Magnesium chloride and sodium bicarbonate taken at full strength with water at slightly separated times are an ideal way to supply magnesium ions and bicarbonate ions to body cells.

Magnesium and bicarbonate rich mineral waters
are easily absorbed and have many health benefits.

Likewise, in small doses, the two together make up an ideal treatment system for distilled and reverse osmosis water.[1]Adding these two substances to taste not only will remineralise highly processed water but will provide the body with a constant supply of the ultimate mitochondrial cocktail. Good drinking water would contain approximately 125 mg of magnesium and 650 mg of bicarbonate per litre.[2]When consumed together magnesium chloride and sodium bicarbonate work very well together to combat basic physiological problems.

When our tissues become too acidic and lacking in
magnesium necessary for ATP production cellular
metabolism drops off and this can lead to obesity and diabetes.

Few clinicians are aware how these two substances work to enhance each other – they are mutually reinforcing because magnesium functions as a bicarbonate co-transporter into cells. And **bicarbonate acts as a transporter of magnesium into the mitochondria.** Magnesium influx is linked with bicarbonate transport according to the Dietary Reference Intakes guide from the Institute of Medicine. Magnesium transport into or out of cells requires the presence of carrier-mediated transport systems (Gunther, 1003; Romani et al., 1993).[3]ATPase reaction has a broad pH optimum centering on neutral pH, with little significant activity above pH9.0 or below pH5.5.[4]Thus anything that moves us from overall acid conditions toward alkaline that recover the neutral zone is going to enhance cell metabolism via mitochondrial optimization.

Alkalosis enhances magnesium reabsorption
in the juxtamedullary proximal nephron.[5]

It was actually the dedicated work of Dr Russell Beckett, a veterinarian with a PhD in biochemical pathology that paved the way to understand the significance of bicarbonate acting in conjunction with magnesium. He has formulated Unique Water which, it has been asserted, slowed the ageing process and increased the length of life of humans and other mammals and could be used to treat all inflammatory and degenerative diseases. Unique Water is water containing magnesium bicarbonate at an alkaline pH value. Dr. Beckett's theoretical and experimental research has resulted in the understanding how important both of bicarbonate and magnesium ions are in human physiology and how they work together to optimize human health and the ability to recover from disease.

Bicarbonate ions working alongside magnesium would naturally create the conditions for increased glucose transport across cell plasma membranes. Bicarbonate ions without doubt create the alkaline

conditions for maintaining the enzyme activity of pancreatic secretions in the intestines. Bicarbonate neutralize acid conditions required for inflammatory reactions hence sodium bicarbonate would be of benefit in the treatment of a range of chronic inflammatory and autoimmune diseases. An excellent research group called Agua G is studying the overall benefits of bicarbonate in human physiology.

Bicarbonate acts to stimulate the ATPase by acting directly on it[6].

Magnesium does not readily reach the mitochondrion, but if plenty of bicarbonate is available the bicarbonate will act as transport into the mitochondrion. The only problem is that the few magnesium bicarbonate products available for sale are expensive compared to using magnesium chloride and sodium bicarbonate individually. It is possible though, that one can always make their own magnesium bicarbonate.[7]This chapter does not recommend you go out and buy magnesium bicarbonate or even make it yourself as directed in this last footnote. **A person gets much more control over both bicarbonate and magnesium physiology when magnesium is taken in its chloride form and the bicarbonate is taken as sodium bicarbonate.** When using magnesium chloride for oral consumption you must use the highest quality sources.[8]Sea water evaporation magnesium oils are not appropriate for this type of application.

The bicarbonate buffer system occurs in both intra- and extracellular fluids. It consists of carbonic acid (H_2CO_3) and sodium bicarbonate ($NaHCO_3$). If a strong acid is present, it reacts with sodium bicarbonate to produce carbonic acid and sodium chloride, minimizing the increasing concentration of hydrogen ions. If a strong base is present, it reacts with carbonic acid, producing sodium bicarbonate and water, minimizing the alkaline shift.

Highly alkaline water with magnesium, bicarbonate, calcium and potassium increases pH significantly in the body.

Carbonic anhydrase (CA) is a ubiquitous metalloenzyme that **catalyzes the reversible hydration/dehydration of carbon dioxide.** Carbonic anhydrase enzyme is ever-present in body cells and constitutes up to ten percent of the soluble protein in most body cells. It is one of the fastest enzymes known: each carbonic anhydrase enzyme produces from ten thousand to one million acid groups (H^+) per second. The acid (H^+) produced by carbonic anhydrase enzyme is pumped by proton pump enzymes into cell organelles such as lysosomes, phagosomes, endosomes and ruffled membranes.

In red blood cells (rbcs), CA is the second most abundant protein to haemoglobin and plays a crucial role in CO_2 transport. More specifically, rbc CA catalyzes the hydration of CO_2 to HCO_3^- at the tissue site of production, and the dehydration of HCO_3^- to CO_2 at the respiratory surface, thereby **facilitating the transport and excretion of CO_2 from the body.**[9]In addition, rbc CA also **facilitates the linkage of O_2 and CO_2** transport via the Bohr effect.[10]Carbonic anhydrase speeds the reaction of carbon dioxide and water. This reaction produces carbonic acid, which quickly dissociates into bicarbonate and hydrogen ions.

Bicarbonate ion concentrations decrease the formation of acid by carbonic anhydrase enzyme (Le Chatelier's principle). **In the presence of magnesium and bicarbonate ions, less acid is produced by carbonic anhydrase enzyme.**[11]But studies with partially purified carbonic anhydrase from spinach (Spinacia oleracea L.) chloroplasts show that the effect was the result of the chloride ion and not the magnesium ion. Enzyme activity was reduced 50% upon addition of 3 to 10 millimolar $MgCl_2$ or KCl while all additions of $MgSO_4$ between 0.3 and 10 millimolar were mildly stimulatory.[12]

Excess acid accumulation leads to oxygen deprivation and thus cell fermentation. Acid conditions lead to cell rot, another term for cancer.

This reaffirms my long standing belief that magnesium chloride is the absolute best form of magnesium for, among many reasons, the very important chloride ion is supplied. Chloride physiology is just one more basic that is being addressed. It is important because we see reduced acid through reduced carbonic anhydrase enzyme action. Chloride is required to produce a large quantity of gastric acid each day and is also needed to stimulate starch-digesting enzymes.

Using other magnesium salts is less advantageous because these have to be converted into chlorides in the body anyway. We may use magnesium as oxide or carbonate but then we need to produce additional hydrochloric acid to absorb them. Many aging individuals, especially with chronic diseases who desperately need more magnesium, cannot produce sufficient hydrochloric acid; and then they cannot absorb the oxide or carbonate.

Dr. David Brownstein importantly tells us, “Chloride and bromine compete for reabsorption in the kidneys. When there is a decreased amount of chloride in the body (which is common in low-salt diets), less bromine will be excreted from the kidneys resulting in elevated bromine levels. Increasing the amount of chloride in the diet will allow the kidneys to release more bromine into the urine for excretion." Bromide is a huge problem today and both Dr. Brownstein and I have written books on Iodine, which again bring in the salt question. Iodine gets its way into almost any medical protocol today and combines perfectly with magnesium chloride and sodium bicarbonate. (I recently received a note from Dr. Brownstein – “Loved your iodine book. Great piece of work! Can't wait for your next book.”)

We are at a very interesting level of biology and physiology when we talk about bicarbonate, magnesium, and chloride ions. And even sodium in the sodium part of bicarbonate is absolutely essential to human health. As we mentioned in another chapter **sodium bicarbonate as well as citrate and phosphate salts do not raise blood pressure to the same extent as do the corresponding amounts of sodium chloride.** A study on mineral water containing sodium bicarbonate has confirmed the absence of any effect on blood pressure in elderly individuals.[13]

Sodium itself is needed for many functions of the body. Its main function is in providing the balancing of fluids in the body. Sodium is necessary for life and a deficiency can result in often life threatening conditions such as dehydration, heart palpitations, and muscle cramping all of which can rapidly progress to more dangerous situations if left untreated. So sodium bicarbonate is a good way of getting the essential salt we need. Most of the salt that is consumed in the world is not any good anyway, it is salt with the minerals all stripped out and that goes for sea salt as well as mined processed salt. Salt is a very important subject. It is most effective in stabilizing irregular heartbeats and, contrary to the misconception that it causes high blood pressure, it is actually essential for the regulation of blood pressure - in conjunction with water. For more information read Dr. David Brownstein’s book ***SALT – Your Way to Health***.

Sodium bicarbonate is known to decrease serum concentration of ionized magnesium ([Mg2+]) when sodium bicarbonate is added to neonatal serum in vitro. The addition of sodium bicarbonate causes a significant decrease in [Mg2+]. From this in vitro study we speculate that fast infusion of sodium bicarbonate in human neonates may potentially cause a clinically significant decrease in serum [Mg2+].[14]

Magnesium stabilizes ATP [15]*, allowing*
DNA and RNA transcriptions and repairs.[16]

Where would the magnesium go but into the cells and bones where most magnesium reserves are found? Higher pH levels and the bicarbonate itself will help the magnesium leave the blood serum driving Mg2+ into the cells where again the bicarbonate will carry it from the cytoplasm into the mitochondria where, in cases of chronic disease, it is desperately needed. Thus **magnesium and bicarbonate, when used together, would considerably increase the energy production in body cells.**

Mg2+ is critical for all of the energetics of the cells because
it is absolutely required that Mg2+ be bound by ATP
the central high energy compound of the body.
Dr. Boyd Haley

Magnesium bicarbonate decreases the production of acid from carbon dioxide in body cells. Magnesium and bicarbonate would at the same time increase energy in several ways. First, magnesium bicarbonate **protects the natural organic and inorganic phosphate buffers in the cytoplasm of cells.** Second, magnesium bicarbonate **neutralizes the acid** produced as a result of metabolic processes and ATP hydrolysis. This allows more ATP to be hydrolyzed; that is, more energy can be utilized.

Magnesium bicarbonate **buffers** the mitochondria in body cells from excess acid concentrations which improves mitochondrial function and allows more ATP to be produced. When more ATP can be hydrolyzed and more ATP can be produced, body cells have sufficient energy for optimum function.

ATP without Mg2+ bound cannot create the energy normally used
by specific enzymes of the body to make protein, DNA, RNA,
transport sodium or potassium or calcium in and out of cells.
ATP without enough Mg2+ is non-functional and leads to cell death.
Dr. Boyd Haley

Dr Seeger and Dr Budwig in Germany have shown that cancer is mainly the result of a faulty energy

metabolism in the powerhouses of the cells - the mitochondria. ATP and most of the enzymes involved in the production of energy require magnesium. A healthy cell has high magnesium and low calcium levels. **The problem that comes with low magnesium (Mg) levels is the calcium builds up inside the cells while energy production decreases as the mitochondria gradually calcify.** Thus taking magnesium chloride and sodium bicarbonate together is ideal for cellular environments turned acidic and calcified.

Magnesium ions constitute the physiologically active magnesium in the body; they are not attached to other substances and are free to join in biochemical body processes.[17]

There is no way one can address in this chapter all the possibilities and the medical power one can achieve when combining magnesium chloride with sodium bicarbonate. Whether one has heart or neurological disease, diabetes, cancer or a bad case of the flu taking these substances together offer doctors and patients safe and effective treatment.

So deep are the protective, buffering and neutralizing properties of bicarbonate that it is used even with radiation exposure to protect the kidneys and other tissues. In a world that is already overexposed to uranium oxide and mercury magnesium bicarbonate becomes even more important because mercury and uranium oxide directly attack the nuclear material and mitochondria of the cells.

The use of DU weaponry by the US, defying all international treaties, will slowly annihilate all species on Earth including the human species, and yet this country continues to do so with full knowledge of its destructive potential.
Leuren Moret

"Depleted (DU) uranium is highly toxic to humans, both chemically as a heavy metal and radiological as an alpha particle emitter, is very dangerous when taken internally," writes Dr. Rosalie Bertell, Canadian Epidemiologist.[18]A new study, conducted by biochemist Dr. Diane Stearns at Northern Arizona University confirms that, separate from any radiation risks, cells exposed to uranium will bond with the metal chemically.[19]

The kidneys are usually the first organs to show chemical damage upon uranium exposure, military manuals suggest doses or infusions of sodium bicarbonate to help alkalinize the urine if this happens. This makes the uranyl ion less kidney-toxic and promotes excretion of the nontoxic uranium-carbonate complex. The oral administration of sodium bicarbonate diminishes the severity of the changes produced by uranium in the kidneys.[20]

Uranium and phosphate have a strong chemical affinity for each other and the DNA and Mitochondria are loaded with phosphate so **uranium is a DNA and Mitochondria deep penetration bomb.** The uranium is attacking on fundamental cellular levels while mercury offers a knock out punch by attacking the sulfur bonds besides being highly toxic to nerve cells. **Nephrotoxicity of the kidneys with necrosis of proximal tubules has been seen to increase significantly with dual exposure to both uranium and mercury**.[21]

Bicarbonate ions neutralize carbonic acid formed in the body during metabolic processes. Several studies have shown that an increased intake of bicarbonate may help prevent muscle wasting and bone loss. Our diets are usually acid. Acids burn out our cells and causes accelerated aging. Bicarbonate is alkaline and provides the body with the extra alkalinity needed by the body to neutralize excess acidity.

The medical industrial complex has deliberately programmed generations of doctors to hold with the poor idea that using highly toxic and dangerous drugs is preferable to using vastly safer concentrated nutritional substances that make better medicines then any drug the pharmaceutical companies can fabricate. Magnesium chloride is used in emergency rooms and so is sodium bicarbonate to save lives everyday. Interesting that the medical intelligence has been lacking to combine the two and use their collective strength to even greater effect.

Emergency Room Medicines for Chronic and Acute Diseases.

Magnesium chloride, iodine and sodium bicarbonate actually replicate the biological action of prescription drugs at far less cost and with fewer side effects. They are like the primary colors on a master painter's pallet; with the primaries one can make almost any color, or a doctor in his place could generate almost any medical effect safely and swiftly. There are other substances like these three but these are primary and impinge their benefits directly onto cell physiology in a very coordinated synergistic way.

Magnesium bicarbonate would clearly come out heads in the class of cerebral protective agents. Magnesium bicarbonate would offer significant cerebral protection with high preservation effect on neurological function following brain injury or in healing chronic impaired dysfunction like in Parkinson's and Alzheimer's diseases.

When the nervous system is injured, the brain produces self-protective molecules in an attempt to halt damage. Following injury, the death of nerve cells occurs over a prolonged period of many hours or days, which provides a "window" for therapeutic intervention. Magnesium chloride is the undisputed best first therapeutic agent to be injected for stroke and is being tested in ambulances in Los Angeles.

This chapter is opening up a new door for allopathic medicine because it combines two emergency room and intensive care medicines for everyday use. My new book that lays out my conceptual designs for the future of medicine is called **Principles and Practices of Natural Allopathic Medicine.** Magnesium chloride and Sodium Bicarbonate are non pharmaceutical, non toxic concentrated nutritional medicinal medicines. These are backbone medicines no clinic or home medical kit should be without.

Special Note:

Cesium is an isolate and can become toxic with long term use. It is not a mineral natural to human cell physiology and thus in large doses holds the potential to throw off cell homeostasis. Most people who use cesium focus in it as a silver bullet solution to fixing ph imbalances. Sodium bicarbonate is better for dealing with overall ph problems. Cesium can be used for short term cancer treatment because it is a mineral that actually penetrates into cancer cells for a much more targeted pH shift that can kill the cell.

We need a full-spectrum blend of minerals derived from plant life to restore cellular homeostasis and bicarbonate, magnesium chloride and spirulina together will accomplish most of what we need. In my opinion, cesium is too dangerous to take on a long-term basis and we have to watch, if we use it, that it does not too severely deplete potassium from the cells.

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[1]Distilled water is not safe, it lacks bicarbonates and minerals and yes, it is acid forming to the body. Yet it is an excellent aid in detoxification and chelation for it purity pulls on toxicities in the body. Part of the reason why our body is acid is that it lacks enough bicarbonate necessary to neutralize the acid. Whenever the water lacks the proper bicarbonates to neutralize the water in distilled water your body basically becomes acid. Long term acidity causes acid blood, which is like acid rain, causes the calcium from the bones to be leeched out and as a result, the tissues and organ have too much of calcium clogging the system. Therefore distilled water is generally not recommended as a regular drinking water, since most of our body usually receives bicarbonates from the water we drink than from the food we eat. But we can easily treat distilled water by adding bicarbonate and magnesium and then it is not really distilled water anymore.

[2] www.uniquewater.com.au

[3] www.amazon.com/Dietary-Reference-Phosphorus-Magnesium-Fluoride/dp/0309063507/ref=sr_11_1?ie=UTF8&qid=1227893156&sr=11-1

[4] Biochem J. 1977 August 1; 165(2): 355–365. www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1164908

[5] Am J Physiol Renal Physiol 243: F197-F203, 1982; 0363-6127/82

[6] Origin of the Bicarbonate Stimulation of Torpedo Electric Organ Synaptic Vesicle ATPase. Joan E. Rothlein 1 Stanley M. Parsons. Department of Chemistry and the Marine Science Institute, University of California, Santa Barbara, Santa Barbara, California, U.S.A.

[7] The method consists of using one tablespoon of magnesium carbonate to be dissolved with soda water. Buy a bottle of Carbonated Seltzer water - NO SODIUM, just carbonated "fizz" water, unflavored. Refrigerate for a couple of hours. Get another, larger bottle, and pour 2/3 of a capful of PLAIN (no-flavor) Philips Milk of Magnesia (which is Magnesium Oxide, an alkaline laxative) into the large bottle. (The bottle comes with a plastic measuring cup which is what I mean when I say 2/3 capful.) Now quickly open the bottle of carbonated water (water + carbonic acid) and empty it into the large bottle containing the 2/3 capful of Magnesia. Shake well. You will have a bottle of milky/cloudy liquid which is in the process of neutralization between the carbonic acid and the magnesium oxide-- leaving a neutral salt, Magnesium Bicarbonate.

[8] Ancient Minerals Magnesium Oil and Bath Flakes are both pure enough for oral consumption even they are not sold for oral use.

[9] Perry, 1986; Perry and Laurent, 1990; Henry and Heming, 1998 www3.interscience.wiley.com/journal/119558225/abstract?CRETRY=1&SRETRY=0#c1

[10] Forster and Steen, 1968; Maren and Swenson, 1980

[11] Bamberger and Avron 1975 Plant Physiol 56: 481-485

[12] Regulation of Chloroplastic Carbonic Anhydrase. Effect of Magnesium
Michael A. Porter and Bernard Grodzinski
Plant Physiology, Vol. 72, No. 3 (Jul., 1983), pp. 604-605 (article consists of 2 pages)
Published by: American Society of Plant Biologists

[13] News vol 3, no 1, May 2001

[14] Magnesium research 2004, vol. 17, no2, pp. 90-93

[15] Mg2+ is critical for all of the energetics of the cells because it is absolutely required that Mg2+ be bound (chelated) by ATP (adenosine triphosphate), the central high energy compound of the body. ATP without Mg2+ bound cannot create the energy normally used by specific enzymes of the body to make protein, DNA, RNA, transport sodium or potassium or calcium in and out of cells, nor to phosphorylate proteins in response to hormone signals, etc. In fact, ATP without enough Mg2+ is non-functional and leads to cell death. Bound Mg2+ holds the triphosphate in the correct stereochemical position so that it can interact with ATP using enzymes and the Mg2+ also polarizes the phosphate backbone so that the 'backside of the phosphorous' is more positive and susceptible to attack by nucleophilic agents such as hydroxide ion or other negatively charged compounds. Bottom line, Mg2+ at critical concentrations is essential to life," says Dr. Boyd Haley who asserts strongly that, "All detoxification mechanisms have as the bases of the energy required to remove a toxicant the need for Mg-ATP to drive the process. There is nothing done in the body that does not use energy and without Mg2+ this energy can neither be made nor used." Detoxification of carcinogenic chemical poisons is essential for people want to avoid the ravages of cancer. The importance of magnesium in cancer prevention should not be underestimated.

[16] Magnesium has a central regulatory role in the cell cycle including that of affecting transphorylation and DNA synthesis, has been proposed as the controller of cell growth, rather than calcium. It is postulated that Mg++ controls the timing of spindle and chromosome cycles by changes in intracellular concentration during the cell cycle. Magnesium levels fall as cells enlarge until they reach a level that allows for spindle

formation. Mg influx then causes spindle breakdown and cell division.

[17] Altura BM, Altura BT, “Role of magnesium in patho-physiological process and the clinical utility of magnesium íon selective electrodes.” Scand J Clin Lab Invest Suppl, vol. 224, pp.211-234, 1996

[18] cndyorks.gn.apc.org/news/articles/du/drrb.htm

[19] A radioisotope of an element will bind best to the same substrates which a non-radioactive isotope of the same element will bind. Dr. Stearns has established that when cells are exposed to uranium, the uranium binds to DNA and the cells acquire mutations, triggering a whole slew of protein replication errors, some of which can lead to various cancers. Stearns' research, published in the journals Mutagenesis and Molecular Carcinogenesis, confirms what many have suspected for some time - that uranium can damage DNA as a heavy metal, independent of its radioactive properties. The biochemical reaction of heavy metals can cause genetic mutations, which in turn can curtail cell growth and cause cancer. Heavy metals that are also radioactive amplify this effect and can cause distortions in shape and thus function even of red blood cells.

[20] A study of the acidosis, blood urea, and plasma chlorides in uranium nephritis in the dog, and the protective action of sodium bicarbonate. The Journal of Experimental Medicine, Vol 25, 693-719, Copyright, 1917, by The Rockefeller Institute for Medical Research New York www.jem.org/cgi/content/abstract/25/5/693

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Beating Back Late Stage Infections

(Cancer & Fungus)
with Sodium Bicarbonate

Over 90, 000 people a year die from
secondary infections in hospitals.

Candida A.

When fungal colonization and mycotoxin
contamination is maximal one finds cancer
growing and mestastizing at a maximal rate.

Doctors in general are not very good at diagnosing fungal infections. This is because their medical school training is based so heavily on the role of bacteria and viruses in the area of infectious diseases. Fungi have been a forgotten foe ever since the advent of antibiotics. This is perhaps one of biggest mistakes of allopathic medicine - for the overuse and or even occasional the use of antibiotics can lead directly to deadly fungus infections. Laboratories display the same difficulty in diagnosing fungal infections: current tests for detecting the presence of fungi are both terribly scant and sorely antiquated. This is a serious problem because **fungi are late stage infections that are provoking or are accompanying a range of life threatening diseases.**

If the spine, for example, becomes infected with bacteria or fungi inside or on the surface of vertebrae, then the entire torso region (region between neck and waist) may be extremely sore and stiff after being in bed for a while. A person may feel better after taking a hot shower and moving around, but may still be sore during the day - especially during a deep breath.

All of the medications proven to be effective in
the treatment of the mycotoxin-induced diseases
possess anti-fungal and/or anti-mycotoxic activity.
Dr. A.V. Costantini

The use of antimicrobial agents (e.g., antibiotics, antiseptics, antifungal) plays an important part in current medical therapy. This is particularly true in the fields of dermatology as well as skin and wound antisepsis. Effective treatments for skin or mucous membranes, which are afflicted with bacterial, fungal, viral infections, or viral lesions, frequently include the use of topical antimicrobial agents. Most antiviral compounds are unsuitable for topical treatment of these infections because they have limited ability to penetrate the ski. In truth, pharmaceuticals offer little that are effective for viral infections. In the case of AIDS the best the allopathic empire could come up with is to kill the patient with the most toxic drugs available before the virus does.

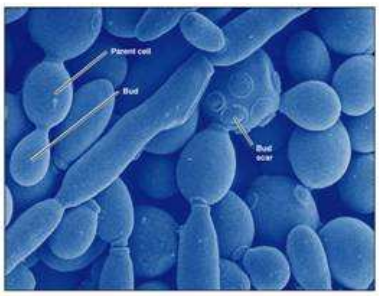
Inflamation is the first sign and
symptom of infectious process.

Topical compositions containing known antiviral compounds usually fail to relieve the symptoms such as pain, inflammation and/or itchiness often associated with dermal viral infections or skin lesions. Further, **they fail to prevent the secondary infection of these lesions by bacteria or fungi, leading to prolonged disease states.** Thus, there is still a need for more effective antimicrobial agents.

People with weak immune systems (i.e., immune-compromised or immune-suppressed individuals) are more vulnerable to infections by molds.

Dr. Simoncini makes the connection that fungal colonies and cancer colonies are the same colonies called by two different names. Interestingly in 1931, Dr. Otto Warburg was awarded the Nobel Prize in science for his discovery that cancer cells rapidly proliferated in the presence of fermented sugar. Now we can understand more fully the connection between cancer and fungal colonies. Ironically fungal cells also proliferate rapidly under the same conditions. **Fungi feed on sugar; cancer feeds on sugar!**

Interestingly, Dr. Simoncini hits the cancer or fungal colonies with sugar when he hits them with the bicarbonate. He does this partially because late stage cancer sufferers are dying because of glucose starvation and deprivation. He also does this because the fungi are also very hungry for that sugar. So hungry that they open their cell membranes wide to receive the sugar and in flows the increased alkalinity with the accompanying blast of oxygen because of the higher levels of bicarbonate in the blood.



Dr. Simoncini uses the lab procedures and protocols for using intravenous sodium bicarbonate (as approved by the FDA for cardiac infarctions) to treat most cancers. Being that the present day survival rate of 5 years in the US is less than 2 ¾% due to protocols the medical profession uses, Dr. Simoncini has a claimed 90% remission rate and some as long as 20 years should shatter some of modern medicine's fixed ideas about cancer. "If the fungus are sensible to the sodium bicarbonate solutions and the tumour is smaller than 3 cm, the percentage will be around the 90%. Terminal cases in which the patients are in reasonable good condition is 50%, and for terminal patients just a small percentage," reports Simoncini, whose treatments take approximately 30-45 days. Below is a note from Dr. Simoncini on his discovery.

"With the exception of the cancers caused by cut/cured/ fermented tobacco leaf, the cause of cancer is generally stated as being unknown. That statement is made invalid by the published research data collected and presented here. It documents that fungi and their mycotoxins cause virtually every type of human cancer in either animals or humans or in both," reports Dr. A.V. Costantini from the W.H.O.[1]

There is a food connection to cancer but only to its connection with contaminating fungi and the mycotoxins which those fungi produce.
Dr. A.V. Costantini

Antibiotics increase the risk of incident and fatal breast cancer or any type of cancer.[2]This finding is also explained by the fact that many if not most of our antibiotics are derived from fungi - they are fungal byproducts, or "myco"-toxins. Remember how we get penicillin from the Penicillium mold? Or how we get alcohol from brewer's yeast, or Saccharomyces cerevisiae? That's right, alcohol - linked to 50 different types of cancer (Costantini, Fungalbionics Series. 1998-99) - is a mycotoxin. That same book by Costantini tell us that 2 or more cumulative month's use of antibiotics in one's life increases the risk of lymphoma by 40%. "Certainly, physicians would not believe such a risk exists for penicillin, an antibiotic given to billions of humans. However, it is by definition a mycotoxin and mycotoxins do cause cancer." (Costantini, et al. 1998).

Antibiotics are contributing to everything from 2nd heart attacks to breast cancer.

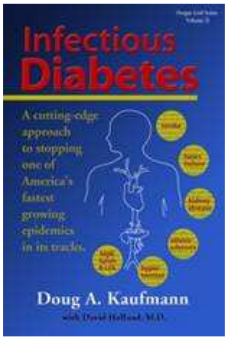
Both cancer cells and fungi can metabolize nutrients in the absence of oxygen (anaerobically). Both

must have sugar in order to survive. Both can be impacted by antifungal medicines.[3]Both will die in the absence of sugar.[4]"Mycotoxins have proven to be very toxic and harmful, and it is no wonder that many inhabitants of mold-infested spaces are constantly ill. This illness is mainly upper respiratory tract infections, lethargy, constant headaches, nausea, and a general ill feeling. Inhabiting these living spaces for a considerable period may lead to cancer."[5]

That metastatic cancer cells eat their way through the protective barriers of an organ and march away form their proper organ and overrun other tissues and organs describes yeast and fungus invasion perfectly.

Now we have Doug A. Kaufman and Dr. David Holland, who are in terms of diabetes, saying what Dr. Simoncini and Dr. Costantini are saying about cancer. Which is that the fungal invasion is a cause, NOT just a secondary infection. It is a primary infection. As we have already noted allopathic doctors do a lousy job of diagnosing fungal infections. So they blame bacteria and viruses, and treat with antibiotics, which only makes matters worse because antibiotics promote fungal growth.

Kaufman and Holland make a significant link between diabetes and cancer. Is it a coincidence that diabetics have a **4 times greater rate of liver cancer**? And diabetics have **double the risk of pancreatic cancer** compared to non-diabetics, according to recent studies presented to the Third Annual Frontiers in Cancer Prevention Research Meeting in Seattle in 2004. Kaufman and Holland, in their book ***Infectious Diabetes,***present a compelling account of how fungi may be the underlying cause of diabetes, its complications, and many other autoimmune disorders.



Heavy Metal Contamination promotes the growth of fungus infections and are an essential etiology in their cause.

Cancer has been around as long as mankind, but only in the second half of the 20th century did the number of cancer cases explode. Contributing to this explosion are the excessive amounts of toxins and pollutants, high stress lifestyles that zap the immune system, poor quality pesticide-full junk food, irradiated genetically modified pathogens, electromagnetic stress, lights, and just about everything that wasn't here 200 years ago. All these weaken the immune system and alter the internal environment in the body to an environment that promotes the growth of cancer/fungal colonies.

Fungi easily grow in the body after the part of the immune system that controls the fungi (i.e. kills it) has been compromised - compromised for example by heavy metals, pesticides, emotional shocks, antibiotics, etc. **If the immune system is 100% intact, then fungi should not grow in the body.** The part of the immune system that is most responsible for attacking fungi is the neutraphil function.

Dr. Milton White believed that cancer is a chronic, infectious, fungus disease. He was able to find fungal spores in every sample of cancer tissue he studied.[6]

Cancer is not a mysterious disease that suddenly attacks us out of the blue - something that we can't do anything about. It has definite causes. We can correct those causes if we hit it hard enough and from enough sides in a simultaneous confrontation. Our protocol attacks cancerous cells and tumors by exploiting their weaknesses. This is be done most directly with sodium bicarbonate treatments combined with iodine, magnesium chloride, Alpha Lipoic Acid, and as well as with other substances that trigger chelation of heavy metals.

Fungal overgrowth occurs because its natural competitors have been removed. Overgrowth happens

with antibiotic usage. Pathogenic albicans (chronic candidiasis, more commonly known as candida or thrush) is generally caused by drug use - particularly antibiotic drug use, poor diet, lowered immunity, and metals like mercury from dental amalgams. **Mercury will promote the growth of Candida, as it adsorbs the mercury.** Candida cannot be effectively dealt with without dealing with the dental issues first (mercury issues). This is not an optional approach, but necessarily part of the primary approach when mercury contamination is involved. This is the reason this book does not claim that bicarbonate is a cancer cure, clearly it is a main part of treatment and can alone put cancer into remission. But if the underlying causes are not addressed the chances of the cancer coming back are quite high.

Two studies found an association between exposure to mercury and acute leukemia. On the basis of the available human and animal data, the International Agency for Research on Cancer and the U.S. Environmental Protection Agency has classified methyl ***mercury as a "possible" human carcinogen.***
National Academy of Science[7]

According to the observations made by the internationally recognized medical researcher, Dr. Yoshiaki Omura, all cancer cells have mercury in them. Since mercury is the second most toxic substance on this planet, its presence provides a strong initiating factor for disrupting cell function. Support for this idea comes from Dr Hans Nolte who states that, "The wave spectrum of mercury contains more than thirteen wavelengths, whereas only one or two frequencies or wavelengths are usually observed for the other heavy or noble metals." It is Dr. Nolte's belief that the many harmful effects of mercury could be explained to some degree on the basis of this great variety of wavelengths. Dr. Omura's clinical observation concludes that **one of the primary reasons cancer returns is because residual mercury reignites a pathological environment even after surgery, chemotherapy, radiation, and alternative therapies report a positive effect.**[8]

200 micrograms of mercury would fit on the head of a pin. According to the Environmental Protection Agency (EPA), dropping that pinhead of mercury into 23 gallons of water would make it unsafe for human consumption.[9]

A person with a mouthful of mercury laden dental amalgam can easily absorb 200 micrograms in a week. Once mercury has attacked cells they become impaired in their ability to detoxify and nurture themselves because mercury suffocates the intracellular respiratory mechanism.[10]The cells thus become toxic, some die but the majority simply adopt, change their physiology and live in a state of chronic malnutrition. The presence of mercury in the tissues represses the immune system, which itself has to make a conscious adaptation to what could easily become a lethal heavy metal environment. As mercury levels increase the immune system does something very interesting for the sake of survival. It begins to allow fungi and bacteria, which can bind large amounts of toxic metals, to grow. It does this to alleviate the respiration of the cells so they can breathe again but the cost is very high for the system has to provide nutrition for the microorganisms and has to deal with their metabolic products ("toxins").

When a bacterium or virus invades the body, the immune system sends in its special cells to kill the invaders. One team of special cells, macrophages, does this by releasing a burst of free radicals.

Dr. Klinghardt explains the hidden connection between such toxic buildup and the inflammatory infections that are principle aspects of heart diseases, saying"**Toxic metals harm the cells of the body whereas the invading microorganisms can often thrive in a heavy metal environment.** Research by Ludwig, Voll and others in Germany and Omura and I here in the US, show that microorganisms tend to set up their housekeeping in those body compartments that have the highest pollution with toxic metals. The body's own immune cells are incapacitated in those areas whereas the microorganisms multiply and thrive in an undisturbed way." He goes on to "suggest diagnosing and treating toxic metal residues in the body along with the *appropriate* treatment of the microorganisms. As long as compartmentalized toxic metals are present in the body, microorganisms have a fortress that cannot be conquered by antibiotics."

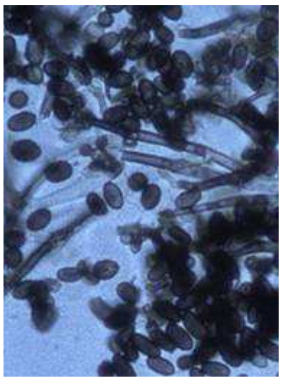
With any infection, especially one that continues for long periods of time,, the body tries to seal off the infection. It does this by building a fibrous wall around the battle zone.

There are many things that can start the chain reaction that leads to cancer/fungus infections, but no

matter what starts the chain reaction, part of the process involved a microbe penetrating inside a normal cell, thus breaking the Krebs Cycle and Electron Transport Chain (ETC). This makes the once normal cell anaerobic, and an anaerobic cell is defined to be cancerous.

Tumors are not distinquishable from
the infections that inhabit them.

The Peter MacCallum Cancer Centre in East Melbourne has revealed three cancer patients have died from a fungal infection in its intensive care unit.[11]After a cycle of antibiotics use the candida/yeast/fungus overgrowth that comes in its wake becomes lethal. Cancer is defined as malignant tumor of disorderly cells that have the potential of nearly unlimited growth. These uncontrolled cells expand locally and/or metastasize (spread destructively) to other tissues and organs. Clearly this can define a yeast or fungus colony as well as normal cells losing control of their own reproductive growth.



Although, there are millions of species of fungi, only about 400 species of fungi make mycotoxins that are capable of causing human illness. Only one, a mycotoxin from the fungi Aspergillus called Aflatoxin, is routinely tested in our food supply.[12]It is tested in corn, peanuts and other products. A study published in January 2002 in The Journal of the American Medical Association (JAMA) states virtually all of our corn supply, and much of our peanut and grain supply, is impregnated with mycotoxins.

Scientists have directly implicated yeast and fungal toxins,
called mycotoxins, in the cause of Crohn's disease. Former
World Health Organization expert Dr. A.V. Costantini
has found that people with Crohn's often have aflatoxin,
a mycotoxin made by Aspergillus molds, in their blood.
Dr. Dave Holland

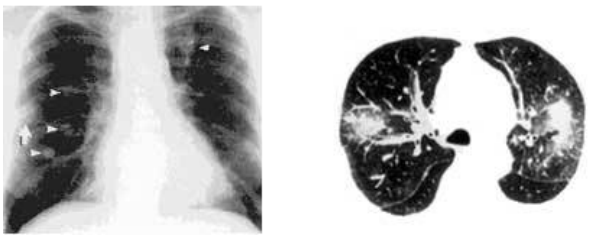
The various foods, which are documented to cause prostate cancer, share little in common except that they are all high on the list of fungal mycotoxin contaminated foods. The carcinogenic mycotoxin most often encountered is aflatoxin. Aflatoxin, a recognized potent carcinogenic mycotoxin causes normal human breast cells to become cancerous. Tumor tissues have higher aflatoxin-adduct levels than do normal tissue from the same individual. The presence of carcinogenic aflatoxin within the cancer tissue and this implicates aflatoxin as a cause of breast cancer. Le et al. (1986), in a French case-control study of 1,010 breast cancer cases and 1,950 controls with nonmalignant diseases, found that breast cancer was found to be associated with increased frequency of mold-fermented cheese consumption.

Aflatoxin causes mutation of normal rat prostate cells
Link et al. 1983.

Dr. Holland says, "Although aflatoxin is the most carcinogenic substance on the planet, ochratoxin beats it ten times over in terms of its toxicity and the damage it inflicts on the human body.[13] Despite this, the USDA does not screen for ochratoxin. Other countries screen for up to 15 of the most common mycotoxins, including zearalenone, fumonisin, and the afore mentioned ochratoxin. Although these mycotoxins are common in our food supply the USDA does not screen for their presence either.[14] Incidentally mold-generated zearalenone mimics estrogen, which can throw a victim's entire hormonal systems off balance. It is found in high concentrations in North America."[15]

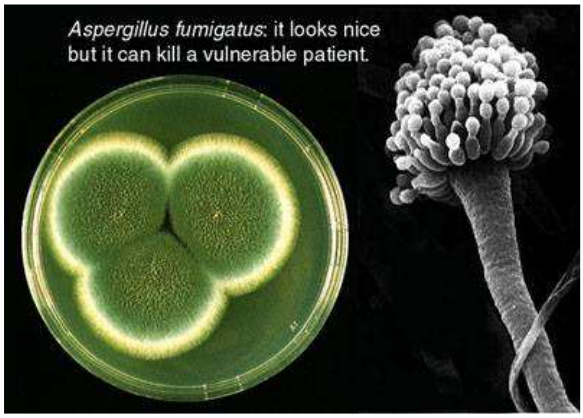
While cooking will kill fungi, their mycotoxins remain unaffected

by heat. So mycotoxins existing in grains, milk, and animals fed them (livestock) will be carried to our dinner tables.



Fungus Infections of the Lungs

Going et al. (1990) found that calcium oxalate crystals are present in calcifications found in the breast tissue of patients with breast cancer. Oxalic acid (calcium oxalate crystals) in the sputum or lung specimens of patients is also an indication of an **Aspergillus infection of the lung.** Oxalic acid is a powerful corrosive agent and oxalate salts are widely used for their cleaning and bleaching properties. Oxalic acid happens to be a mycotoxin which can be produced by a number of different fungal species. Some fungi produce such large amounts of oxalic acid that they are used for commercial production of the chemical. These calcium oxalate crystals are the same as the calcium oxalate found in breast cancers. **The presence of oxalates in the breast is indicative of the presence of fungi interwoven within the stages of breast cancer development.** Since humans do not make oxalic acid themselves, this is an appropriate conclusion.



In 3 patients with a diagnosis of brain lymphoma and low grade glioma on the basis of the surgical specimens, stereotactic biopsy revealed only unspecific reactive tissue changes.[16]

Uric Acid is a Cause of Renal Disease[17]

Kaufman and Holland state that many fungal varieties produce uric acid, which in turn produce alloxan. Alloxan, which is formed from uric acid, even in small quantities induces diabetes in laboratory animals.[18] "In one study, they state," it was found that rats injected with alloxan suffered a drop in the number of beta cells in their pancreases, and a corresponding sharp drop in insulin production." The rat's cholesterol and triglyceride levels shot up as well. Uric Acid was discovered to cause diabetes in 1949, by Mervyn Griffiths.[19]Alloxan, is now used to make laboratory rats diabetic for research purposes. Urea and uric acid are always found together in the urine, along with a small amount of alloxan. Alloxan appears to be the intermediate stage in the conversion of uric acid into urea by oxidation.[20]

Increased uric acid is caused by yeast infections, by fungus, by microorganisms using us for a host. Uric acid produces alloxan and both cause diabetes.

Interestingly it was found that uric acid or alloxan alone in small amounts did not cause a diabetic condition if the glutathione levels remained at normal levels in the lab animals tested.[21]Shortly after this it was discovered that Sacchromyces yeast produces uric acid (Svlhia,1963) and in 1976 after two children dying from diabetes were found to be infected with Cryptococcus fungi, further studies were done by injecting Cryptococcus directly into the pancreatic arteries. Necrosis (cell death) in the Islets of Langerhans

resulted. This is where insulin producing cells originate. Cryptococcus fungi also produce alloxan, a uric acid byproduct. Further studies through the years confirmed alloxan's damage to the pancreatic islet cells (Pogo, 1980) and in 1990 Coleman et. al fed mice a diet of 10% brewers yeast, and diabetes resulted. In the 1980s it was found that other alloxan-like metabolites of uric acid were diabetogenic, some even more so than alloxan alone.[22]

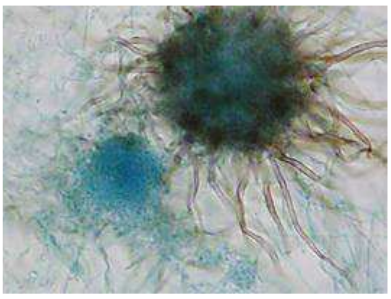
Uric acid causes diabetes, heart disease, probably strokes
and renal disease as well as gout and kidney stones.

According to The Home Medical Encyclopedia, in 1963 about one-half of all Americans suffered from an "unrecognized" systemic fungal condition. Far more Americans suffer from fungal infections today as antibiotics, hormone replacement therapies, and birth control pills continue to be consumed like candy. Thus more and more children are becoming infected with candidal meningitis or viral meningitis which means their systems are suffering under the weight of these poisons - these mycotoxins. While the gluten-free, casein free diet is a step in the right direction, it's not enough. It is time we start focusing on conquering the systemic viral and fungal infections with the same substances that can destroy these same infections in the case of cancer.

In my practice I've noticed that clients who have chronic sub-clinical viral, bacterial or yeast/fungal infections accumulate and retain heavy metals in their bodies. It's interesting to note that these chronic infections bind to toxic metals so effectively that no chelating agent is able to remove them.
Dr. Ted Edwards

Dr. Edwards goes on to indicate that most patients who are experiencing the ravages of fibromyalgia, chronic fatigue, multiple chemical sensitivities, diabetes, lupus and other autoimmune diseases are found to have both dysbiosis and leaky gut. What happens is the combination of yeast-bacteria, yeast-virus, Candida infestation and heavy metal toxicity alter the stomach and intestinal track to such a degree that it can no longer function properly. It becomes highly reactive to gluten in grains or corn as well as to caseins found in dairy products.

The bulk of the pancreas consists of cells whose job is to produce fluid that contains enzymes and sodium bicarbonate. The enzymes digest food; the sodium bicarbonate neutralizes hydrochloric acid from the stomach to protect the delicate intestinal lining from damage. Without the sodium bicarbonate in pancreas fluid to neutralize stomach acid the intestine can be severely damaged by the highly caustic fluid that arrives from the stomach. P**ancreatic enzyme insufficiency leads to bad digestion of food and subsequent malnutrition, accompanied by signs of intestinal irritation and we can start to imagine how useful bicarbonate is for children with autism.**



Spores are tiny single cells that are produced by fungi that have hyphae. Spores are tiny single cells that are usually very resistant to environmental changes. They can remain dormant for long periods of time until the conditions are right for them to develop into mature individuals**. Fungi are heterotrophs, meaning that they secrete digestive enzymes and absorb the resulting soluble nutrients from whatever they are growing on.** For this reason they are great decomposers in the ecosystem, but they can also cause problems when they begin to absorb nutrients from a living organism.

Fungus is a parasite and very often dictates eating behaviors in the host. Typically, we see people who have a fungal condition with certain cravings not knowing a host of fungal invaders are dictating their behavior; not knowing that their arthritis, their cancer, their diabetes or other diseases are related to fungus. These people tend to crave pasta, bread, potatoes and sugar, which is one clue a physician can use to accurately diagnose the condition.

83% of 25 people tested with a dark field microscope had various stages of systemic yeast infections in their blood. This means that the fungus is flowing everywhere throughout the body. This causes joint pain, stomach upset, allergies, reflux, and many other disorders that are misdiagnosed by conventional medicine. **Dr. Marijah McCain identified the primary cause of death in cancer patients to be NOT the cancer itself, but fungal overgrowth.** The doctor also saw fungi in other diseases such as: Fibromyalgia, Chronic Fatigue Syndrome, Lupus, Gulf War Syndrome.

> "The Feds closed my clinic 2 years ago... They said the procedure I was doing was categorized as "high complexity" and required unrealistic laboratory requirements for me to practice (One drop of blood on a microscope slide!) When I spoke to the idiot at CLIA in Dallas he said quote "We are going to get rid of all of you." Nice... I will tell you **in the short time I was using my scope I saved over 25 lives from sure death and also saw systemic yeast in everyone's blood.** They don't want you to know that this fungus is what is really killing you, not the cancer!!! The chemo therapies contribute to this fungal overgrowth and it is deadly when not treated. It is clearly present in all Fibromyalgia, CFS, Lupus, GWS and a host of other problems they have conveniently mis-titled. I know it, because I not only saw this with my own eyes, in every case, but I treated it successfully and got results! People didn't die!!! They got better, even when they had been given a cancer death sentence!"

How To Test For Fungi

Testing for fungi (same thing as "yeast") is very difficult. There are several tests, yet they can easily produce false negatives (i.e. they don't see a fungi, yet you still have one). One $500 test looks for antibodies (soldiers in blood designed to attack specific invaders) to 10 different specific fungi. There are many types of fungi, and this is why they are often difficult to see. You could drop $500 to look for 10 types of fungi, yet not be looking for the one you have. Another technique is to look for several of the more common forms of fungi in stool via a CDSA test. The CDSA has the same problem as the antibody test — it only looks for several species. Another way to test for fungi is to treat for it for 45 days and see if your symptoms noticeably (hopefully significantly) improve.

The other test for fungi is much less expensive. If you are chronically ill and or have cancer you can just assume that you have an infection. It would be one of the safest assumptions you would make in life for we know without a shred of doubt that we literally live and survive in a sea of pathogens. Just because allopathic doctors have not paid much attention to fungi and yeast infections does not make them any less present. They are a direct threat and should not be ignored nor approached via the allopathic paradigm.

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[1] www.healingcancernaturally.com/causes7.html

[2] Velicer C, et al. JAMA. Feb 2004. 18;291(7):827-35

[3] Medical Tribune: Treatment of Fungal Infections Led to Leukemia Remission. Sept 29, 1999; Mann, D. Antifungal agent lowers PSA levels, study finds. May 1, 1997. Medical Tribune

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[9] EPA - Consumer Fact sheet on: MERCURY – Safe limit in water is 2ppb

[10] www.neuraltherapy.com/MercuryEliminationMercolaKlinghardt.pdf

[11] www.abc.net.au/news/stories/2006/06/15/1663938.htm

[12] The regulatory limits of aflatoxin are 0.5 ppb and 20 ppb for milk and grain products intended for food consumption, but livestock feed is allowed to contain aflatoxin up to 300 ppb, which greatly increases the amounts of aflotoxins in our diets. Dietary restrictions are inadequate to protect us and mycotoxins are even on the skins of some fruits and in some areas of world, are problematic in drinking water.

[13] Kemin.com; Kemin Americas Inc; The Control of Mold and Mycotoxins In Ruminant Feeds; Dec. 2002.

[14] Council for Agricultural Science and Technology. Mycotoxins: Risks in Plant, Animal and Human Systems Task Force Report; number 139.CAST Ames, IA; Jan.2003

[15] Infectious Diabetes; Kaufman and Holland; Chapter 3: The Fungus Among Us.

[16] Accuracy of stereotactic brain tumor biopsy: Comparison of the histologic findings in biopsy cylinders and resected tumor tissue. Neurosurgical Review; Volume 14, Number 1 / March, 1991; pg 51-56

[17] Uric acid--a uremic toxin? Nakagawa, T et al; Blood Purif. 2006;24(1):67-70
Uric acid has often been regarded as simply a "marker" of renal disease but recently a study was conducted to clarify the role of uric acid in the kidney and determine whether uric acid might actually be a cause of renal disease. In this research it was found conclusively that hyperuricemia (increased uric acid levels in the blood) induced systemic hypertension, glomerular hypertrophy/hypertension, afferent arteriolar sclerosis, and macrophage infiltration in the normal rat kidney and that in already existing progressive renal disease, such as cyclosporine nephropathy and remnant kidney in rat, uric acid accelerated the progression of renal disease. Thus uric acid is a cause of renal disease.

[18] A solution of alloxan at 2% diluted in saline at 0.9% was administered to the animals in a single dose corresponding to 40 mg of alloxan per kg of animal weight injected into their penial vein. Alloxan induces irreversible diabetes mellitus after 24 hours following its administration and the condition proves to be chronic by laboratory tests after seven days. Experimental Model of Induction of Diabetes Mellitus in Rats; Acta Cir. Bras. vol.18
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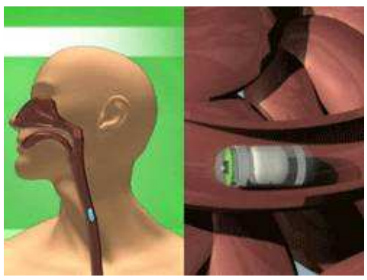
www.springerlink.com/content/xg8v8125663r8t41/

Oral Dosages of Bicarbonate



The best guidance for dosages for sodium bicarbonate is provided by one's own urinary and salivary pH, which one takes in the morning or several times during the day when doing a heavy course of dosages for cancer or other serious diseases. One needs to buy inexpensive pH paper strips for this. Because **Natural Allopathic Medicine** is designed for self administration I include as much information in my books as possible so people can find their way without having to depend on physicians but again it is always helpful to have good support when treating serious conditions. **There is no question that plasma bicarbonate concentrations are shown to increase after oral ingestion. The most important effect of bicarbonate ingestion is the change in acid-base balance as well as blood pH and bicarbonate concentration in biological fluids**.[1]The ingestion of sodium bicarbonate as a buffering agent has been studied in various experimental designs (repeated short bout exercises or long lasting efforts) and with large dose ranges (100 to 500 mg per kg body weight, ingested or injected). In Europe, spa-goers drink bicarbonate-rich water to heal ulcers, colitis and other gastric disorders. Ingesting bicarbonate by way of bathing stimulates circulation, possibly benefiting those with high blood pressure and moderate atherosclerosis.

While the body does have a homeostatic mechanism which maintains a constant pH 7.4 in the blood, this mechanism works by depositing and withdrawing acid and alkaline minerals from other locations including the bones, soft tissues, body fluids and saliva. Therefore, the pH of these other tissues can fluctuate greatly. Some believe the pH of urine remains at the acidic end of the scale because it is a reflection of the body eliminating unwanted acids, and therefore is not an accurate measure of the body's pH. The pH of saliva offers us a window through which we can see the overall pH balance in our bodies.

Intravenous sodium bicarbonate therapy increases plasma bicarbonate, buffers excess hydrogen ion concentration, raises blood pH and reverses the clinical manifestations of acidosis. Sodium bicarbonate in water dissociates to provide sodium (Na^+) and bicarbonate ($HCO3^-$) ions. Sodium (Na^+) is the principal cation of the extracellular fluid and plays a large part in the therapy of fluid and electrolyte disturbances. Bicarbonate ($HCO3^-$) is a normal constituent of body fluids and the normal plasma level ranges from 24 to 31 mEq/liter.

Plasma concentration is regulated by the kidney through acidification of the urine when there is a deficit or by alkalinization of the urine when there is an excess. Bicarbonate anion is considered "labile" since at a proper concentration of hydrogen ion (H^+) **it may be converted to carbonic acid ($H2CO3$) and thence to its volatile form, carbon dioxide ($CO2$) excreted by the lung.** Normally a ratio of 1:20 (carbonic acid; bicarbonate) is present in the extracellular fluid. In a healthy adult with normal kidney function, practically all the glomerular filtered bicarbonate ion is reabsorbed; less than 1% is excreted in the urine.

Oral intake offers many advantages over IV use. Bicarbonate, like magnesium chloride, though administered with IVs in emergency rooms can be used in many other ways as well. In Europe, spa-goers drink bicarbonate-rich water to heal ulcers, colitis and other gastric disorders. Ingesting bicarbonate by way of bathing stimulates circulation, possibly benefiting those with high blood pressure and moderate atherosclerosis.

To get a clear vision of how we should do oral bicarbonate treatments it is pertinent to read what Dr. Tullio Simoncini says about his IV bicarbonate cancer treatment. "Sodium bicarbonate therapy is harmless, fast and effective because it is extremely diffusible. A therapy with bicarbonate for cancer should be set up with **strong dosage, continuously, and with pauseless cycles in a destruction work which should proceed from the beginning to the end without interruption for at least 7-8 days.** In general a mass of 2-3-4 centimeters will begin to consistently regress from the third to the fourth day, and collapses from the

fourth to the fifth," says Dr **Simoncini.**

Sodium bicarbonate can be used orally in doses of 1/2 tsp in 4 oz of water every two hours for pain relief as well as gastrointestinal upset, not to exceed 7 doses per day. That's basically the receipt on every box of Arm and Hammers sold in every supermarket in the country.

Here are the exact instructions for oral use from the Arm and Hammer baking soda package. Directions:

> Add 1/2 teaspoon to 1/2 glass (4 fl. oz.) of water every 2 hours, or as directed by physician. Dissolve completely in water. Accurately measure 1/2 teaspoon.
> Do not take more than the following amounts in 24 hours:
> --Seven 1/2 teaspoons.
> --Three 1/2 teaspoons if you are over 60 years.
>
> **Do not use the maximum dosage for more than 2 weeks**.
>
> Other Information:
> Each 1/2 teaspoon contains 616 mg sodium.

There are many clinical applications for bicarbonate. "After suffering from a 4 hour long blinding headache for which nothing I took brought any relief, I tried the sodium bicarbonate, 1 tsp mixed in a glass of water. Within a few short minutes I could feel the headache abating and within the hour it was completely relieved! I tried this again when another headache occurred, and it worked just as miraculously." "This is the best pain reliever of all the ones I have been trying. I am amazed that something so simple would be so potent! I haven't exceeded 7 a day; but wish I could. It takes the pain away for about 2 hours. Nothing seems to work more then 2 hours at a time."

Dr. Parhatsathid Nabadalung, otherwise known as Ted on the Internet, knows more than just about anyone how to use sodium bicarbonate. "The best time to take it is whenever your pH is most acidic, which is during the night. It is best used when pH is around 5.6-5.9 (urinary). However if the pH is below that then somewhat stronger alkalinity is needed. In which case, I turn to potassium carbonate, potassium bicarbonate and sodium bicarbonate mixture. So if you take these, then both your salivary and urinary pH optimum should aligned close to each other. The usual dosage for me is 1/2 teaspoon (of potassium bicarbonate), 1/2-1 teaspoon of sodium bicarbonate, now if my pH is very acid, I add 1/8 teaspoon of potassium carbonate)."

Dr. Napatalung began using baking soda as far back as 1969 to relieve colds and various ailments including cancer. Dr. Reams began using lemon formula with bicarbonate to treat in the 70s thousands of cancer patients using changes in the basic biological terrain. As to the alkalization formula Dr. Napatalung has used citrates, carbonates, bicarbonates, potassium, sodium, and magnesium.

Interesting that just at the end of 2008 the FDA has advised that children under 4 should not be given over-the-counter cough and cold remedies, in a concession to pediatricians who doubt the drugs work in kids and worry about their safety. The voluntary changes came after federal health officials said they saw little evidence that the drugs work, but feared that parents would give kids adult medicines if the products were taken off store shelves. Sodium bicarbonate with iodine make excellent safe children's medicines that easily substitute for over the counter remedies without the resultant dangers.

Oral Bicarbonate Options

The great question when considering oral intake of bicarbonate is whether or not to take it with maple syrup, molasses, honey, just water or even with lemon.

Bill Henderson, author of *Cancer-Free, Your Guide to Gentle, Non-toxic Healing* mixes 3 parts Grade B maple syrup with one part baking soda and heats the mixture for a couple of minutes on the stove at low temperature. As soon as the baking soda foams up, he takes it off. He keeps it in the fridge and twice a day stirs it up (it settles) and eat one teaspoon. Result: normal and easy bowel movements. Twice a day -- sometimes three.

There is a man that cured a reoccurring bladder infection. He has spent literally thousands of dollars on doctors, who have tested him during this year and have not been able to find out what is wrong with him. He has had CT scans, MRI's, and other tests, in addition to being on antibiotics month after month with little or no result. Then he also went to a very expensive Naturopath and again got no results. Then he met a

woman who had another serious condition and had cured it with several weeks of very careful planned dosages of Baking Soda. Dosage needs to be strictly adhered too because too much baking soda can cause alkalosis, a blood ph that is too high. The dosage he took was 1 teaspoon in a glassful of water and he followed that glass of water with another glass of water. He did this 3 times a day the first week, 2 times a day the second week and once a day the third week. He now is doing it once or twice a month to maintain the benefits. It has been two months since his last bladder infection.

For Bone Cancer

My first PSA test registered 22.3 and my doctors made appointments for a biopsy. The biopsy report indicated that I did indeed have prostate cancer. This called for the next step - a bone scan. The report from this scan as well as a Pelvic Cat Scan is where the doctors decided I was afflicted with aggressive prostate cancer. Dated March 17, 2008: "Reviewed CT and bone scan. Bone scan showed metastatic disease at R sacrum and L illiac wing". So they patted me on the back and told me I had aggressive prostate cancer that has spread to the bone.

A second opinion from another oncologist gave me this report: "Ancillary Studies: These are largely mentioned in the history of present illness. The pathology confirms the presence of prostate carcinoma of high grade. The T stage would appear to be stage III but without obvious invasion into the seminal vesicles on CT scan. The radionuclide bone scan and plain films confirm the presence of skeletal metastasis in the sacrum and the left illium. In addition, on my review of the CT scan of the pelvis, a number of other small sclerotic lesions are noted within the pelvis. Pre-treatment PSA was 22 but has decreased to 5.88 after institution of Finasteride and Casodex. TNM classification, T#NXM1. AJCC stage IV."

He went on to discuss possible and improbable treatments. What he basically said is that there are none. In fact, he mentioned that he even found a few more spots that the first team of doctors missed. I was becoming used to the fact that I was a walking dead man. I was anxious to try cesium chloride treatments but my order got lost in the mail. That is when I decided to do Baking Soda Therapy except that I decided to add Black Strap Molasses as the carrier. I started 2 June 2008 and quit 12 June 2008. I quit because I was scheduled for another bone scan on 13 June 2008.

On the way to this test I was hoping for hope. I don't know why I was hoping, because all my research indicated that once cancer got into the bones you are toast. Anyway, I got bone scanned and waited for the report. The report arrived in the mail a few days later. I was nervous and did not want to open it. As a matter of fact I am crying right now just thinking about it. I finally opened it to these words:

> "NO CONVINCING EVIDENCE OF AN OSSEOUS METASTATIC PROCESS"
> I bawled like a baby.
>
> Two days later I got another report in the mail about my blood tests: PSA is now 0.1.... That is zero point one!

My son, by turning me onto adjusting the body's pH from acidic to alkaline as a possible way to create some hope, was a good hit. Arm and Hammer to the rescue! I later found out that Arm and Hammer is shunned by some baking soda users because of the idea that it has aluminum in it. Well, at the time, I could have cared less. As I later found out from research and a visit to a natural food store, aluminum is not in baking soda, it is in baking powder. The employee specializing in the vitamin and mineral department said that Bob's Red Mill Baking Powder is aluminum free and so is, as far as she knew, are all baking soda brands.

I am sure many people are interested to know what proportions of baking soda I used with the molasses. I started out with 1 teaspoon of baking soda with 1 teaspoon of Black Strap molasses and one cup of water. Not warmed or heated water. Just room temperature. Next day – same thing. Third day – same thing. Fourth day – same thing. I am feeling fine and decide to up the dose.

On the fifth day I started taking the solution twice a day. I also started taking better notes and finally got some pH paper and sticks so I could measure my pH. My goal was to get to 8.0 to 8.5 pH and hold it for 4 to five days. I read that cancer cells become dormant at pH 7.0 and 7.5 and kills them dead at 8.0 and 8.5. That was my goal. To kill them dead and hoping that bone cancer was a willing victim.

My pH measured 7.0 on the fourth day when I did a saliva pH test, and 7.5 when I did a urine pH test.

Day six – still 2 teaspoons of baking soda with 2 teaspoon of molasses and 1 cup of water twice a day.

The pH measured 7.25. Am I getting symptoms? Yes. I am feeling a little nauseous. Not much, but a little queasy. My stool had a yellowish tinge.

Now on this day six I really started tracking. I am checking pH with Stix and Paper. I discovered that all pH papers or stix are not alike. I test saliva and the urine, but did not track which one at the time. Here are the times and dosages.

0645 - Stix pH 7.25 & 7.75; Paper 7.5 Pee. Stix 7.5 & 6.75 Saliva
1400 - BSMBS2
1600 - (Stix pH 7.125 Saliva) (Stix pH 7.75 Pee)
2030 - BSMBS2
2345 - (Stix pH 8.0) - Felt a little Nausea

BSMBS2 means Black Strap Molasses and Baking Soda 2 teaspoons each. Add water.

Day seven - 06/08 1200 - (Stix pH 7.375 Paper pH 7.5+) Getting excited now. My lips tingle a bit and I feel the beginning of Oxygen Euphoria. I was worried a little about the lips, but then recall that some people report this as being part of the cesium therapy. Now the Oxygenation feeling that is really something else. It felt like I was hooked up to a pure oxygen machine and my nostrils were as big as wheel barrows.

On day seven I got aggressive and increased the baking soda dosage to 3 teaspoons. This brought on a slight headachy feeling. I backed off to 2 teaspoons baking soda because I was getting a little nervous. Also, my headache was getting stronger. I vacillated between continuing with the higher dose or not. I really wanted to kill it. But I went with my feeling and reduced it.

1205 - BSM1BS3 Increased BS dosage to 3 teaspoons for this session
1800 - (Stix pH 7.75) BSMBS2 got a little nervous about 3 teaspoons so I backed off to 2

Day eight – I moved to doing the double dose three dimes a day. I want that pH to get up there.

06/09 0600 - (Stix pH 7.7)
1000 - BSMBS2
1900 - (Stix pH 8.25)
1905 - BSMBS2
2345 - BSMBS2

Day nine – A little diarrhea but not much. I am feeling a little weak, but again, not much. Later as I thought back, it would have been a good idea to up my potassium intake.

06/10 0800 - pH 7.75
0900 - pH 8.25
0905 - BSMBS2
1400 - pH 8.5 A note: a little diarrhea, but not much
1600 - BSMBS2
1730 - pH 8.75
2200 - pH 8.5
2345 - BSMBS2 A note: Felt oxygenation euphoria throughout the day. Like my body was breathing pure oxygen. Nostrils are at least a mile wide.

Day ten – My headache is more persistent and I am having body sweats at night. Again, the sweats duplicating cesium symptoms. I cut back this day to a solution twice a day; not three times.

06/11 0800 - pH 8.5
0830 - BSMBS2
1230 - pH 8.5
1830 - pH 8.5 Headache
2330 - 8.375
2331 - BSMBS2 Note: Headache most of the day and part of yesterday. Sweaty late at night. Cut back to BSMBS2 only twice today.

Day eleven – my last day before I am scheduled for the big test. The body scan, that is, to check on the condition of my bones to see what is going on with the cancer.

06/12 0800 - (pH 8.0 and 7.5) Going down to 2 times a day
0910 - pH 7.25
0920 - BSMBS1.5 Note: dropped to 1.5 teaspoons to see if it would help control headache. Loose stool and slight headache. Sweaty last night.
1020 - More diarrhea with slight yellow tinge. Note: cutting back because I felt like it. I felt like I was getting overloaded. I probably would not have dropped back if I was not going to have Body Scan at hospital tomorrow.
1300 - pH 8.35

Bicarbonate Enemas

"I was re-reading some of your info and it got me thinking that maybe it is time to experiment with more of your protocol. I am not feeling good at all I have a staph-like infection with boils popping out in numerous places; any cuts and wounds are not healing and puss filled. There is lots of pain associated with these spots. Also on the left side of my large intestine I feel a blockage a few inches to the left of my belly button. This is my longest term chronic symptom for years and it seems exacerbated right now. I can barely have a bowl movement. Even an enema just cleans out the lower few inches of the bowel and can't seem to get water past the constriction."

"I started using baking soda in my enemas and it was miraculous - the amounts and ease with which I released was profound. I use several tablespoons up to a cup of bicarbonate per quart to get the best results for me. When I added the baking soda with warm water things really started moving what a relief that was."

More on Oral Dosages

One of the great questions for cancer patients when considering oral intake of bicarbonate is whether or not to take it with maple syrup, molasses, honey, just water or even with lemon. This question is important for patients with cancer for often their cells are starving for glucose and perhaps because the sugar acts as a kind of Trojan horse getting the cancer cells to open their mouths wide. Then the increased O2 enters more easily. This topic is presented in depth in my book.

Though I have published about the folk formula using maple syrup I do not recommend that. I recommend either black strap molasses (because you don't have to cook it and because of its rich mineral status) or just with mineral or distilled water. Bicarbonate with molasses fulfills the role of the glucose, which Dr. Simoncini always used when giving bicarbonate intravenously. Distilled water is excellent for treating disease "if" one adds bicarbonate and some pure magnesium chloride to it to enrich and harden it. One could even add a bit of sodium thiosulfate. When our water becomes a medicine benefits flow that are retarded when ones air and water supplies are tainted.

Many ask what a maintenance dosage would be or a cancer prevention dosage. Again this would vary widely but one teaspoon split into two dosages could be a standard but one still has to measure ones pH for guidance. Sodium bicarbonate is not a substitute for an alkaline diet nor is it a substitute for exercise and proper breathing which both increase a persons CO2 levels and thus O2 levels.

One practices strong medicine if one is in tune with ones own pH levels and use that as a guiding light in terms of dosages. Such a simple method can compete with so many tests that allopaths are obligated to do at great expense to the patient or society that pays for them. And still all these official tests ignore something so basic to human health.

My recommendation is to always use bicarbonate in one way or another because our world is acidic, our food, air and water and even emotions tend to be acidic. I brush my teeth and load up my water pick with bicarbonate and use it as a deodorant as well as take perhaps a half teaspoon a day when I am paying attention to my health. Whenever there is a health problem I always include it in my protocols for one can hardly go wrong with it. That said it is important to realize that there can be side effects and that one has to monitor with applied sensitivity their feelings and reactions to whatever one takes.

A major point I make in the book is that bicarbonate is best taken in conjunction with other medical and healing substances. The primary substance we need to think about, when taking bicarbonate, is magnesium chloride. The two together offer tremendous returns for they cooperate together right down to the mitochondrial level meaning they make the perfect mitochondrial cocktail.

Important Notes and pH Controversy:

What ph level should we get the urine or saliva up to? Your ph can go too high, which also invites certain illnesses and imbalances in the body, and this is the purpose of the monitoring with the pH paper - to keep ph in a proper, healthy range. For our purposes with my protocol we will measure urine and saliva pH and depending on how closely you want to monitor, this can be more than several times a day.

When you take your saliva pH, take it at least one hour before or 2 hours after you eat. Take measurements 2-3 times a day so you can get a feel for what your average is.

pH levels in your saliva can be affected by bacteria in your mouth as well as food you recently ate. In a perfect world with all other health parameters in place, the "averaged" pH of both urine and saliva will be right around what? That's a good question and is best answered perhaps not by a pH strip but by ones optimum feelings and state of being. Some people think that a pH as low as 6.4 is a good urinary target but there are some large assumptions that can put us into doubt about this. Getting this one right is important because Oxygen levels in the body are directly related to pH. Increasing pH from 4 pH to 5 pH increases oxygen to the cells by ten fold. From a 4 to a 6 increases oxygen by 100 times and raising pH from 4 pH to 7 pH increases oxygen levels by 1,000 times.

When body pH drops below 6.4, enzymes are deactivated, digestion does not work properly; vitamins, minerals and food supplements cannot effectively assimilate.

Understand that pH can move all over the place.[2]This is so because most individuals "total alkalinity" is not very strong and that is exactly what bicarbonate therapy as well as exercise, dietary sanity and good breathing promote, total alkalinity. So for instance two hours after a meal you may find the urine going acid as it is a reflection of the meals acid components pushing the pH. Now really, with life threatening situations especially, we don't want to be eating meals with large acid components so our urinary drift into the acidic with meals can be very mild if one is eating and even fasting correctly.

The food we consume stores the flame of the sun. The more perfect our body's biological terrain, the more capacity we have to extract that flame to give us vibrant health and energy. Likewise we can eat close to the sun. Spirulina, for instance, from a esoteric energetic perspective can be viewed as practically crystallized sunlight that is most easy for the body to extract from. Its one of the reasons it makes a perfect survival food but as a mono fasting food it practically becomes the perfect medicine. When we eat this way or raw food our intake is highly alkaline so the acids being cleared in the urine would be more from the detoxification of the tissues then from the food.

Sustained high urine pH is not what we are looking for though we do want to maintain "total alkalinity." One does not want to go over the deep edge with an alkaline urinary obsession. Some practitioners say you do not want to see urine above 6.5 for long periods of time and we should expect urinary changes up and down strongly depending on ones diet. We should not be surprised or disturbed when we see urinary pH getting down into the 5 range sometimes as this is a reflection of kidney capacity and it shows metabolic acids can and are being removed from the system. You want your urine able to move acid, and to essentially be acid when appropriate. If you are keeping urine above 6.5 and day to day are into neutral pH (7) or above numbers, this is actually not normal unless one is eating very purely. But for cancer treatment we want to break past this and establish a pH of around 8 for two weeks and then take a break letting urinary pH fall. The chapter on pH in the bicarbonate book deals in depth with this very important indicator of health.

Correct easily absorbable magnesium is needed: highly absorbable magnesium (magnesium oil) helps to help build necessary buffers. Magnesium is often lost in urine as a consequence of too much acid in the body. If your urine is 5.8-7.2 this indicates you are losing magnesium. One way to do this is to soak in a tub of warm water with one cup or more of Magnesium (oil or flakes) and one cup of baking soda. Use warm, not hot water especially for diabetic patients, as the soak will cause vasodilation of all of the surface blood vessels and they might faint when they stand up. This soak will pull the acidic toxins out of the body and put magnesium into the body (thus putting buffering alkaline magnesium into the body's circulation) through the process of osmosis.

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[1] www.mgwater.com/bicarb.shtml

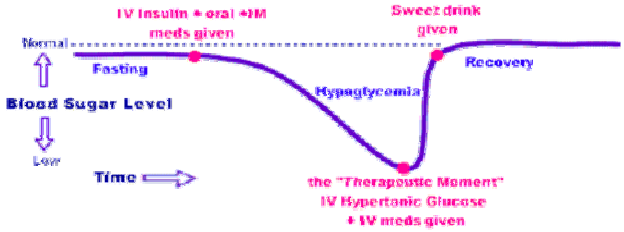
[2] The average of the five days of saliva pH will give you an idea whether your physiology is being

dominated by emotions. If emotional overload is a factor, this also needs to be addressed to prevent the patient from being disillusioned after trying to raise his/her urine pH and not getting anywhere. A simple key is when the pH readings vary greatly on arising each morning, It is almost certain that anxiety is influencing the individual's physiology.

Bicarbonate Maple Cancer Treatment

Honey and Black Strap Molasses

These forms of bicarbonate treatments are theoretically similar in principle to Insulin Potentiation Therapy (IPT). IPT treatment consists of giving doses of insulin to a fasting patient sufficient to lower blood sugar into the 50 mg/dl. In a normal person, when you take in sugar the insulin levels go up to meet the need of getting that sugar into the cells. In IPT they are artificially injecting insulin to deplete the blood of all sugar then injecting the lower doses of toxic chemo drugs when the blood sugar is driven down to the lowest possible value. During the low peak, it is said that the receptors are more sensitive and take on medications more rapidly and in higher amounts.



The bicarbonate maple syrup treatment works in reverse to IPT. Dr. Tullio Simoncini acknowledges that cancer cells gobbles up sugar so when you encourage the intake of sugar it's like sending in a Trojan horse. The sugar is not going to end up encouraging the further growth of the cancer colonies because the baking soda is going to kill the cells before they have a chance to grow. Instead of artificially manipulating insulin and thus forcefully driving down blood sugar levels to then inject toxic chemo agents we combine the sugar with the bicarbonate and present it to the cancer cells, which at first are going to love the present. But not for long!

This treatment is a combination of pure, 100% maple syrup and baking soda (Black Strap Molasses or Honey) and was first reported on the Cancer Tutor site. When mixed and heated 'gently' together, the maple syrup and baking soda mix but don't tightly bind together. The maple syrup targets cancer cells (which consume 15 times more glucose than normal cells) and the baking soda, which is dragged into the cancer cell by the maple syrup, being very alkaline forces a rapid shift in pH killing the cell. The actual formula is to mix one part baking soda with three parts (pure, 100%) maple syrup in a small saucepan. Stir briskly and heat the mixture for 5 minutes. Take 1 teaspoon daily, is what is suggested by Cancer Tutor but one could probably do this several times a day. With the Black Strap Molasses and honey heating is not necessary.

This of course is nice theory but not quite exactly right. First bicarbonate is actively transported and yes perhaps as the cells open up to the sugar cell wall permeability might change. And it is not quite the bicarbonate itself that acts as a poison to these dangerous cells but the shift in pH and changes in Oxygen and CO2 levels that are creating the changes. But whatever the theory it is hard to deny the testimonials that this simple combination works.

"There is not a tumor on God's green earth that cannot be licked with a little baking soda and maple syrup." That is the astonishing claim of controversial folk healer Jim Kelmun who says that this simple home remedy can stop and reverse the deadly growth of cancers. His loyal patients swear by the man they fondly call Dr. Jim and say he was a miracle worker. "Dr. Jim cured me of lung cancer," said farmer Ian Roadhouse. "Those other doctors told me that I was a goner and had less then six months to live. But the doc put me on his mixture and in a couple of months the cancer was gone. It did not even show up on the x-

rays."

Dr. Jim discovered this treatment accidentally somewhere in the middle of the last century when he was treating a family plagued by breast cancer. There were five sisters in the family and four of them had died of breast cancer. He asked the remaining sister if there was anything different in her diet and she told him that she was partial to sipping maple syrup and baking soda. Since then, reported by a newspaper in Ashville, North Carolina, Dr. Jim dispensed this remedy to over 200 people diagnosed with terminal cancer and amazingly he claims of that nearly half enjoyed a complete remission of their disease.

It is very important not to use baking soda which has had aluminum added to it. The Cancer Tutor site reports that Arm and Hammer does have aluminum but the company insists that is not true. One can buy a product which specifically states it does not include aluminum or other chemicals. (e.g. Bob's Red Mill, Aluminum-Free, Baking Soda).

IPT makes cell membranes more permeable, and increases uptake of drugs into cells. The essence of IPT is that it allows cancer drugs to be given in a smaller dose, far less toxic to normal cells, while building up lethally toxic concentrations in cancer cells. Both IPT and bicarbonate maple syrup treatments theoretically use the rabid growth mechanisms of the cancer cell against them.

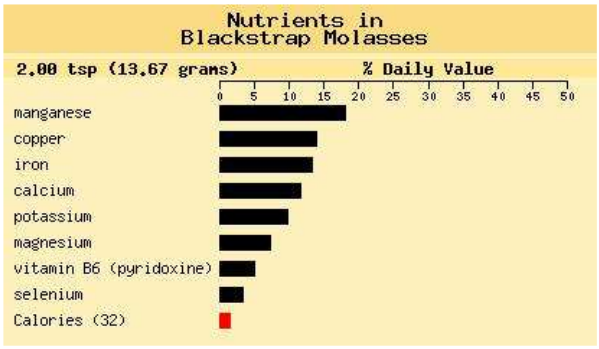
Dr. Jim did not have contact with Dr. Simoncini and did not know that he is the only oncologist in the world who would sustain the combining of sugar with bicarbonate. Dr. Simoncini always directs his patients to dramatically increase sugar intake with his treatments.

Black Strap Molasses

Blackstrap molasses is a sweetener that is actually good for you. It is not like refined white sugar and corn syrup, which are stripped of virtually all nutrients except simple carbohydrates. Nor is it like artificial sweeteners like saccharine or aspartame, which not only provide no useful nutrients but have been shown to cause health problems in sensitive individuals. Blackstrap molasses is a healthful sweetener that contains significant amounts of a variety of minerals that promote your health.

On the Earth Clinic site we read, "Thanks to the wonderful feedback we have received over the past eight years, blackstrap molasses appears to be making headlines as one of the best home remedies around! We have emails from our readers about blackstrap molasses curing cancerous tumors, fibroid tumors, anxiety, constipation, edema, heart palpitations, anemia, arthritic pain, joint pain, and acne, just to name a few."[1]

Chinese medicine tells us that blackstrap molasses tonifies deficiency, strengthens the spleen, lubricates lungs, stops cough and effectively treats stomach and abdominal pain as well as general chi deficiency. Most westerners cannot make much sense of Chinese diagnostics but what is being said here is that blackstrap molasses strengthens people. And when we look at its nutritional profile we can see why.



www.whfoods.com/genpage.php?tname=foodspice&dbid=118
Excellent Site Information on Blackstrap Molasses

Blackstrap molasses is a very good source of calcium. Calcium, one of the most important minerals in the body, is involved in a variety of physiological activities essential to life. The activities include the ability of the heart and other muscles to contract, blood clotting, the conduction of nerve impulses to and from the brain, regulation of enzyme activity, and cell membrane function. Molasses is also an excellent source of copper and manganese and a very good source of potassium and even magnesium.

In addition to providing quickly assimilated carbohydrates, blackstrap molasses can increase your energy by helping to **replenish iron stores**. Even pregnant moms will find this a lifesaver because it can give them the iron they need without the constipation that comes from taking iron supplements. One can put it in their oatmeal in the morning or sweeten their juices. In comparison to red meat, a well known source of iron, blackstrap molasses provides more iron for fewer calories and is **totally fat-free**. Iron is an integral component of hemoglobin, which transports oxygen from the lungs to all body cells, and is also part of key enzyme systems for energy production and metabolism. Growing children and adolescents also have increased needs for iron. Just 2 teaspoons of blackstrap molasses will sweetly provide you with 13.3% of the daily recommended value for iron.

For those who want to use Blackstrap Molasses instead of the maple syrup, honey or water for the sodium bicarbonate cancer treatment this is more than fine and there is no reason to cook it together. I believe actually that one does not really need to do that with the maple syrup either but one has to find their own way in choosing and administering these simple treatments. There are some exceptional honeys in the world also that can be used or one can simply take their bicarbonate with water. In the chapter on oral usage you will see a detailed case of a prostrate patient who had his cancer spread to his bones who cleared his bone cancer with Blackstrap Molasses and Baking Soda, and very little else.

In the second edition of this book we will include many more case studies. So please, all those who use the bicarbonate treatment, write us and send us your testimonials.

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[1] www.earthclinic.com/Remedies/molasses.html

Other Oral Bicarbonate Treatments

Dr. Parhatsathid Nabadalung
www.earthclinic.com/Remedies/alkalizing_formulas.html

There are several formulations that you can consider if you want to alkalize. Each will have advantages and disadvantages.

1. The Lemon Bicarbonate Formula

This simple formula will normalized many biological parameters, pH, ORP, phosphates, bicarbonates and antioxidants of vitamin C. Potential miracle water. One whole lemon freshly squeezed. Keep adding baking soda slowly bit by bit until the fizz stops. Then you will add water to one half glass. This is often taken twice a day. To be taken once in the morning and once before bedtime on an empty stomach.

Lemons are one of the gentlest ways to restore pH balance and alkalinity. Although lemon juice is itself acidic, the ash of lemon juice is alkaline. When you consume lemon, it neutralizes acid and makes the body more alkaline.

Lemons are known to promote cleansing and rid the body of chemical and dietary toxins, boosting the immune system and supporting good health. They are central to the Master Cleanse, which is often called the Lemon Cleanse.

Lemons are hardly a magic bullet, but they are a subtle, gradual way to improve pH balance.

Recommendation: Take the juice of half a lemon in a glass of warm or chilled water first thing in the morning (at least ten minutes before any food) to restore pH balance and improve digestion. Replace the white, wine, or other vinegar in home-made salad dressings with fresh-squeezed lemon juice. Most vinegars are acid ash foods, with the exception of apple cider vinegar.

2. The Lime Bicarbonate Formula

Same as above, but I use lime instead. The lime formula is the one I actually used in Bangkok and all measurements that normalized many biological parameters were based on lime formula. The reason is simple: lemon is non-existent in Bangkok. We use only lime. One whole lime freshly squeezed. Keep adding baking soda slowly bit by bit until the fizz stops. Then you will add water to one half glass. This is often taken either twice a day on an empty stomach, once in the morning and once before bedtime.

Note: Basically, lemon/lime juice idea is also good for people who fear some sodium retention issues. Since the lemon is already high on potassium, adding the sodium to neutralize the acid along the way will also create a sodium potassium balance.

3. For People with Sodium Issues and Want to Alkalize

1/8 teaspoon of baking soda 1/16 teaspoon of potassium bicarbonate 1/4 teaspoon of citric acid. Add water to 1/2 glass of water. Take this twice a day once in the morning and once in the evening on an empty stomach. This is done to avoid diarrhea problems, if taken along with food.

4. For People with Sodium Issues and Want to Alkalize and Normalize Many Biological Parameters: One whole freshly squeezed lemon (or lime) and keep adding the bicarbonate until the fizz stops. The bicarbonate is made of 50/50, sodium bicarbonate and potassium bicarbonate. Sorry, sodium must always be there to achieve somewhat of a sodium/potassium balance. Take this twice a day once in the morning and once in the evening on an empty stomach. This is done to avoid diarrhea problems, if taken along with food.

5. Apple Cider Vinegar and Thieves

Apple cider vinegar is an exception: unlike almost every other vinegar, it has an alkaline ash and improves pH by making the body less acidic.

For that reason alone, it is recommended to replace any vinegar in salad dressings and other recipes with apple cider vinegar, if lemon juice (as above) doesn’t provide enough bite.

As a tonic, apple cider vinegar may be taken first thing in the morning, on an empty stomach, by combining in a small glass:
1/2 to 1 ounce of apple cider vinegar (or 1-2 tbsp)
1 or more ounces pure water
2 drops Thieves essential oil blend (optional)

Apple cider vinegar is more potent than lemon juice, but still a gradual way to reestablish healthy pH in the body. The Thieves essential oil blend (containing clove, cinnamon, lemon, eucalyptus, rosemary) give the vinegar an extra immune-boosting kick. It also improves the flavor. Some people find that if they take the apple cider vinegar and wait too long before eating food, they feel nauseous. It is recommended, but not absolutely necessary, to wait ten minutes before eating.

General Information

The pH of the formula is not the most important factor here, nor is taste. What is important is the resultant pH of the urine, not the solution. You need to obtain a urinary pH of 7. So by measuring your urine you will determine the exact dose. Scientists have agreed to the urinary pH as the ultimate measure of whether the target achieved, not what you drink. However, if a pH reading is used for a particular remedy, the ideal pH would be between 7.0 - 7.5.

Most scientists have also agreed that the pH outcome of whatever you eat should be judge as a basis of whether it's acid forming or alkaline forming. In general, most sour foods in the long run will cause acid urine, and most bitter foods (less popular) will cause urine to alkaline pH. Hence, our tongues prefer sour to bitter and it's one of the many reasons why we are suffering from acidosis. Sugar is acid forming too.

The lemon or lime remedy requires 2 tablespoon of juice plus 1/2 teaspoon, not 1/4 teaspoon. Teaspoon sizes may vary unless you are using a cook's set of measurement spoons. However I used a regular teaspoon where the size is larger than a quarter coin. One whole lime plus 1/2 teaspoon baking soda is 7.5 pH.

A newly purchased pH meter needs to be calibrated. A pH meter must be recalibrated with each use if that is used not often, with a buffer 7 solution. They tend to go off.

Apple cider vinegar plus baking soda (2 tablespoons of ACV plus 1/4 teaspoon of baking soda) pH is exactly 7.0 after 2-3 minutes. It goes higher as you wait and settles down at about 7.3-7.5. Of course the solutions of pH may vary depending on the brand.

What you are missing on is most people take plain ACV for acid reflux, which is a worse option than taking baking soda added by some to neutralize pH. The remedy assumes you are using apple cider vinegar, not distilled vinegar."

Neurological Considerations

Sodium bicarbonate is a therapeutic drugs for vertigo.[1]

The neurological end on sodium bicarbonate is an interesting one. For example, if I accidentally take any aspartame products, now commonly found hidden in many gums and even children's supplements (such as Flintstones vitamins), the urinary pH will go immediately acid to urinary pH of 5.5 or below.

The reason why this occurs is an interesting one; the aspartame in presences of the body's enzymes breaks down into methanol and then formaldehyde which destroys the neurological system. The neurological system controls the body's pH, much like a thermometer. When this happens, the body becomes acid quite quickly and then the neurological system burns itself up, and hence the immune system and the homeostatic mechanism which helps maintain the body's system.

Once the control center is in disarray, then you have all kinds of neurological problems. As a simple antidote one can take baking soda to protect oneself from neurological damage. In fact the brain's pH is relatively acid due to most of the oxygen of the body, on a per weight basis, is consumed by the brain and hence it is relatively sensitive to damage.

The brain is the organ that the sodium bicarbonate cannot easily reach, so I had to turn my attention to sodium carbonate mixtures with baking soda in equal amounts when I wanted to reach into the brain. **When sodium carbonate encounters carbon dioxide, the sodium carbonate becomes sodium bicarbonate,** having one additional layer buffer needed to reach and alkalize the brain.

As a proof, I had a person from Romanian with a 10 year old astenia, a condition of chronic fatigue combined with inability to sleep. He only sleeps about 2-3 hours a day so it can be mentally taxing. The man's about 30 years old and a college professor. Baking soda was tried, and on some days it works on other days it didn't work in helping in sleep. The reason why sodium carbonate was not added was it was difficult to obtain it. Later when he was able to obtain it, he slept for the first time in about 10 years and it worked consistently.

What happens is really simple. The older you get the worse the circulation in the brain. As a result the brain becomes acid. If the brain becomes acid, you are restless cannot sleep and pretty soon you just burn yourself up, or it may even lead to Parkinson's or Alzheimer disease.

The dose was simple: 1/4 teaspoon of baking soda plus 1/4 teaspoon of sodium carbonate in 1 glass of water taken twice a day, but most importantly taken 2 or 3 hours before sleep. It worked so well, and consistently and what is interestingly is that he didn't need sleeping pills. Of course he tried sleeping pills. It didn't work.

For most people its effect on "cooling down" of the brain and cause sleepiness will take only 30 minutes to notice this effect. In case any people doubt that this does work, they actually tested on causing dogs into a stroke and used the "carbicarb" - an equimolar mixture of baking soda and sodium carbonate to cause the brain to be in alkaline state, which protected against brain damage.

Apparently when you have a stroke, the carbon dioxide accumulates, the brain becomes a carbonic acid, and the brain is damaged. Only the carbicarb can it effectively neutralized it as it has sodium carbonate which is a stronger buffer, strong enough to reach this area to cause the brain to be in an alkaline state. Hence alkalinity is more difficult to achieve at the extremities, bone marrow and the brain primarily because sodium bicarbonate simply can't reach it as effectively as a sodium carbonate. When sodium carbonate encounters carbon dioxide it becomes sodium bicarbonate, so it reaches very inaccessible area enough to alkalize and neutralize cancer tumors.

One of the reasons this book makes the point against one shot cancer treatment or cure is that each type of treatment has its strengths and weaknesses, which is why it’s best to approach cancer from many points on the compass simultaneously. One weakness of sodium bicarbonate therapy is that baking soda is generally depleted when it goes into the legs, feet, bone marrow and the brain all for different reasons. For example the leg and foot are low oxygen areas and baking soda is neutralized before it goes there and no longer has any buffering capacity - having been completely converted to just CO2 and H2O.

So we can extend the throw weight of bicarbonate by including potassium, cesium, and rubidium into our protocol because these minerals will get directly inside the cells and alkalize them. Cesium, rubidium, and potassium are all located to the far left side of the periodic table, which are often called alkali metals. They are working along the same paradigm lines as bicarbonate therapy but their action is different. Cesium and rubidium therapies are more delicate than bicarbonate suggesting that it should be done under the care of an experienced health care provider.

Though the Trojan horse theory behind maple syrup bicarbonate intake is nice but the real reason is probably simpler. The increased bicarbonate levels surround the cancer cells in an increasingly alkaline solution near the cells during the uptake of sugar. A much more Trojan effect is to add cesium, rubidium, potassium, or magnesium chloride into a mixture with the maple syrup. The point is that potassium citrate, rubidium, cesium and any other alkaline elements, will add additional throw weight into the bicarbonate extending its reach into more inaccessible area such as the bone, while a carbicarb with potassium will be more than enough to reach the brain area because its metabolism is so high, a baking soda can never reach, not like a carbicarb because it's buffering capacity is quite high.

In practice I prefer to just use potassium, and other intracellular minerals rather than sugar. The cellular uptake for these intracellular fluids is good anyway and without running the risk of actually feeding the cancer with sugar, especially with people who are diabetics.

Though I have written a lot on magnesium and cancer its usefulness in the bicarbonate protocol is unlimited. Because magnesium is intracellular it will go into the cells to alkalize and revive them. This is why it works so well in reducing cancer pain and reduces lactic acid neutralization, along with the usual alkalization remedy.

Iodine

As to why iodine works, Dr. Napatalung has observed that cancer always flare up after a shower with chlorine. “Chlorine displaces the body's iodine and you go into an immune suppression state. The thymus, responsible for your immune system, the thyroid, responsible for metabolism, and energy goes into suppression state because of the chlorine. This is why sodium thiosulfate works so well- it neutralizes oxidative chemical such as chlorine and then some! The iodine displaces the chlorine so the immune system picks up.”

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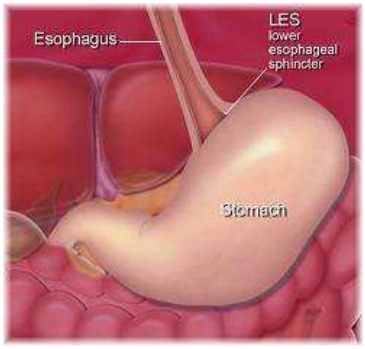
[1] sciencelinks.jp/j-east/article/200421/000020042104A0734385.php

Bicarbonate and Stomach Acid

Beware of too much Alkalinity?



The human body is alkaline by
design but acidic by function.
Dr. Robert O. Young

In any medical review of sodium bicarbonate we have to pay attention to stomach acid issues. Sodium Bicarbonate has a long history of being used as an antacid for short-term relief of stomach upset though this might not necessarily be the best approach to that problem. But it works and does so quickly. The main thrust of this book is not about using bicarbonate for stomach upset and digestion. This chapter does, however, touch on important stomach issues.

Highly alkaline water with magnesium, bicarbonate, calcium and potassium increases pH significantly. Bicarbonate alkaline mineral water can increase urinary volume, pH, citrate, uric acid and magnesium excretion of renal stone forming subjects by consumption of at least 2lit/day.[1]

The most important effect of bicarbonate ingestion is the change in acid-base balance as well as blood pH and bicarbonate concentration in biological fluids. This is especially important and useful medically when you consider the fact that normal adult humans eating typical American diets characteristically have chronic, low-grade metabolic acidosis.[2]When it comes to acid alkaline balance we are what we eat and doctors have to face the reality of the huge mistake our civilization and our patients make in this regard.

Bicarbonate is the ion normally responsible for alkalinity, or
the capacity of water to neutralize acids or resist changes in pH.

The clear message of this book is that there is little if any reason not to take bicarbonate in cancer and many other clinical situations. Sodium intake is restricted in patients with hypertension, but it is demonstrated that the accompanying anion, such as bicarbonate or chloride, plays an important role. It is now well established that **sodium bicarbonate as well as citrate and phosphate salts do not raise blood pressure to the same extent as do the corresponding amounts of sodium chloride.** A study on mineral water containing sodium bicarbonate has confirmed the absence of any effect on blood pressure in elderly individuals.[3]

Perturbation of systemic acid-base equilibrium occurs because metabolism of the diet releases noncarbonic acids into the systemic circulation (eg. **sulfuric acid from metabolism of protein**) in amounts that exceed the amounts of base released concomitantly. The size of the discrepancy between acid and base production determines the net endogenous acid production rate (ie, the net acid load of the diet), which in turn determines the degree of perturbation of systemic acid-base equilibrium.[4]

Sodium Bicarbonate put in animal feed tends to enhance
the buffer supply of normal salivation, reduce rumen
acidity by increasing pH, and improve fiber digestion.

Eating large amounts of protein results in excess acid production in the body. High acid-producing foods include sausages, cheeses and sweets, while bread, pasta, nuts, milk and dairy products are low acid-producing foods. Excess protein intake must be offset by eating lots of fruit and vegetables to restore the acid-base balance. Nutrition societies around the world recommend five servings of fruit and vegetables a day. Typical Western eating habits are different though. We tend to eat way too little fruit and vegetables and too much high-protein food, causing an acid-base imbalance.

The human body and all vital functions depend on a well functioning acid-base balance. An acid-base imbalance may result in exhaustion, difficulty concentrating or a beginning of neuropathy in the feet.

Experience from natural medicine shows that an acid-base imbalance not only makes people tired and exhausted, but it also facilitates the development of cellulitis and tense muscles. Alkaline minerals such as potassium bicarbonate, magnesium carbonate and sodium bicarbonate play an important role here, helping you maintain your acid-base balance.

The body's own buffer system can neutralize small amounts of (excess) acid by excreting it via the lungs, kidneys, liver and skin. Way too much acid for a prolonged period of time, however, will overburden the body's buffer system. Initially, excess acid will be stored in connective tissue (tissue in between the cells of the body) and not be released until the blood again contains enough alkaline mineral salts. This is why the body begins to increasingly tap its own mineral stores in the process, such as calcium phosphate from bone. This process increases the risk of osteoporosis.

Researchers from Department of Medicine and General Clinical Research Center, University of California[5]have found, "Renal insufficiency induces metabolic acidosis by reducing conservation of filtered bicarbonate and excretion of acid. **With advancing age, the severity of diet-dependent acidosis increases independently of diet.**[6]That occurs because kidney function ordinarily declines substantially with age, resulting in a condition similar to that of chronic renal insufficiency."[7]

Sodium Bicarbonate neutralizes acid and protects digestive enzymes.

Sodium bicarbonate reduces stomach acids and for this reason some people think that this is not a good idea since stomach acid is crucial for good digestion. But the stomach is protected by the epithelial cells, which produce and secrete a bicarbonate-rich solution that coats the mucosa.[8]Bicarbonate is alkaline, a base, and neutralizes the acid secreted by the parietal cells, producing water in the process. This continuous supply of bicarbonate is the main way that our stomach protects itself from auto digestion (the stomach digesting itself) and the overall acidic environment.

If one feels that they are deficient in stomach acid one should not take bicarbonate with meals.

Bicarbonate is naturally produced by the gastric membrane in the stomach. This production will be low in alkaline conditions and will rise in response to acidity. The mucus membrane of the human stomach has 30 million glands which produce gastric juice containing not only acids, but also bicarbonate. The flow of bicarbonate in the stomach amounts from 400 µmol per hour (24.4 mg/h) for a basal output to 1,200 µmol per hour (73.2 mg/h) for a maximal output. Thus at least half a gram of bicarbonate is secreted daily in our stomach. This rate of gastric bicarbonate secretion is 2-10% of the maximum rate of acid secretion. In the stomach, bicarbonate participates in a mucus-bicarbonate barrier regarded as the first line of the protective and repair mechanisms. On neutralization by acid, carbon dioxide is produced from bicarbonate.[9]

The stomach receives the raw materials

to make sodium bicarbonate from the blood.

This is a very interesting, complex and delicate thing nature did and it is our starting point in discussing some objections to using bicarbonate orally. The FDA is certainly not against the oral use of bicarbonate. It is on the "Generally Recognized as Safe" (GRAS) list and is sold in supermarkets everywhere in the United States with instructions right on the box for oral consumption. Meaning it's a food grade item that is generally considered safe with little precautions needed.

Secretin is a hormone that stimulates the release of bicarbonate into the small intestines so that enzymes have the proper pH to become biologically active.

Sodium bicarbonate is safe enough to be used with babies and in fact traditional European preparations have used it for centuries to ease the discomforts of infant colic, stomach pain, hiccups, gas and teething. Such preparations consist of specific herbs known to be beneficial for digestion such as fennel and ginger and a small quantity of sodium bicarbonate.

Ulcers, once thought caused by excess stomach acid, are actually often the result of the H. pylori bacteria, which eats away the stomach lining, making it vulnerable to stomach acid and ulcers.

Hydrochloric acid, a strong acid, is one of the compounds that makes up the gastric juice. Hydrochloric acid lowers the pH of the stomach contents to sometimes 2.0,[10]providing an extremely acidic environment that kills most microbes in food, including many that could cause human illness. Often what a person has to do to resolve certain digestive and general health problems is to take hydrochloric acid pills to increase stomach acid. This is not recommended in most cases while doing sodium bicarbonate orally as a cancer treatment, but such supplementation can be given with meals if a patient is not capable of reducing heavy protein consumption.

If the acidic contents leaks back into the esophagus, the irritation of the lining there is something we perceive as "heartburn." While most enzymatic digestion occurs in the small intestine, protein digestion begins in the stomach through the action of an enzyme called pepsin. Pepsin is secreted as an inactive material called pepsinogen. The acid environment of the stomach activates it, converting it to pepsin.

Secretin is a hormone that stimulates the release of bicarbonate into the small intestines so that enzymes have the proper pH to become biologically active.[11]

Alkaline or acid produced by the body must have an equal and opposite acid or alkaline produced by the body for things to remain in balance. However, **alkaline supplied from outside the body, like drinking sodium bicarbonate added to water, results in a net gain of alkalinity in our body.** And this is exactly what we usually want when dealing with most chronic diseases.

Some people are low in stomach acid and then bicarbonate could be balanced with the addition of stomach acids during meals. Dr. Jonathan Wright says that to improve digestion and end heartburn we should increase stomach acid, not decrease it. It is thought that doing so may work by causing the sphincter muscle at the bottom of the esophagus to stay tightly closed in response to the acid in the stomach.

It seems that ninety percent of the patients that Dr. Wright tests in his digestion clinic have too little stomach acid, not too much. Dr. Wright prescribes for his patients' hydrochloric acid pills, which he has compounded at compounding pharmacies. One can look for betaine hydrochloride, which is hydrochloric

acid in their local health food store as well as pepsin, papaine, bromelian, and pancreatic enzymes, which are what Wright prescribes for his patients.

It turns out the doc was right! "An apple a day keeps the doctor away."
And acid reflux away! I began to carry an apple everywhere I
went and noticed that I only needed a slice to treat my reflux.

One of the primary functions of the stomach is to form acid to digest protein**;** the building blocks of life. Some people might think that taking sodium bicarbonate orally would nullify this effect but that is simply not the case. It is true that the human is an acid consuming, acid metabolizing, acid excreting organism and that is exactly why bicarbonate physiology is so important. Though acid is concentrated especially in the stomach and the bladder in the form of urine the body in general enjoys life better when we are slightly alkaline. But it is possible to be deficient in stomach acid, which is essential for proper digestion.

Drug companies have been very good at creating medications that shut down stomach acid production. Medications like Aciphex, Nexium, Prevacid, Prilosec and Protonix are among the most frequently prescribed drugs in the country. Prilosec OTC, available without a prescription, has become one of the most popular heartburn pills in the pharmacy. Not only are the side effects of these drugs problematic, to say the least, these drugs and the pharmaceutical industry in general miss the point badly in directly suppressing acid production.

In reality it is rare to have a case in which a person has too much stomach acid. Most people's problem is stomach acid being excreted at the wrong time, like when there's no food present to use it up. Stressed-out people seem to have more problems with heartburn or acid reflux and it is common to experience flare-ups when emotional.

The best way to avoid stomach upset is to not eat the wrong foods in the first place.

When it comes to modern western diets heavy with meat, dairy and quick rising bread even with normal hydrochloric levels people have a difficult time breaking down all the proteins into amino acids and that is why so many people have difficulties in their intestines to the point of leaking gut syndrome. Sough dough bread is important for this very reason. When bread is digested overnight by natural yeast the proteins get predigested before they ever enter our mouths. This is a central issue with gluten intolerance.

Adding sodium bicarbonate to subjects on a high protein diet, which are known to acidify urine and sometimes lead to hypercalciuria (high level of calcium in urine), has been shown to greatly reduce calcium urinary excretion. The effect has been observed with 5.5 g of bicarbonate supplement received daily for two weeks. A recent study presented in the review of literature highlights that a bicarbonate-rich mineral water could be useful in the prevention of the recurrence of calcium oxalate and uric acid renal stones.[12]

Sodium Bicarbonate is used in hemodialysis. Patients in treatment are less stressed when bicarbonate is present in the dialysis fluid.

So what happens when sodium bicarbonate, which is really what we could call bicarbonate water, reaches the stomach, which is highly acidic? Before we look at the science we know already through thousands of years of experience that good water is alkaline and the best waters are high in bicarbonates. **One of the best reasons to drink bicarbonate is to replenish what was lost to us, fresh mountain spring bicarbonate water.** Most of the water humanity drinks is lifeless and worse, full of poisons like chlorine and fluoride and a myriad soup of chemicals and pharmaceuticals.

Stomach acid is actually secreted in reaction to what is put in the mouth. Once nerves in the cheeks and tongue are stimulated by the food, they send messages to the brain, which, in turn, alerts nerves in the stomach wall, stimulating the secretion of gastric juice before the bolus itself arrives in the stomach. Once the bolus touches the stomach lining, it triggers a second release of gastric juice, along with mucus rich in bicarbonate that helps protect the stomach lining from the action of the hydrochloric acid.

When we drink bicarbonate water on an empty stomach it mostly bypasses the stomach acid mechanism because when we drink water or liquids it goes right through the stomach with most liquids being absorbed along the intestinal tract. This fact was observed over 150 years ago when a man was accidentally shot in the stomach. A Dr. William Beaumont treated his wound, but expected the man to die from his injuries. But the man survived - but with a hole, or fistula, in his stomach that never fully healed. This allowed Dr. Beaumont, and army surgeon, to directly observe the processes of the stomach through many years of research on this particular patient. Liquids are quickly emptied, so baking soda does not have an especially depressing or neutralizing effect on stomach acid especially when taken on an empty stomach. [13]This even happens when we eat for the water content is wrung out of the food through mechanical action.

The cause of "high stomach acid" or ulcers is really
Helicobacter Pylori, which is an acid resistant
bacteria and are killed in presence of sodium bicarbonate.
Dr. Parhatsathid Nabadalung

The cells in our stomach wall produce hydrochloric acid (HCl) on demand. It is created on an instantly-as-needed basis. The ingredients in the stomach cell that make hydrochloric acid (HCl) are carbon dioxide (CO2), water (H2O), and sodium chloride (NaCl) or potassium chloride (KCl). NaCl + H2O + CO2 = HCl + NaHCO3, or KCl + H2O + CO2 = HCl + KHCO3

As we can see, the byproduct of making hydrochloric acid is sodium bicarbonate (NaHCO3) or potassium bicarbonate (KHCO3), **which goes into blood stream**. In another chapter it is interesting to note that ingested bicarbonate turns readily into CO2 so we can begin to see that there is a strong relation between acid and base physiology.

These bicarbonates are the alkaline buffers that neutralize excess acids in the blood; they dissolve solid acid wastes into liquid form. As they neutralize the solid acidic wastes, extra carbon dioxide is released, which is discharged through the lungs. As our body gets old, these alkaline buffers get low; this phenomenon is called acidosis. This is a natural occurrence as our body accumulates more acidic waste products. There is, therefore, a relationship between the aging process and the accumulation of acids.

It is not a good idea to forget the acid side of the equation
and push the body too high into the alkaline state for too long.

There are limits to everything and one should not ignore the two week maximum dosage that is on the box of Arm and Hammers sodium bicarbonate. One patient on a do or die alkaline program (not using sodium bicarbonate) wrote, “Now after 3 weeks of having morning urine pH higher then 8, I have many discomforts in the whole organism including headache, pain in muscular and joints and problem with digestive system.” The bicarbonate treatment goes for a maximum of two weeks and does not seek to maintain such high pH values for long periods of time, though after a week to ten days off of intensive bicarbonate therapy one can do the protocol again.

Mike Adams of Natural News writes, “Let's face it -- drug companies sell the promise of health, longevity, and cures for diseases. They use imagery that makes you think you might be healthy by taking their drugs. They spend billions of dollars on promotion to convince people that their lives will be happier and healthier if they would only purchase these pills and take them on a regular basis. They promise all of this, but they deliver none of it. In contrast, what they actually deliver is liver toxicity, brain confusion, birth defects, imbalanced physiology, and a chain reaction of biological side effects that are only now beginning to surface in the scientific community.”

Though sodium bicarbonate is a legal drug when injected, as is magnesium chloride, in oral forms both of these nutritional substances are safe, legal and live up to the promises made by pharmaceutical companies who will not use them to anywhere near their potential because so little money is to be made by marketing and selling them. When used together these two agents combine reverse general physiological deterioration like nothing else can. Because of this pharmaceutical companies would lose billions of dollars of sales on other drugs that only make cell physiology worse.

A case in point what happens with the mitochondria. Bicarbonate actually helps the magnesium get into the mitochondria - as it helps male sperm to swim up to the egg. When you consider that most pharmaceuticals are mitochondrial poisons we can begin to see that we are dealing with a fundamental paradigm shift away from medical madness based in pharmaceutical terrorism to a form of medicine that actually heals. See the chapter on Magnesium Bicarbonate for more information on what taking magnesium chloride and sodium bicarbonate together means.

We can do a lot to protect ourselves from the prescription drugs. Mike Adams suggests that we find our self a naturopathic physician, and do everything we can in terms of changing our lifestyle. This is accomplished by engaging in physical exercise, getting natural sunshine, and pursuing a highly nutritious diet. We do this in order to enhance our health and prevent disease so that we don't need prescription drugs in the first place.

A study published in the November issue of the journal Pediatrics says that the number of U.S. children taking medications for chronic diseases and conditions is growing and are rising rapidly. Using prescription claim data for 2002 to 2005, researchers at Express Scripts, St. Louis University and Kansas Health Institute evaluated the use of drugs to treat hypertension, high cholesterol, Type 2 diabetes, depression, ADD/ADHD and asthma in insured children ages 5 to 19.[14]

The use of all medications rose, but the use of **drugs to treat Type 2 diabetes soared.** The rate of growth for drugs to treat these conditions:

Hypertension: 1.8%
High cholesterol: 15%
Diabetes: 103.3%
Depression: 1.8%
ADD/ADHD: 40.4%
Asthma: 46.5%

Magnesium chloride and sodium bicarbonate used together will resolve these problems better than any pharmaceutical. These two substances used together are exceedingly helpful across a broad range of clinical conditions. They are also exceptionally safe. However, they are very dangerous to pharmaceutical companies that are concerned about their bottom line, as well as dangerous to doctors who cannot see anything beyond their pharmaceutically pre-programmed choices jotted down on their prescription pads.

A stable bicarbonate dialysis solution for peritoneal dialysis contains bicarbonate, calcium and magnesium. This bicarbonate-based solution is stable over long periods.[15]

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[1] Influence of Bicarbonate Calcium-Rich Alkaline Mineral Water on Kidney Parameters in Comparison with Tabriz Tap Water in Patients with Renal Lithiasis. Department of Drug Applied Research Center, Tabriz University of Medical Sciences. Argani

[2] Sebastian A, Harris ST, Ottaway JH, Todd KM, Morris RC Jr. Improved mineral balance and skeletal metabolism in postmenopausal women treated with potassium bicarbonate. N Engl J Med 1994;330:1776-81

[3] News vol 3, no 1, May 2001

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[8] Secretion of bicarbonate into the adherent layer of mucus gel creates a pH gradient with a near-neutral pH at the epithelial surfaces in stomach and duodenum, providing the first line of mucosal protection against luminal acid. The continuous adherent mucus layer is also a barrier to luminal pepsin, thereby protecting the underlying mucosa from proteolytic digestion.

[9] www.mgwater.com/bicarb.shtml

[10] The pH of the stomach may go as low as 1.0. This is a very acidic level. Because the pH scale is a logarithmic scale, the pH of the stomach is hundreds or thousands or millions of times stronger than typical cellular fluids which are generally close to 7.0 (the neutral level on the pH scale.) When food comes into the stomach, the pH may rise to levels in the 3.0 to 4.0 level due to the buffering capacity of proteins. Solutions at a pH of 1.0 are strong enough to burn through fabrics, injure eyes or irritate skin.

[11] BRS Biochemistry and Molecular Biology, Fourth Edition

[12] News vol 3, no 1, May 2001

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The pH Story

Acid Death Vs Alkaline Life

Studies have already shown how manipulation of tumor pH with sodium bicarbonate enhances some forms of chemotherapy.[1]

Proteins can be modified both in vivo and in vitro by increases in acidity. In fact **pH is the regulatory authority that controls most cellular processes.** The pH balance of the human bloodstream is recognized by medical physiology texts as one of the most important biochemical balances in all of human body chemistry. As mentioned previously, pH is the acronym for "Potential Hydrogen". In definition, it is the degree of concentration of hydrogen ions in a substance or solution. It is measured on a logarithmic scale from 0 to 14. Higher numbers mean a substance is more alkaline in nature and there is a greater potential for absorbing more hydrogen ions. Lower numbers indicate more acidity with less potential for absorbing hydrogen ions.

The extracellular (interstitial) pH (pHe) of solid tumours is significantly more acidic compared to normal tissues. [2]

Again, our body pH is very important because **pH controls the speed of our body's biochemical reactions.** It does this by controlling the speed of enzyme activity as well as the speed that electricity moves through our body. The higher (more alkaline) the pH of a substance or solution, the more electrical resistance that substance or solution holds. Therefore, electricity travels slower with higher pH. If we say something has an acid pH, we are saying it is *hot and fast*. Alkaline pH on the other hand, bio-chemically speaking, is *slow and cool*.

The closer the pH is to 7.35 - 7.45, the higher our level of health and well being and our ability to resist states of disease.

Body pH level changes have a profound effect on total body physiology. Oxidative stress, which correlates directly with pH changes into the acidic, is especially dangerous to the mitochondria, which suffer the greatest under oxidative duress. Only by eliminating acid waste, restoring your body's pH balance and preventing further accumulation of acid will we be able to lower our risk of cancer and other serious chronic diseases.

When we consume food that are high in acid or heavily processed, or food that causes an allergic response in our digestive systems, the food will not be absorbed properly into our bodies as nutrients. Instead, some of the food will be absorbed into the bloodstream as acid waste. The remainder of undigested food will linger in your intestines and putrefy, causing further release of acid into your bloodstream. The result is a general degeneration which creates the condition for cancer or its reoccurrence. This is a great problem with autistic children who suffer from what is called "leaky gut syndrome."

Improper digestion creates the perfect environment for bacteria and fungus to thrive. Where pathogens accumulate inflammation follows. A reduction in body acid is possible through proper diet and supplements. Acidic blood pH levels, which cause toxic acid wastes (acidosis), is a mostly unknown (outside of the emergency room) but is a dangerously destructive circumstance because it leads to cancer and other chronic diseases.

When you have an acidic pH, your body is being silently burned down day by day. However, when you maintain an alkaline pH on a daily basis, your body can rebuild, repair, rejuvenate and remain young. Yes long term aging is very much related to pH permanently shifted toward the acidic.

When talking seriously about pH it is very important to understand that we are not talking about stomach acid, saliva pH, or the pH of your urine. We are talking about the pH of the body's fluids, tissues and blood which have a real impact on disease processes. Our body's pH level regulates breathing, circulation, digestion, elimination, hormone production and immune defense.

The first major line of defense against sickness, disease and aging is the pH of your blood and we can push this quite quickly into higher pH levels with sodium bicarbonate. This is why we can use bicarbonate in many clinical situations, even with the flu for it will push the immune system through higher alkalinity into overdrive. The body prefers a slightly alkaline pH of approximately 7.4 in the blood and cells and if it drops below this for any length of time, it will suffer from the onset of degenerative disease or even acute infectious diseases like the flu.

As our bodies becomes acidic, our body's oxygen level begins to drop, leaving us tired and fatigued and this is what allows fungus, mold, parasites, bad bacteria, and viral infections to flourish and gain a hold throughout the body. When we become acidic we also start losing calcium out of the blood, the bones, as well as magnesium. Minerals are harnessed in a mandatory need to keep the blood pH slightly alkaline but this becomes a losing game for most people are also deficient in magnesium and other basic buffering minerals.

The great advantage of knowing the prime cause of a disease
is that it can then be attacked logically and over a broad front.
Dr. Otto Warburg

Dr. Otto Warburg, two times Nobel Prize winner, stated in his book “The Metabolism of Tumors” that the primary cause of cancer was the replacement of oxygen in the respiratory cell chemistry by the fermentation of sugar. The growth of cancer cells is initiated by a fermentation process, which can be triggered only in the absence of oxygen at the cell level. What Warburg was describing was a classic picture of acidic conditions. Just like overworked muscle cells manufacture lactic acid by-products as waste, cancerous cells spill lactic acid and other acidic compounds causing acid pH.

Patients receiving sodium bicarbonate achieved urine pHs
of 6.5 as opposed to 5.6 with those receiving sodium chloride.
This alkalinization is theorized to have a protective effect against
the formation of free-radicals that may cause nephropathy.[3]
Dr. Michael Metro

A true understanding of cancer is difficult without understanding why some tissues in the body are deficient in oxygen and therefore prone to cancer. Cancerous tissues are acidic, whereas healthy tissues are alkaline. Water (H2O) decomposes into H+ and OH-. When a solution contains more H+ than OH- then it is said to be acid. When it contains more OH- than H+ then it is said to be alkaline. When oxygen enters an acid solution it can combine with H+ ions to form water. Oxygen helps to neutralize the acid, while at the same time the acid prevents oxygen from reaching the tissues that need it. Acidic tissues are devoid of free oxygen. An alkaline solution is just the reverse. Two hydroxyl ions (OH-) can combine to produce one water molecule and one oxygen atom. In other words, an alkaline solution can provide oxygen to the tissues.

The pH scale goes from 0 to 14, with 7 being neutral. Below 7 is acid and
above 7 is alkaline. The blood, lymph and cerebral spinal fluid in the human
body are designed to be slightly alkaline at a pH of 7.4.

At a pH slightly above 7.4 cancer cells become dormant and at pH 8.5 cancer cells will die while healthy cells will live. This has given rise to a variety of treatments based on increasing the alkalinity of the tissues such as vegetarian diet, raw foods, the drinking of fresh fruit and vegetable juices, and dietary supplementation with alkaline minerals such as calcium, potassium, magnesium, cesium and rubidium. But nothing can compare to the relatively instant alkalinizing power of sodium bicarbonate for safe and effective treatment of cancer.

gabrielcousens.wholelife.com/index.php?option=com_
hwdvideoshare&task=viewvideo&Itemid=0&video_id=23
Raw Food Video

Like magnesium chloride or sulfates are excellent emergency medicines, basic chemicals, nutritional in nature, sodium bicarbonate is a nutritional medicine meaning it cannot and will not end up controlled by

CODEX. To control bicarbonate they would have to demand mothers and fathers stop making cake with it.

Sodium bicarbonate is an emergency medicine for cancer. If a person goes on a raw food diet they will drive up their pH reasonably fast. However, it will not drive it up as quickly nor as strongly as bicarbonate. One, of course, can use the bicarbonate in the beginning of such a diet change.

Cancer seems to grow slowly in a high acid environment (the acids cause it to partially destroy itself) and may actually grow more quickly as your body becomes more alkaline prior to reaching the healthy pH. Which means reaching slightly above 7.4 where the cancer becomes dormant. Therefore, it is important to get the pH above 7.4 quickly. Once one has achieved a pH above 7.4, it is useful to monitor saliva pH regularly to ensure that the body remains sufficiently alkaline.

Proteins can be modified both in vivo
and in vitro by increases in acidity.

Arthur C. Guyton, M.D., who is considered the world's most recognized author on human physiology, has spent the better part of his life studying the pH or acid/alkaline balance of the body. In his "Textbook of Medical Physiology" which is used to train medical students he states, and I quote, "The first step in maintaining health is to alkalize the body. The second step is to increase the number of negative hydrogen ions. These are the two most important aspects of homeostasis." In 1931 Dr. Otto Warburg discovered that "To become malignant cancer must have low oxygen, strong acid environment"

When a person's body becomes acidic they start to get a condition called Blood Rouleau. This condition is when the red blood cells stack up like pennies in a coin roll. The red blood cells are responsible for transporting oxygen and nutrients to the body and removing waste. When stacked up the red blood cells cannot transport as much oxygen and nutrients to the body. Waste removal is also reduced because of lack of surface area on the red blood cells. A person in this condition often feels tired and tends to over eat because their body is starving. More protein and carbohydrates are consumed which leads to more Blood Rouleau due to the fact most carbohydrates and proteins are acidic. In this condition the white blood cells tend to be smaller and less active which allows people to get sick easier due to less responsive immune system.

Oxygen cannot stick to blood cells if the pH of the blood is too acidic. You can breath pure oxygen but if the blood pH is acidic, and then the oxygen will not be able to be picked up by the blood cells. It is chemically impossible. The blood must be normal and normal blood has a pH of around 7.4 pH. Any vestigial traces of oxygen that the acid-drenched blood cells manage to pick up are stripped off early. They are stripped off by the oxygen-starved cells along the way and never reach the deeper parts of the body where oxygen is most needed. Because the pH is acidic, carbon dioxide also is not transported efficiently and so builds up within the tissues leading both to cell death.

The strong acids in our bodies are those that are formed by the degradation of protein. These are sulfuric acid, phosphoric acid and nitric acid. These are strong, like the battery acid in your car. Strong acids are strong in contradistinction to weak acids such as vinegar and citrus juices. Weak acids do not ionize (break apart completely) when in solution; whereas strong acids do.

Control of pH is crucial to neuronal function,
given the high metabolic rates of acid production
and sensitivity of electrical flow to changes of pH.

One of the main reasons we become acid is from over-consumption of protein. Eating meat and dairy products may increase the risk of prostate cancer, research suggests.[4]Conversely mineral deficiencies are another reason and when you combine high protein intake with decreasing intake of minerals you have a medical disaster in the making through lowering of pH. When protein breaks down in our bodies they break into the above mentioned strong acids. These three acids must be excreted by the kidneys because they contain sulfur, phosphorus or nitrogen which cannot break down into water and carbon dioxide to be eliminated as the weak acids are. In their passage through the kidneys these strong acids must take a basic mineral with them because in this way they are converted into their neutral salts and don't burn the kidneys on their way out. This would happen if these acids were excreted in their free acid form. The following information is from my still to be published book **Natural Allopathic Medicine.**

Few people are conscious of the decreasing value of vitamins, minerals and proteins in the food we all eat. Our children are being caught between a hammer and a hard place. On one side they are being

poisoned and on the other they are being deprived of the very nutrition necessary to resist all the different toxicities that confronts them. Then, on top of everything else, our children's systems have to navigate through further deficiencies brought on by antibiotics that are used too often.

Micronutrient content of the average diet in industrialized countries has declined dramatically.

The soil our vegetables, fruits and grains are grown in has been depleted of important trace elements. That is because of over farming and the heavy use of nitrogen in fertilizers and all the chemical pesticides, herbicides, insecticides and fungicides used in modern farming. It is crucial that doctors and parents recognize that **from poor soil comes poor food** that is deficient in minerals and vitamins. This must be factored into our detoxification and chelation equations.

Dr. Alan Gaby has put forward compelling evidence linking the incidence of degenerative disease conditions with a lack of micronutrients in our diet. He points out that as we get less of the vital nutrients in our diet, we actually need more because the body uses its store of micronutrients to help neutralize poisons as they enter the body. Almost every human being on earth now is caught in a Catch-22. We are all absorbing environmental pollutants, medicines, vaccines, dental products, and poisons in our food and water. This not only inhibits the normal biochemical functions of vital micronutrients, it also destroys or depletes these vital substances.

Analysis	***Mineral***	***Vegetables*** **(27 varieties)**	***Fruit*** **(17 varieties)**	***Meat*** **(10 cuts)**
1940	Sodium			
1991	(Na)	Less 49%	Less 29%	Less 30%
1940	Potassium			
1991	(K)	Less 16%	Less 19%	Less 16%
1940	Phosphorous			
1991	(P)	Plus 9%	Plus 2%	Less 28%
1940	Magnesium			
1991	(Mg)	Less 24%	Less 16%	Less 10%
1940	Calcium			
1991	(Ca)	Less 46%	Less 16%	Less 41%
1940	Iron			
1991	(Fe)	Less 27%	Less 24%	Less 54%
1940	Copper			
1991	(Cu)	Less 76%	Less 20%	Less 24%

Minerals perform a number of important functions. They act as catalysts, thus playing a major role in metabolism and cell building. They regulate the permeability of cell membranes, maintain water balance and osmotic pressure between the inside and outside environment. Minerals influence the contractility of muscles and regulate the response of nerves to stimuli. Thus, these declining mineral values threaten us with certain declines in health and increases in diseases of many types unless we can compensate. Proportion is the key factor in the proper assimilation of minerals by the body and nature provides us with certain foods and natural substances that are faultlessly balanced in this regard. But minerals and trace elements, the basic building blocks of our bodies, are not as readily available in our diet as they once were. So…**humanity is being caught between the hammer of chemical toxicity, and the anvil of not having enough micro nutrients to stave off chronic and degenerative diseases**.

Sulfuric acid or any of the strong acids are excreted mainly as the salts of sodium, potassium, magnesium or calcium as these are the main basic minerals of the body. They are the ones that are the most plentiful. The sulfur in sulfuric acid can and does combine with the calcium in your bones for one and is excreted as the corresponding salt which is called calcium sulfate. This salt does not harm the kidneys on its way through them but it does rob the body of the needed basic calcium.

By taking all these basic minerals out of the body you make the body relatively more acid. Add nutritional deficiencies and problems with absorption of minerals in the gut and there is no way the body can sustain a healthy colony of cells and tissues. A latent "acidosis" develops because the body becomes

mineral deficient.

We need protein but not near as much as most modern individuals eat. The average American diet contains as much as 200 grams of protein per day, that's bacon and eggs for breakfast, etc. We all know that the "richer" and more “advanced” we became as a civilization the more meat and dairy we eat.

How acid something is determined by measuring its pH. The pH of anything is set on a scale of from 1 to 14. pH 1 is the most acid, like the acid in your car battery. pH 14 is the most basic, like the lye you spray in an oven to clean it. Water is supposed to be neutral at a pH of 7.0. The pH of the blood has to remain exactly 7.40, all the time...exactly! If the blood's pH rises or falls one tenth of a pH unit you are in intensive care in the hospital where the pH of your blood is monitored very carefully. If it moves two tenths either way it is lethal.

The acid/base balance or lack thereof in this internal milieu, is easy to evaluate. Simply, you measure how acid your saliva and urine are at home. This will be explained thoroughly under Urine and Saliva Testing. And as stated this is an exceedingly useful tool in following your own health. When a person’s body becomes alkaline the red blood cells can then take on more oxygen and nutrients to the body and remove unwanted waste. Cancer patients have a saliva pH of 4.5 to 5.5. Healthy people have a pH of 7.0 to 7.5. Test saliva first thing in the morning before any thing is placed in the mouth.

Intensive care medicine is the only place in regular medicine that pH is taken seriously. Arterial blood pH is measured frequently in intensive care because here the pH of the blood itself does change. Acidosis is a very serious condition that demands an immediate response in intensive care land the response of choice of course is sodium bicarbonate. This book is about chronic acidosis as well as treating cancerous tumors through a generalized manipulation of full body pH from acid to alkaline.

Acid conditions alter virtually all cell and body functions and are considered to contribute in a fundamental sense to rapid aging and disease. The neutralization of damaging acid conditions in the body by carbonate sediments and bicarbonate solutions may be one of the main reasons that many animals and people live longer and stay healthier. Next time you hear a doctor or anyone else opposing or negating the importance of pH in health or disease offer them a bottle of acid to drink or a coke. Both will make a point.

The oceans of the world are alkaline and contain carbonate sediments, bicarbonate ions and relatively high concentrations of calcium and magnesium ions. We also know that the blood is also alkaline and is very similar in composition and properties to ocean water. That is why Navy doctors in WWII were able to substitute clean seawater for blood serum when they ran out of their medical supplies.

People in the world who drink from natural water sources containing carbonate sediments, bicarbonate ions and relatively high levels of mineral ions have superior health and longevity. The National Academy of Sciences and the associated National Research Council have evidence that groups of people demonstrate increased longevity and health if they reside in areas of the United States that have relatively high levels of bicarbonate ions and mineral ions in the drinking water. Numerous other expert studies around the world have found that people demonstrate increased longevity (particularly, a low death rate from heart disease) if they reside in areas with relatively high levels of calcium and/or magnesium ions in the drinking water.

Acid conditions precede the production of large
concentrations of oxygen free radicals in body cells.

Acid conditions increase the strength of oxygen free radical reactions (activated oxygen species reactions) which are involved in the processes of cell injury and cell death. Cell injury and cell death from oxygen free radical reactions initiate many diseases of body organs including diseases of joints, kidney, lung and heart. These free radical reactions are involved also in the initiation of cancer and the processes of aging and senescence.

It is considered that normal adults eating ordinary Western diets have chronic, low-grade acidosis which increases with age. This excess acid, or acidosis, is considered to contribute to many diseases and to the aging process. **Acidosis occurs often when the body cannot produce enough bicarbonate ions (or other alkaline compounds) to neutralize the acids in the body formed from metabolism.**

It is known also that bicarbonate ions and other alkaline compounds prevent the harmful effects of acid on bone and prevent or retard muscle catabolism. In addition, the avoidance and prevention of acid conditions in the body are highly essential for optimum health because the activities of almost all enzyme

systems in the body are affected detrimentally by excess acid. Acid conditions in the body alter nearly all cell, organ and body functions. This leads to aberrations in homeostasis and contributes to the pathogenesis of many diseases.

Acid conditions in the body alter the net charge on protein surfaces and alter the hydrogen bonding of proteins. As acid conditions increase, acidic amino acid side chains on proteins become protonated. This results in alterations in the charges on the surface of proteins. These charge alterations have a dramatic effect on protein stability which impacts on enzyme and structural protein function.

When we consume water with sodium bicarbonate the bicarbonate ions enter the body and help to neutralize the production of acid from carbon dioxide and other sources in body cells. The ingested bicarbonate enhances the large amount of natural bicarbonates produced in the body each day by the kidneys, brain, pancreas, red blood cells and other tissues. Indeed, the kidneys alone produce about two hundred and fifty grams (about half a pound) of bicarbonate per day in an attempt to neutralize acid in the body. In addition, the brain produces each day about half a liter of cerebrospinal fluid which is rich in bicarbonate. The pancreas produces each day about three liters of pancreatic fluid which is rich in bicarbonate.

The human body goes to great lengths to neutralize the production of acid from carbon dioxide in body cells. Indeed, **the fastest known enzyme in the world exists in human cells to catalyze the rapid production of bicarbonate in order to neutralize acid.** This enzyme, carbonic anhydrase, is ubiquitous in the body and occurs in most cells and tissues. Each molecule of carbonic anhydrase enzyme catalyzes the production of one thousand to one million bicarbonate ions per second.

Magnesium application enhanced the effect of zinc on growth and grain yield of rice in alkali/sodic soil. Ten kg MgSO/ha almost doubled the biomass production under normal supply of 25 kg ZnSO/ ha largely due to increased tillering. It also hastened the process of heading. Magnesium tended to reduce the chaffy grains and thereby increased the filled-grains and grain size leading to yield enhancement significantly. Further, magnesium application resulted in dark green color of leaves due to increased chlorophylls. **The activity of carbonic anhydrase also increased due to magnesium application.** Interestingly, Mg application promoted the absorption and translocation of Zn, Ca, P, K and that of Mg itself whereas Na accumulation was inhibited. This study suggested that magnesium can be beneficial, in addition to zinc, in alkali soil.[5]

The human body overall is sixty percent composed of two of the most natural compounds on Earth - water and bicarbonate. The fluid component of human blood, which is vital for organ function, is a solution of sodium bicarbonate. The cerebrospinal fluid surrounding the brain, which is vital for brain function, is a solution of sodium bicarbonate.

Medical scientists in the Department of Molecular Biology, University of Occupational and Environmental Health, School of medicine, Fukuoka Japan have identified four major types of pH regulator: the proton pump, the sodium-proton exchanger family, the bicarbonate transporter family and the monocarboxylate transporter family. Understanding pH regulation in tumor cells suggests that the bicarbonate often used with cancer patients for a variety of reasons would be effective inducing tumor-specific apoptosis.

Cancer tissues have a much higher concentration of
toxic chemicals, pesticides, etc then do healthy tissues.

In 1973, a study conducted by the Department of Occupational Health at Hebrew University-Hadassah Medical School in Jerusalem found that when cancerous breast tissue is compared with non-cancerous tissue from elsewhere in the same woman's body, the concentration of toxic chemicals such as DDT and PCBs was "much increased in the malignant tissue compared to the normal breast and adjacent adipose tissue."[6]This should say something to the oncologists of the world about chemical etiologies that are going undiagnosed and untreated.

Part of any successful cancer treatment includes chelation and detoxification of heavy metals and a host of toxic chemicals, which are all invading our bodies' everyday. It is literally raining mercury. Uranium contamination is increasing and lead, we are discovering, is even more toxic than anyone ever believed. It is even in the bread that we eat. Arsenic is in our chicken; the government still wants you to get your yearly mercury flu shot; dentists of course are still using hundreds of tons of mercury exposing patients to internalized toxic waste dumps (mercury vapors from hell); fluoride is still put in the water; and

chlorine is breathed in most showers. This just covers a small slice of the toxic disaster that is the hallmark of life in the 21st century. But oncologists have just not been able to understand that cancer patients are suffering from poisoning on a massive scale with all the chemicals scientists have already established cause cancer.

Patients receiving sodium bicarbonate achieved urine pHs
of 6.5 as opposed to 5.6 with those receiving sodium chloride.
This alkalinization is theorized to have a protective effect against
the formation of free-radicals that may cause nephropathy.[7]
Dr. Michael Metro

In the early stages of acidic pH in the body's tissues, the warning symptoms are mild. These include such things as skin eruptions, headaches, allergies, colds, flu and sinus problems. These symptoms are frequently treated (manipulated) with antibiotic drugs and suppressive medications. The longer and the deeper we become acidic the more our illness takes hold. So it is best to fight acidic conditions early on and in every presenting clinical situation. Certainly a highly toxic drug like anti viral Tamiflu won't do a fraction of the job sodium bicarbonate will do especially if bicarbonate is combined with magnesium chloride, iodine as well as high levels of vitamin C.

In late stages of acidic pH we need to turn to the most alkaline minerals to increase our throw weight of alkalinity into cancer cells. Mass spectrographic and isotope studies have shown that potassium, rubidium, and especially cesium are most efficiently taken up by cancer cells. This uptake was enhanced by Vitamins A and C as well as salts of zinc and selenium. The quantity of cesium taken up was sufficient to raise the cell to the 8 pH range. [8]

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[1] Enhancement of chemotherapy by manipulation of tumour pH. Raghunand N, He X, van Sluis R, Mahoney B, Baggett B, Taylor CW, Paine-Murrieta G, Roe D, Bhujwalla ZM, Gillies RJ. Arizona Cancer Center.

[2]Enhancement of chemotherapy by manipulation of tumour pH. Raghunand N, He X, van Sluis R, Mahoney B, Baggett B, Taylor CW, Paine-Murrieta G, Roe D, Bhujwalla ZM, Gillies RJ. Arizona Cancer Center, Tucson 85724-5024, USA.

[3] www.urotoday.com/38/browse_categories/renal_cancer/sodium_bicarbonate_infusion_found_to_reduce_risk_of_contrastinduced_nephropathy.html

[4] news.bbc.co.uk/2/hi/health/7655405.stm

[5]SINGH H. P. Indian Journal of Plant Physiology ISSN 0019-5502 2005, vol. 10, no2, pp. 158-161

[6]Jerome B. Westin and Elihu Richter, "The Israeli Breast-Cancer Anomaly," in Devra Lee Davis and David Hoel, editors, TRENDS IN CANCER MORTALITY IN INDUSTRIAL COUNTRIES (New York: New York Academy of Sciences, 1990), pgs. 269-279.
Following public outcry, Israel banned these chemicals from being used on feed for dairy cows and cattle. Over the next ten years, the rate of breast cancer deaths in Israel declined sharply, with a 30% drop in mortality for women under 44 years of age, and an 8% overall decline. At the same time, all other known cancer risks--alcohol consumption, fat intake, lack of fruits and vegetables in the diet--increased significantly. During this period, worldwide death rates from cancer increased by 4%. The only answer scientists could find to explain this was the reduced level of environmental toxins.

[7] www.urotoday.com/38/browse_categories/renal_cancer/sodium_bicarbonate_infusion_found_to_reduce_risk_of_contrastinduced_nephropathy.html

[8]"A mass spectrographic analysis of cancer cells showed that the cell membrane readily attached cesium, rubidium and potassium, and transmitted these elements with their associated molecules into the cancer cell. In contrast cancer membranes did not transmit sodium, magnesium, and calcium into the cell: the amount of calcium within a cancer cell is only about 1% of that for normal cells. Potassium transports glucose into the cell. Calcium and magnesium transport oxygen into the cell. As a consequence of the above, oxygen cannot enter cancer cells so the glucose which is normally burned to carbon dioxide and water undergoes fermentation to form lactic acid within the cell. This anaerobic condition was pointed out by Warburg, as

early as 1924. Potassium, and especially rubidium and cesium are the most basic of the elements. When they are taken up by the cancer cells they will thus raise the pH of the cells. Since they are very strong bases as compared to the weak lactic acid it is possible that the pH will be raised to values in the 8.5 to 9 range. In this range the life of the cancer cell is short, being a matter of days at the most. The dead cancer cells are then absorbed by the body fluids and eventually eliminated from the system." - Dr. Brewer
www.mwt.net/~drbrewer/highpH.htm

Oral Cancer, Mercury and Periodontal Disease

New Approaches to Oral Health

Special Note: This chapter offers some very clear and personal experiences we can have with many of the basic substances in Natural Allopathic Medicine. Meaning salt water, magnesium chloride, sodium bicarbonate, iodine and bentonite clay can all be used to great effect to cleanse and strengthen oral and dental environments. The experience of using these substances in the mouth gives us a close up feeling for how to use them for other applications like cancer in other parts of the body. In the end I selected sodium bicarbonate as my mainstay toothpaste and when I treat myself for acid conditions I just brush, swish in some more water and swallow.

We cannot attain or maintain a complete state of
good health without healthy oral environments.

The incidence of oral cancer is on the rise. Current estimates have the rate of increase at around 11%, with approximately 34,000 people in the U.S. being diagnosed with oral cancers each year. Of those 34,000 newly diagnosed individuals only half will be alive in five years. Oral Cancer can mimic common mouth sores meaning most patients do not experience noticeable symptoms in the early stage of the disease process, and that is dangerous.

Scientists have also discovered a link between gum and pancreatic cancer in men. "Our study provides the first strong evidence that periodontal disease may increase the risk of pancreatic cancer," said Dr Dominique Michaud of the Harvard School of Public Health in Boston, who led the research. Men with a history of periodontal disease had a 64 per cent increased risk of pancreatic cancer than men with no such history. And increased severity of periodontitis, for example with recent tooth loss, had the greatest risk. People with periodontal disease have an increased level of inflammatory markers such as C reactive protein (CRP) in their blood. These markers are part of an early immune system response to persistent inflammation and have been linked to the development of pancreatic cancer. It is the high levels of carcinogenic compounds that are present in the mouths of people with periodontal disease that increases risk of pancreatic cancer.[1]

Every year about 32,000 people in the US and 60,000 in Europe are diagnosed with cancer of the pancreas. Because the symptoms of early development are often a common cause of other ailments (loss of appetite, stomach pains, weight loss), early diagnosis is very unusual. The contribution this study makes is to emphasize the importance of good oral hygiene, not only for oral health but also as a way to reduce the risk factor of a cancer that has the highest fatality rate among American men and women where less than 5 per cent of patients survive more than 5 years after diagnosis.

This chapter is crucial to medicine and especially cancer treatment because it addresses a fundamental meeting point or converging causes of many diseases including cancer. Mercury vapors in the mouth that spread mercury to all points in the body, increased use of antiboitics, periodontal disease, inappropriate oral care, yeast and fungal overgrowth, and decreasing immune strength are all colliding and reinforcing each other in a downward spiral that leads to chronic diseases and cancer. Most people and certainly dentists are surprised to find out that more often than not this all starts out in the mouth.

Most of our cancer patients have
a lot of amalgam dental fillings.
Professor W. Kostler
President of Austrian Society of Oncology

More than 50 million Americans suffer from periodontitis. The underlying causes of periodontal disease are infectious agents such as virus, bacteria, spirochetes, amoebas and **fungus.** Peridontitis is a micro climate that reflects the macro climate of the entire body. A published study in the Journal of Periodontology confirms recent findings that people with periodontal disease are at a greater risk of systemic diseases and appears to be a risk factor for heart disease and stroke. In periodontal disease the pathogens form of a sticky, colorless plaque that constantly forms on our teeth; however other factors can cause periodontal (gum) disease or influence its progression.

Periodontal disease is a chronic infection that leads to chronic disease.

Harvard Medical School researchers studied longevity and found that one of the most important contributing factors was daily flossing. Because it removes bacteria from the teeth and gums, flossing helps to prevent periodontal disease and gingivitis. Another study found that men with periodontitis had a whopping 72% greater risk of developing coronary disease. Gingivitis was associated with a 42% increased risk for men. A 1996 study involving over 1,100 individuals found that the incidence of coronary heart disease, fatal coronary disease, and strokes were all significantly related to their baseline periodontal status. [2]

"Around each one of your teeth there is a natural space between the gum and the tooth. The depth of this space is important. If it's too deep, it becomes a breeding ground for bacteria and disease. Disease is diagnosed by redness, swelling, bleeding, odor and pocket depth. The presence or absence of gum disease is a reflection of an individual's ability to withstand the negative influences of improper teeth care, daily eating, drinking, and even by the content of one's own saliva," writes Dr. Ray G Behm Jr., DDS.[3]

The most common strain of bacteria in dental plaque can cause blood clots that induce heart attacks when they escape into the bloodstream, researchers have reported.

As the plaque gets harder and thicker, it becomes what is known as dental calculus or tartar, a hard calcified layer that is virtually impossible to shift with normal brushing, you would have to get the dental hygienist to do it. It can even descend into pockets around the base of teeth inside the gums. This provides an ideal environment for the bacteria to breed and cause gum inflammation. For many people the symptoms are mild, with some bleeding but little pain or irritation, so it can be quite advanced before it is detected. It can also be associated with bad breath.

Research reveals that diseased gums pump high levels of harmful bacterial components into the bloodstream. The skin of the oral cavity is known as "Oral Mucosa". It is very rich with blood vessels and if outside bacteria and the toxins which they produce get into the blood stream, they are off and running throughout the body.

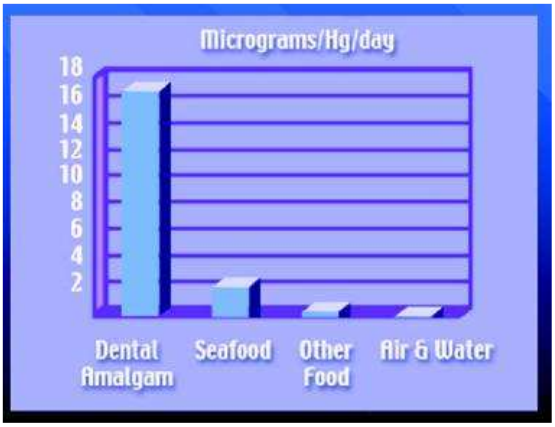
Gingivitis is the inflammation of the gums around the teeth due in great part to improper cleaning of the teeth. Although systemic factors and general health can modify the tissue reactions to local irritants, **the primary irritant is mercury containing dental amalgam.** It is a well known fact in the published, peer-reviewed dental journals that mercury leaks directly from amalgam into adjacent oral tissues causing periodontal disease. In 1957, Zander (JADA, 55:11-15) reported "materials used in restorative dentistry may be a contributing factor in gingival disease." In 1961, App (J Prosth Dent 11:522-532) suggested that there was greater chronic inflammation around amalgam sites than non-amalgam areas. In 1964, Trott and Sherkat (J CDA, 30:766-770) showed that the presence of mercury amalgam correlates with gingival disease. Such disease was not present at contralateral amalgam-free sites. In 1973, Trivedi and Talim (J. Prosth. Dentistry, 29:73-81) demonstrated that 62% of amalgam sites have inflammatory periodontal tissue reaction. In 1976, Goldschmidt et al (J. Perio. Res., 11:108-115) demonstrated that amalgam corrosion products were cytotoxic to gingival cells at concentrations of 10-6; that is, micrograms/gram of tissue.[4]

The Richardson Report, a study completed for Canada health in 1995, found that the tolerable daily intake of mercury was exceeded in different age groups with the following number of amalgam fillings: adults - 4, teenagers – 3, children and toddlers – 1.
Dr. Robert Gammal

Dentists and their parent dental associations are loath to inform patients that the mercury they place in the mouth is a deadly poison that negatively influences not only their oral environments but total body health as well. This is a shame that the majority of dentists will take to their grave. **"Mercury is one of the most potent chemical inhibitors of thiol-sensitive enzymes and mercury vapour easily penetrates into the central nervous system,"** writes Dr. Boyd Haley who goes on to say, "Amalgams leak mercury, this is a fact that any chemistry department can confirm. We have made amalgam fillings outside of the mouth, placed these fillings in sterile water for 15 minutes to several hours. We then tested this water for toxicity to tubulin and creatine kinase. The result was that the solutions in which amalgams were soaked (even for fifteen minutes) were extremely toxic.[5]This work is supported by reports doing similar experiments at the University of Michigan Dental School where they described solutions in which amalgams were soaked as being '**extremely cytotoxic.'** [6]

It is estimated that an amalgam filling will release up to half of its mercury content over a ten year period (50% corrosion rate).
Dr. Robert Gammal

"There is no safe level of mercury, and no one has actually shown that there is a safe level," said Dr. Lars Friberg, Chief Adviser to the WHO on mercury safety. Survival Medicine has a two hundred page section called *The Rising Tide of Mercury* because mercury toxicity needs to be factored into all notions of health and disease today. "The Richardson Report, a study completed for Canada health in 1995, found that the tolerable daily intake of mercury was exceeded in different age groups with the following number of amalgam fillings:adults - 4, teenagers – 3, children and toddlers – 1," reports Dr. Gammal. When you walk into a doctor's office with serious health complaints the first thing they should do is ask you to open your mouth and take a look at your teeth. He should count the number of toxic mercury fillings that have been implanted into your mouth and make a quick calculation.



Mercury Exposures comapared[7]

Dr. Hal A. Huggins stated that **amalgam fillings can devastate human health.** The most common form of exposure to mercury is by inhalation of vapor and there is widespread general agreement that this leads to a slowly developing and insidious poisoning, which at first yield psychic and other general effects that are vague and difficult to diagnose**. The World Health Organization (WHO) in 1991 determined that dental amalgam was the greatest source of mercury contamination to the general population - up to ten times greater than all other sources combined**[8], and that that for mercury vapor, there is no known "no-observable-effect level (NOEL)". Yet dentists have continued to expose children to the toxic effects of mercury.

Children with amalgam are exposed to from tens to several hundreds of micrograms of mercury per day depending on how many fillings are in their mouth, how old the fillings are, how much a person brushes their teeth, chews and eats, the bacteria count in the mouth, and even the temperature of the body. Dr. Murry Vimy, professor of dentistry says, "It is estimated that the average individual, with eight biting surface mercury fillings, is exposed to a daily dose uptake of about 10 micrograms mercury from their fillings. Select individuals may have daily doses 10 times higher (lOOmcgs) because of factors which exacerbate the mercury vaporization.

Mercury is invisible in vapor form but we have to see that it's raining mercury, literally. The FDA says it's everywhere and for once they are right about something. People with mercury fillings have literal

VAPORS FROM HELL in their mouths, fumes from their mercury dental fillings that rise up from their teeth 24/7 with more powerful bursts when chewing or drinking hot fluids. These vapors play havoc on the body through a host of means the least of which is to feed the bacteria,[9]fungi and yeasts that thrive on mercury. Mercury will promote the growth of Candida, though as it adsorbs the mercury it thereby protects the system to a certain extent from its toxicity. **Candida cannot be effectively dealt with without dealing with the dental issues.** This is not an optional appraoch, but necessarily part of the primary approach.

The list of organisms that have the highest affinity for toxic metals
reads like a "who's who" of our typical human infectious diseases:
fungi of the candida species, streptococci, staphylococci, amoebas, etc.
Dr. Dietrich Klinghardt

With mercury implanted in the majority of peoples' mouths and with mercury now outdistancing lead as the number one polluter in the environment we can assume that mercury toxicity is playing a huge role in the creation of many diseases **including cancer** and heart disease, the number one and two causes of death.

There are poisonous time bombs going off in billions of mouths
and few in medicine and dentistry are aware of it. Why dentistry did
not study mercury chemistry before 1000's of tons were implanted
two inches from the brain and why allopathic medicine did not
scream out warnings are questions we will be asking for a long time?

When we look at the fungal and yeast infections that are an integral aspect of cancer we should begin to understand the desperate need to include chelation of mercury in each and every cancer treatment. Mercury fed candida become more and more virulent and eventually penetrate and root into the intestinal walls and invade the cells. **These fungal microorganisms become quite at home in the cell, and can easily be considered a principle characteristic of cancer.** Survival Medicine has a two hundred page section on cancer and its treatment with sodium bicarbonate, which is proving to be effective against cancer because it is lethal to yeasts and fungi growths.

Mercury from amalgam fillings has been shown to be neurotoxic,
embryotoxic, mutagenic, teratogenic, immunotoxic and clastogenic.[10]
It is capable of causing immune dysfunction and auto-immune diseases.
Dr. Robert Gammal

When we consider mercury as one of the basic causes of cancer and heart disease we can begin to review our estimates on iatrogenic death and disease. Mercury toxicity is in the realm of chronic disease yet we also have to look at its ability to **weaken the immune system and leave people vulnerable to acute infection.** Mercury is often at the heart of periodontitis and many other diseases yet the vast majority of dentists are still in denial, which makes them inept at taking care of the problems they themselves create for patients. It is bad enough that they plant the mercury in the mouth but then they add insult and injury by suggesting, as they do, antibiotics that make the entire situation worse with the yeasts and fungus.

Iatrogenic dentistry is a new concept that has yet to be explored but already a great part of the civilized world understands the incredible stupidity and creulty of floridated water, toothpaste and flouride treatments at the dental clinic and the continued widespread use of mercury containing dental amalgam. Harvard University Medical Center is just one of many universtities that recognize flouride as a cause of cancer. If one wants to study the **basic elements of terrorism** one need look no further than the people and organizations that support the floridation of public water supplies.

Dr. Dietrich Klinghardt and others have long observed that patients diagnosed with chronic viral illnesses (EBV, CMV, HIV, herpes zoster and genital herpes, CFIDS etc.), chronic fungal illnesses (Candidiasis and others) and recurrent episodes of bacterial infections (chronic sinusitis, tonsillitis, bronchitis, bladder/prostate infections, HIV related infections) **often have dramatic recoveries following an aggressive amalgam detoxification program.** Detrimental accumulation of mercury from amalgam fillings lowers immunity through a depletion of beneficial, antioxidant enzymes such as glutathione peroxidase, superoxidedismutase and catalase as well as the vital mineral seleinium, which chemically is the best antidote to mercuy contamination.

Dentists who are not happy with the use of mercury and flouride end up prescribing antibiotic mouthrinses containing an antimicrobial agent called chlorhexidine to control bacteria when treating gingivitis and after gum surgery. Also gels that contains the antibiotic doxycycline and antibiotic micro-

spheres that release minocycline slowly over time, along with the terrible mouthwashes that one can buy at every pharmacy and supermarket in the world. Fungal overgrowth occurs because its natural competitors have been removed, which is the case with heavy antibiotic usage. The mercury in dental amalagam increases the problem exponetially due to decreased immunity from immunocompromisation.

It is very difficult to accept the devastating reality about what dentists have done to humanity. Dentistry is in dire need of change and it does come as a great surprise to most of us that our trusted highly skilled dentists have been hypnotized and conditioned into ignorance by their dental professors and dental organizations. It is these people and organizations that should be on President Bush's terrorist list because dental amalagam could easily be considered a weapon of mass destruction if you calculate the massive tonnage of mercury put into mouths around the world each year.

US Dentists purchase 34 tons of mercury per year,
the Nation's third largest purchaser of mercury.[11]

Dental amalgams are legalized toxic waste sites planted inches from the brain! It is more than amazing to see seemingly intelligent men and woman live with the belief that mercury is highly toxic and dangerous everywhere except in the mouth. Some people are able to clear the mercury vapors from their system but others develop devastating symptoms.

Periodontitis is one of two common types of gum inflammation, the other being gingivitis. Gingivitis is where the soft tissue around the teeth becomes inflamed, whereas Peridontitis is a deeper condition that affects the tissue that support the teeth and is also associated with loss of bone around the base of the teeth. **About 50 per cent of Americans over 30 years of age have periodontitis.** The two diseases are linked in that persistent gingivitis can lead to periodontitis. Gingivitis comes from bacteria that get into the soft gum tissue and infect it. The bacteria live in the plaque that builds up around the base of teeth due to poor dental hygiene. Plaque is a gradual accumulation of food debris, saliva and minerals.

It has been estimated that 16.5 percent of senior
citizens have lost all of their natural teeth.

The bacteria in gum disease can enter your bloodstream through damaged blood vessels which run through the gums. This can increase the toxin load in your bloodstream which increases your risk of many chronic diseases. Thus the first thing a doctor should check when examining he or her patients are their mouths to get a feeling for the general state of their oral environments. A quick look at both tongue and gums will yeild much important information. In fact oriental physicians and acupunturists are trained in tongue diagnosis because it reflects the general state of health in the body.

Several studies have found a strong relationship between the bacterium causing gum disease and atherosclerosis. In fact, **the same bacterium has been cultured from the crud, or plaque, is seen in arteries.** It is the battle between the bacteria/viruses and the immune system, which is in perpetual action to destroy the invaders, that begins the process of atherosclerosis. An estimated 100 trillion bacteria make themselves at home in our GI track, which starts in the mouth. Many of these bacteria are bad guys — nasty bacteria that can make you sick, and some of them are "stone-cold killers."

In 2000, Nevada recorded 210 cases of oral cancer,
representing 2.3% of all cancers in Nevada.[12]

According to an article recently published in the Archives of Otolaryngology—Head and Neck Surgery, chronic **periodontitis is associated with an increased risk of developing cancer of the tongue** among men. Researchers at the University at Buffalo and Roswell Park Cancer Institute have found the same thing. Another recent study published in the Journal of the National Cancer Institute linked periodontal disease to **pancreatic cancer** as well. "Our study provides the first strong evidence that periodontal disease may increase the risk of pancreatic cancer," said Dr Dominique Michaud of the Harvard

School of Public Health in Boston, who led the research.[13]

Periodontal disease has increased prevalence amongst patients with certain systemic diseases such as type-2 diabetes mellitus.[14]

Oral candidiasis, a fungal infection in the mouth appears more frequent among persons with diabetes and dentures. If you smoke, have high blood glucose levels or need to take antibiotics often you are more likely to have a problem with oral fungal infections. Diminished salivary flow and an increase in salivary glucose create an attractive environment for fungal infections such as thrush which produces white (or sometimes red) patches in the mouth that may be sore or may become ulcers.

Low-grade infections in the mouth lead to systemic illnesses such as cardiovascular diseases (heart disease), respiratory ailments (pulmonary or lung disease), and poor pregnancy outcomes.[15]
New York Dept of Health

Bacteria and viruses and fungi that occur naturally in the mouth do proliferate and undermine or defeat the body's immune system. Waging war, day in and day out, it's a classic battle — the "good guys" versus the "bad guys" from the beginning to the end of the GI track. The good guys are our body's patriots, friendly bacteria that help us digest and absorb the food we eat, and keep our immune system humming, metabolizing hormones, and helping repair our gut linings, among other things. But most importantly they keep the bad guys under control. Your good bacteria patrol and police your digestive system to prevent the bad bacteria from taking over and wreaking havoc all over our bodies.

This war is often fought and won or lost in our mouths. For individuals with dental mercury amalgam (about 85 percent of the population) it's not a fair war because mercury vapors are like fifth columnists, traitors behind enemy lines working hard to sabotage our oral and total body environment. The modern world we live in, due to the onslaught of stress, poor diet, exposure to a host of toxins and especially the overuse of antibiotics create a situation where the odds are high that we have too few good bacteria in the GI track to defend us from harmful bacteria and fungus. Meaning the bad guys are getting the upper hand and this is the very beginning of cancer, which often takes many years to develop. No one with cancer can be considered healthy and in a recent Blaylock Wellness Report we are warned why dysbiosis should not be taken lightly.

"Gas, belching, and bad breath due to dysbiosis may seem more socially-threatening than health-threatening," Dr. Russell Blaylock says, but he is alluding to a long drawn out process that easily ends in disaster. So how do we head the bad guys off at the pass? Obviously the first step is to stop feeding ourselves poison, the very stuff the bad guys enjoy eating for breakfast, lunch and dinner! In oral and dental terms it means stop the fluoride meaning drink water without it and for Gods sake, **STOP USING FLORIDATED TOOTH PASTE!** Commercial toothpastes are worthless as healing oral health agents though it does take a serious adjustment of the mind to throw out those tubes that have been around since we could walk and talk.

> The scope of the disaster with flouride is beyond most of our capacities to imagine. We now find out about the formation of iodoacetic acids during cooking: interaction of iodized table salt with chlorinated drinking water. Iodoacetic and chloroiodoacetic acids are formed when municipal chlorinated tap water is allowed to react with iodized (with potassium iodide) table salt or with potassium iodide itself. Iodoacetic acid is a potent cytotoxic and genotoxic agent.[16]Scientists have demonstrated that iodoacetic acid is the most cytotoxic and genotoxic drinking water disinfection byproducts analyzed in a mammalian cell system. Little is known of the mechanisms of its genotoxicity. Results of studies support the hypothesis that oxidative stress is involved in the induction of genotoxicity and mutagenicity by iodoacetic acid.

It should be very interesting to learn that the very medical weapons we can use against cancer, the very same ones that are common emergency room medicines are the same ones we can use to deeply clean and maintain our oral environments. Many of us have damaged oral environments because of poor diet and years of dissolving dental amalgam so we need the best weapons we can get against the bacteria, yeasts and fungi growing in our mouths.

Sodium bicarbonate is used to reduce the inflammation of oral mucosa resulting from chemotherapeutic agents or ionizing radiation. Mucositis typically manifests as erythema or ulcerations.[17]

Bicarbonate has been shown to decrease dental plaque acidity induced by sucrose and its buffering capacity is important to prevent dental cavities. Other studies have shown that bicarbonate inhibits plaque formation on teeth and, in addition, increases calcium uptake by dental enamel. This effect of bicarbonate on teeth is so well recognized that sodium bicarbonate-containing tooth powder was patented in the USA in October 1985. Sodium bicarbonate has been suggested to increase the pH in the oral cavity, potentially neutralizing the harmful effects of bacterial metabolic acids. Sodium bicarbonate is increasingly used in dentifrice and its presence appears to be less abrasive to enamel and dentine than other commercial toothpaste.

Check the pH of your saliva with pHydrion paper. If your saliva pH is below 7.2 then you are at risk for cavities, mouth sores, bacteria, yeast and even Oral Cancer.[18]

To increase your oral pH to a normal 7.2 or greater drink 1teaspoon of sodium bicarbonate salt in 2 ounces of distilled water. It is that simple to neutralize the acids that cause cavities, mouth sores, Human Papilloma Virus (HPV16), bacteria, yeast and even Oral Cancer.

Bicarbonate is a major element in our body. Secreted by the stomach, it is necessary for digestion. When ingested, for example, with mineral water, it helps buffer lactic acid generated during exercise and also reduces the acidity of dietary components. Bicarbonate is present in all body fluids and organs and plays a major role in the acid-base balances in the human body. The first organ where food, beverages and water stay in our body is the stomach. The mucus membrane of the human stomach has 30 million glands which produce gastric juice containing not only acids, but also bicarbonate. The flow of bicarbonate in the stomach amounts from 400 µmol per hour (24.4 mg/h) for a basal output to 1,200 µmol per hour (73.2 mg/h) for a maximal output. Thus at least half a gram of bicarbonate is secreted daily in our stomach.

So it is perfectly safe to use bicarbonate in the mouth and to swollow it after using it to clean the gum tissues and teeth, or to take it orally. The same goes for the iodine if you use the iodine in its atomic form. But we need not stop at iodine or sodium bicarbonate. We can employ magnesium chloride, preferably in a natural pure form and this truly is a our secret weapon offering not only healing and strenghtening of the tissues but magnesium also strenghtens the teeth.

Povidone-iodine gargle has rapid bactericidal activity against the causative bacteria of periodontal disease.[19]

Candida species have become a major opportunistic pathogen causing recurrent oral thrush and oesophageal candidiasis in patients with HIV/AIDS in Kenya.[20]This has resulted in repeatedly high use of expensive anti-fungal drugs (ie Clotrimazole, Amphotericin B and Nystatin) which most of these patients cannot afford full dose. This has resulted in the development of Candida strains resistant to common antifungals in the community. Due to this, Kibera Based Health Care (KCBHC), which cares for the sick at home decided to look for cheap and effective drugs to manage this problem.

Iodine mouth gurgle is effective and cheap therapy for managing recurrent oral thrush and prevents it from

degenerating to oesophageal candidiasis on HIV/AIDS patients.

Patients with recurrent oral thrush under the care of KCBHC were grouped in two. One group was managed with 2% Povidone Iodine mouth gurgle, the other was managed with Clotrimazole or Nystatin which are routinely used. Healing effects, recurrence and development of oesophageal candidiasis and disappearance of mouth odor were monitored over two years. **The patients on Iodine healed within 10 days and mouth odor disappeared. Gurgling of Iodine whenever patients felt signs of recurrence prevented serious recurrence and development of esophageal Candidiasis.** Those on antifungal medicines also healed within 10 days but continued having mouth odor. Some developed serious recurrent oral thrush which degenerated to esophageal candidiasis. The medical cost of care using Iodine was very low compared with antifungal care.

Magnesium is essential for proper calcium absorption
and is an important mineral in the bone matrix.

"Bones average about 1 % phosphate of magnesium and. teeth about 1% per cent phosphate of magnesium. Elephant tusks contain 2 % of phosphate of magnesium and billiard balls made from these are almost indestructible. The teeth of carnivorous animals contain nearly 5 % phosphate of magnesium and thus they are able to crush and grind the bones of their prey without difficulty," wrote Otto Carque (1933) in Vital Facts About Foods.

Some people, like a spokesperson for the UK-based charity, the National Osteoporosis Society, continue to think that “magnesium deficiency is, in fact, very rare in humans.” So they cannot get it through their neural circuits that magnesium deficiency, not calcium deficiency plays a key role in osteoporosis. Thus it is no surprise when we find more studies suggesting that high Ca intake had no preventive effect on alteration of bone metabolism in magnesium deficient rats.[21]Moderate dietary restriction of magnesium results in qualitative changes in bones in rats.[22]The results from some of these studies may be surprising to some. We have plenty of reason to doubt the value of consuming large amounts of calcium that are currently being recommended for adults and young people alike.[23]

One of the most important aspects of the disease osteoporosis has been almost totally overlooked. That aspect is the role played by magnesium.
Dr. Lewis B. Barnett

In a study, conducted by the International and American Associations for Dental Research, subjects aged 40 yrs and older, increased serum Mg/Ca was significantly associated with reduced probing depth ($p < 0.001$), less attachment loss ($p = 0.006$), and a higher number of remaining teeth ($p = 0.005$). Subjects taking magnesium showed less attachment loss ($p < 0.01$) and more remaining teeth than did their matched counterparts.[24]These results suggest that increased magnesium supplementation will improve periodontal health.

In the study cited, it was shown that a group of caries resistant teeth contained on the average twice as much magnesium as those in a comparable group that were caries-prone. Magnesium plays a key role in bone formation, and many young women don't get enough of the mineral. To better understand the role of magnesium supplements and bone health in a healthy population, researchers from the Yale University School of Medicine, Connecticut, USA, randomised 44 girls aged 8 to 14 to take 300 mg of magnesium daily for one year or a placebo. All of the girls had intakes of the mineral that were below 220 mg a day; the recommended daily allowance for magnesium is 240 mg for girls aged 8 to 13 and 360 mg for girls 14 to 18 years old.

Girls given magnesium showed significantly greater bone
mineral content in the hip than those who took placebo.[25]

It is magnesium, not calcium, that forms the kind of hard enamel that resists decay. And no matter how much calcium you take, without magnesium only soft enamel can be formed. If too soft the enamel will lack sufficient resistance to the acids of decay. For years it was believed that high intakes of calcium and phosphorus inhibited decay by strengthening the enamel. Recent evidence, however, indicates that an increase in these two elements is useless unless we increase our magnesium intake at the same time It has even been observed that dental structures beneath the surface can dissolve when additional amounts of calcium and phosphorus diffuse through the enamel at different rates. Thus milk, poor in magnesium, but high in the other two elements, not only interferes with magnesium metabolism, but also antagonizes the mineral responsible for decay prevention.[26]

Medical authorities claim that the widespread incidence of osteoporosis and tooth decay in western countries can be prevented with a high calcium intake. However Asian and African populations with a low intake (about 300 mg) of calcium daily have very little osteoporosis. Bantu women with an intake of 200 to 300 mg of calcium daily have the lowest incidence of osteoporosis in the world.[27]In western countries with a high intake of dairy products the average calcium intake is about 1000 mg. With a low magnesium intake, calcium moves out of the bones to increase tissue levels, while a high magnesium intake causes calcium to move from the tissues into the bones. Thus high magnesium levels leads to bone mineralization.

What this all adds up to is that **using a natural magnesium chloride solution as a mouth wash is ideal for not only dental care of the teeth but it is also excellent at revitalizing and strengthening the gums.** One would want to use the purest magnesium chloride possible for it is very good to swollow the magnesium with a chaser of water as another optimal way of insuring high levels of daily magnesium intake.

So our oral lineup so far includes sodium bicarbonate, iodine and magnesium chloride. In addition one may use strong salt water for plaque control as well as a good clay but one would want to make sure not to swollow the salt and to rinse the mouth thoroughly. I use a calcium bentonite clay, which is slightly abrasive when the brush is used, which is helpful for good cleaning on a deeper level. The clay, when left to soak in the mouth, pulls out the poisons in and around the gums thus completing our dental care system.

With the highest quality clay one then can also swollow. For extreme oral problems instead of just sprinkling dry clay powder on the tooth brush one can pack the gums with a pre-made thick clay, which will absorb poisons from deeper in the oral tissues. The clay offers a healing power to the entire GI track, the iodine is wonderful for the thyroids, breasts, ovaries and prostrate gland as well as overall metabolism. It will also help with the removal of mercury, flouride and bromide from the body. Magnesium is almost as valuable as the air we breathe and the water we drink. Bicarbonate also is helpful for overall pH control so we have an oral care system that is effective for our entire physiology a complete oral health care system. Suggest: Bicarbonate is also helpful for overall pH control, so we have an oral care system that is effective for our intire physiology and a complete oral health care system!

The clay can be used just like the bicarbonate, just dip your brush into a little bit of it after wetting the brush slightly and apply and repeat for each part section of the teeth.

I also had the great fortune of dealing with two excellent clay companies. The particualar clay mentioned above is the only clay I use a recommend for oral consumption. It is a very fine calcium bentonite clay, also known as a "living clay," and is perfect for oral consumption on a daily basis. In the final analysis I have been using and recommend another high grade clay from LL's Magnetic Clay, which is a sodium bentonite clay that I use to pack my mouth with as sodium bentonites traditionally have a stronger drawing power on the gums and other tissues.

We often forget to floss even though flossing is crucial if a person already has a problem with their gums. A dentist worth his weight in gold would tell you to floss after each meal and not eat between meals either. The oral environment is delicate and when you are battling for control floss is a man's or woman's best friend.

In Summary: This chapter is telling you that common baking soda can be mixed with non-chlorinated and non- fluoridated water to make a paste for use in tooth brushing on a regular basis. Magnesium oil of the purest form (not the stuff you can buy in the pharmacy) should be used as a tooth or mouth rinse once a day, twice a day or even just once a week, depending on the need or state of oral health. You can take a sip at full strength or half strength. It's like sweetening your coffee to taste so to speak. All of the substances in the oral protocol are like that; **you have to adjust the strengths and frequencies depending on personal need and perception.** For use with children everything should be diluted and used less frequently. One can alternate between different items in the protocol with ease. Alternating with iodine rinses, for instance, is a good idea. If you use the right type of iodine that's suitable for ingestion, such as nascent iodine one can swallow after rinsing.

Another good idea is to use a water pick with magnesium chloride added to the water. This will allow better irrigation of the deeper gum tissues. I use about 1/2 oz of the Ancient Minerals Magneisum with a full resevroir of warm water.

What works for many is to simply swish the iodine/water ingested daily (only the iodine in atomic form (nascent) is suggested for this) around my mouth and teeth before I swallow daily. For children it easily takes the place of vaccines in that one is using the iodine to insure an immune system at full strength. The iodine will take on much of the load of seeking out and destroying viruses, bacteria and candida fungi infections. A person will notice a huge difference in feeling of cleanliness, with pinker and healthier looking tongue and gums.

Caution: Iodine can stain the teeth.

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[1]"A Prospective Study of Periodontal Disease and Pancreatic Cancer in US Male Health Professionals." Dominique S. Michaud, Kaumudi Joshipura, Edward Giovannucci, and Charles S. Fuchs. J. Natl. Cancer Inst. 2007 99: 171-175; doi:10.1093/jnci/djk021

[2] www.healingdaily.com/conditions/bleeding-gums.htm

[3] www.saveyourteeth.com/

[4] Source: Murray J. Vimy DMD Clinical Associate Professor Faculty of Medicine, University of Calgary. Calgary, Canada, July 4, 2001

[5] Haley, Boyd. Dangers of Mercury Based Amalgam Dental Fillings. Presented to: The Committee on Governmental Reform: Dental Amalgam Hearing November 14, 2002

[6] Mercury emitting from a dental amalgam can be easily detected using the same mercury vapor analysis instrument used by OSHA and the EPA to monitor mercury levels. When Dr. Haley had his students conduct measurements using a popular amalgam material the amounts released from one filling were 7.54 micrograms/cm2/day when undisturbed and increased to 45.49 micrograms/cm2/day when brushed twice for 30 seconds using a medium bristle toothbrush. This correlates reasonably well with data offered by Dr. Chew et al., which showed that “the over-all mean release of mercury was 43.5 micrograms /cm2/day, without pressure, heat or galvanism as would have occurred if the amalgams were in a human mouth. **Organized dentistry is filled with statements that vastly underestimate the amount of mercury released from dental amalgams.** According to their most widely accepted estimate only 0.067 to 0.057mcg/cm2/day per amalgam surface would be released. According to Haley this claim has failed numerous scientific examinations and **does not even remotely explain the microgram level of mercury found in urine and feces in amalgam bearers**. When the ADA underestimates the amount of mercury vapor release from amalgam they underestimate the great crime they are perpetrating against their patients.

[7] International Academy of Oral Medicine and Toxicology
www.mercurypoisoned.com/FDA_hearings/FDANeurotoxicityPowerPoint.pdf

[8] Friberg L. Inorganic Mercury. In: Organization WH, ed. Environmental Health Criteria 118. Geneva: WHO; 1991.

[9] In the environment, sulfate-reducing bacteria take up mercury in its inorganic form and through metabolic processes convert it to methylmercury. Sulfate-reducing bacteria are found in anaerobic conditions, typical of the well-buried muddy sediments of rivers, lakes, and oceans where methylmercury concentrations tend to be highest. Sulfate-reducing bacteria use sulfur rather than oxygen as their cellular energy-driving system. One hypothesis is that the uptake of inorganic mercury by sulfate-reducing bacteria occurs via passive diffusion of the dissolved complex HgS. Once the bacterium has taken up this complex, it utilizes detoxification enzymes to strip the sulfur group from the complex and replaces it with a methyl group:

[10] Clastogenic: any substance or process causing chromosomal breaks.

[11] HR 2101 IH; 110th CONGRESS, a bill introduced to the House of Representatives for debate in 2008. ref: Mercury in Dental Fillings Disclosure and Prohibition Act (Introduced in House) on May 15th, 2007 by biomedical dentist Dr. Kourosh Maddahi, DDS.

[12] 64.233.169.104/search?q=cache:Ct2QegBcwTwJ:health2k.state.nv.us
/oral/OralHealthBurden2003.pdf+oral+disease&hl=en&ct=clnk&cd=36&client=opera

[13] Dominique S. Michaud, Kaumudi Joshipura, Edward Giovannucci, and Charles S. Fuchs. J. Natl. Cancer Inst. 2007 99: 171-175; doi:10.1093/jnci/djk021

[14] www.ncl.ac.uk/dental/research/oral/periodontal.htm

[15] www.health.state.ny.us/prevention/dental/impact_oral_health.htm

[16] Environ Sci Technol. 2006 Mar 15;40 (6):1878-83 16570611

[17] www.cancer.gov/cancertopics/pdq/supportivecare\
/oralcomplications/HealthProfessional/page5/print

[18] To order pHydrion paper go to: www.phmiracleliving.com/ph_strips.htm

[19] The Efficacy of Povidone-Iodine Products against Periodontopathic Bacteria. Taneaki Nakagawa et al; *Dermatology* 2006;212 (Suppl. 1):109-111
content.karger.com/ProdukteDB/produkte.asp?Doi=89208

[20] Conf AIDS 2000 Jul 9-14; 13:(abstract no. MoPeB2281) Kariuki E, Ngugi R, MuthothoJ

[21] We examined the effects of high calcium (Ca) intake on bone metabolism in magnesium (Mg)-deficient rats. Male Wistar rats were divided into three groups, with each group having a similar mean body weight, and fed a control diet (control group), a Mg-deficient diet (Mg-deficient group) or a Mg-deficient Ca-supplemented diet (Mg-deficient Ca-supplemented group) for 14 d. Femoral Ca content was significantly lower in the Mg-deficient Ca-supplemented group than in the control group and Mg-deficient group. Femoral Mg content was significantly lower in the Mg-deficient group and Mg-deficient Ca-supplemented group than in the control group. Furthermore, femoral Mg content was significantly lower in the Mg-deficient Ca-supplemented group than in the Mg-deficient group. Serum osteocalcin levels (a biochemical marker of bone formation) were significantly lower in the two Mg-deficient groups than in the control group. As a biochemical marker of bone resorption, urinary deoxypyridinoline excretion was significantly higher in the Mg-deficient Ca-supplemented group than in the control group and Mg-deficient group. The results in the present study suggest that high Ca intake had no preventive effect on alteration of bone metabolism in Mg-deficient rats. Effects of high calcium intake on bone metabolism in magnesium-deficient rats. Mag Res. 2005 Jun;18(2):97102. www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16100847&itool=iconabstr&query_hl=10&itool=pubmed_docsum

[22] Br J Nutr. The effect of moderately and severely restricted dietary magnesium intakes on bone composition and bone metabolism in the rat.1999 Jul;82(1):63-71. www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10655958&query_hl=12&itool=pubmed_docsum

[23] In particular, these studies suggest that high calcium intake doesn't actually appear to lower a person's risk for osteoporosis. For example, in the large Harvard studies of male health professionals and female nurses, individuals who drank one glass of milk (or less) per week were at no greater risk of breaking a hip or forearm than were those who drank two or more glasses per week. Other studies have found similar results. Additional evidence also supports the idea that American adults may not need as much calcium as is currently recommended. For example, in countries such as India, Japan, and Peru where average daily calcium intake is as low as 300 mg/day (less than a third of the US recommendation for adults, ages 19-50), the incidence of bone fractures is quite low. Of course, these countries differ in other important bone-health factors as well - such as level of physical activity and amount of sunlight - which could account for their low fracture rates. Calcium in Milk, Harvard School of Public Health;
www.hsph.harvard.edu/nutritionsource/calcium.html

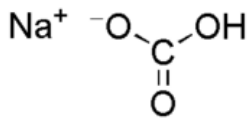
[24] P. Meisel1et all. Magnesium Deficiency is Associated with Periodontal Disease Dent Res 84 (10):937-941, 2005 International and American Associations for Dental Research

[25] Dental investigations made in New Zealand at the University of Otago and reported in Nature (April 29, 1961).

[26] www.mgwater.com/rod10.shtml

[27] list.weim.net/pipermail/holisticweim/2001-July/001023.html

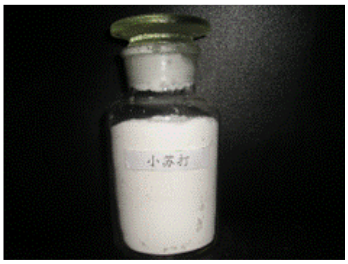
Sodium Bicarbonate Basics



Sodium bicarbonate is the chemical compound with the formula NaHCO3. It has long been known and is widely used. The salt has many other names including sodium hydrogen carbonate and "sodium bicarb," as well as baking soda, bread soda, or bicarbonate of soda. It is poorly soluble in water. This white solid is crystal line but often is available as a fine powder. It has a slight alkaline taste resembling that of sodium carbonate. It is a component of the mineral natron and is found dissolved in many mineral springs. It is also produced artificially.

Production NaHCO3 is mainly prepared by the Solvay process, which entails the reaction of sodium chloride, ammonia, and carbon dioxide in water. It is produced on the scale of 100,000 ton/yea. NaHCO3 also arises when sodium carbonate is treated with carbon dioxide. Commercial quantities of baking soda are produced by this method: soda ash, mined in the form of the ore trona, is dissolved in water and treated with carbon dioxide.

Baking soda has over a hundreds of uses. As an absorbent for moisture and odors; an open box can be left in a refrigerator for this purpose. However, baking soda does not actually absorb odors well when used in a refrigerator in toothpaste, baking soda helps to gently remove stains, whiten teeth, it freshens the breath, dissolve plaque, and even acts as a fire-suppression agent in some dry powder fire extinguishers.



It is a minor component of Purple-K dry fire suppression agent. It is commonly used to increase the pH and total alkalinity of the water for pools and spas. Sodium bicarbonate can be added as a simple solution for restoring the pH balance of water that has a high level of chlorine.

A paste from baking soda can be very effective when used in cleaning and scrubbing. It removes coffee stains, marker, and crayon. It can be used to clean out grease. A solution in warm water will remove the tarnish from silver when the silver is in contact with a piece of aluminum foil.

With water, it cleans the impurities on contact lenses. Rinse completely before wearing contacts to avoid stinging of the salt in baking soda. Baking soda and boiling water unclogs drains. One cup of baking soda maintains a healthy septic tank. It controls pH and keeps a good environment for the bacteria. If made into a paste salve, it relieves burning from bug stings, poison ivy, nettles, and sunburn. Baking soda helps remove body odors as it absorbs chemicals, apply using a powder puff. It kills fleas and drives away ants. If it is applied to a pet's fur, it must be washed/rinsed off to prevent skin problems. A small amount can be added to a beef stew to make tough meat tenderize faster. It is used as a fabric softener in laundry.

It is strong enough to neutralize battery acid. It is used to test garden soil for acidity. It can be used to kill crab grass in Florida St. Augustine grass. Must be used repeatedly to control but is effective. Dampen area then sprinkle lightly, too much may harm desired grass temporarily. Sodium bicarbonate has been used as an endurance enhancer. It is used as an antacid to treat acid indigestion and heartburn. Sodium bicarbonate is used to give the pretzels their dark brown color. Formerly, it was used as a source of carbon dioxide for soda water.

Water stains on wooden floors can be removed with a sponge dampened in a solution of baking soda dissolved in water. Sprinkle some baking soda into your vacuum bag to help reduce musty/pet smells being

spread throughout your house when vacuuming. Sprinkle baking soda on rugs and carpets before vacuuming as a deodorizing treatment. Most carpet powders you buy are baking soda based! Just a brief note on this - not recommended for areas that are very humid as the baking soda may stay in the carpet.

Mops can really stink out areas where they are stored. If your mop is getting on the nose, don't throw it out, try soaking it in a mixture of 4 tablespoons baking soda and a gallon of water for a while. Stains on porcelain sinks, toilets and plastics can be removed by applying a layer of baking soda and then using a damp sponge.

Why Bicarbonate and Why Not A Pharmaceutical Antifungal

Antifungals work by exploiting differences between mammalian and fungal cells to kill off the fungal organism without dangerous effects on the host. Unlike bacteria, both fungi and humans are eukaryotes. Thus fungal and human cells are similar at the molecular level. This means it is more difficult to find and attack a weakness in fungi that does not also exist in human cells. So if you attack the fungus, you may also attack the human cells the fungus lives on. Consequently, there are often side-effects to some of these drugs. Some of these side-effects can be life-threatening if not used properly.

After an increase in local pH was noted sodium bicarbonate was used to treat vaginitis to provide symptomatic relief for women with this condition. Fungal vaginitis, one of the common female vaginal diseases with a high morbidity rate, is difficult to effect a radical cure. In the U.S. more than 75% women suffer from fungal vaginitis at least once in their life, and about 5% of adult women suffer from repeated fungal vaginal infection. It is difficult to treat.[1]The main clinical symptoms of these vaginal diseases include vulval pruritus, vaginal pain, leukorrhagia, dyspareunia, and urodynia. Therefore, this disease is harmful to the health of women as well as their quality of life.

At the moment, against fungi there is no useful
remedy other than, in my opinion, sodium bicarbonate.
Dr. Tullio Simoncini

“The anti-fungins that are currently on the market, in fact, do not have the ability to penetrate the masses (except perhaps early administrations of azoli or of amfotercin B delivered parenterally), since they are conceived to act only at a stratified level of epithelial type. They are therefore unable to affect myceliar aggregations set volumetrically and also masked by the connectival reaction that attempts to circumscribe them.”

“Sodium bicarbonate, instead, as it is extremely diffusible and without that structural complexity that fungi can easily codify, retains for a long time its ability to penetrate the masses. This is also and especially due to the speed at which it disintegrates them, which makes fungi’s adaptability impossible, thus it cannot defend itself. A therapy with bicarbonate should therefore be set up with strong dosage, continuously, and with pauseless cycles in a destruction work which should proceed from the beginning to the end without interruption for at least 7-8 days for the first cycle, keeping in mind that a mass of 2-3-4 centimetres begins to consistently regress from the third to the fourth day, and collapses from the fourth to the fifth.”

Dr. Simoncini says that, “In some cases, the aggressive power of fungi is so great as to allow it, with only a cellular ring made up of three units, to tighten in its grip, capture and kill its prey in a short time notwithstanding the prey's desperate struggling. Fungus, which is the most powerful and the most organized micro-organism known, seems to be an extremely logical candidate as a cause of neoplastic proliferation.”

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[1] Jack D. Sobel, MD. Candidal Vulvovaginitis, Clinical Obstetrics and Gynecology, 1993 Vol.36 (1): 153-165

Systems Biology Medicine

Systems biology promises to transform how biology and medicine are done. It moves away from a reductionist focus on a limited number of molecular components or single shot cancer cures to a comprehensive understanding of how large numbers of interrelated components of a system can work together in protocols to greatly enhancing therapeutic effect.

This book does not endorse sodium bicarbonate or any other single substance as a stand alone cancer cure and neither does mainstream oncology. Chemotherapy involves the use of protocol medicine and sodium bicarbonate is commonly found in these protocols. Playing professional basketball takes five men to press down the opponent. One player alone would be cremated when up against five tough opponents. Cancer is tough and we want a team at full strength who know how to pass the ball back and forth pressing down court to that slam dunk.

Nutritional elements are the fulcrums upon which both health and disease rest. Not enough can be said about the advantage of eating **organic foods.** Studies have shown that such foods **clear out the blood streams in children in as little as five days.** With increasing chemical and radioactive toxicities surrounding us it is more than helpful to remember that healthy foods can remove heavy metals and dangerous radioactive substances.

As chronic disease rates surge upward human survival is directly related to a safe and effective protocol for cancer, diabetes, heart, and a host of neurological diseases.

The nuclear core of Natural Allopathic Medicine is comprised of **magnesium chloride, iodine, sodium bicarbonate, ALA (Alpha Lipoic Acid), THC (medical marijuana), natural Vitamin C, selenium, probiotics, spirulina, glutathione, pure water, clay, and the sun for natural vitamin D supplementation.** This is not an exhaustive list though; there are many other substances that fit the profile of natural allopathic medicine. Even things like clay baths and infra red saunas and all they imply are a fit. The key qualifying requirement is science. Each and every substance mentioned above has been extensively studied with conclusive proof as to safety and effectiveness.

These substances, which we can harness to cure chronic diseases, offer a power unequalled in the world of medicine. As disease rates surge upward human survival is directly related to a safe and effective protocol for cancer, diabetes, heart, and a host of neurological diseases. The above protocol offers a power and safety unequalled in the world of medicine. Any health care practitioner can harness to cure cancer and other chronic diseases. Unfortunately medical truth is illegal; this protocol cannot even be employed in its totality by licensed physicians who are forced to follow the preset protocols set up by their local medical boards. Medicine though is something of the mind and spirit so healthcare practitioners can quietly practice natural allopathic medicine without loudly advertising the fact that they are in fact treating and curing chronic disease.

Natural Allopathic medicine helps repair and restore function to glands, systems and tissues. Regular or orthodox allopathic medicine doesn't look much at trying to restore function. It is primarily focused is on providing drugs that will suppress symptoms. But when you're suppressing symptoms, you have to continue with medications because you are undermining function and nutritional status with the medications. Most allopathic medicines are mitochondrial poisons at heart and though they do work at times to cover up the presenting symptoms, sooner or later worse pathologies emerge.

Medications have now emerged as a major cause of mitochondrial damage, which may explain many adverse effects. All classes of psychotropic drugs have been documented to damage mitochondria, as have statin medications, analgesics such as acetaminophen, and many others. Damage to mitochondria is now understood to play a role in the pathogenesis of a wide range of seemingly unrelated disorders such as schizophrenia, bipolar disease, dementia, Alzheimer's disease, epilepsy, migraine headaches, strokes, neuropathic pain, Parkinson's disease, ataxia, transient ischemic attack, cardiomyopathy, coronary artery disease, chronic fatigue syndrome, fibromyalgia, retinitis pigmentosa, diabetes, hepatitis C, and primary biliary cirrhosis.[1]

Testimony

Hello! I am writing to let you know that through your e-books and articles, along with the book *Cancer is a Fungus* by Dr. Tullio Simoncini, I have been able to help a woman diagnosed with stage 2 lung cancer. She decided not to do allopathic medicine with chemotherapy and radiation and instead looked to alternative therapies for her cancer. I met with her in June of 2008 and we talked about using sodium bicarbonate, magnesium, iodine, selenium, greens, etc. I am happy to report that September 2008 she had an MRI done and her oncologist was amazed that there was no evidence of cancer. She is elated and reports feeling better than she has felt in years. I had the woman do teaspoons of sodium bicarbonate in water many times a day to make her body less acidic and stop the growth of the cancer.
Kelly Kruschke, RN

Natural Allopathic Medicine is the name of my medical approach and it is very new. It was born at the end of 2007 with the publication of my ***Winning the War on Cancer*** book. Natural Allopathic Medicine's basic principle is protocol not individual substances striving to be stand alone solutions for cancer or anything else.

Bicarbonate is a substance that should always be on the team but instead of mixing it with mustard gas we mix it with magnesium chloride, iodine, selenium, and THC. The bicarbonate is the superstar on the lineup; certainly it is the veteran that's been around since the beginning of chemotherapy. But now we are suggesting the bicarbonate be accompanied now by an all star team of safe and extremely effective life supporting medicinal non pharmaceutical medicines. We can imagine the future of oncology being based on using substances that do not cause cancer. All we have to do is get the present form of oncology to give up its use of tests and treatments that cause cancer while they treat cancer.

But it does endorse its inclusion in most cancer treatments as orthodox oncology does. The main difference is we recommend everyone use the oral-do-it-at-home route as compared to using it as intravenously to save the patient from massive poisoning. In fact, what we are going to do is substitute the poisons for concentrated nutritional medicines that will enhance the overall effect of the bicarbonate.

Instead of tying down its pharmacological strength forcing it to buffer chemo agents we leave it free to change total pH affecting a resolution of cancerous conditions. Cellular pH is crucial for biological functions such as cell proliferation, invasion and metastasis, drug resistance and apoptosis.

While one is at it one might as well place cancer in a deadly crossfire of therapeutically safe and effective substances, many of which are already in universal use for other medical purposes. In this document we are proposing a rapid change in oncology – a switch from poison chemotherapy agents to a natural form of chemotherapy with bicarbonate at the center and substances like magnesium chloride, iodine, selenium, vitamin C, Alpha Lipoic Acid and even the canniboid THC as supportive agents.

Just as I finish writing this book I read the headlines: *New Research Confirms Vitamin D Blocks Formation of Breast Cancer*. Mike Adams comments, "It's yet another study showing the astounding health protection properties of Vitamin D. The nutrient has already been shown to prevent 77 percent of ALL cancers, and now the research on the anti-cancer effects of vitamin D just keeps piling up." So why won't authorities in the cancer industry recommend Vitamin D? It's simple: The free nutrient would put the cancer industry out of business! They only make money when people remain sick, not when they're taught the truth about anti-cancer nutrients.

The sun is an essential part of Natural Allopathic Medicine's protocol though for many vitamin D needs to be supplemented because of lack of access. Not only do you need sunny weather but also in the northern and southern latitudes only the mid day sun will do the trick. Recently Dr. Norman Shealy had the good fortune to spend some time with Dr. Joe Prendergast, an endocrinologist/diabetologist. [2] Dr. Shealy said, "He has managed over 1500 diabetic patients and, in the last decade, not one of his patients has had a

stroke or heart attack. Only one has even been hospitalized! His secret 50,000 units of Vitamin D3 daily. Dr. Joe further reports: Reversal of advanced coronary disease, Reversal of advanced lung disease, avoiding a lung transplant! Cure of multiple sclerosis. Cure of amotrophic lateral sclerosis. Regression of rheumatoid arthritis. Control of many cancers including prostate, breast, colon, brain tumors, leukemia, myeloma, etc. Improvement in allergies. Reversal of osteoporosis. Prevention of influenza." The sun is that important and a chapter on this subject is in the soon-to-be-published book ***Natural Allopathic Medicine***.

Below is a very brief outline and introduction to some of these medicinal substances. For more in-depth information on these protocol items one will have to read one of several of my books. ***Winning the War on Cancer*** presents most of this in its 900 plus pages. There is much to know so here we can just manage the briefest of introductions to some of the substances that everyone should have in their medicine cabinets. Again the common denominator is that medical science conclusively supports the widespread use of these substances.

For all intensive purposes the only reason to go the pharmaceutical route is if one has a death wish. Why else would one desire to poison oneself or have ones children poisoned by products pharmaceutical companies create to make huge amounts of money. A quick investigation of the history of the pharmaceutical industry and the Nuremberg Trials will shake ones confidence in these companies. After all they have done, a reasonable person would not trust these companies nor their products in the least.

Magnesium and Cancer

It is known that carcinogenesis induces magnesium distribution disturbances, which cause magnesium mobilization through blood cells and magnesium depletion in non-neoplastic tissues. **Magnesium deficiency seems to be carcinogenic, and in case of solid tumors, a high level of supplemented magnesium inhibits carcinogenesis.**[3]Both carcinogenesis and magnesium deficiency increase the plasma membrane permeability and fluidity.

With the disease predicted to surge in the next 15 years it certainly is time to get serious about cancer prevention. Researchers from the School of Public Health at the University of Minnesota have just concluded that **diets rich in magnesium reduced the occurrence of colon cancer.** A previous study from Sweden[5]reported that women with the highest magnesium intake had a 40 per cent lower risk of developing the cancer than those with the lowest intake of the mineral.

The School of Public Health at the Kaohsiung Medical College in Taiwan found that magnesium also exerts a protective effect against gastric cancer. But only for the group with the highest levels.[6]

Magnesium protects cells from aluminum, mercury, lead, cadmium, beryllium and nickel, which explains why re-mineralization is so essential for heavy metal detoxification and chelation. Magnesium protects the cell against oxyradical damage and assists in the absorption and metabolism of B vitamins, vitamin C and E, which are anti-oxidants important in cell protection. Recent evidence suggests that vitamin E enhances glutathione levels and may play a protective role in magnesium deficiency-induced cardiac lesions.[7]

Without sufficient magnesium, the body accumulates toxins and acid residues, degenerates rapidly, and ages prematurely. Recent research has pointed to low glutathione levels being responsible for children's vulnerability to mercury poisoning from vaccines.[8]It seems more than reasonable to assume that low levels of magnesium would also render a child vulnerable. And in fact we find out that glutathione requires magnesium for its synthesis.[9]**Glutathione synthetase requires γ-glutamyl cysteine, glycine, ATP, and magnesium ions to form glutathione.**[10]In magnesium deficiency, the enzyme y-glutamyl transpeptidase is lowered.[11]Data demonstrates a direct action of glutathione both in vivo and in vitro to enhance intracellular magnesium and a clinical linkage between cellular magnesium, GSH/GSSG ratios, and tissue glucose metabolism.[12]Magnesium deficiency causes glutathione loss, which is not affordable because glutathione helps to defend the body against damage from cigarette smoking, exposure to radiation, cancer chemotherapy, and toxins such as alcohol and just about everything else.

According to Dr. Russell Blaylock, low magnesium is associated with dramatic increases in free radical generation as well as glutathione depletion. This is vital since glutathione is one of the few antioxidant molecules known to neutralize mercury.[13]

Iodine

Oncologist Dr. Tullio Simoncini states, “Every tumour of the skin can be completely removed with Iodine Tincture 7%, brushed many times (10-20) a day. When the crust is formed, don’t take it away, but treat the area continuously and wait until it falls without any other intervention except the Iodine tincture. When the crust falls down the third time, the patient is healed.”

One of the principle reasons iodine is so effective for skin cancer is that, according to Dr. Simoncini, skins cancers are caused by Candida fungus which has adapted itself to metabolising the most proteinaceous constituents of the epidermis and that therefore only rarely can it be treated with sodium bicarbonate solutions.

There is growing evidence that Americans would have better health and a lower incidence of cancer and fibrocystic disease of the breast if they consumed more iodine. A decrease in iodine intake coupled with an increased consumption of competing halogens, fluoride and bromide, has created an epidemic of iodine deficiency in America.
Dr. Donald Miller Jr.

A newly discovered oxidant defense system is found in the free radical scavenging capacity of thyroid hormones Thyroxine, reverse-T3 and iodothyronines seem to be important as antioxidants and inhibitors of lipid peroxidation[14],[15]and **is more effective than vitamin E, glutathione and ascorbic acid**.[16] Doctors involved in the chelation of children with neurological conditions need to take notice and start treating them with iodine as a primary not secondary form of treatment.

The ductal cells in the breast, the ones most likely to become cancerous, are equipped with an iodine pump (the sodium iodine symporter, the same one that the thyroid gland has) to soak up this element.[17]
Dr. Donald Miller

Iodine is a well known topical germicidal agent effective against a wide spectrum of organisms including bacteria, fungi and protozoa. Iodine exhibits good activity against bacteria, molds, yeasts, protozoa, and many viruses. Indeed, of all antiseptic preparations suitable for direct use on humans and animals and upon tissues, only iodine is capable of killing all classes of pathogens, gram-positive and gram-negative, bacteria, mycobacteria, fungi, yeasts, viruses and protozoa. Most bacteria are killed within 15 to 30 seconds of contact.

There are actually four halogens: iodine, bromine, fluorine and chlorine. All these halogens use the same receptors in the body. Therefore if a person’s diet is deficient in iodine the iodine receptors in the thyroid and stomach, for example, may fill up with bromine which is common in grains, bleached flour, sodas, nuts and oils as well as several plant foods. Iodine is depleted by bromine, which is used as a spray on fruits and vegetables, in baked goods, as a fumigant, and in Prozac, Paxil and many other pharmaceutical drugs. Chlorine, fluorine, and fluoride are chemically related to iodine, and compete with it, blocking iodine receptors in the thyroid gland.

Dr. David Brownstein says that fluoride inhibits the ability of the thyroid gland to concentrate iodine and research has shown that **fluoride is much more toxic to the body when there is iodine deficiency present.** When iodine is supplemented the excretion rate of the toxic halides bromide, fluoride and perchlorate is greatly enhanced. Brownstein says that after only one dose of iodine the excretion of fluoride increased by 78% and this is very important for those who are drinking fluoridated water or are taking medicines with fluoride in them; bromide excretion rates increased by 50%. Our environment is loaded with the toxic halides bromine and fluorine and up to now we have had no way to detoxify the body of these thyroid poisons.

Alpha Lipoic Acid and Glutathione

Alpha lipoic acid has been shown to protect against, or reverse, the adverse health effects of mycotoxins.[18]

Since it is soluble in both water and fat, ALA can move into all parts of the cell to neutralize free radicals. Vitamin C, on the other hand, is limited to the watery parts of cells because it is soluble only in water; while vitamin E is soluble only in fat and sticks to the fatty parts of cells. **ALA interferes with the biochemical and physical damage caused by free radicals because it recycles and generates additional glutathione as well as vitamin C and E thus preventing deficiencies.** According to the National Cancer Institute

considerable laboratory evidence from chemical, cell culture, and animal studies indicates that antioxidants may slow or possibly prevent the development of cancer.

Of all the antioxidants, glutathione is one of the most important and a later chapter is devoted to this vital enzyme. Made up of three amino acids (cysteine, glycine, and glutamic acid), glutathione is part of the antioxidant enzyme glutathione peroxidase and is the major liver antioxidant. Not surprisingly, extremely low levels of glutathione are found in people suffering from severe OS. People with AIDS, cancer and Parkinson's disease, for example, typically have very low glutathione levels.

Glutathione is the most important intracellular antioxidant. It appears as if this substance must be assembled within the cell to be effective. Glutathione, along with selenium, forms enzyme systems that defend the body against the cancer-causing free radical products of oxidative stress. **White blood cells require high levels of glutathione to destroy invading microorganisms and kill cancer cells.** In normal human white blood cells and cultured cancer cells, Alpha Lipoic Acid had been demonstrated to increase the production of and recycle glutathione.

“Free radical damage actually decreases the amount of energy produced in the cell because it interfere whit the integrity of the mitochondrial membranes where the energy is produced. The organs containing damaged mitochondria cease to function normally and lose their energy reserves. When the damage occurs in the pancreas, it may lead to diabetes. When it takes place in the heart, coronary heart disease may result,” writes Dr. Burt Berkson.

Why are we not happy with our lives? What is the cause of our unhappiness and dissatisfaction? How can we see the end of at least part of the unpleasantness and disease we experience in life? Though there are many answers to these profound questions the simplest answer is so simple we discard it but at a great price. Doctors routinely ignore the following choosing instead to poison people hallucinating that this will return their patients to health.

The answer is the same for us as it is for plants. It is impossible to grow plants on top of shoddy soil deficient in minerals. Today’s plants are not happy for they are not healthy. This is measurable in terms of key vitamin and mineral deficiencies in our basic foods, which leave plants vulnerable to invasion by pests. Scientists are well aware that over the past fifty years the nutritional value of basic foods has been declining and with it our health.

It’s the same for us! Without magnesium, selenium, zinc, calcium, and key vitamins we cannot be happy, healthy or fulfilled in life. The first key to turn to reverse our misfortune is magnesium. It gives the most bang for the buck in medical terms. Minerals are the first cause of biological life and that is why it is minerals that are added to the soil not vitamins. Minerals are the foundation for biological existence giving us strength for the biological activities on higher levels.

Natural Allopathic medicine pinpoints crucial molecular and ionic switches that, when flipped, transform cells and cellular environments. These switches are controlled by minerals. Patients suffering from diabetes, heart disease, cancer and strokes and many other ailments can have their cells reprogrammed to return to health without the need for drugs, transplants or other therapies. Natural Allopathic medicine offers an extreme makeover of cells mostly through fertilization with minerals.

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mabar@unipa.it

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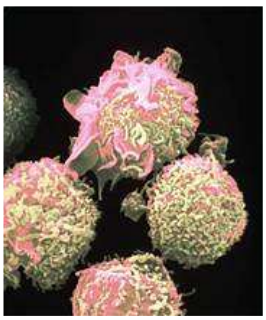
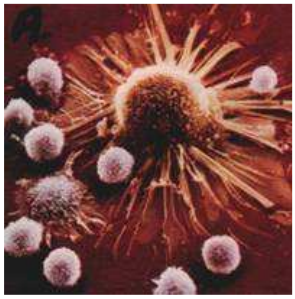
Understanding the Condition of Cancer



Hairy cell leukemia (HCL)
American Cancer Society

Most of us have a concept of cancer that has been programmed into us through years of constant and deliberate misinformation. All we can think of is our DNA strands losing control of themselves creating colonies of human cells running amuck. Tell someone that their cancer is a yeast or fungi invasion and they will look at you like you are a nut. But a major U.S. scientist says cancer – always believed to be caused by genetic cell mutations -- can in reality be caused by infections from viruses, bacteria, yeasts, molds and fungus parasites. **"I believe that, conservatively, 15 to 20 percent of all cancer is caused by infections; however, the number could be larger -- maybe double,"** said Dr. Andrew Dannenberg, director of the Cancer Center at New York-Presbyterian Hospital/Weill Cornell Medical Center. Dr. Dannennberg made the remarks in a speech in December 2007 at the annual international conference of the American Association for Cancer Research.[1]

You will often hear people say that we all have cancer cells. The disease we call cancer means that the immune system has failed to kill these naturally occurring cancer cells before they got out of control and proliferated. This is a reasonable assumption when we define these cancer cells as yeast and fungi cells as well as certain fungi type bacteria. What Causes Cancer? “We know that cancer is a mutation of DNA that causes cells to mutate and divide rapidly.” Wrong. We do not know this but we do know that most doctors and people think this. Yes, these damaged cells can invade other tissues in the body and spread. Thus causing systemic disease. It does not even seem reasonable to conclude that these are human cells with the DNA mutations. Viral, bacterial and fungi pathogens have their own mutational dances. Medical scientists already know that pathogens are very much present in cancer patients and need to be dealt with no matter what theory one has decided to follow.



Infections and Human Cancer, and *Microbes and Malignancy: Infection as a Cause of Human Cancers* are just two of a line up of books that address the crucial issue that holds the key to winning the war on cancer. Today there is a growing list of researchers finding that **anti fungal medicines kill cancer cells.** Scientists of the German Cancer Research Center have discovered that the antibiotic/antifungal griseofulvin counteracts tumors forcing cancer cells into cell death. Professor Dr. Alwin Krämer, head of the Clinical Molecular Hematology/Oncology at the University of Heidelberg found that griseofulvin causes cancer cells to build malformed, multipolar spindles, which eventually leads to cell death by apoptosis. In healthy cells, however, the antibiotic does not cause spindle malformations. You will find in this book many chapters on this crucial subject, which Drs. Dannenberg and Kramer are introducing here.

It would be an oversimplification to translate the word cancer into fungi or yeast even though tumors are packed with fungi/yeast cells. Which, by the way, are cutting off our food supply at the pass - so to speak. In reality the meaning of the word cancer is a concept that needs to be made from a myriad of

realities that go into creating what we might more accurately call the **condition of cancer**. For instance, when the pH drops even by .1, the increase in acidity is interpreted by microbes already present in the body as a sign of a dead or dying body. This prompts pathogents, first viruses, then bacteria and finally virulent yeast and fungi to reduce the body to the dust from whence it came.

Apoptosis, a genetically determined form of cell death, is involved in fundamental processes of life, like embryonic development and immune defense. Defects in apoptosis cause severe diseases including cancer and degenerative disorders. Many pathogens actively modulate host cell apoptosis in the course of infection leading to a buildup of unhealthy cells that just will not die. Induction of apoptosis is an important mechanism by which infected, damaged and dangerous cells (cancer cells) are removed from the body.[2] Cancer, fungi and yeast cells release substances that interfere with the proper functioning of immune system cells so it's more than possible that cancer cells and infectious cells are the same cells.

Dietary factors, such as decreased intake of vitamins, minerals, calories, and protein can alter immune function. Poor nutrition makes the immune system less effective in recognizing and destroying germs. People who are malnourished are more apt to develop infections and to develop cancer. In today's world one can now be obese and be malnourished. Processed foods are stripped of essential nutrients. Nutritional deficiencies are a basic cause of cellular decline and cellular infection.

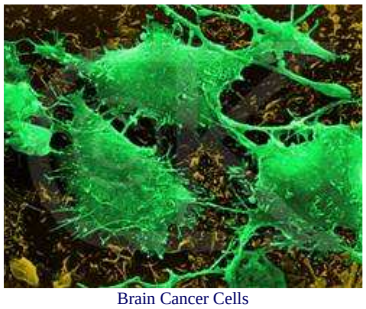
Given enough time, cancer will develop whenever there is a proliferation of damaged cells. When cells are damaged, when their cell wall permeability changes, when toxins and free radicals build up, when the mitochondria lose function ability in terms of energy ATP production, when pH shifts strongly to the acidic and when essential nutrients are absent cells eventually decline into a cancerous condition. We can see that when a person has cancer they are literally rotting inside. They are dying from the loss of function, gathering infectious forces, and losing strength from malnutrition as the cancer cells eat us out of house and home.

Genetic variations, which can predispose some people to cancer, may interact with environmental contaminants and produce an enhanced effect.

Dr. Heinrich Kremer writes, "The Nobel Prize winner Professor Watson, who together with Crick discovered the double helix of DNA in the nucleus, the most prominent promoter of the 1971 "War on Cancer" succinctly declared in 2003: **'First we have to understand cancer before we can cure it'.** The background to this sobering thought after decades of most intensive research efforts and a massive capital injection is the fact that the classic mutation theory of oncogenesis has been forever shaken by newer research. Under the mutation theory a tumor colony develops from a single 'degenerated' body cell that through uncontrolled division is thought to pass on identical DNA defects to all daughter cells. However, it has become apparent that each individual cancer cell, even within the same tumor of a patient, features a different genetic variation."

Cells are the building blocks of living things. Cancer is typically thought to grow out of 'normal cells' in the body. Normal cells multiply when the body needs them, and die when the body doesn't. Cancer appears to occur when the growth of cells in the body are out of control and the cells divide too rapidly. It can also occur when cells "forget" how to die. This is orthodox oncology's simplistic and inaccurate concept of cancer. It divides cells into only two categories – normal cells and cancerous ones. They are not allowing for any shade of cellular degeneration. This theory tells us nothing about the medical reason explained by Dr. Dannenberg. He says that as much as 40 percent of cancer is caused by infections.

Though chromosomal abnormalities are thought to be the cause of cancer we need to look deeper into what is really happening in cancerous tissues. For instance, we can look at DNA problems, which are creating the same type of problem that large drops in pH cause - weakening and deterioration of cell physiology. Any sign - whether it's DNA, pH acidic shifts, cellular malnutrition, mitochondria dysfunction or cell toxicity - **will create an open invitation for microbes to attack these weakened cells.** Sick cells cannot help but broadcast to the environment that they are decaying, rotting and on the road to cell death.



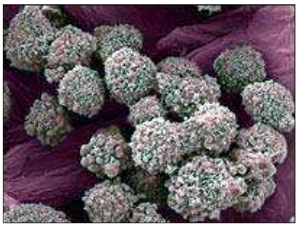
Brain Cancer Cells

The majority of the cancer patients in this country die because of chemotherapy, which does not cure breast, colon or lung cancer. This has been documented for over a decade. Nevertheless, doctors still utilize chemotherapy to fight these tumors.

Dr. Allen Levi

The Healing of Cancer, 1990

Everyone agrees that cancer is an uncontrolled proliferation of cells. However, **it really does matter** whether we conceive of them as out of control fungi and yeast infections, or genetically triggered human cells. It matters because **our concept of cancer determines how we will approach its treatment.** We are in desperate need of a clear image of what cancer is and the process that leads up to it and causes it. What could be more important to the cancer world than this?



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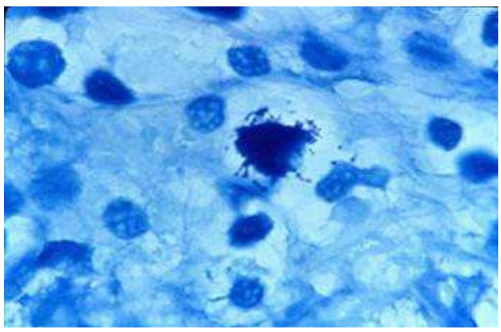
[2]CV Rudel: Study of Microbiology and Molecular Biology, 1994 Ph.D. at the MPI for Biology in Tübingen/Germany on virulence factors of pathogenic Neisseria

The Cancer Microbe



A bacterium, Helicobacter pylori, has been found to cause stomach ulcers and since 2001 it has been seen as the cause of stomach cancers.

"Although bacteria can be identified in cancer, there are obviously other well-known factors that can induce cancer. These include sunlight in skin cancer, smoking in lung cancer, radiation-induced cancer, etc. But in each case it may require these ever-present bacteria to induce the cellular changes of cancer. The demonstration that these microbes are found within the cell and even within the nucleus (as shown by Irene Diller) indicates that these agents may access the genetic material of the cell. Thereby transforming the cell to a cancerous state," writes Dr. Alan Cantwell who insists that Cancer Is An Infection Caused By Tuberculosis-Type Bacteria.

This is a good representation but it implies linear cause and effect relationships, which we have to transcend to fully understand the condition of cancer. The obvious omissions above are nutritional deficiencies, toxic poisoning and the emotional/spiritual aspects of the disease.

"For more than a half-century, the cancer microbe has been reported as a pleomorphic, intermittently acid-fast bacterium closely related to the acid-fast mycobacteria and to Mycobacterium tuberculosis, the acid-fast microbe that causes tuberculosis (TB). The acid-fast stain is a time-honored laboratory stain specifically used to detect TB-type mycobacteria in tissue and in culture," writes Dr. Cantwell and you can see his microscopic slides in his above essay on a Youtube video. The bacterium's tenacity is perhaps the biggest mystery to tuberculosis researchers. It can linger in the lungs for decades after infection, apparently awaiting a slump in the body's defenses.

Leprosy & Tuberculosis - Both of these diseases are listed as a **"mycobacterium". Myco means fungal and bacterium is a bacteria.** As we already know hybrid mycobacterium"s can be very deadly. Leprosy is called 'mycobacterium leprae'. The three major mycotic lung infections are histoplasmosis, coccidiomycosis, and blastomycosis. The fungal agent in each case is dimorphic: exists in nature as mycelium (mold) that bears infectious spores, which enter host and develop into a yeast-like phase that is the tissue pathogen.

Humanpapilloma virus (HPV) is known to cause cervical cancer.

Dr. Virginia Livingston, Dr. Cantwell's mentor, claimed that all human beings carried cancer microbes; and she postulated these microbes were closely connected with the origin of life. In the healthy state these microbes caused no harm and were beneficial. However, when the immune system was weakened, these bacteria were capable of inducing a variety of human illnesses, including cancer.

The main focus in ***Winning the War on Cancer*** is on yeast and fungal infections yet TB shows us that there are forms of bacteria that border on the world of fungi. We will see in another chapter that the world of pathogens is fluid with viruses, bacteria and fungus all getting into the act together. When things go wrong in the body we have to deal with multi-levels of pathogens that increase themselves at our expense.

Candida albicans, a normal component of the mammalian gastrointestinal flora, is responsible for most fungal infections in immunosuppressed patients. Allopathic medicine has a strange relationship with fungal and yeast infections and doctors are not required to report fungus caused diseases or deaths. With their obsession with bacteria and viruses they ignore fungus even to the point of denying their existence. Worse, doctors contribute to the dangerous Candida overgrowth by prescribing cortisone, birth-control pills and

antibiotics. All of which either partially or totally destroyed our fungal immune system. Perhaps this is the foundational reason why medicine ignores Candida overgrowth. It is hard to admit something you are causing.

What is the fungal immune system? Initially in an adult it is about 4-8 lbs of friendly bacteria in the lower gut. This comprises about 85% of all organisms in the bowels. The remaining 15% is fungus. It takes this ratio to keep the fungus in check. This is why probiotics are so important when treating most diseases and certainly after taking a round of antibiotics, which kill off friendly intestinal bacteria.

Fungi are very aggressive because they protect themselves by producing deadly mycotoxins with which they overpower their bacterial brethren. Remember penicillin is mold! Scientists discovered that fungus is a natural enemy of bacteria and have used different varieties to kill off unwanted or dangerous bacteria ever since. But this process badly backfires on us and this is what allopathic medicine has yet to understand. When we use fungus to make antibiotics we unleash inside of us these deadly mycotoxin poisons. This destroys whole colonies of friendly bacteria, which ends up increasing the load of fungus in our bodies.

Once the fungus takes over the bowels they migrate upward until reaching the small intestine and they start to bore through the intestinal walls helping to create what is called leaky gut syndrome. They can invade the stomach and even work their way up into the mouth where their presence is called Thrush. The problem is that these yeasts get everywhere. In the very late stages of yeast infection they become concentrated in tumors which grow and kill us by both starving and crowding out our human cells.

When the small intestine and stomach become filled with fungus, digestion is interfered with. This means that our organs and glands are deprived of the basic nutrition they require for health existence. Yeasts are aggressive alien invaders invited into us in great numbers by allopathic medicine's obstinate use of dangerous antibiotics. This, unfortunately, has no real idea how badly things can go for us when we take antibiotics. In the next chapter we will explore this question in great depth.

The US Centers for Disease Control (CDC) has just released "the first report ever done on adverse reactions to antibiotics in the United States" on 13 Aug, 2008. This is "the first report ever on the dangers of antibiotics even though antibiotics have been widely used since the 1940s. It is astounding that it has taken CDC so long to seriously study the side effects of these drugs. It is now apparent that there have been decades of an undeserved presumption of safety. **Antibiotics can put you in the emergency room.** Common antibiotics, the ones most frequently prescribed and regarded as safest, cause for nearly half of emergencies due to antibiotics.[1]

Most people currently believe cancers are caused by the activation of oncogenes – genes that predispose the individual toward cancer. But, this theory was called into question by its original proponent. Dr. Robert A. Weinberg of Massachusetts Institute of Technology (MIT), the discoverer of the so-called oncogene (cancer-causing gene), reversed himself almost ten years ago. After discovering that "less than one DNA base in a million appears to have been miscopied," he concluded that is not enough of a defect to mutate the cell! He stated: "Something was very wrong. The notion that a cancer developed through the successive activation of a series of oncogenes had lost its link to reality."

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[1]Allergic reactions to antibiotics may be very serious, including life-threatening anaphylactic shock. Searching the US National Library of Medicine's "Medline" database for "antibiotic allergic reaction" will bring up over 9,700 mentions in scientific papers. A search for "antibiotic anaphylactic shock" brings up over 1,100. Many papers on this severe danger were actually published before 1960. Given this amount of accumulated information, one might wonder why CDC took so long to seriously study the problem. Overuse of antibiotics leads to antibiotic resistance. At its website, CDC currently states that antibiotic resistance "can cause significant danger and suffering for people who have common infections that once were easily treatable with antibiotics. . . Some resistant infections can cause death." In the USA alone, "over 3 million pounds of antibiotics are used every year on humans . . . enough to give every man, woman and child 10 teaspoons ofpure antibiotics per year," writes Gary Null.

The Simoncini Treatment of Cancer

Destroying our fixed ideas about Cancer

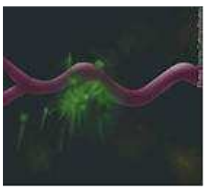
Listen and watch Dr. Tullio Simoncini demonstrate live fungi colonies and their destruction with sodium bicarbonate.
video.google.it/videoplay?docid=-5988007132555081 40&hl=it

Breast Cancer Patient in Europe Shares her success with bicarbonate.
video.google.it/videoplay?docid=8718775950691314311

These videos reveal an astonishing truth about cancer and its safe successful treatment. For other videos see Dr. Simoncini's site at www.cancerfungus.com/ Doctors and medical scientists have made the mistake of assuming that fungal conditions develop **after** cancer treatment have begun. Researchers contend that cancer therapies, aimed at destroying cancer, also destroy the immune system of the patient leaving them vulnerable to yeasts and fungi, which multiply out of control. They consider these invading colonies to be **"secondary"** to the actual cancer.

Candida, and its many variants are not only the cause of cancer, they are the cancer. Cancer in great part is an invasion invited by deteriorating/rotting cells of yeast and fungi colonies. The 100 year old hypothesis that has led medical science in circles, that cancer are human cells multiplying without limit, turns out to be just another unproven theory that no one has demonstrated beyond a shadow of doubt. Dr. Simoncini insists that there is no evidence at all for the genetic hypothesis and this gets proven out with the fact that orthodox cancer treatments do not work out very well when you look at the beyond five year survival statistics. Modern orthodox oncology is a failure and every doctor knows this in his heart and soul.

Yeast and Fungi Invaders



My work is based on the conviction, supported by many years of observations, comparisons and experiences, that the necessary and sufficient cause of the tumor is to be sought in the vast world of the fungi, the most adaptable, aggressive and evolved micro-organisms known in nature.

Dr. Tullio Simoncini
Oncologist, Rome Italy

"The aggressive power of fungi is so great as to allow it, with only a cellular ring made up of three units, to tighten in its grip, capture and kill its prey in a short time notwithstanding the prey's desperate struggling. Fungus, which is the most powerful and the most organized micro-organism known, seems to be an extremely logical candidate as a cause of neoplastic proliferation," says Dr. Simoncini. That metastatic cancer cells eat their way through the protective barriers of an organ and march away from their proper organ and overrun other tissues and organs describes yeast and fungus invasion perfectly.

Fungi are dreadful enemies. During their life cycle fungi depend on other living beings, which must be exploited to different degrees for their feeding. Fungi can develop from the hyphas that are more or less beak-shaped specialized structures that allow the penetration of the host. The shape of the fungus is never defined, for it is imposed by the environment in which the fungus develops. Fungi are capable of implementing an infinite number of modifications to their own metabolism in order to overcome the defense mechanism of the host. These modifications are implemented through plasmatic and biochemical actions as well as by a volumetric increase (hypertrophy) and numerical hyperplasy of the cells that have been attacked.

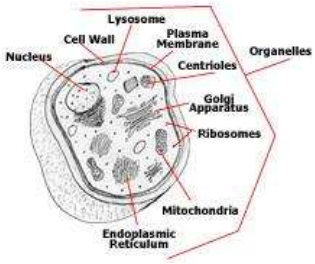
In 1999 Meinolf Karthaus, MD, watched three different children with leukemia suddenly go into remission upon receiving a triple antifungal drug cocktail for their "secondary" fungal infections.[1]

"Fungal infections not only can be extremely contagious, but they also go hand in hand with leukemia [2]-- every oncologist knows this. And these infections are devastating: once a child who has become a bone marrow transplant recipient gets a "secondary" fungal infection, his chances of living, despite all the antifungals in the world, are only 20%, at best," writes Dr. David Holland. Dr. Holland is talking about pharmaceutical antifungal agents, not about sodium bicarbonate. Until the arrival of Dr. Tullio Simoncini sodium bicarbonate was not known or used for fungal infections in relation to cancer.

> Doug A. Kaufman writes, "The day I wrote this, a young lady phoned into my syndicated radio talk show. Her three-year-old daughter was diagnosed last year with leukemia. She believes antifungal drugs and natural immune system therapy has been responsible for saving her daughter's life. She is now telling others with cancer about her daughter's case. After hearing her story, a friend of hers with bone cancer asked her doctor for a prescriptive antifungal drug. To her delight, this medication, meant to eradicate fungus, was also eradicating her cancer. She dared not share this with her physician, telling him only that the antifungal medication was for a "yeast" infection. **When she could no longer get the antifungal medication, the cancer immediately grew back.** Her physician contended that a few antifungal pills surely should have cured her yeast infection. It is my contention, however, that the reason this medication worked was because she did have a yeast infection not a vaginal infection for which this medication was prescribed; a fungal infection of the bone that may have been mimicking bone cancer."
>
> "Many cancer patients find the true fungal link to their cancer only to succumb to heart disease or immune deficiency caused by traditional cancer treatment. If this case were an isolated event, it might be referred to as "coincidental." I have been able to plead with doctors of advanced cancer patients to at least try antifungal drugs for their patients. Afterwards, simply amazing reports have come forth. Several of these have been published in ***The Germ That Causes Cancer,"*** continued

Kaufman.

A medical textbook used to educate Johns Hopkins medical students in 1957, Clinical and Immunologic Aspects of Fungous Diseases,
declared that many fungal conditions look exactly like cancer!
Doug A. Kaufmann
The Germ That Causes Cancer



Cancer is a biologically-induced
spore (fungus) transformation disease.
Dr. Milton W. White

The University of Michigan Cancer Center has proclaimed that current chemotherapy targets the "wrong" cells. The Ann Arbor researchers discovered that not all cells in a tumor are equally malignant. Only a tiny minority of tumor cells are actually capable of inducing new cancers; the rest are relatively harmless. "These tumor-inducing cells have many of the properties of stem cells," said Michael F. Clarke, MD, a professor of internal medicine, who directed the study. "They make copies of themselves - a process called self-renewal - and produce all the other kinds of cells in the original tumor."

According to the Mayo Clinic, cancer refers to any one of a large number of diseases characterized by the **development of abnormal cells that divide uncontrollably and have the ability to infiltrate and destroy normal body tissue.** This is a fact that does not depend on the various theories. The theorizing begins when we run down the usual path thinking that cancer begins with damage (mutations) in our DNA. Our DNA is like a set of instructions for our cells, telling them how to grow and divide. Normal cells often develop mutations in their DNA, but they have the ability to repair most of these mutations. Or, if they can't make the repairs, the cells frequently die. However, certain mutations aren't repaired, causing the cells to grow and become cancerous…or so the story goes. Looking at the above definition we would be perfectly correct to say that **yeasts and fungi are, in human terms, abnormal cells that divide uncontrollably and have the ability to infiltrate and destroy normal body tissue.**

A new cancer paradigm, one that is based on an understanding
that cancer is ultimately caused by multiple interacting factors
is far superior to a paradigm based on dubious attributable fractions.

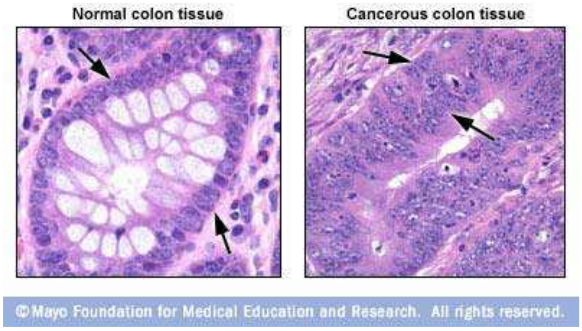
In understanding what cancer is we have to separate out the causes of cancer from the cancer itself. In the end we will come to see that cancer is a fungus, and not that cancer is caused by a fungus. What causes cancer and what causes yeast and fungi to colonize and threaten the body is diverse. Many things have been scientifically shown to cause cancer or to cause the conditions in which late state infections (cancer) invite yeast and fungi to form colonies that attach to sickly human cells.

*Because **cancer**cells continue to grow and divide, they*
are different from normal cells. Instead of dying, they
outlive normal cells and continue to form new abnormal cells.
*Because **yeast** cells continue to grow and divide, they are*
different from normal cells. Instead of dying, they
outlive normal cells and continue to form new abnormal cells.

Two basic theories of cancer have existed up to now: (1) the viral theory and, (2) the trophoblast theory. There is a recognition that cancer cells share some properties with placental cells found in pregnancy. The classic experiments of Warburg on the respiratory pattern of cancers of various species and tissue origins reveal a high uniformity from tumor to tumor. Yet what these cells actually are is in doubt.

The trophoblast theorists claim when you look at internal cell morphology, all cancer cells are exactly the same as trophoblast cells. Outwardly, cancer cells appear different because the trophoblast cell is reacting to different parts of the body in which it finds itself. 90% of a tumor, for example, is comprised of benign somatic cells that are responding to the 10% carcinogenic action of the trophoblast cells. Yes, this sounds like one is talking about yeasts and fungi invaders.

Normal, healthy cells in our body grow in a very orderly and well-controlled way, living for a set period of time and then dying on schedule. When a normal cell dies, our body replaces it with another normal cell. Cancer cells grow in an uncontrolled manner. One malignant cell becomes two, two becomes four, four becomes eight, and so on, until a mass of cells (a tumor) is created. Tumors remain small until they're able to attract their own blood supply. This allows them to obtain the oxygen and nutrients they need to grow larger. But again this does not in the least suggest what these cancer cells actually are - human cells on the rampage, or yeast and fungi staking out their ever increasing territory?



The image of the normal colon tissue, at left, shows well-formed oval-shaped glands, evenly lined with a single, organized layer of cells indicated by arrows. The image of the cancerous colon tissue, in contrast, shows highly disorganized cancer cells stacked upon each other in an apparently random fashion, That is exactly what we would expect from fungi invaders as well as human cells running amok.

The predominant viral theory says that outside agents invade your body; or that somatic (good) cells mutate into cancer cells and that there exists an infinite number of different cancers. The trophoblast theory of cancer was postulated over a hundred years ago by Scottish embryologist John Beard, a professor at the University of Edinburgh. He and subsequent researchers say that, morphologically, there is only one type of cancer cell - the trophoblast cell. The trophoblast cell has a natural body function: it arises from the meiosis (cell division) of a woman's diploid totipotent cells after fertilization.

It really matters how we conceptualize cancer and the process that leads to its proliferation in the body. The theory that malignant cancers are false-placentas (trophoblast theory) was first formulated by Beard in 1902 when he observed that placenta cells resemble cancer cells. He also noted how malignant cancers act in the same way that placenta cells act in the mother's womb; they attach to the uterus and "eat" through it to obtain a blood supply. Beard also found other out-of-place trophoblast cells in great numbers throughout the body. These cells are placenta-like and do not differentiate into specific tissue, but lie dormant. Beard called these cells "germ" cells. They have properties similar to stem cells, and Beard believed that these cells are the seeds of cancer. Notice again how Beard and almost all medical scientists since assume these cells are human cells that seem to be placenta-like cells. None of this proves anything about what the cells actually are.

I remain stunned at the hesitancy of American physicians to try harmless antifungal approaches for anything but vaginal yeast.
Doug Kaufmann

Not a week goes by that we don't find yet another medical or societal reference to fungi causing human misery. In September 1999, Johns Hopkins medical researchers confirmed that virtually all chronic sinus infections were due to fungus. **Fungus makes poisonous byproducts called mycotoxins. Antibiotics are one class of mycotoxins.** The fact that mycotoxins can cause cancer is not up for grabs. Even the American Cancer Society admit: "**Mycotoxins are genotoxic carcinogens**, and exposure begins in utero and in mother's milk, continuing throughout life; these conditions favor the occurrence of disease." (Murphy, et al. American Cancer Society Textbook of Clinical Oncology, 2nd ed. 1995)

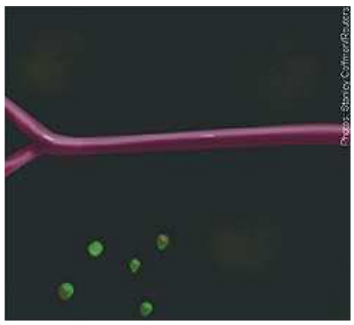
Both cancer cells and fungi can metabolize nutrients in the absence of oxygen (anaerobically) and both

must have sugar in order to survive. Both can be impacted by antifungal medicines.[3]Both will die in the absence of sugar.[4]"Mycotoxins have proven to be very toxic and harmful, and it is no wonder that many inhabitants of mold-infested spaces are constantly ill, mainly with upper respiratory tract infections, lethargy, constant headaches, nausea, and a general ill feeling. Inhabiting these living spaces for a considerable period may lead to cancer."[5]

Cancer is defined as malignant tumors of disorderly cells that have the potential of nearly unlimited growth. These uncontrolled cells expand locally and/or metastasize (spread destructively) to other tissues and organs. Clearly this can define a yeast or fungus colony as well as normal cells losing control of their own reproductive growth. One thing we do know about the genetic theory of human cancer cells is that it is impossible to treat. The war on cancer was lost because medical scientists were fighting the wrong enemy. They were battling against their assumptions that are in the end turning into conceptual phantoms. Doctors are assuming incorrectly. They are in denial that they could be so wrong, so blind, and so pigheaded when looking at other probabilities.

Everyone is in denial about something. For Freud, denial was a defense against external realities that threaten the ego. Many psychologists today would argue that it can be a protective defense in the face of unbearable news like a cancer diagnosis; or for the modern day oncologist to hear that cancer is really a fungus infection.

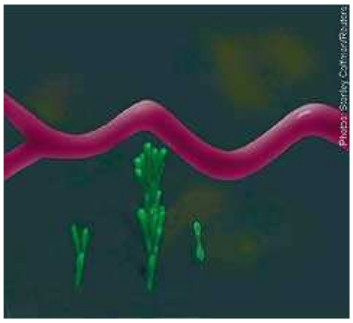
The idea that a proposed cancer germ could have more than one form is a threat to doctors and some microbiologists. Indeed the cancer germ has been described as having a virus like and fungus-like, as well as mycoplasma-like phase.
Dr. Alan Cantwell
The Cancer Microbe



Fungi are so aggressive as to attack not only plants, animal tissue, food supplies and other fungi, but even protozoa, amoebas and nematodes.

Here we see the beginning of the invasion. In this case the fungi/yeast being attracted to an artery but it can be attracted to any rotting or weakening tissues. As we will see in other chapters **this kind of infective invasion is not the exception but the rule when it comes to cancer.** It is absolutely ridiculous to even imagine cellular pathology without an infectious process. It just does not happen in nature or at least certainly not in human physiology. When there is rot there is invasion from hosts of pathogens - in increasingly evolved forms - as the infection persists.

Viruses, bacteria, fungus and yeast proliferate and evolve in compromised biological environments. Bacteria, primarily in the coccus-like form in microscopic tissue sections, have also been found in various forms of cancer.



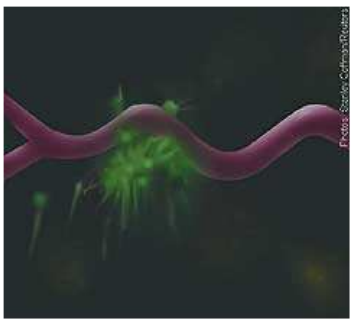
When the conditions are right, viruses, bacteria and then yeast
and fungi will develop their colonies and expand in number rapidly.

"Fungi show a great variety of reproductive manifestations (sexual, asexual, gemmation), these manifestations can often be observed simultaneously in the same mycete., and combined with a great morphostructural variety of organs. All of this is directed toward the end of spore formation, to which the continuity and propagation of the species is entrusted, continues Dr. Simoncini.

Cancer is one of the most maligned and misunderstood diseases of the past millennium. There is also reason to believe it is one of the most misdiagnosed maladies.
Doug A. Kaufmann

Dr. MJ Dvmanov, a professor of medical mycology says, "A disease caused by a fungal mold is called a mycosis. Often a fungal infection, a mycosis, abscess or a fibroid immune response to the presence of fungal mold is called a cancer. Two of my recent studies involved a 26 year old female with a large mold growth in her left lung that required surgical removal and a 65 year old male with a brain "cancer" that was later diagnosed as being 2 different fungal mold growths. Mold produces many toxins and exposure to some molds result in a cancer or unnatural cell growth both hyperplasia and metaplasia. I have investigated cases where initial diagnosis was cancer and later from biopsy and culture identified as a mold growth. Far more deaths are caused by a fungal mold than anyone would believe. Dr. Leyland H. Hartwell's Noble Prize in Medicine Lecture in 2001 introduced the fact that in culture cancer cells just like fungal mold, often described by histopathologists as undifferentiated carcinomas, are immortal just like fungal mold in that they continue to grow even outside the body, when normal human cells do not. If cancer cells are not human cells, then what are they, fungal mold?"

In looking at live blood, you can clearly "see" that there are forms that look like bacteria, micro-organisms and parasites that not only are in the blood, but that over time can grow and can change their shapes.



Fungi will also live almost anywhere. They have been found growing in the
harshest of environments, in the desert and polar regions, in the sea and on rocks.

Candida albicans will shift from yeast form to mycelial fungal form and start to invade the body. *In the yeast state, Candida is a non-invasive, sugar-fermenting organism, while in fungal state it is invasive and can produce rhizoids, very long root-like structures.*

Fungi are serious enemies. "When the nutritional conditions are precarious, many fungi react with

hyphal fusion (among nearby fungi) which allows them to explore the available material more easily, using more complete physiological processes. Fungi are capable of implementing an infinite number of modifications to their own metabolism in order to overcome the defense mechanism of the host," says Simoncini.

When fungi are fed the food they love they become more virulent. Their ability to penetrate and root into the intestinal walls, for example and invade the cells is increased. They not only attach themselves to human tissues but can actually invade the cells where they become quite at home. Thus they are not secondary but primary infections that have been helped along with runaway antibiotic usage, dental amalgam, flu vaccines laden with mercury, mineral deficiencies and by terrible modern diets infected with molds and yeasts as well as many potent poisons.

The shape of the fungus is never defined, for it is imposed by the environment in which the fungus develops.

"**In some cases, the aggressive power of fungi is so great as to allow it, with only a cellular ring made up of three units, to tighten in its grip, capture and kill its prey in a short time notwithstanding the prey's desperate struggling.** Fungus, which is the most powerful and the most organized micro-organism known, seems to be an extremely logical candidate as a cause of neoplastic proliferation," Dr. Simoncini says, "Candida albicans clearly emerges as the sole candidate for tumoral proliferation. If we stop for a second and reflect on its characteristics, we can observe many analogies with neoplastic disease. The most evident are:

1) Ubiquitous attachment: no organ or tissue is spared

2) The constant absence of hyperpyrexia

3) Sporadic and indirect involvement of the differential tissues

4) Invasiveness that is almost exclusively of the focal type

5) Progressive debilitation

6) Refractivity to any type of treatment

7) Proliferation facilitated by multiplicity of indifferent cofounders."

"We therefore have to hypothesise that Candida, in the moment it is attacked by the immunological system of the host or by a conventional antimycotic treatment, does not react in the usual, predicted way, but defends itself by transforming itself into ever-smaller and non-differentiated elements that maintain their fecundity intact to the point of hiding their presence both to the host organism and to possible diagnostic investigations," says Simoncini.

Candida's behavior may be considered to be almost elastic: When favorable conditions exist, it thrives on an epithelium; as soon as the tissue reaction is engaged, it massively transforms itself into a form that is less productive but impervious to attack -- the spore. If then continuous sub-epithelial solutions take place, coupled with a greater reactivity in that very moment the spore gets deeper in the lower connective tissue in such an impervious state, it is irreversible. In fact, the Candida takes advantage of a structural interchangeability according to the difficulties required to overcome its biological niche.

Factors that predispose a patient to candidiasis are general health concerns embrace all conditions that

affect the immune system, including systemic disease, endocrine abnormalities, diabetes, drugs such as immunosuppressive agents, systemic steroids, antibiotics, and oral contraceptives may increase the likelihood of development of candidiasis. Long term antibiotic treatment for acne or recurrent urinary tract infection is often implicated in the overgrowth of Candida. The candidiasis may become extensive if the patients are treated with antibiotics on the erroneous assumption that the infection is bacterial.

It is therefore urgent, on the basis of the above-mentioned considerations, to recognize the hazardous nature of such a pathogenic agent, which is capable of easily taking the most various biological configurations, both biochemical and structural, in function of the condition of the host orga nism. The fungal expansion gradient in fact becomes steeper as the tissue that is the host of the mycotic invasion becomes less eutrophic, and thus less reactive.

When fungal colonization and mycotoxin
contamination is maximal one finds cancer
growing and mestastizing at a maximal rate.

If the spine, for example, becomes infected with bacteria or fungi, inside or on the surface of vertebrae, then the entire torso region (region between neck and waist) may be extremely stiff and sore after being in bed for a while. A person may feel better after taking a hot shower and moving around, yet may remain sore during the day, especially during a deep breath.

All of the medications proven to be effective in
the treatment of the mycotoxin-induced diseases
possess anti-fungal and/or anti-mycotoxic activity.
Dr. A.V. Costantini

We can establish a unified theory that ties in the deterioration of cells, the changes in DNA, RNA, mitochondria, respiration, build up of toxicity and heavy metals, loss of cell wall permeability, increasing buildup of calcium, loss of energy, changes in energy metabolism and changes in pH to all of which creates serious deteriorations in cell health and ability to resist infection. Cancer is a big word and within its embrace is a host of factors. Fungi are big invaders that would put Atilla the Hun to shame running us as they do, so easily into our graves.

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[1] www.vaccinetruth.org/is_cancer_contagious.htm

[2]Dr. David Holland wrote that in 1999 Dr. Meinolf Karthaus watched three different children with leukemia suddenly go into remission upon receiving a triple antifungal drug cocktail for their "secondary" fungal infections. Pre-dating that, Mark Bielski stated back in 1997 that leukemia, whether acute or chronic, is intimately associated with the yeast, Candida albicans. Dr. J. Walter Wilson, in his textbook of clinical mycology a half a century ago said that "it has been established that histoplasmosis and such reticuloendothelioses as leukemia, Hodgkin's disease, lymphosarcoma, and sarcoidosis are found to be coexistent much more frequently than is statistically justifiable on the basis of coincidence." Histoplasmosis is what we call an "endemic" fungal infection. The late Dr. Milton White believed that cancer is a "chronic, intracellular, infectious, biologically induced spore (fungus) transformation disease."

[3]Medical Tribune: Treatment of Fungal Infections Led to Leukemia Remission. Sept 29, 1999; Mann, D. Antifungal agent lowers PSA levels, study finds. May 1, 1997. Medical Tribune

[4]Moore-Landecker, Fundamentals of Fungi, 4th ed. 1996; AND Shim, H. , et al. A unique glucose-dependent apoptotic pathway induced by c-Myc. Proceedings of the National Academy of Science. 95;1511-1516. 1998

[5]Ochmanski, W., et al. Przegl Lek 2000;57(7-8):419-23

Tough Little Creatures

Fungi are heterotrophs, meaning that they secrete digestive enzymes and absorb the resulting soluble nutrients from whatever they are growing on.

A new area of research being driven by Dundee University in Scotland is revealing remarkable abilities of fungi to interact with minerals and metals. Led by Professor Geoffrey Gadd in the College of Life Sciences, the research explores the unique taste that fungi seems to have for rock and heavy metal. Yeasts, moulds and mushrooms are all fungi and there are an estimated 1.5 million different species in the biosphere. By breaking down dead organic material, they continue the cycle of nutrients through ecosystems, and most plants could not grow without the symbiotic fungi that inhabit their roots and supply essential nutrients.

Fungi will also live almost anywhere. They have been found growing in the harshest of environments, in the desert and Polar Regions, in the sea and on rocks. "The fact that fungi interact with heavy metals has potentially important consequences for human activity. Fungi also play a significant, if often overlooked, role in the degradation of rocks and stone - including building materials," Professor Gadd said. "Despite this, their role as agents of environmental change has not been fully appreciated."

Rocks are composed of minerals, the vast majority of which contain metals. They might be considered to be an inhospitable habitat for life to flourish yet fungi can thrive even in the harshest of environments. Mycoplasma, which are fungus like organisms, in order to survive, need heavy metals, of which there are great amounts today in people's bodies, especially around our glandular organs, such as pancreas, thyroid, pineal, thymus, adrenal glands etc. where heavy metals tend to stay. This is where the fungus will set up colonies to hide and will thrive on the heavy metals. A great majority of people who have Candida also have very high heavy metals.

The ability of fungi to grow on a range of rocks and mineral-based surfaces, including concrete and other building materials is significant, with positive and negative implications. **Fungi produce acidic by-products which help them use nutrients in the minerals but this begins to decompose the rock in a form of biological weathering (bioweathering).** This can result in the return of essential nutrients and metals like calcium, phosphate and potassium back into the soil where they can nourish plants and microbes. In other cases, the released elements can form other minerals.

"This ability of fungi to attack and degrade concrete and other materials has implications not only for the weathering and corrosion of buildings but is also relevant to nuclear decommissioning, for example," Professor Gadd said. Imagine what fungi can do to the brain if they can eat out the concrete esophagus put around nuclear sites like Chernobyl.

White rot fungi, the only organisms able to biodegrade wood, is so good at digesting just abut everything that they will be used to biodegrade toxic chemicals.

Special Note: On February 03, 2008 the Adirondack Daily Enterprise News reported that bats are dying off by the thousands as they hibernate in caves and mines around New York and Vermont, sending researchers scrambling to find the cause of a mysterious condition dubbed ‘‘white nose syndrome.’’ The ailment — named for the white circle of fungus found around the noses of affected bats — was first noticed last January in four caves west of Albany. It has now spread to eight hibernation sites in the state and another in Vermont.[1]

Alan Hicks, a bat specialist with the DEC, called the quick-spreading disorder the ‘‘gravest threat’’ to bats he had ever seen. Up to 11,000 bats were found dead last winter and many more are showing signs of

illness this winter. One hard-hit cave went from more than 15,000 bats two years ago to 1,500 now, he said. The bat die-off has some eerie similarities with ‘‘colony collapse disorder,’’ the baffling affliction that began decimating honeybee colonies years ago. Scientists last fall said they suspected a virus previously unknown in the United States but many are speculating that it is the growth of microwave radiation from cell phones and cell towers that is causing the problem.

Fungus Among Us: Invisible Micropollutants Invade Crops, Water Supply “They're here, there, and everywhere: Toxins produced by a common fungus are spreading beyond food crops and invading the environment, including water supplies, with unknown consequences,” researchers in Switzerland report.[2]

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[1] www.adirondackdailyenterprise.com/forms/homes4.asp

[2] www.sciencedaily.com/releases/2008/02/080204110508.htm

Pathogen Differentiation and Infectious Processes

Microbiology

As most doctors know different bacteria, fungi, viruses and parasites are responsible for the infectious process.[1]In the first week of agranulocytosis[2], aerobic gram-positive and gram-negative bacteria (Staphylococcus aureus, S. epidermis, streptococci, enterococci, enterobacteria and Pseudomonas aeruginosa) are more common. After the second and third week, fungi, especially Candida species (albicans, tropicalis, parapsilosis, krusei), and parasites such as Pneumocystis carinii, are more common.

Heavy metals lead to chronic infections by fungi, bacteria, mycoplasma and viruses. It is a big mistake to treat these infections without changing the millieu. In all chronic disease heavy metals plays a role.
Dr. Klinghardt

Health advocate Tom McGregor wrote, "We have a tendency to think the body as clean, and, except for the common cold or a virus, that the blood is sterile, but this is the furthest thing from the truth. After observing live blood using a dark-field microscope, I know that even a healthy person's blood is packed with microorganisms. The blood has nutrients, sugars and oxygen, and the perfect environment and temperature for growth of microorganisms. If you have ever seen pond water through a microscope, you will have a sense of what the blood looks like. There is a constant war going on within the body. If the immune system is healthy, parasites are kept in check. However, in this modern-day lifestyle, where people eat lots of white sugar, white flour, processed oil and fewer nutrients, the microorganisms flourish. **The microorganisms are not the problem; it is their excretions into the blood. Imagine a million microorganisms urinating into your bloodstream. The metabolic byproduct can devastate healthy tissue and open the door to disease."**

In today's world of chronic illness it is impossible to separate heavy metals from the infections we find in our patients. We need to get used to the idea that all our patients are coming to us with elevated total body burdens of heavy metals, toxins and pathogens. Cancer is a prime example of how heavy metal toxicty, free radical damage, pathogen infection, mitochondria dysfunction, immune system depression, mineral and vitamin deficiencies, genetic and cell wall damage and oxidative stress all come together into an end stage life threatening condition. Cancer treatment can be approached in many ways but the best way would be to address all these problems simultaneously.

Why can't the doctors and highly learned men of the world find a cure for cancer?

Most practitioners in the field of chelation hope to lower total body burden of by lowering the toxins and heavy metals through detoxification and chelation. However, we have to pay attention when experienced doctors like Dr. Garry Gordon say, "Increasingly I am convinced that the pathogen burden may be the most significant issue in a majority of patients, as we become increasingly toxic. Thus we may have to first deal with the pathogen burden in order to offer serious long-term benefits to our patients. We now know that infected tissue can hold heavy metals so tightly that even IV chelation fails unless the pathogens are dealt with effectively."

If our immune systems fail to react properly to outside agents, to viruses, bacterium or fungus, the result is an infection.

Knowing the difference between different forms of infection is the first steps in knowing how to deal with the exponentially growing problem of chronic infections. New strategies and alternatives to antibiotics are crucial needs for as we will see antibiotics are causing a medical holocaust in both young and old alike. One would think that by the 21st century the medical community would understand the most basic information about antibiotics and stop using them against viral and fungi infections. In reality one of the principle reasons antibiotics are dramatically overused is because they are given without any idea of what kind of micro-organism is in fact attacking the patient.

The field of microbiology is important because most of the cells in our bodies are not our own. From the invisible strands of fungi waiting to sprout between our toes, to the kilogram of bacterial matter in our guts, we are best viewed as walking 'superorganisms,' highly complex conglomerations of human cells,

bacteria, fungi and viruses. More than 500 different species of bacteria exist in our bodies, making up more than 100 trillion cells. Because our bodies are made of only some several trillion human cells, we are somewhat outnumbered.

A **virus** is smaller than one cell. It lives within a cell (intracellular) to survive and derives its ability to multiply from its host cell. It is not responsive to antibiotics. A virus is not a living thing so antibiotics, intended to kill living things, are not effective. A virus cannot multiply outside a living host cell. There is no pharmaceutical treatment for a virus but iodine is a nutritional substance that is effectively used as is ozone. The body will fight off most viruses over the course of time especially if it is supported to do so and this can be done with re-mineralization and chelation of heavy metals.

Dr. Gérard V. Sunnen speaks almost poetically about viruses when he says, “Viruses are far from being static entities. As quintessential intracellular parasites they have developed, through millions of years of cohabitation with their hosts, astoundingly sophisticated structures, survival, and propagation mechanisms. They have adapted, modified their biological strategies, and evolved impressive genetic diversity and mutational capacity to cope with the changing ecology of planetary life.”

Laboratory studies have shown that cytomegalovirus CMV can disrupt cellular processes with the potential to promote malignant growth, particularly affecting colorectal cancer-cell development. Dr. Charles S. Cobbs comments: "Human cytomegalovirus nucleic acids and proteins can be found that specifically localize to neoplastic cells in human colorectal polyps and adenocarcinomas, and **virus infection can induce important oncogenic pathways in colon-cancer cells.**[3]

Bacteria are living things. They can reproduce all by themselves and do not need a host to survive. They are single-celled and reproduce by duplicating themselves. Bacteria are responsive to antibiotics. Bacteria are micro organisms that lack internal cell membranes. They are the most common and ancient organisms on earth. Most bacteria are less than 1μm in length. Microbiologists classify bacteria according to their basic shapes. Spherical bacteria are called cocci, corkscrew-shaped are called spirilla or spirochetes, rod-shaped are called bacilli, and threadlike bacteria are called filamentous. Some bacteria, called pleiomorphic, take various forms depending on conditions.

Chronic bacterial infections may lead to neoplasia. From infrequent examples such as carcinomas that may follow typhoid carriage-induced scarring and chronic draining sinuses in patients with osteomyelitis, we now know that chronic H. pylori infection is important in the development of gastric adenocarcinomas and possibly lymphomas. Microbial carcinogenesis no longer need be considered the exclusive realm of virologists.[4]

Fungus is a saprophytic organism that can live by itself and does not need a host to survive. A fungus can be sexual or asexual (vegetative). It can reproduce on its own, outside the host's body, but once it is inside the host (ingested, etc.) it turns to sexual reproduction and depends upon its host. **Fungi do not respond to antibiotics they respond to fungicides.** Each day we inhale a multitude of harmful fungi. Our body throws most of this fungus off. But, if our immune system has been compromised in some way by stress or other factors, we are much more susceptible.

There are the many fungal mold related infections, diseases and immune responses when they invade human or animal tissue.
Dr. MJ Dvmanov

Fungi (plural for fungus) are different from both viruses and bacteria in many ways. They are larger, plant-like organisms that lack chlorophyll (the substance that makes plants green and converts sunlight into energy). Since fungi do not have chlorophyll to make food, they have to absorb food from whatever they are growing on. Fungi can be very helpful – brewing beer, making bread rise, decomposing trash – but they can also be harmful if they steal nutrients from another living organism. When most people think of fungi they picture the mushrooms that we eat.

The main identifying characteristic of fungi is the makeup of their cell walls. Many contain a nitrogenous substance known as "chitin," which is not found in the cell walls of plants, but can be found in the outer shells of some crabs and mollusks. Most fungi are multicellular (made up of many cells), with the exception of the yeasts. The cells make up a network of branching tubes known as "hyphae," and a mass of hyphae is called a "mycelium."

The insides of the cells look *a little different than bacterial cells.* First of all, the genetic material is

gathered together and enclosed by a membrane in what is called the "nucleus." Also, there are other structures called "organelles" in the cell that help the cell to function, such as mitochondria (converts energy), endoplasmic reticulum (ER) (makes complex proteins), and other organelles. The Golgi apparatus forms many types of proteins and enzymes. Lysosomes contain enzymes and help digest nutrients. Centrioles are necessary for proper division of the cell. Both bacteria and fungi have ribosomes, but those of the bacteria are smaller in size and also reproduce differently.


Mold spore with single hypha extending from main body

Yeasts (fungi) are a family of organisms that occur everywhere in nature. Similar to all other fungi, yeasts thrive in warm and moist areas, which include the human intestines, and in all humans the yeast thrives normally in the intestinal tract, its spread and over population being checked by the immune system. **When the immune system is impaired the fungus grows and multiplies out of bounds and hence candidiasis results**. One of the reasons immune system function is impaired is by the improper use of antibiotic drugs.

The most well known yeast is Candida albicans, a common inhabitant of the human intestinal tract, skin and vagina. Normally C.albicans is kept in balance by our so-called beneficial microflora. Alteration of this balance can result in the Candida proliferating out of control. This may result in the condition known as Candidiasis (moniliasis), also known as Thrush. There are many species of the genus Candida that cause disease. The infections caused by all species of Candida are called candidiasis.

Generally, either low temperature or pH
favors the development of a budding yeast.

Candida albicans is an endogenous organism. It can be found in 40-80% of human beings. It is present in the mouth, gut, and vagina. It may be present as a commensal or a pathogenic organism. Infections with **Candida usually occur when a patient has some alteration in cellular immunity, normal flora or normal physiology.** Patients with decreased cellular immunity have decreased resistance to fungal infections. **Prolonged antibiotic or steroid therapy destroys the balance of normal flora in the intestine allowing the endogenous Candida to overcome the host.** Invasive procedures, such as cardiac surgery and indwelling catheters, produce alterations in host physiology and some of these patients develop Candida infections.

The harm done by Candida results from its waste product, acetaldehyde, which in turn can affect the neurological, endocrine and immune systems. Few chemicals can create as much havoc in the body as acetaldehydes. Acetaldehydes accumulate in the brain, spinal cord, joints, muscles and poison tissues.

Most microorganisms, including Candida, live on sugar. The more sugar they get, the more they propagate. The problem is that everything turns to sugar even protein when the body demands it, and even juice fasting supplies sugars to the blood. Water fasting was thought to be the solution until oncologist Dr. Tullio Simoncini came along and started treating Candida with sodium bicarbonate. As we shall see in other chapters Dr. Simoncini defines cancer as a yeast/fungus infection and he speaks rather strongly about feeding sugar to cancer patients first because the cells are starving for energy and secondly because the sugar will help the bicarbonate enter the cancer cells/tumors and kill them.

“Yeast and other microscopic fungal organisms compose a normal part of the body's internal ecology. They are normally well tolerated by a healthy immunity. If they increase in number, however, they cause additional stress to the immune system. It is widely recognized that mold, including yeast and fungi, are among the most allergic of environmental exposures,” reports Dr. Elmer M. Cranton. “Many pharmacological, dietary, environmental and life-style factors encourage growth of yeast in bodies of people in industrialized countries. When yeast overgrowth becomes obvious, it is diagnosed as an infection and treated appropriately with anti-fungal medicines. More commonly, however, yeast colonization increases, especially in the large intestine, but is not adequate to diagnose as an infection. It is an ecological imbalance in the body that adds to total load on the immune system,” continues Dr. Cranton.

Yeast is well recognized to cause vaginitis in women, diaper rash, and thrush in infants. Yeast and fungus are also common causes of other skin infections including athlete's foot, jock itch, ringworm, paronychia, intertrigo, anal itching, seborrhea (dandruff), tinea versicolor and onychomycosis (causing fingernail and toenail deformities). Those conditions are rarely considered serious, although many women troubled by persistent or recurrent vaginitis would state otherwise.

“Fungal toxins are constantly being absorbed from toxin-producing fungi living in the host, particularly in the gut. An increased fungal growth/toxin production is caused by diets high in sugar, fruit, oils, fats, and fermented foods such as beer, wine, bread and cheese. A decreased fungal growth/toxin production is due to the anti-fungal action of fish/fish oils, garlic, onion, herbs, spices, soya, yogurt and green vegetables. Toxicity caused by mycotoxins is significantly reduced by increasing the amount of fiber in the diet,” reports Dr. A.V. Costantini from the W.H.O.

It is not widely recognized that those conditions often occur in patients with previously weakened immune system, resulting in lowered resistance to yeast infection. The most common and overlooked site for yeast proliferation is the large intestine. Constipation is commonly caused by yeast. Yeast in the colon release large amounts of allergens, toxins and other hormonally active substances into the circulation, without raising a suspicion of where the problems are coming from.

Although it most frequently infects the skin and mucosae, Candida can cause pneumonia, septicemia or endocarditis in the immuno-compromised patient. The establishment of infection with Candida species appears to be a property of the host - not the organism. The more debilitated the host, the more invasive the disease.

Infections diseases caused by the growth of fungi in or on the body are common. In most healthy people fungal infections are mild, involving only the skin, hair, nails, or other superficial sites, and they clear up spontaneously. They include the familiar ringworm and athlete's foot. In someone with an impaired immune system, however, such infections, called dermatophytoses, can persist for long periods. The organisms causing dermatophytoses belong to the genera Microsporum, Epidermophyton, and Trichophyton. This has been the classic view of fungi infections but it has changed dramatically as immune system dysfunction has become the norm not the exception. The big winners today in terms of destroyers of health are fungus and yeasts. They are taking up residence and are now a modern day plague infecting human pysiology in ways not clearly seen. The hugely blind mistake allopathic medicine has made in ignoring fungus and yeast infections will bring up the iatrogenic death and disease statistics by a score or two.

Virsues, bacteria, fungus and yeast proliferate and
evolve in compromised biological environments.
Bacteria, primarily in the coccus-like form in microscopic
tissue sections, have also been found in various forms of cancer.

Mold can trigger an allergic reaction and asthma in sensitized individuals (repeated exposure to mold or mold spores sometimes causes previously non-sensitive individuals to become sensitized). About 15 million Americans are allergic to mold. The most common reactions are flu-like symptoms and asthma. Those with chronic lung or immune problems are at risk for more serious reactions like fever, lung infections and a pneumonia-like illness.

The famous Russian microbiologist N. A. Krasilnikov, in his seminal book, Soil Microorganisms and Higher Plants, remarks about the classification of bacteria, particularly the "actinomycetes" (the bacteria-like and fungal-like microbes. He writes: “The classification of microorganisms is very unsatisfactory. There is no common principle of classification in microbiology. The classification of bacteria and actinomycetes is especially inadequate. This can be explained by the peculiarity of those organisms, the simplicity of their structure and growth and lack of external properties for differentiation.”

In looking at live blood, you can clearly "see" that there are forms that
look like bacteria, microorganisms and parasites that not only are in
the blood, but that over time can grow and can change their shapes.

Dr. Robert Young asserts that “microforms such as viruses, bacteria and fungi are all the same organism at various stages of their evolution.[6]The first stage of its evolution, which is the primitive stage, is what medical science calls a virus. Viruses are apathological. They are actually composed of a microzyme at the core that is protein encapsulated. As the biological environment becomes overly-acidified,

the primitive stage evolves to the intermediate stage, and this is bacterial. This culminates in the final stage which includes the yeasts, fungi and moulds. **These forms proliferate and evolve in a compromised biological environment such as acidified blood and tissues.** Try a very simple experiment: what happens when you pull the plug on your refrigerator? What appears first? The bacterial forms, then the yeasts, funguses and moulds, and all of a sudden everything just decays, which is what occurs in these final anatomical phases."[7]

The idea that a proposed cancer germ could have more than one form is a threat to doctors and some microbiologists. Indeed the cancer germ has been described as having a virus like and fungus-like, as well as mycoplasma-like phase.

Dr. Alan Cantwell
The Cancer Microbe

The concept of pleomorphism, the ability of microorganisms to change has led different medical scientists to describe the infectious aspect (cancer microbes) of cancer in different ways. Some people consider viruses to be of the most concern in provoking cancer, but others call cancer provoking microbes fungus or mold and others name the infectious agent as an acid-fast bacteria (which mutated into or from a fungus) or mycobacterium. According to Dr. Virginia Livingston cancer is caused by pleomorphic, cell wall deficient bacteria. The various forms of the organism range in size from submicroscopic virus-like forms, up to the size of bacteria, yeasts, and fungi. In culture and in tissue the bacterial forms are variably 'acid-fast' (having a staining quality like TB bacteria).

Understanding pleomorphism is essential to the understanding of cancer and its cure, and the cure of many other diseases.

In 1975, using the electron microscope, Parmley et al. showed "microorganism-like structures" in lymph nodes in some untreated patients with Hodgkin's disease. These round forms with "internal composition" were found within and outside of the cells and resembled mycoplasma and cell wall deficient bacteria, suggesting "subclinical infection."[8]Swiss oncologist Christian Sauter and pathologist Michael Kurrer discovered "intercellular rods" and "spheres" in six Hodgkin's disease patients, by use of a special PAS stain, a traditional stain used to detect fungal infection of tissues.[9]

When blood pH is shifted out of its narrow range, these tiny microorganisms can no longer live. ***In order to survive, they change to a form which can survive.*** *It is these new forms that can become aggressive, parasitic and pathogenic agents within the blood.*

Dr. MJ Dvmanov, a professor of medical mycology says, "Medical mycologists and physicians understand that yeasts such as the common Candidas are just a different form of the same fungi. There are many fungal molds that can turn into a yeast and some of these yeasts turn into a mold. We see this routinely in the laboratory. It is a phenomenon called dimorphism, some of these fungi will also take on additional forms and are known as pleomorphs. This has been observed for over a 100 years and we now fully understood how and why these various morphologies come into being. "

The job of Candida albicans is to recognize and destroy harmful bacteria: Without it, we would be defenseless against many pathogenic bacteria. If the number of friendly bacteria is decreased, the immune system is weakened, or other conditions for yeast proliferation occur (diet high in sugar, improper pH in the digestive system) **Candida albicans will shift from yeast form to mycelial fungal form and start to invade the body.** In the yeast state, Candida is a non-invasive, sugar-fermenting organism, while in fungal state it is invasive and can produce rhizoids, very long root-like structures. Rhizoids can penetrate mucosa or intestinal walls, leaving microscopic holes allowing toxins, undigested food particles and bacteria and yeast to enter the bloodstream. This condition is known as Leaky Gut Syndrome and that is an explanation for many food and environmental allergies.

Over the past 100 years there has been much research implicating a microbe as, not the initial cause, but as the final state of cancer. Final cause meaning **tumors are not distinquishable from the infections that inhabit them.** Dr. Royal Rife demonstrated that for some cases of cancer a virus was the initial cause of cancer because some types of viruses can penetrate and get inside the normal cells. Rife claimed that the microbe involved in cancer changed forms depending on the terrain it lived in. Pleomorphic means that a virus and bacteria may be different forms of the same microbe.

These microscopic invaders get their energy from blood sugars which

our bodies are supposed to be using, and they grow and multiply by eating our bodies' proteins. Their needs can turn into our cravings.

These bacteria are ubiquitous and exist in the blood and tissues of all human beings, part of the basic fabric of life. Modern medicine refuses to acknowledge the obvious, that viruses, bacteria and fungus are omipresent[10]and are just waiting for the right conditions in which to begin rapid multiplication. We see this process universally with in death of tissues or in spoiled food. **Rot is an underlying biological mechanism inherent in all earthly species being the natural process of biological decay.** In terms of human physiology in the absence of a protective immune response, cell wall deficient bacteria may become pathogenic and foster the development of cancer and many other diseases of unknown etiology. Cancer cells with their defective cell physiology would certainly create fertile soil for the uncontrolled expansion of bacteria, fungi and viruses, drawing down upon themselves the full wrath of these infectious agents. How then can we separate the cancer from the infection when the process would be continuous? Certainly we know that cancer patients are highly prone to bacterial infection.

Microbiologists do not recognize or accept the various growth forms and the bacterial 'life cycle' proposed by various cancer microbe workers. Most bacteriologists do not accept the idea of a bacterium changing from a coccus to a rod, or to a fungus.
Dr. Alan Cantwell

"Under appropriate conditions, bacteria can lose their cell wall and become amorphous, smaller, highly pleomorphic "cell-wall deficient forms." Under suitable conditions, mycoplasma can enlarge to giant-sized forms ("Large bodies") resembling fungal and spore-like forms. It is vital to be aware of and to recognize such unusual and hard-to-detect forms in tissue microscopic sections because, in my experience, this mycoplasmal form is the form the cancer microbe takes inside the body in human disease. Due to their small size, Mycobacteria form a bridge between (larger) bacteria and smaller) viruses. Microbiologists love to separate (and classify) viruses, bacteria, mycoplasma, and fungi, as distinct entities. In fact, there is interplay between all of them. It is well-known that bacteria can be infected with viruses. Nevertheless, scientists cannot seem to understand how microbes can change into virus-like, mycoplasma-like and fungus-like infectious agents," says Dr. Cantwell.

Besides inhalation, people can become exposed to mold through skin contact and eating moldy food. Toxic molds can produce several toxic chemicals called mycotoxins that can damage your health. These chemicals are present on the spores and small mold fragments that are released into the air.

Over a hundred years ago Dr. William Russell, a pathologist in the School of Medicine at the Royal Infirmary in Edinburgh, outlined his histopathologic findings of **"a characteristic organism of cancer"** that he observed microscopically in fuchsine-stained tissue sections from all forms of cancer that he examined, as well as in certain cases of tuberculosis, syphilis and skin infection. The parasite was seen within the tissue cells (intracellular) and outside the cells (extracellular). The size of Russell's parasite ranged from barely visible, up to "half again as large as a red blood corpuscle." The largest round forms were easily seen microscopically. The large size of some of these bodies suggested a fungal or yeast-like parasite.

My work is based on the conviction, supported by many years of observations, comparisons and experiences, that the necessary and sufficient cause of the tumor is to be sought in the vast world of the fungi, the most adaptable, aggressive and evolved micro-organisms known in nature.
Dr. Tullio Sumancini

"Microbes are partially "classified" in microbiology according to size," continues Dr. Cantwell. "Viruses are submicroscopic and cannot be visualized with an ordinary light microscope. Unlike bacteria, viruses can only replicate inside a cell. Bacteria can be seen microscopically, but smaller submicroscopic and filterable bacterial forms (now known as nanobacteria) are also known. Fungi and yeast forms are much larger than bacteria, and "mold" can obviously be seen with the naked eye. Larger Russell bodies are indeed similar in size to certain spore forms of fungi. However, what is generally not appreciated is that bacteria can grow into fungal-sized large bodies, depending on certain laboratory conditions."

Dr. Young states that all illness is but this one constitutional disease, its result is mycotoxicoses - toxicity caused by mycotic infection, or in other words, a yeast and fungus infection - the great ***decomposers of living and dead bodies.***

A German biologist, Ernest Haeckele (1834-1919), departing from the Linnaeian concept that makes for two great kingdoms of living things (vegetable and animal) denounced the difficulties of categorizing all those microscopic organisms which, because of their characteristics and properties, could not be attributed to either the vegetable or animal kingdom. For these organisms, he proposed a third kingdom, called Protists.

"This vast and complex world includes a range of entities beginning with those that have sub-cellular structure -- existing at the limits of life -- such as viroids and viruses, moving through the mycoplasms, to finally, organisms of greater organisation: bacteria, actinomycetes, mixomycetes, fungi, protozoa, and perhaps even some microscopic algae."

Blood is under pH control. Ideally it has a pH in a narrow range around 7.3, which is slightly alkaline. A pH around 7.3 is the perfect environment where the normal pathogens in the blood live in harmony with the body. However, when blood pH is disturbed and is shifted out of that narrow range then native microorganisms, in order to survive, would change to a form which can survive. It is these new forms that become aggressive, parasitic and pathogenic agents within the blood. Dr. Guenther Enderlein, a German bacteriologist, contended there are thousands of forms and many of these are able to overcome the body's defense mechanisms, causing multiple disease situations. When our body's blood pH changes away from the ideal, it can become an environment for opportunistic microorganisms to grow and flourish, what could be simpler to understand.

Dr. Simoncini suggests, “Fungi can well have their own kingdom because of the absence of photosynthetic pigmentation, the ability to be mono-cellular, and multi-cellular, and, finally, their possession of a distinct nucleus. Additionally, fungi possess a property that is strange when compared to all other micro-organisms: the ability to have a basic microscopic structure (hypha) with a simultaneous **tendency to grow to remarkable dimensions** (up to several kilograms), keeping unchanged the capacity to adapt and reproduce at any size. From this point of view, therefore, fungi cannot be considered true organisms, but cellular aggregates sui generis with an organismic behaviour, since each cell maintains its survival and reproductive potential intact regardless of the structure in which it exists.”

Several antifungal agents are available to treat these infections, but from a pharmaceutical point of view it has been much more difficult for scientists to create successful antifungal drugs than antibacterial drugs because the cells of fungi are much closer in structure to the cells of animals than are bacteria. In the attempts to create pharmaceuticals it is hard to find an agent that will kill the fungal cells and leave the animal cells unharmed. The most successful drugs that have been created prevent the formation of chitin, and therefore prevent the fungus from creating new cell walls and spreading. The cell wall is the only structure that is not shared by the animal and fungal cells.

Other drugs bind to specific fungal proteins and prevent growth. Unfortunately, many of the drugs available are only fungistatic, meaning they can only prevent further growth rather than fungicidal, meaning to kill the fungus. Many of the drugs used for serious fungal infections have potentially toxic side effects. Sodium Bicarbonate is an exciting natural treatment for fungus and yeasts.

Chemotherapy and radiation can actually enhance existing fungal and yeast infections.[11]

"Seaweeds (iodine) have exceptional value in the treatment of candida overgrowth. They contain selenium and (all the) other minerals necessary for rebuilding immunity; furthermore the rich iodine content is used by enzymes in the body to produce iodine-charged free radicals which deactivate yeasts. Before the advent of anti-fungal drugs, iodine was the standard medical treatment for yeasts. When candidiasis is complicated with tumours or cancers, then seaweed is of additional benefit. Salt should normally be restricted during candida overgrowth".[12]

Sea greens help to stop vaginal infections: Iodine-rich sea plants are effective against a wide range of organisms like trichomonas, candida and Chlamydia. A douche solution with 1 tbsp dried sea plants to 1 qt water, used 2x daily for 7-14 days, is effective against most of these pathogens.

Povidone iodine effervescent tablet has marked germicidal efficacy and is an ideal disinfectant. Povidone iodine solutions containing different available iodine is efficient in killing staphylococcus aureus, escherichia coli, and candida albicans, respectively.[13]

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[1] Armstrong D, Young LS, Meyer RD, Blevins AH. Infectious complications of neoplastic disease. Med Clin North Am 1971;55;729-45.

[2] Agranulocytosis is characterized by a greatly decreased number of circulating neutrophils. Severe neutropenia is the term usually applied to patients with fewer than 500 neutrophils per microliter (including bands). Agranulocytosis usually refers to patients with fewer than 100 neutrophils per microliter. The reduced number of neutrophils makes patients extremely vulnerable to infection. Cardinal symptoms include fever, sepsis, and other manifestations of infection. Causes can include drugs, chemicals, infective agents, ionizing radiation, immune mechanisms, and heritable genetic aberrations.

[3] Associate Professor Charles S Cobbs MD, Departments of Surgery and Cell Biology, University of Alabama at Birmingham (UAB) Medical Center cscobbs@uabmc.edu

[4] www.annals.org/cgi/content/full/121/2/144

[5] An agent that kills or inhibits fungi, or a compound that inhibits either a dermatomycosis like ringworm or athlete's foot, or one that inhibits Candida albicans either externally as a douche or internally as a systemic antifungal. Typical Examples: Nystatin, griseofulvin, Tabebuia.

[6] In looking at live blood, you can clearly "see" that there are bacteria, microorganisms and parasites that are not only in the blood, but over time they grow, can change their shape, and research has proven, they can become pathogenic (disease producing). This ability of microorganisms to change is the concept of pleomorphism. Understanding this concept is also essential to the understanding of cancer and its cure, and the cure of many other diseases.

[7] www.consumerhealth.org/articles/display.cfm?ID=19990303223214

[8] Parmley RT, Spicer SS, Pratt-Thomas HR, Morgan SK, Othersen HB. Microorganism-like structures in Hodgkin disease. Electron microscopical demonstration. Arch Pathol. 1975 May;99(5):259-66.

[9] Sauter C, Kurrer MO. Intracellular bacteria in Hodgkin's disease and sclerosing mediastinal B-cell lymphoma: sign of a bacterial etiology? Swiss Med Wkly. 2002 Jun 15;132(23-24):312-5.

[10] Essentially, every person on earth has in their body many ultra small microbes that have been called by different names: "somatid" (per Gaston Naessens) or "microzyma" (per Antoine Béchamp and the term used by Robert O. Young) or "bion" (per Wilhelm Reich) or "protit" (per Gűnther Enderlein). These ultra small creatures can be thought of as a virus in hibernation. When the inner terrain of the body changes these ultra small microbes change forms. Gaston Naessens, who, like Royal Rife, invented a superb microscope, claimed there were 16 different stages these microbes go through from: virus to yeast to fungal to bacteria and others. While many somatids are already in the body of every human being, under ideal conditions the microbe is in hibernation and is not causing any problems. However, once the microbe, now in a different form because of changes in the inner terrain, gets inside of a normal cell, there are metabolism changes that take place inside the cell, leading to the end result of cancer. How this may happen will be described below. There are a wide, wide variety of factors (such as carcinogens), that allow this microbe, which is already in the body and is by then in the form of a yeast, fungus, mould or bacteria, to get inside of a normal cell.

[11] Ueta E, et al. Increase of Candida cell virulence by anticancer drugs and irradiation. Oral Microbiol Immunol. 2001 Aug;16(4):243-9

[12] P. Pitchford, Healing with Whole Foods, Revised Edition, North Atlantic Books, 36, 1993.

[13] Examination of germicidal efficacy of povidone iodine effervescent tablets RAO Yaogang, ZHU Ling, A Youmei, LIU Wei, JIA Lu Department of Pharmacy, Zhengzhou University, Zhengzhou

Cancer and Heavy Metals

Cancer tissues have a much higher concentration of
toxic chemicals, pesticides, etc then do healthy tissues.

Part of any successful cancer treatment includes chelating and detoxification of heavy metals and a host of toxic chemicals, which are all invading our bodies' every day. It is literally raining mercury and uranium contamination is increasing. Lead we are discovering is even more toxic than anyone ever believed and is even in the bread that we eat. Arsenic is in our chicken. The government still wants you to get your yearly mercury flu shot and dentists of course are still using hundreds of tons of mercury exposing patients to internalized toxic waste dumps (mercury vapors from hell).

Fluoride is still put in the water and chlorine is breathed in most showers. This just covers a small slice of the toxic disaster that is the hallmark of life in the 21st century. But **oncologists have just not been able to understand that cancer patients are suffering from poisoning on a massive scale with all the chemicals scientists have already established cause cancer.**

The allopathic medical establishment and your friendly government do not want you to know that you are being poisoned by them and by modern industry. Thus they cannot and do not support the removal of heavy metals that they do not officially recognize as there. This gets very nasty because it keeps the floodgates open to further poisoning and promotion of harmful chemicals, foods and drugs.

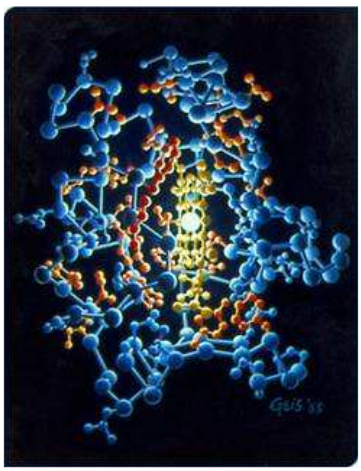
Chelation is the process of removing heavy metals from tissues and the government has now stopped all research into this area. They have also halted research into the dangers of thimerosal. Which is mercury bearing preservative in vaccines. For meaningful information on this subject one has to read my **Winning the War on Cancer** book or my upcoming book called **Natural Allopathic Medicne.**

As I finished this book I had a very strange night dreaming of bicarbonate. Actually I did not sleep much at all. Was thinking a lot of the significance of the book and promoting a cancer treatment that costs less than five dollars. But my thoughts went well past the cancer part to bicarbonate in a very broad sense but when I got up in the middle of the night I could not capture it on paper. My wife later said, "bicarbonate would buffer the acid of the world." Certainly it will do that to the world of cells we call our body. I am calling for universal usage of bicarbonate, not only for cancer but for everything and everyone.

And that makes sense considering that those who are lucky enough to drink natural bicarbonates from mountain spring water are going to live longer and healthier lives. We should be using it to treat our water (with magnesium chloride of course) and for sure in those parts of the world with the insane use of depleted uranium weapons still blowing around particles on the wind sand and the threat of the use more always there, bicarbonate is going to be protective against radiation, at least for the kidneys and that is important.

I am including the following chapter on magnesium in this book because the combination of magnesium ions and bicarbonate ions makes for super medicine. As strongly as I have put forth sodium bicarbonate in this book I put forth magnesium chloride in others.

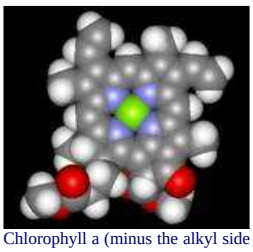
Magnesium the Lamp of Life



Inside chlorophyll is the lamp of life and that lamp is magnesium

The capture of light energy from the sun is magnesium dependent. Magnesium is bound as the central atom of the porphyrin ring of the green plant pigment chlorophyll. **Magnesium is the element that causes plants to be able to convert light into energy** and chlorophyll is identical to hemoglobin except the magnesium atom at the center has been taken out and iron put in. The whole basis of life and the food chain is seen in the sunlight-chlorophyll-magnesium chain. Since animals and humans obtain their food supply by eating plants magnesium can be said to be the source of life for it is at the heart of chlorophyll and the process of photosynthesis.

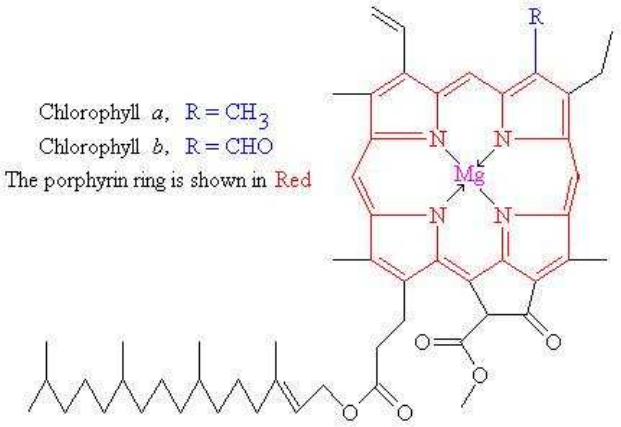
A huge step forward for early life was the development of chlorophyll, a molecule that captures light energy from the sun in a process called photosynthesis. Chlorophyll systems convert energy from visible light into small energy-rich molecules easy for cells to use. The harnessing of the energy of visible light led to a vast expansion of early life-forms. Fossilized layers, three and half billion years old, have been found with evidence of blue-green algae that lived on top of tidal rocks.

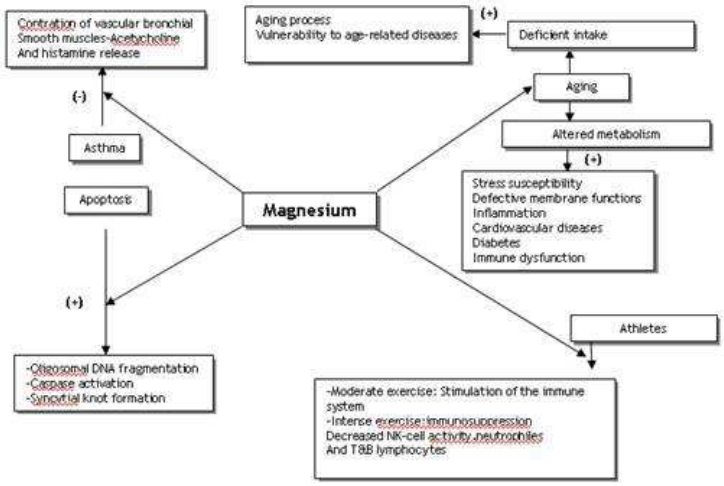


Chlorophyll a (minus the alkyl side chain for clarity) with its magnesium core. Chlorophyll is recognized as one of nature's riches sources of important nutrients where its rich green pigment is vital for the body's rapid assimilation of amino acids and for the synthesis of enzymes.

Magnesium is needed by plants to form chlorophyll which is the substance that makes plants green. Without magnesium sitting inside the heart of chlorophyll, plants would not be able to take nutrition from the sun because the process of photosynthesis would not go on. **When magnesium is deficient things begin to die.** In reality one cannot take a breath, move a muscle, or think a thought without enough magnesium in our cells. Because magnesium is contained in chlorophyll it is considered an essential plant mineral salt.

Without chlorophyll, plants are unable
to convert sunlight and carbon dioxide.
There is no life without magnesium.





Magnesium is a necessary element for all living organisms both animal and plant. Chlorophyll is structured around a magnesium atom, while in animals, magnesium is a key component of cells, bones, tissues and just about every physiological process you can think of. Magnesium is primarily an intracellular cation; roughly 1% of whole-body magnesium is found extracellularly, and the free intracellular fraction is the portion regulating enzyme pathways inside the cells. **Life packs the magnesium jealously into the cells, every drop of it is precious.**

Insulin and Magnesium

Magnesium is necessary for both the action of insulin and the manufacture of insulin.

Magnesium is a basic building block to life and is present in ionic form throughout the full landscape of human physiology. **Without insulin though, magnesium doesn't get transported from our blood into our cells where it is most needed.** When Dr. Jerry Nadler of the Gonda Diabetes Center at the City of Hope Medical Center in Duarte, California, and his colleagues placed 16 healthy people on magnesium-deficient diets, their insulin became less effective at getting sugar from their blood into their cells, where it's burned or stored as fuel. In other words, they became less insulin sensitive or what is called insulin resistant. And that's the first step on the road to both diabetes and heart disease.

Insulin is a common denominator, a central figure in life as is magnesium. The task of insulin is to store excess nutritional resources. This system is an evolutionary development used to save energy and other nutritional necessities in times (or hours) of abundance in order to survive in times of hunger. Little do we appreciate that insulin is not just responsible for regulating sugar entry into the cells but also magnesium, one of the most important substances for life. It is interesting to note here that the kidneys are

working at the opposite end physiologically dumping from the blood excess nutrients that the body does not need or cannot process in the moment.

Controlling the level of blood sugars is only one of the many functions of insulin. Insulin plays a central role in storing magnesium but if our cells become resistant to insulin, or if we do not produce enough insulin, then we have a difficult time storing magnesium in the cells where it belongs. **When insulin processing becomes problematic magnesium gets excreted through our urine instead and this is the basis of what is called magnesium wasting disease.**

There is a strong relationship between magnesium and insulin action. Magnesium is important for the effectiveness of insulin. A reduction of magnesium in the cells strengthens insulin resistance. [1],[2]

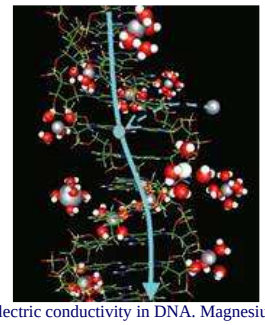
Low serum and intracellular magnesium concentrations are associated with insulin resistance, impaired glucose tolerance, and decreased insulin secretion.[3],[4],[5]Magnesium improves insulin sensitivity thus lowering insulin resistance. Magnesium and insulin need each other. Without magnesium, our pancreas won't secrete enough insulin--or the insulin it secretes won't be efficient enough--to control our blood sugar.

Magnesium in our cells helps the muscles to relax but if we can't store magnesium because the cells are resistant then we lose magnesium which makes the blood vessels constrict, affects our energy levels, and causes an increase in blood pressure. We begin to understand the intimate connection between diabetes and heart disease when we look at the closed loop between declining magnesium levels and declining insulin efficiency.

Though it would be a long stretch of the longest giraffe's neck to compare insulin with chlorophyll we are walking a trail at the very nuclear core of life. It's the magnesium trail and we find to our surprise that it takes us into intimate contact with the very structure and foundation of life. The dedication of this chapter is to the beauty of magnesium, to its meaning in life, in health and in medicine.

We were talking about chlorophyll and now insulin and putting magnesium in-between. Walking further along is the DHEA magnesium story and the DNA magnesium story. And then there is the cholesterol magnesium story. Every part of life is in love with magnesium except allopathic medicine which just cannot accept it in all its light, flame and beauty. Thousands of years ago the Chinese named it the beautiful metal and they were seeing something pharmaceutical medicine does not want to see for there is little money to be made from something so common.

Magnesium and DNA



Mechanism of electric conductivity in DNA. Magnesium (silver circles) with no surrounding water supplies holes (light-blue circles) to the DNA, which is an insulator. The supplied holes move along the DNA (light-blue line).

Magnesium ions play critical roles in many aspects of cellular metabolism. Magnesium stabilizes structures of proteins, nucleic acids, and cell membranes by binding to the macromolecule's surface and promote specific structural or catalytic activities of proteins, enzymes, or ribozymes. **Magnesium has a critical role in cell division.** It has been suggested that magnesium is necessary for the maintenance of an adequate supply of nucleotides for the synthesis of RNA and DNA.

Magnesium plays a critical role in vital DNA repair proteins. Magnesium ions synergetic effects on the active site geometry may affect the polymerase closing/opening trends.

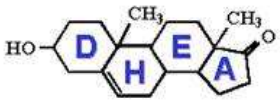
Single-stranded RNA are stabilized by magnesium ions.

Distinct structural features of DNA, such as the curvature of dA tracts, are important in the recognition, packaging, and regulation of DNA are magnesium dependent. Physiologically relevant concentrations of **magnesium have been found to enhance the curvature of dA tract DNAs**. The chemistry of water activated by a magnesium ion is central to the function of the DNA repair proteins, apurinic/apyrimidic endonuclease 1 (Ape1) and polymerase A (Pol A). These proteins are key constituents of the base excision repair (BER) pathway, a process that plays a critical role in preventing the cytotoxic and mutagenic effects of most spontaneous, alkylation, and oxidative DNA damage.[6]

Magnesium ions help guide polymerase selection for the correct nucleotide extends descriptions of polymerase pathways.[7]

Dr. Paul Ellis informs us that, "Magnesium ions are central to the function of the DNA repair proteins, apurinic/apyrimidic endonuclease 1 (Ape1) and polymerase A (Pol A). These proteins are key constituents of the base excision repair (BER) pathway, a process that plays a critical role in preventing the cytotoxic and mutagenic effects of most spontaneous, alkylation, and oxidative DNA damage."[8]DNA polymerase is considered to be a holoenzyme since it **requires a magnesium ion as a co-factor to function properly.** DNA-Polymerase initiates DNA replication by binding to a piece of single-stranded DNA. This process corrects mistakes in newly-synthesized DNA.

DHEA – Magnesium - Cholesterol



Low levels of DHEA are associated with loss of "pathology preventing" signaling between immune system cells.[9]

Dr. James Michael Howard says, "Cancer and infections are both increasing and one of the basic reasons is reduced availability of DHEA, **which stems from magnesium deficiency."** Also known as "mother of all steroid hormones" DHEA is converted in the body into several different hormones, including estrogen and testosterone. DHEA appears to restore immune balance and stimulate monocyte production (the cells that attack tumors), B-cell activity (the cells that fight disease-causing organisms), T-cell mobilization (infection fighting T-cells have DHEA binding sites), and protection of the thymus gland (which produces T-cells).[10]The data suggest that DHEA has a role in the neuro-endocrine regulation of the antibacterial immune resistance.[11]

All steroid hormones are created from cholesterol in a hormonal cascade. Cholesterol, that most maligned compound, is actually crucial for health and is the mother of hormones from the adrenal cortex, including cortisone, hydrocortisone, aldosterone, and DHEA. **Cholesterol cannot be synthesized without magnesium and cholesterol is a vital component of many hormones.** These hormones are interrelated, each performing a unique biological function with them all depending on magnesium for their function. Aldosterone interestingly needs magnesium to be produced and it also regulates magnesium's balance.[12]

Dr. Mildred S. Seelig wrote, "Mg2+-ATP is the controlling factor for the rate-limiting enzyme in the cholesterol biosynthesis sequence that is targeted by the statin pharmaceutical drugs, comparison of the effects of Mg2+ on lipoproteins with those of the statin drugs is warranted. Formation of cholesterol in blood, as well as of cholesterol required in hormone synthesis, and membrane maintenance, is achieved in a series of enzymatic reactions that convert HMG-CoA to cholesterol. The rate-limiting reaction of this pathway is the enzymatic conversion of HMG CoA to mevalonate via HMG CoA. **The statins and Mg inhibit that enzyme.** Mg has effects that parallel those of statins. For example, the enzyme that deactivates HMG-CoA Reductase requires Mg, making Mg a Reductase controller rather than inhibitor. Mg is also necessary for the activity of lecithin cholesterol acyl transferase (LCAT), which lowers LDL-C and triglyceride levels and raises HDL-C levels."[13]

Desaturase is another Mg-dependent enzyme involved in lipid metabolism which statins do not directly affect.

DHEA is a steroid hormone produced by the adrenal gland and ovaries and converted to testosterone and estrogen. After being secreted by the adrenal glands, it circulates in the bloodstream as DHEA-sulfate

(DHEAS) and is converted as needed into other hormones. **Magnesium chloride, when applied transdermally, is reported by Dr. Norman Shealy to increase DHEA.**[14]Dr. Shealy has determined that when the body is presented with adequate levels of magnesium at the cellular level, the body will begin to naturally produce DHEA and also DHEA-S.

Transdermal is the ultimate way to replenish cellular magnesium levels. Every cell in the body bathes and feeds in it and even DHEA levels are increased naturally, according to Dr. Norman Shealy

This effect is not seen in oral or intravenous magnesium administration and Dr. Shealy has a patent pending in this area. It is thought that transdermal application interacts in some way with the fatty tissues of the skin to create the affect. Studies link low levels of DHEA to chronic inflammation, immune dysfunction, depression, rheumatoid arthritis, Type-II diabetic complications, greater risk for certain cancers, heart disease and osteoporosis.

Magnesium and Glutathione

Without sufficient magnesium, the body accumulates toxins and acid residues, degenerates rapidly, and ages prematurely.

According to Dr. Russell Blaylock, low magnesium is associated with dramatic increases in free radical generation as well as glutathione depletion and this is vital since glutathione is one of the few antioxidant molecules known to neutralize mercury.[15]**Glutathione requires magnesium for its synthesis**.[16]Glutathione synthetase requires γ-glutamyl cysteine, glycine, ATP, and magnesium ions to form glutathione.[17]

In magnesium deficiency, the enzyme y-glutamyl transpeptidase is lowered.[18]Data demonstrates a direct action of glutathione both in vivo and in vitro to enhance intracellular magnesium and a clinical linkage between cellular magnesium, GSH/GSSG ratios, and tissue glucose metabolism.[19]Magnesium deficiency causes glutathione loss, which is not affordable because glutathione helps to defend the body against damage from cigarette smoking, exposure to radiation, cancer chemotherapy, and toxins such as alcohol and just about everything else.

Scientific Miracles in Medicine

The 21st century is seeing the plagues of diabetes, heart disease, cancer and neurological diseases explode with the entire western medical establishment confused about even the most basic health issues. The three trillion dollar medical machine in the United States is impotent against chronic diseases and is responsible itself for much of the horror that is happening.

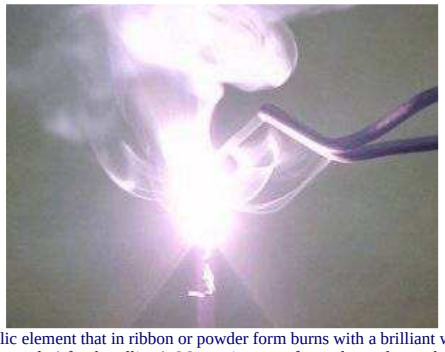
Medical basics, we have to get back to them returning to the understanding of the simplest things like water. What do you give a person coming out of a week long walk in the desert without water? A coke? Do we have to do a thousand double blind studies to realize there is only one answer? Are we that dumb that medicine cannot see the forest from the trees?

When someone is in cardiac arrest or are having a stroke, having panic attacks with heart palpitations what is the first thing, the very first thing we would reach for like one would reach for a six shooter? Our biological engine is seizing up what do we do? **For the next million years there is going to be only one answer and that answer is magnesium preferably in the chloride form.** It will never change either for that person coming out of the desert; water will always be the answer to the need. We are talking so close to the source of life when talking about water or magnesium. But unfortunately there will always be those who think giving a coke to a very thirsty person is just fine and doctors who think they can forget about nature and try to substitute something to stand in magnesium's place.

The bedrock of medical truth sits upon the metal magnesium for it is at the exact center of biological life like air and water is. All of life collapses around its loss, but with only the smallest amount of caring and intelligence we can replete what has been lost inside of a person's cells. The realization that magnesium is at the center of life in chlorophyll should help us place magnesium in the temple it deserves. It is the ultimate love drug when used as a medicine. It's the first thing you give a person if you want to give something necessary and helpful.

It will take this entire book to present all the reasons that magnesium qualifies as a love drug; there are reasons that take us out of the physical body and into emotional, mental and spiritual bodies. Psychologists

and psychiatrists also have to discover magnesium for it offers them a tool they have not found anywhere else. Magnesium is the Lamp of Life; it operates at the core of physiology offering us what can only be called scientific miracles in medicine. Though other substances like Vitamin C or even iodine are powerful competitors they cannot compare in sheer healing horsepower to magnesium.



A light, silvery-white, moderately hard, metallic element that in ribbon or powder form burns with a brilliant white flame. Magnesium is the second lightest member of the alkaline earth metals (after beryllium). Magnesium was formerly used to make flash bulbs in photography.

Magnesium Medicine

It is no exaggeration for me to say that magnesium saved my life.
But is ironic that I am the one saying it, because during my
diverse medical career in general medicine, my greatest expertise
has always been prescription drugs, not natural supplements.
Dr. Jay S. Cohen
The Magnesium Solution for High Blood Pressure

Magnesium serves hundreds of important functions in the body and for that reason it has virtually no side effects. Researchers all over the world have confirmed its vital role yet, despite the intensive scientific brainpower that has been directed toward magnesium most doctors know hardly anything about it and never consider magnesium for treating patients. Magnesium comes to us with scientific evidence that dwarfs the evidence presented by pharmaceutical companies for any of their prescription drugs but its use is still contained. (See chapter on why doctors do not use more magnesium)

Magnesium chloride treatments address systemic nutritional deficiencies, act to improve the function of our cells and immune system, and help protect cells from oxidative damage. It's a systemic medicine as well as a local one bringing new life and energy to the cells wherever it is applied topically. When used with oral administration, transdermal magnesium therapy offers us the opportunity to get dosages up to the powerful therapeutic range without compromising intestinal comfort through oral use alone.

What we have found is that magnesium chloride, applied
transdermally, is the ideal magnesium delivery system -
with health benefits unequalled in the entire world of medicine.

Magnesium chloride solutions offer a medical miracle to humanity, one that many have sought but have not found. In fact Dr. Carolyn Dean, titled her book **The Magnesium Miracle** and she could not have been more correct. Nothing short of a miracle is to be expected with increases in the cellular levels of magnesium if those levels have been depleted.

There is no wonder drug that can claim, in the clear, what magnesium chloride can do. Most people will show dramatic improvements in the state of their health when they replete their magnesium levels and the very best way to do that is with magnesium chloride applied transdermally (baths and body spraying), orally, vaporized into the lungs, diluted for use with ones eyes, intravenously, and even in douches and enemas.

Constant magnesium massages are what
kings and queens should be dreaming of.

With such "brine solutions" the concentrate can simply be applied to the skin or poured into bath water, and in an instant we have a medical treatment ***without equal*** in the world of medicine. Intensive transdermal and oral magnesium therapy can be safely applied day in and day out for constantly strengthened health.

Hidden in each cubic mile of ocean water is enough healing power to put the pharmaceutical companies out of business.

And there are medical reasons why we love the beach and ocean. Intensive magnesium baths, aerosolized iodine, vitamin D natural style and grounding to the earth through the sand. Medical science and the pharmaceutical companies will eventually have to deal with the fact that the most powerful and universal medicine on earth is a basic nutrient from the sea and can be purchased by anyone at low cost.

Magnesium is nothing short of a miracle to a person deficient in this mineral. So clear and observable are the effects that there is no mistake, no mysticism, no false claim made.

Emergency room personnel know of this and use either magnesium sulphate or chloride to save peoples lives during heart attacks or to diminish the damage from strokes. And new research suggests that MgSO4 infusions may have a role in cerebral vasospasm prophylaxis if therapy is initiated within 48 hours of aneurysm rupture.[20]

Medicine today is more and more frequently described in terms of science. With the origin and development of drugs and surgical techniques, modern medicine has thought itself to be evermore exact and evermore resembling the hard sciences of chemistry and physics. In the case of magnesium, medicine has fallen from the grace of the pure sciences, which insists that they are ignoring the best medicine available anywhere. Magnesium is clearly evidence-based medicine but the quality of the evidence used pharmaceutical medicine is highly suspect. There is no such cloud of doubt hanging over the scientific evidence that makes it clear why magnesium would be both potent and safe.

When it comes to cardiac disease we create our primary protocol around magnesium, selenium and iodine. These three core minerals, when backed up with a strong naturopathic protocol, which includes natural mercury detoxification of the heart tissues, will transform cardiology into a field of medicine that does not have its patients dying like flies.

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[11]J. Med. Microbiol. 1999; 48: 425)

[12]A deficiency in magnesium causes hyperplasia of the adrenal cortex, elevated aldosterone levels, and increased extracellular fluid volume. Aldosterone increases the urinary excretion of magnesium; hence, a positive feedback mechanism results, which is aggravated since there is no renal mechanism for conserving magnesium.

[13]Journal of the American College of Nutrition, Vol. 23, No. 5, 501S-505S (2004) Comparison of Mechanism and Functional Effects of Magnesium and Statin Pharmaceuticals Andrea Rosanoff, PhD and Mildred S. Seelig, MD Department of Physiology and Pharmacology, State University of New York, Downstate Medical Center, Brooklyn (M.S.)

[14] www.betterway2health.com/cwr-dhea.htm (Last visited December 11, 2005)

[15] www.dorway.org/blayautism.txt

[16]Linus Pauling Institute
lpi.oregonstate.edu/infocenter/minerals/magnesium/index.html#function

[17]Virginia Minnich, M. B. Smith, M. J. Brauner, and Philip W. Majerus. Glutathione biosynthesis in human erythrocytes. Department of Internal Medicine, Washington University School of Medicine, J Clin Invest. 1971 March; 50(3): 507–513. Abstract: The two enzymes required for de novo glutathione synthesis, glutamyl cysteine synthetase and glutathione synthetase, have been demonstrated in hemolysates of human erythrocytes. Glutamyl cysteine synthetase requires glutamic acid, cysteine, adenosine triphosphate (ATP), and magnesium ions to form γ-glutamyl cysteine. The activity of this enzyme in hemolysates from 25 normal subjects was 0.43±0.04 μmole glutamyl cysteine formed per g hemoglobin per min. Glutathione synthetase requires γ-glutamyl cysteine, glycine, ATP, and magnesium ions to form glutathione. The activity of this enzyme in hemolysates from 25 normal subjects was 0.19±0.03 μmole glutathione formed per g hemoglobin per min. Glutathione synthetase also catalyzes an exchange reaction between glycine and glutathione, but this reaction is not significant under the conditions used for assay of hemolysates. The capacity for erythrocytes to synthesize glutathione exceeds the rate of glutathione turnover by 150-fold, indicating that there is considerable reserve capacity for glutathione synthesis. A patient with erythrocyte glutathione synthetase deficiency has been described. The inability of patients' extracts to synthesize glutathione is corrected by the addition of pure glutathione synthetase, indicating that there is no inhibitor in the patients' erythrocytes.

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[20]Magnesium infusion for vasospasm prophylaxis after subarachnoid hemorrhage. J Neurosurg. 2006 Nov;105(5):723-9. PMID: 17121134 OBJECT: Despite the application of current standard therapies, vasospasm continues to result in death or major disability in patients treated for ruptured aneurysms. The authors investigated the effectiveness of continous MgSO4 infusion for vasospasm prophylaxis. METHODS: Seventy-six adults (mean age 54.6 years; 71% women; 92% Caucasian) were included in this comparative matched-cohort study of patients with aneurysmal subarachnoid hemorrhage on the basis of computed tomography (CT) findings. Thirty-eight patients who received continuous MgSO4 infusion were matched for age, race, sex, treatment option, Fisher grade, and Hunt and Hess grade to 38 historical control individuals who did not receive MgSO4infusion. Twelve grams of MgSO4 in 500 ml normal saline was given intravenously daily for 12 days if the patient presented within 48 hours of aneurysm rupture. Vasospasm was diagnosed on the basis of digital substraction angiography, CT angiography, and transcranial Doppler ultrasonography, and evidence of neurological deterioration. Symptomatic vasospasm was present at a significantly lower frequency in patients who received MgSO4 infusion (18%) compared with patients who did not receive MgSO4 (42%) ($p = 0.025$). There was no significant difference in mortality rate at discharge ($p = 0.328$). A trend toward improved outcome as measured by the modifed

Rankin Scale (p = 0.084), but not the Glasgow Outcome Scale (p = 1.0), was seen in the MgSO4 treated group..

Medical Marijuana and Cancer

The American College of Physicians (ACP) issued a new policy statement in 2007 endorsing medical marijuana use. The group is urging the government to reverse its ban on medical treatments using marijuana. "ACP encourages the use of **non-smoked forms of THC** (the main psychoactive element in marijuana) that have proven therapeutic value," the new policy statement said. The Philadelphia-based organization, the second largest doctors group in the United States, cited studies into marijuana's medical applications such as treating severe weight loss associated with illnesses such as AIDS, and treating nausea and vomiting associated with chemotherapy for cancer patients.[1]

Medical marijuana is becoming more and more associated with anti-carcinogenic effects, which are responsible in preventing or delaying the development of cancer. This means that **cannabinoids offer cancer patients a therapeutic option in the treatment of highly invasive cancers.** Before we look at the hard medical science that sustains these statements go to www.youtube.com/chrychek to see a series of videos that will convince you of the validity of these statements on cancer. The American College of Physicians wants it made legal as do millions of other people. If you or one of your loved ones every get cancer you will be wishing that the government would begin to listen to this medical organization.

12 Million new cases of Cancer Diagnosed in 2007 in the US.
In addition Cancer also killed 8 million people worldwide in 2007
American Cancer Society

After reading the science and watching this video series I am certain that any sane person with cancer or any late stage chronic disease will want free and legal access to hemp oil with a maximum concentration of THC. THC is the active ingredient that is illegal in most places in the world. [2]

The medical science is strongly in favor of THC laden hemp oil as a primary cancer therapy. And not just in a supportive role to control the side effects of chemotherapy. The International Medical Verities Association is putting hemp oil on its cancer protocol. It is a prioritized protocol list whose top five items are magnesium chloride, iodine, selenium, Alpha Lipoic Acid and sodium bicarbonate. It makes perfect sense to drop hemp oil right into the middle of this nutritional crossfire of anti cancer medicines, which are all available without prescription.

Hemp seed oil has long been recognized as one of the most versatile and beneficial substances known to man. Derived from hemp seeds (a member of the achene family of fruits) it has been regarded as a super food due to its high essential fatty acid content and the unique ratio of omega3 to omega6 and gamma linolenic acid (GLA) - **2:5:1.** Hemp seed oil is known to contain up to 5% of pure GLA, a much higher concentration than any other plant, even higher than spirulina. For thousands of years, the hemp plant has been used in elixirs and medicinal teas because of its healing properties and now medical science is zeroing in on the properties of its active substances.

The commercial legal type of hemp seed oil is one of the most power-packed protein sources available in the plant kingdom. Its oil can be used in many nutritional and transdermal applications. In other chapters in my **Winning the War on Cancer** book we will discuss in-depth about GLA and cancer and also the interesting work of Dr. Johanna Budwig. She uses flax seed oil instead of hemp oil to cure cancer - through effecting changes in cell walls - using these omega3 and omega6 laden medicinal oils.

The essential oil derived from the crystals on the bud and upper leaves is not the same as hemp **seed oil**. There is very little nutritional benefit in the buds of the plant but the THC carries the curative power in the cannabinoids and cannibidols. Used as a tea, the leaves containing the THC crystals would be steeped

and release some medicine.

Hemp oil can cheaply and effectively deliver a knock out blow to ones cancer.

Actually there is another way to use medical marijuana without smoking the leaf. According to Dr. Tod H. Mikuriya, “The usual irritating and toxic breakdown products of burning utilized with smoking are totally avoided with vaporization. Extraction and inhaling cannabinoid essential oils below ignition temperature of both crude and refined cannabis products affords significant mitigation of irritation to the oral cavity, and tracheobronchial tree from pyrollytic breakdown products.[3]

Most evaluations place the hot air gun style vaporizer above other methods.

Dr. Mikuriya continues saying “The usual irritating and toxic breakdown products of burning utilized with smoking are totally avoided with vaporization. Extraction and inhaling cannabinoid essential oils below ignition temperature of both crude and refined cannabis products affords significant mitigation of irritation to the oral cavity, and tracheobronchial tree from pyrollytic breakdown products.”[4]One of the best and most expensive machines for vaporizing marijuana is available at:

www.nutraingredients-usa.com/news/ng.asp?n=83510&m=1NIU226&c=arssligpjcoggok
www.youtube.com/watch?v=KojLLUJpImM

Rick Simpson, the man in the above mentioned videos, has been making hemp oil and sharing it with friends and neighbors without charging for it. In small doses, he says, it makes you well without getting you high. "Well you can't deny your own eyes can you?" Simpson asks. "Here's someone dying of cancer and they're not dying anymore. I don't care if the medicine comes from a tomato plant, potato plant or a hemp plant, if the medicine is safe and helps and works, why not use it?" he asks.

When a person has cancer and is dying this question reaches a critical point. The bravery of Rick Simpson from Canada in showing us how to make hemp oil for ourselves offers many people a hope that should be increasingly appreciated as money dries up for expensive cancer treatments. **We are going to need inexpensive medicines in the future and there is nothing better than the ones we can make reasonably cheaply ourselves.**

The Science

According to Dr. Robert Ramer and Dr. Burkhard Hinz of the University of Rostock in Germany **medical marijuana can be an effective treatment for cancer.**[5]Their research was published in the Journal of the National Cancer Institute Advance Access on December 25th of 2007 in a paper entitled Inhibition of Cancer Cell Invasion by Cannabinoids via Increased Expression of Tissue Inhibitor of Matrix Metalloproteinases-1.

The biggest contribution of this breakthrough discovery, is that the expression of TIMP-1 was shown to be stimulated by cannabinoid receptor activation and to mediate the anti-invasive effect of cannabinoids. Prior to now the cellular mechanisms underlying this effect were unclear and the relevance of the findings to the behavior of tumor cells in vivo remains to be determined.

Regulatory agencies unfortunately are
unresponsive to new scientific evidence.

Marijuana cuts lung cancer tumor growth in half, a 2007 Harvard Medical School study shows. [6]The active ingredient in marijuana cuts tumor growth in common lung cancer in half and significantly reduces the ability of the cancer to spread, say researchers at Harvard University who tested the chemical in both lab and mouse studies.

This is the first set of experiments to show that the compound, Delta-**tetrahydrocannabinol (THC)**, inhibits EGF-induced growth and migration in epidermal growth factor receptor (EGFR) expressing non-small cell lung cancer cell lines. Lung cancers that over-express EGFR are usually highly aggressive and resistant to chemotherapy. THC that targets cannabinoid receptors CB1 and CB2 is similar in function to endocannabinoids, which are cannabinoids that are naturally produced in the body and activate these receptors.

"The beauty of this study is that we are showing that a substance of abuse, if used prudently, may offer **a new road to therapy against lung cancer,"** said Anju Preet, Ph.D., a researcher in the Division of Experimental Medicine. Acting through cannabinoid receptors CB1 and CB2, endocannabinoids (as well as THC) are thought to play a role in variety of biological functions, including pain, anxiety control, and inflammation.

Researchers reported in the August 15, 2004 issue of Cancer Research, the journal of the American Association for Cancer Research, that marijuana's constituents inhibited the spread of brain cancer in human tumor biopsies.[7]In a related development, a research team from the University of South Florida further noted that THC can also selectively inhibit the activation and replication of gamma herpes viruses. The viruses, which can lie dormant for years within white blood cells before becoming active and spreading to other cells, are thought to increase one's chances of developing cancers such as Kaposi's Sarcoma, Burkitt's lymphoma and Hodgkin's disease.[8]

In 1998, a research team at Madrid's Complutense University discovered that THC can selectively induce programmed cell death in brain tumor cells without negatively impacting surrounding healthy cells. Then in 2000, they reported in the journal Nature Medicine that injections of synthetic THC eradicated malignant gliomas (brain tumors) in one-third of treated rats, and prolonged life in another third by six

weeks.[9]

Led by Dr. Manuel Guzman the Spanish team announced they had destroyed incurable brain cancer tumors in rats by injecting them with THC. They reported in the March 2002 issue of "Nature Medicine" that they injected the brains of 45 rats with cancer cells, producing tumors whose presence they confirmed through magnetic resonance imaging (MRI). On the 12th day they injected 15 of the rats with THC and 15 with Win-55,212-2 a synthetic compound similar to THC.[10]

Researchers at the University of Milan in Naples, Italy, reported in the Journal of Pharmacology and Experimental Therapeutics that non-psychoactive compounds in **marijuana inhibited the growth of glioma cells** in a dose-dependent manner, and selectively targeted and killed malignant cells through apoptosis. “Non-psychoactive CBD produce[s] a significant anti-tumor activity both in vitro and in vivo, thus suggesting a possible application of CBD as an antineoplastic agent.”[11]

The first experiment documenting pot's anti-tumor effects took place in 1974 at the Medical College of Virginia at the behest of the U.S. government. The results of that study, reported in an Aug. 18, 1974, Washington Post newspaper feature, were that marijuana's psychoactive component, THC, "slowed the growth of lung cancers, breast cancers and a virus-induced leukemia in laboratory mice, and prolonged their lives by as much as 36 percent."[12]

A Virginia study funded by the National Institute of Health to find evidence that marijuana damages the immune system found instead that THC slowed the growth of three kinds of cancer in mice, lung and breast cancer, and a virus-induced leukemia. The DEA quickly shut down the Virginia study and all further cannabis/tumor research even though the researchers "found that THC slowed the growth of lung cancers, breast cancers and a virus-induced leukemia in laboratory mice, and prolonged their lives by as much as 36 percent."

"Antineoplastic Activity of Cannabinoids," an article in a 1975 Journal of the National Cancer Institute reports, "Lewis lung adenocarcinoma growth was retarded by the oral administration of tetrahydrocannabinol (THC) and cannabinol (CBN)" -- two types of cannabinoids, a family of active components in marijuana. "Mice treated for 20 consecutive days with THC and CBN had reduced primary tumor size."

Marijuana relieves pain that narcotics like morphine and OxyContin have hardly any effect on, and could help ease suffering from illnesses such as multiple sclerosis, diabetes and cancer.[13]

According to Devra Davis in her book **Secret History of the War on Cancer**, 1.5 million lives have been lost because Americans failed to act on existing knowledge about the environmental causes of cancer. It is impossible to calculate the added deaths from suppressed ‘cancer cures’ but we do know of the terrible suffering of hundreds of thousands of people who have been jailed for marijuana use.

Hemp oil with THC included has the making of a primary cancer treatment, which even alone seems to have a great chance of turning the tide against cancer tumors. It has the added advantage of safety, ease of use, lack of side effects and low cost if one makes it their self. **Surrounded by other medicinal anti-cancer substances in a full protocol it’s hard to imagine anyone failing and falling in their war on cancer.**

THC should be included in every cancer protocol.

Sodium bicarbonate of course is the perfect protocol buddy for THC. Cannabinoids are able to pass through all barriers in the body like Alpha Lipoic Acid, so simple oral intake is sufficient. With bicarbonate it’s the same because we are achieving a systemic effect with oral intake.

In the end all cancer treatments that are not promoted by mainstream oncology are illegal. No licensed doctor is going to claim that they are curing cancer with sodium bicarbonate. Though they will treat people with cancer explaining they are balancing pH or some other metabolic profile with this common emergency room medicine found in most kitchens of the world. More than several states have passed laws making medical marijuana legal but the federal government will not relax and let people be free to choose their treatments even if their lives depend on it.

Davis notes that the cowardice of research scientists who publish thoroughly referenced reports, but

pull their punches at the end by claiming that more research needs to be done before action can be taken. Statements like these are exploited by industry which buys them time to make much more money. It is a deliberate attempt that creates wholesale public doubt from small data gaps and remaining scientific uncertainties.

They have done that with everything right up to and including sunlight. Everything is thought to be dangerous except the pharmaceutical drugs which are the most dangerous substances of all. Stomach wrenching chemotherapy and the death principle of radiation are legal yet safe THC laden hemp oil is not.

It is legal for doctors to attack people with their poisons but you can go to jail for trying to save yourself or a loved one from cancer with the oil of a simple garden weed. Our civilization has put up with this insanity but there is a great price being paid. In a mad medical world people die that need not die. This is a terrible sadness that has destroyed the integrity and ethics of modern medicine.

The science for the use of hemp oil is credible, specific fact-based, and is documented in detail.[14] There is absolutely no reason to not legalize medical marijuana and create an immediate production and distribution of THC hemp oil to cancer patients. Unfortunately we live in a world populated with governments and medical henchmen who would rather see people die cruel deaths then have access to a safe and effect cancer drug.

Meanwhile, the Food and Drug Administration approved Genentech's best-selling drug Avastin as a treatment for breast cancer. According to the New York Times, "This decision appeared to lower the threshold somewhat for approval of certain cancer drugs. The big question was whether it was enough for a drug temporarily to stop cancer from worsening - as Avastin had done in a clinical trial - or was it necessary for a drug to enable patients to live longer, which Avastin had failed to do. Oncologists and patient advocates were divided, in part because of the drug's sometimes severe side effects."[15]

The differences between Avastin and hemp oil are huge. First Avastin will earn Genentech hundreds of millions where THC hemp oil will earn no one anything. Second there are no severe or even mild side effects to taking hemp oil and lastly it is not a temporary answer but a real solution. Certainly hemp oil will ensure a longer life.

Gov. Bill Richardson of New Mexico and recent candidate for president of the United States ordered the state Health Department in 2007 to resume planning of a medical marijuana program despite the agency's worries about possible federal prosecution. However, the governor stopped short of committing to implement a state-licensed production and distribution system for the drug because State employees could face federal prosecution for implementing the law which took effect in July. Now that he is being pursued perhaps for the office of vice-president[16]things could get interesting on a federal level. We can only hope! But for now to get THC hemp oil one would have to grow the plants and make the oil oneself. It is not too difficult to do, it seems; but it is not exactly the safest thing because of laws and the cooking off of the oils.

When we look at what Dr. Gregory T. Carter says, "Marijuana is a substance with many properties that may be applicable to the management of amyotrophic lateral sclerosis (ALS). These include analgesia, muscle relaxation, bronchodilation, saliva reduction, appetite stimulation, and sleep induction. In addition, **marijuana has now been shown to have strong antioxidative and neuroprotective effects, which may prolong neuronal cell survival.** In areas where it is legal to do so, marijuana should be considered in the pharmacological management of ALS."[17]

www.sethgroup.org/
See the video on this site to see how THC kills cancer cells.

"Marijuana has remarkably low toxicity and lethal doses in humans have not been described. This is in stark contrast to a number of commonly prescribed medications used for similar purposes, including opiates, anti-emetics, anti-depressants, and muscle relaxants, not to mention legal substances used recreationally including tobacco and alcohol," writes Dr. Carter.

Special Note from the Rick Simpson people in Canada: Follow the directions in the video or YouTube #4 on making the oil. Remember to **use extreme care with volatile solvents**. - As described - well ventilated and **no open flame or risk of ignition to the solvent vapours**. Naphtha or 'white gas' is the least expensive and in distillation can be reclaimed. Common 'camp gas' [Coleman] for stoves and lanterns has additives and should not be used. 99% Ethanol, Isopropyl alcohol and acetone can be, but Isopropyl absorbs some plant waxes producing darker colored oil. 4, - 5 liters [1 gal] should be enough solvent for 1 lb -or- 500g of good dry plant material. That should return about 2 ounces of oil [9-10 tubes] enough to cure cancer, or look after any other disease conditions.

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[1] www.redorbit.com/news/health/1259095
/doctor_group_endorses_medical_marijuana/

[2]The confusion and concern often arises due to the fact that hemp seed/oil is derived from the plant Cannabis sativa, which is often incorrectly linked to the psychoactive substance, marijuana. The psychoactive ingredient of marijuana is the chemical THC, however the quantities of THC in hemp oil are so small that they are regarded as insignificant. In fact, for commercial hemp oil products to comply with Government regulations, they must contain less than 10ppm THC, which is very, very little. However, in the majority of products absolutely none can be detected. It would be almost impossible for this level of THC intake to measure even close to illegal levels during a drug urine test.

[3] www.mikuriya.com/can_vapor.html

[4] www.mikuriya.com/vc_multimedia.html

[5] salem-news.com/articles/january112008/cancer_treatment_11008.php

[6] www.primidi.com/2004/09/05.html

[7] www.eurekalert.org/pub_releases/2004-08/aafc-mii081204.php

[8] steveridenour.com/My_Homepage_Files/Page5.html

[9]Vol. 299, Issue 3, 951-959, December 2001- Pharmacology and Experimental Therapeutics

[10] hills.ccsf.cc.ca.us/~jinouy01/vital/hemp/cancer2.html All the rats left untreated uniformly died 12-18 days after glioma (brain cancer) cell inoculation. Cannabinoid (THC)-treated rats survived significantly longer than control rats. THC administration was ineffective in three rats, which died by days 16-18. Nine of the THC-treated rats surpassed the time of death of untreated rats, and survived up to 19-35 days. Moreover, the tumor was completely eradicated in three of the treated rats.

[11]Massi et al. 2004. Antitumor effects of cannabidiol, a non-psychotropic cannabinoid, on human glioma cell lines. Journal of Pharmacology and Experimental Therapeutics Fast Forward 308: 838-845.

[12] www.alternet.org/drugreporter/20008/

[13]Lester Grinspoon, an emeritus professor of psychiatry at Harvard Medical School, is the coauthor of "Marijuana, the Forbidden Medicine
www.alternet.org/drugreporter/48749/

[14] safeaccess.ca/research/cancer.htm

[15] www.nytimes.com/2008/02/23/business/23drug.html?th&emc=th

[16] www.nytimes.com/2008/02/23/us/politics/23richardson.html?s
_r=1&th&emc=th&oref=slogin

[17]Carter GT; Rosen BS. Muscular Dystrophy Association (MDA), Neuromuscular Disease Clinic, Department of Rehabilitation Medicine, University of Washington School of Medicine, Seattle, Washington, USA. Am J Hosp Palliat Care. ; 18(4):264-70 (ISSN: 1049-9091)

Cannabinoid System

The special active compounds in cannabis
are referred to collectively as "cannabinoids."

Marijuana is a colloquial term used to refer to the dried flowers of the female Cannabis Sativa and Cannabis Indica plants. Marijuana, or cannabis, as it is more appropriately called, has been part of humanities medicine chest for almost as long as history has been recorded. All forms of cannabis plants are quite complex, containing over 400 chemicals. Approximately 60 of these chemicals are classified as cannabinoids. Among the most psychoactive of the cannabinoids is delta-9-tetrahydrocannabinol (THC), the active ingredient in the prescription medications dronabinol (Marinol) and naboline (Cesamet). Other major cannabinoids include cannabidiol (CBD) and cannabinol (CBN), both of which are non-psychoactive but possess distinct pharmacological effects.

Cannabis was formally introduced to the United States Pharmacopoeia (USP) in 1854, though written references regarding the plants therapeutic use date back as far as 2800 B.C. By 1900 cannabis was the third leading active ingredient behind alcohol and opiates in patent medicines for sale in America.

A cannabinoid is the signaling molecule within a unique system of communication that is activated intermittently between two of the brain's most ubiquitous nerve cells -- neurons containing the inhibitory neurotransmitter GABA, and neurons containing the excitatory neurotransmitter glutamate. The modulation of inhibitory and excitatory signals leads to the regulation of excitation and inhibition within clusters of neurons that is the basis for all action and thought.

The researchers studied cannabinoid receptors called CB1 and CB2, which are proteins that bind with cannabinoids, the active ingredients of marijuana. The synergy between these receptors and **cannabinoids are known to provide protective effects against inflammation in the brain.** In the first part of their study, they compared the brain tissue of deceased Alzheimer's patients to similar tissue from healthy people who had died at the same age. Those who suffered from Alzheimer's had significantly reduced functioning of their cannabinoid receptors compared to the healthy group, which meant those with the disease had lost the capacity to experience the protective effects of cannabinoids.

Cannabinoids reduced inflammation in the brain
and prevented cognitive decline. Cannabinoids have
also been shown to alleviate neuropathic pain.[1]

Dr. Gregory T. Carter, Clinical Associate Professor of Rehabilitation Medicine, University of Washington School of Medicine says, **“Marijuana is a complex substance containing over 60 different forms of cannabinoids, the active ingredients.** Cannabinoids are now known to have the capacity for neuromodulation, via direct, receptor-based mechanisms at numerous levels within the nervous system. These have therapeutic properties that may be applicable to the treatment of neurological disorders; including anti-oxidative, neuroprotective, analgesic and anti-inflammatory actions; immunomodulation, modulation of glial cells and tumor growth regulation.[2]Intracellular changes and altered signalling of the neurons seems to be the principle effects of the cannabinoids in marijuana.

Cannabinoids such as THC are capable of inhibiting
nociception, i.e., pain transmission, at least in part,
by interacting with spinal cannabinoid receptors[3].

Brain inflammation contributes in many age-related degenerative brain disorders, including Alzheimer's disease. "Inflammation appears to be present many, many years prior to the onset of the

symptoms," says Dr. Gary L. Wenk from Ohio State University. Dr. Wenk and his associates have discovered that daily treatment with cannabinoids reduced inflammation in the brain and improved memory. Studies have shown that people who routinely use anti-inflammatory drugs, particularly the ones that cross the blood brain barrier, have a significantly reduced incidence of Alzheimer's disease. **Marijuana has strong anti-inflammatory effects.** "This is why I believe that people who used marijuana a few decades ago are much less likely to develop any disease, such as Alzheimer's, that relies upon the slow development of brain inflammation," said Wenk.

The recent discovery of an endogenous cannabinoid system with specific receptors and ligands (a compound that activates a receptor and triggers its characteristic response) has increased our understanding of the actions of marijuana. **Excessive inflammatory responses can emerge as a potential danger for organisms' health.** Physiological balance between pro and anti-inflammatory processes constitutes an important feature of responses against harmful events. Studies on the effects of marijuana smoking have evolved into the discovery and description of the endocannabinoid system. To date, this system is composed of two receptors - CB1 and CB2, and endogenous ligands including anandamide, 2-arachidonoyl glycerol, and others.

Signaling by the cannabinoid system represents a mechanism by which neurons can communicate backwards across synapses to modulate their inputs.
Dr. Roger A. Nicol
UCSF professor of cellular and molecular pharmacology

CB1 receptors and ligands are found in the brain as well as immune and other peripheral tissues. Conversely, CB2 receptors and ligands are found primarily in the periphery, especially in immune cells. Cannabinoid receptors are G protein-coupled receptors, and they have been linked to signaling pathways and gene activities in common with this receptor family.

What we found is old animals have the receptors and they actually get better if we treat them with the drug. If we give an old rat a high enough dose ... we will reduce their brain inflammation and what we actually do is make them smarter as we do it.
Dr. Gary L. Wenk

In addition, cannabinoids have been shown to modulate a variety of immune cell functions in humans and animals and more recently, have been shown to modulate T helper cell development, chemotaxis, and tumor development. Many of these drug effects occur through cannabinoid receptor signaling mechanisms and the modulation of cytokines and other gene products. It appears the immunocannabinoid system is involved in regulating the brain-immune axis and might be exploited in future therapies for chronic diseases and immune deficiency.

The same brain machinery that responds to the active substance in marijuana provides "on-demand" protection against seizures.

Dr. Carter says, "The cannabinoid system appears to be intricately involved in normal human physiology, specifically in the control of movement, pain, memory and appetite, among others. Widespread cannabinoid receptors have been discovered in the brain and peripheral tissues. The cannabinoid system represents a previously unrecognized ubiquitous network in the nervous system. There is a dense receptor concentration in the cerebellum, basal ganglia, and hippocampus, accounting for the effects on motor tone, coordination, and mood state. There are very few cannabinoid receptors in the brainstem, which may explain marijuana's remarkably low toxicity."

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[1]A pair of studies published in the journal Neuroscience Letters in 2004 reported that mice administered a cannabis receptor agonist experienced a reduction in diabetic related tactile allodynia (pain resulting from non-injurious stimulus to the skin) compared to non-treated controls. The findings suggest that "cannabinoids have a potential beneficial effect on experimental diabetic neuropathic pain." Dogrul et al. 2004. Cannabinoids block tactile allodynia in diabetic mice without attenuation of its antinociceptive effect. Neuroscience Letters 368: 82-86.

[2] Curr Opin Investig Drugs. 2002 Mar;3(3):437-40.

[3]Jennelle Durnett Richardson, Lin Aanonsen, and Kenneth M. Hargreaves1. Hypoactivity of the Spinal Cannabinoid System Results in NMDA-Dependent Hyperalgesia. The Journal of Neuroscience, January 1, 1998, 18(1):451-457

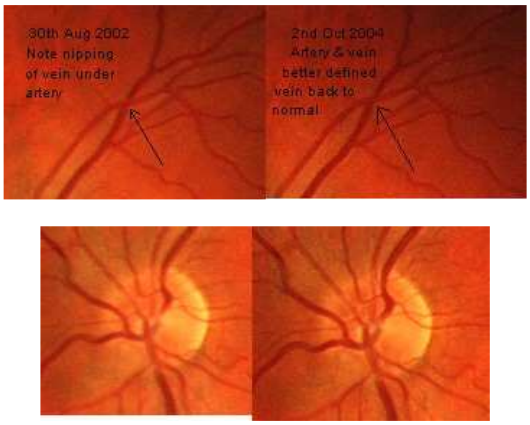
Bowel Tolerance Dosages

Bowel Tolerance is a useful concept to understand when using concentrated nutritional medicines and is directly applicable specifically with vitamin C and with magnesium chloride. Both of these substances will provoke diarrhea when taken orally in too high doses. Both will yield maximum benefit when doses are given right below bowel tolerance level.

Oral therapy with sodium bicarbonate does not follow the same principles as vitamin C or magnesium, which can be taken forever without any downside. With sodium bicarbonate we have to eventually worry about sodium levels and bicarbonate is not recommended as a permanent solution to improper diet that leads to constant acid conditions.

With magnesium though, because we can take it transdermally by taking baths with magnesium chloride and by spraying ones body directly with it, maximum benefits are seen at doses achievable only through combined oral and transdermal application. Transdermal application of magnesium does not effect or provoke diarrhea in the intestines so levels can be taken up to high levels. Intravenous magnesium injections, used commonly in emergency rooms, shows that we can spike levels quite quickly with good therapeutic effect. That will affect one level of physiology - it takes months of highly sustained magnesium administration to penetrate into the deeper deficiencies inside the cells.

It is interesting to note that the amount of oral ascorbic acid tolerated by a patient without producing diarrhea increases somewhat proportionately to the stress or toxicity of the person's disease. The amount of ascorbic acid which can be taken orally without causing diarrhea when a person is ill if often much higher then the amount a person would tolerate if well.



Retinal photograph taken in 2002 (left) reveals artery disease (vessel narrowing, drop out of some vessels). Retinal photo (right) taken in 2004 after daily vitamin C supplementation confirms pericorneal arteries have widened and some reappear. The pericorneal arterioles and capillaries can be divided into ten degrees of scurvy allowing the accurate prediction to patients of how much or little vitamin C they have been eating. The highest mark anybody has had is 94%. Vitamin C is extremely important like magnesium, iodine, selenium and many other vital nutrients.

By far, the number one reason people suffer from stubborn bowels is magnesium deficiency. Years ago, when our food was grown in mineral-rich soil, and our cattle ate mineral-rich grass, we had plenty of

magnesium in our diets. However, today we're sadly missing this vital mineral for our bowels. So when we think of using magnesium orally it is a good agent to move the bowels and we can even deliberately provoke diarrhea knowing we are promoting movement and cleaning.

Bowel tolerance doses of ascorbic acid are thought to diminish the symptoms of many diseases. Lesser doses have been reported by many physicians to have little effect on acute symptoms but assist the body in handling the stress of disease and may reduce the morbidity of the disease.

When considering the bowels we need to consider many things for what is happening in our intestines is crucial to our health. For instance magnesium at bowel tolerance can be a treatment for leaky gut syndrome. High vitamin C administration as well as healing edible clays and other substances can be used to heal the intestines.

Cancer in the lower bowels can be treated directly in the opposite direction with enemas. Maximum tolerance dose, for instance, of sodium bicarbonate in an enema is one cup per quart for a large man and that is stretching it to the limit of tolerability. Suggested dose would be more like a quarter cup unless one is dealing with a life or death struggle with candida overgrowth and intestinal cancer, which are often one and the same thing.

Leaky Gut Syndrome

Leaky gut syndrome allows the entry of viruses, bacteria,
fungi and other toxic substances to enter into the bloodstream.

Leaky gut syndrome is the result of intestinal inflammation which causes the spaces between the cell walls to enlarge. It can be caused and aggravated by a number of things such as:

Overuse of **Antibiotics** (Any use is potentially overuse)
Parasites
Excessive use of sugar and refined carbohydrates
Birth control pills
Non-steroidal anti-inflammatory drugs (e.g. **aspirin**, ibuprofen, advil etc.) Prescription corticosteroids (e.g. prednisone)
Food preservatives and dyes
Alcohol
Caffeine
Contaminated foods
Mercury and other heavy metal poisoning
Vaccines

Autoimmune disease a (leaky gut) causes a weakened ability to resist infectious organisms. Inflammation damages the protective coating surrounding the antibodies present in a normal healthy intestinal track. This renders them inactive and unable to ward off infectious organisms in the intestines where most infections enter the body. Organisms are then able to "leak" into the bloodstream and travel to almost any part of the body.

Leaky gut syndrome causes an inability
to properly digest and assimilate food.

Leaky gut syndrome causes most food allergies. The enlarged spaces in an inflamed intestinal wall also allow the absorption of large molecular proteins from food, which would ordinarily be broken down before entering the bloodstream. These undigested proteins in the bloodstream are considered foreign substances and the immune system produces antibodies to get rid of them. This is what causes the allergic reaction or food allergy.

Leaky gut syndrome causes a long list of mineral deficiencies. The carrier proteins responsible for transporting various minerals into the bloodstream are damaged by the swelling and inflammation of leaky gut syndrome. For example, magnesium deficiencies are a very common deficiency in conditions such as fibromyalgia, despite a supplemental magnesium intake. **It doesn't matter how much magnesium you take when the carrier protein is damaged, magnesium will not get into the body where it is needed when administration is only through oral means.** This is another reason that magnesium needs to be approached transdermally for it is in fact the favored way of administering magnesium chloride.

The body can also be deprived of zinc, copper, calcium, silicon and a wide variety of micro-nutrients. Leaky gut syndrome can also block the absorption of vitamins and essential amino acids, severely hindering nutrient uptake.

Leaky gut syndrome is far more widespread than most people realize. It is a very common health disorder which is not often recognized by physicians. It is a condition in which the intestinal lining is more permeable than normal due to abnormally large spaces or "holes" between the cells of an inflamed intestinal lining.

Conclusion

The physician should not try to regulate exactly the amount and timing of doses because the optimally effective dose will often change from dose to dose and from patient to patient. Patients are instructed on the general principles of determining doses and given estimates of the reasonable starting amounts and timing of these doses on a minimal level and then how high doses can be built up to with safety.

Common instructions for vitamin C are to use an intake of vitamin C just below the amount that causes a loose, watery bowel movement. For example, at first increase your intake of vitamin C to sufficiently large amounts until it has a laxative effect. Then drop down your intake of vitamin C to 80% bowel tolerance – the amount of vitamin C that is just below the dose that will produce watery bowel movements.

Natural Supplementation

More than 3,000 synthetic chemicals are regularly added to U.S. food products and hardly any have been tested for their synergistic (interactive) toxin producing effects in the human body.

Vast sums of money have been expended to make the myths that ascorbic acid is as effective as Vitamin C in its natural form. It's the same money that has convinced the world's populations that vaccine is essential for life and health. Dr. O'Shea says, "Vitamins are not individual molecular compounds. Vitamins are biological complexes. They are multi-step biochemical interactions whose action is dependent upon a number of variables within the biological terrain. Vitamin activity only takes place when all conditions are met within that environment, and when all co-factors and components of the entire vitamin complex are present and working together. Vitamin activity is even more than the sum of all those parts; it also involves timing." Synthetic vitamins replicate only one of perhaps dozens of beneficial nutrients. It's somewhat like imitating one ingredient that is contained in an apple. You miss all of the related nutrients that work synergistically. Some vitamins only work well as part of a team - leave out any of the players and the whole group becomes ineffective.

Adults who regularly take vitamin C pills providing greater than 700 milligrams per day will experience a 25% drop in their risk for coronary heart disease,the nation's number one killer. [1]

In Judith DeCava's book, *The Real Truth about Vitamins and Antioxidants***,** she defines a vitamin as "a complex mechanism of functional, interrelated, interdependent components. A vitamin consists of, not only the organic nutrient(s) identified as the vitamin, but also enzymes, coenzymes, antioxidants and trace element activators." A vitamin complex is not simply an individual chemical or several chemicals. It must contain all factors that make up the vitamin in its entirety. Just like a car is not four tires, nor a wheel, nor an engine, but rather it is a "car" when all parts are complete and working together. **Thus synthetic supplement pills are inherently unbalanced biochemistry.** Ascorbic acid supplements ignore the fact that real vitamin C is a balance of almost 150 anti-carcinogens, redox agents, and other phytochemicals present in each fruit and vegetable. Foods contain innumerable substances, some still unknown, that produce a combined effect to which a single ingredient cannot compare.

The point of view that says that vitamin parts can be synthesized, in high concentrates (high potency) is the principle followed by most supplement manufacturers, the majority of which are pharmaceutical companies. These vitamins are termed "synthetic" though are most often labeled "natural" even if they come from sugar or coal tar.

"Synthetic vitamin fractions are mirror image duplicates (enantiomers) of only a portion of the real, biologically-active, and physiologically-precise nutritional complexes. They may be identical in chemical characteristics, but differ from one another in their structure or configuration; they are mirror-image molecules - opposite "twins" - which act and react in different ways,"[2] said Dr. Jordan Rubin.

Dr. Rubin goes on to say, "The problem with processed foods is similar to the problem with synthetic, isolated supplements - they lack "wholeness" and cannot reach the potency level of whole foods or whole food nutritional supplements. They simply are not intrinsically equipped to do so. A vitamin is a complex mechanism of biological, functional, interrelated, interdependent components. It consists of not only the organic nutrients identified as the vitamin, but also enzymes, coenzymes, antioxidants, and trace element activators. Since enzymes are proteins, they must contain amino acids and trace minerals. Enzyme activators may include trace elements such as manganese, cobalt, zinc, copper, molybdenum, selenium, vanadium, etc. These components are effective only when left in the proper organic state. Nutritional supplements, then, should not be individual chemicals or combined chemicals. Supplements must be food concentrates - intact, integrated, with their vitamin complexes incorporated - in order to retain their functional and nutritional integrity. Altering the natural state of food concentrates will literally take the "life" out them - leaving them "dead" -as a synthetic, isolated, adulterated supplement. Live, natural complexes usually exist as enzymes or coenzymes; they contain live vitamins, organic minerals, and other vital, functional, elements organized by the sun, rain, water, soil's nutrients, and living bacteria. Heat, pasteurization, and steam sterilization destroy enzymes and enzyme activators; supplements produced utilizing any of these procedures are not vitamin complexes. Hence, the synthetic vitamin, once separated from its protein component, biologically loses its function. Chemically-pure, isolated, synthetic vitamins are devoid of all their synergists - the factors which enable biochemical operation and action."

There is a difference between something that is alive and something that is dead. Live foods have a life force, an extra essence that is more than the sum of its chemical parts. Spirulina, chlorella, Bee Pollen, brewers yeast, sesame seeds, alfalfa sprouts, bean sprouts, fruits and organic vegetables all have potent life forces penetrating the nutrients they carry that synthetic vitamins and minerals simply don't have. This is not to say that synthetic minerals and vitamins are without any value, but the difference is significant. Life responds to life and when we want to recover our children from disease everything counts.

The most excellent Vitamin C product the IMVA endorces, is Megafood Vitamin C. There is no ascorbate acid in Megafood C.[3]It is one of the only products in the natural products industry to grow or activate nutrients into an actual food state. For example, instead of using corn syrup they use nutrient activated whole citrus extract containing 1,000 phytonutrients and bioflavonoids that our body's needs on a daily basis, not just the isolated constituent ascorbic acid. New Chapter is another fine company that produces whole food vitamins.

In a side by side by side study[4]compares the bioavailability of synthetic ascorbic acid (ascorbic acid) and FoodState™ vitamin C in humans, the effect of a single 500mg ascorbic acid dose of the two forms and a placebo on plasma concentration vs. time curve showed that FoodState™ vitamin C was 35% more absorbed and was more gradually absorbed than ascorbic acid alone. The majority of the subjects (75%) in this study excreted less vitamin C when they consumed FoodState ™ vitamin C, whereas, the ones who consumed ascorbic acid alone excreted more ascorbic acid, indicating that less was absorbed by the subjects.

Vitamin C is actively transported from the serum compartment to the cellular compartment; Citrus Bioflavonoids present MegaFood C are myriad in structure, biologically active and most likely differentially absorbed and utilized. In this study ascorbate achieved peak plasma levels at 4.1 hours relative to synthetic ascorbic acid 2.9 hours. This study by Vincent and Bose is only measuring ascorbic acid levels and not the entire biological effect of the body receiving a live vitamin complex in its natural form.

Spirulina provides (for each 3 grams consumed) 1.64 mgs of Iron,
12.8 mg of Magnesium, 90 mcg of zinc and 33 mcg of copper.

Mike Adams a popular medical and health writer says, "Synthetic vitamins simply can't compare with these micro-algae when it comes to superior nutrition. Chlorella and spirulina are superior to isolated vitamins and minerals. In fact, when you consume chlorella and spirulina on a daily basis, you can throw out your vitamins and minerals. There's simply no need to take isolated, individual vitamin and mineral supplements. Many of them, especially the cheaper brands, are made from entirely "unnatural" sources in the first place and are of questionable nutritional value. If you really want to consume vitamins the way nature intended, you've got to eat them as they are found in nature, which means consuming chlorella and spirulina on a regular basis."

At least 70 percent of the processed foods in your local
grocery store contain at least one genetically engineered
ingredient that has never been tested for its potential harm.

Gifts from Mother Earth can be combined to do things that no artificial supplement can. Vitamins and minerals in foods are bound to natural food complexes with proteins, carbohydrates and lipids. Synthetic combinations of isolated USP vitamins and minerals just cannot compete with the easy absorbability of Spirulina, and taking supplements in mega doses is really just an attempt to overcome absorption problems.

Below are two pictures, one of ascorbic acid and another a natural vitamin C that is also available in supplement form.

An excellent example of the difference between whole food and synthetic supplements is vitamin C. The majority of books and magazines on the subject of nutrition refer to vitamin C as ascorbic acid. These

terms are used interchangeably. However, vitamin C is not only ascorbic acid. Ascorbic acid is the outer skin of vitamin C, much like the skin of an orange. Vitamin C also contains bioflavonoid complexes, tyrosinase, and several other factors.

Most vitamins and supplements sold in the U.S. that are advertised as natural are actually synthetic chemical concoctions that contain coal tars, preservatives, artificial colorings and a vast range of other potentially harmful additives.

What do you get from a bottle of vitamin C? Ascorbic acid, just a part of vitamin C, manufactured from super-refined corn sugar. Ascorbic acid does have strong effects on the body but is more of a drug than a nutrient. Because your body needs all parts of a vitamin to function, it will leech the other necessary cofactors from itself in order to use the ascorbic acid. This puts a lot of extra stress on your body, according to Dennis Nelson, in his book, *Maximizing Nutrition*.

We have the appearance of the difference between white sugar and a dark brown sugar that still has some of the nutritional value of sugar cane left in. Few people today doubt the need for much larger doses of vitamin C yet hardly anyone looks into the difference between a synthetic vitamin C (ascorbic acid) and a naturally sourced vitamin C product.

Our indoctrination into the synthetics mythology has deep roots in an awestruck fealty to science and technology, whose powers have simultaneously blessed us and blinded us.

According to Dr. Tim O'Shea, ascorbic acid is not vitamin C, and he is correct, though everyone thinks its perfectly ok to flood the body with ascorbic acid produced by Hoffman-LaRoche, one of the world's biggest drug manufacturers. Over 90% of ascorbic acid in the United States comes from Nutley, New Jersey, owned by LaRoche, a major pharmaceutical company which practices medical deception and terrorism, like all the rest.

Ascorbic acid is not vitamin C.

	ASCORBIC ACID	
	ASCORBIGEN **BIOFLAVONOID** **COMPLEXES**	
	TYROSINASE **(ORGANIC** **COPPER**	
	P FACTORS **J FACTORS** **K FACTORS**	
	ASCORBIC ACID	

The Functional Architecture of Vitamin C Complex

Ascorbic acid only a portion of the natural Vitamin C Complex. Real vitamin C is a combination of nutritive factors found in the whole Vitamin C complex as is found in nature. Ascorbic acid is the outer skin of vitamin C, much like the skin of an orange. Natural vitamin C also contains bioflavonoid complexes, tyrosinase, and several other factors including these very important P, J and K Factors.

Concentrations of vitamin C in blood plasma are

six times greater when given intravenously over oral doses.

Ascorbic acid does have strong effects on the body but is more of a drug than a nutrient because it draws down other nutrients as drugs do. Our body needs all parts of a vitamin to function and will leech the other necessary cofactors from itself in order to use the ascorbic acid. This puts a lot of extra stress on your body, according to Dennis Nelson, in his book, *Maximizing Nutrition*. Though ascorbic acid by itself is an effective anti oxidant it by itself is not a healer and worse, like white sugar, will draw off essential nutrients in the body to complete itself. In a letter to the editor of *Nature*, July 14, 1936, p. 27, Nobel Prize winner and discoverer of ascorbic acid Dr. Szent-Gyorgyi.wrote that “when it comes to anti-scurvy and anti-hemorrhagic effects, there are "other substances of similar importance and activity that accompany ascorbic acid." When Szent-Gyorgyi tried to cure scurvy and other bleeding conditions, he found that "with pure ascorbic acid, we obtained no response. Yet when red pepper or lemon or lime juice was used, the condition was readily cured." The reason for this is simple, the nutritive portions of vitamin C do the curing and healing, ascorbic acid simply performs the antioxidant function.

Vitamins cannot be isolated from their complexes and still perform their specific life functions within the cells. When isolated into artificial commercial forms, like ascorbic acid, these purified synthetics act as drugs in the body. They are no longer vitamins, and to call them such is inaccurate.
Dr. Tim O'Shea

When it comes to the controvercy over ascorbic acid vs complete vitamin C it must be recognized that ascorbic acid alone does pack an important medicinal punch and is used with great success as a medicine by many doctors. Many doctors have cured diseases with mega doses of ascorbic acid. Richard T. Lee, MD, and his colleagues at the Harvard Medical School, tested 880 chemical compounds for their effect on embryonic stem cells derived from mice.[5]The stem cells were pretreated so that they would emit a green color if they grew into heart muscle cells. Of all 880 compounds, which are approved for use in people, only one promoted activity in the stem cells, and that was vitamin C. In the experiment, Lee and his colleagues treated embryonic stem cells with vitamin C for 12 days. During this time, large numbers of the stem cells began transforming into heart muscle cells called myocytes. The cells even began to beat rhythmically, as normal heart cells do. In addition, vitamin C prompted the expression, or activation, of several cardiac genes, which would have further directed the behavior of the heart cells.

At the proper (high) dosage vitamin C lowers Lp(a),[6]
and it promotes the natural production of ubiquinone (CoQ10)
Vitamin C Foundation

We cannot benefit from minerals unless we can absorb them. The absorption of minerals takes place primarily within the small intestines. As food matter passes through the intestines, minerals transfer into the blood stream through the walls of the intestines. This can only happen if the minerals are ionically charged. Although stomach acid helps ionize the minerals in foods, a mineral supplement should contain already naturally ionized minerals to be fully absorbed. It’s pathetic what the large food companies do when they fortify children’s foods. I recently watched a doctor who made a video of mixing fortified cornflakes with water; he put the mix in a plastic bag with a magnet, which was easily and rapidly able to pull out all the iron fillings from the cereal, proving that what is in the cereal is not digestible iron.

2.8. **Spirulina mineral content**

Minerals*	per 10 grams	U.S. DV	% U.S. DV
Calcium	70 mg	1000 mg	7 %
Iron	10 mg	18 mg	55 %
Phosphorus	80 mg	1000 mg	8 %
Magnesium	40 mg	400 mg	10 %
Zinc	300 mcg	15 mg	2 %
Selenium	10 mcg	70 mcg	14 %
Copper	120 mcg	2 mg	6 %
Manganese	500 mcg	2 mg	25 %
Chromium	25 mcg	120 mcg	21 %
Sodium	90 mg	2400 mg	4 %
Potassium	140 mg	3500 mg	4 %
Germanium	60 mcg	-	-

a. Earthrise Farms, 1995.

Feeding tests rank proteins by Net Protein Utilization (NPU) value, determined by amino acid quality, digestibility (proportion absorbed by the intestines) and biological value (proportion retained by the body). Dried eggs (94) have the highest value, followed by milk (70-82), fish (80) and meat (67). Spirulina (62) is similar to grains and has a higher NPU than nuts. By multiplying protein quantity by the NPU, we can

determine the **usable protein** as a percentage of the food's composition. Spirulina is second only to dried eggs.

Spirulina has the ability to lock many minerals into amino acids.
By doing this, when we consume Spirulina, we receive the
minerals in a form which our body can readily utilize.

Spirulina enhanced with selenium is a good example and demonstrates how minerals bonded to amino acids are more effective than stand-alone pharmaceutical mineral preparations. Several studies have shown that organic selenium can be almost totally absorbed by the body whereas the inorganic type is variable, generally over 50%. Organic selenium is selenium that is incorporated in amino acids such as methionin (seleno-methionin) or cystein (seleno-cystein). The body thus recognises the selenium as amino acids and since amino acids are almost totally absorbed by the body, it means that the organic selenium is also absorbed in a camouflaged fashion.

Bioavailability requires solubility, absorption, and eventual metabolism by the body. Bioavailability is a very important concept and gauges the extent to which an administered substance reaches its site of action or utilization in the body. Bioavailability is thus a measure of the efficiency of delivery - how much of what is ingested is actually used for its intended purpose.

What this means is that as long as amino acids are coupled together with other molecules, they cannot be used to “turn on” and “turn off” the body’s switches. Amino acids must be found alone, unattached to other substances, in what we call “free form” (singlets) in order to be useful to the body. Yet another form of amino acids, which is easily used by the body, is that which herbal extracts often offer, namely amino acids in their short-chained form of 2-10 amino acids chained together. Yet all metabolic processes especially need the “free form,” unattached and uncoupled, amino acids, not protein, to function correctly. Protein has to be broken down completely to be of any value to the body’s metabolic needs.

The minerals don't diffuse around the body; they are moved
actively by cell surface pumping proteins and other means.
Dr. Andrew Hall Cutler

Estimates are that the zinc from spirulina is at least twice as effective as a zinc supplement in curing a deficiency of the same in children. The effective dose of zinc from spirulina was 2 to 4 times less than the zinc from a common supplement, zinc sulfate. More than twice as many children were cured with high zinc spirulina than they were from standard supplements in a study of one hundred children who were diagnosed as suffering from zinc deficiency. For a three-month period, 50 children were given zinc sulfate and 50 were given spirulina tablets. Doctors concluded that spirulina had an effect that was much better than zinc sulfate. Spirulina had no side effects and was easy to administer for long periods of time.

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[1]American Journal Clinical Nutrition 80: 1508-20, 2004

[2]Rubin, Jordan. The Case for Whole Food Nutritional Supplements
www.crohns.net/Miva/education/articles/CaseForSuppl_Rubin.shtml

[3]MegaFood™, in 1982, was the first company in the natural products industry to utilize these amazing wholefood nutrients. The manufacturer, Grow Company, uses two unique processes: a Growth and an Activation Process to grow and transform isolated USP nutrients into FoodState ™ nutrients.

[4]Synopsis from: "Comparative bioavailability to humans of ascorbic acid alone or in a citrus extract"; Joe A.Vinson and Pratima Bose, 1988 Am. J. Clin. Nutr.,48:601-604

[5]Takahashi T, Schulze C, Lord B, et al. Ascorbic acid enhances differentiation of embryonic stem cells into cardiac myocytes. Circulation, March 31, 2003. Electronic publication in advance of print.

[6]Lipoprotein (a), or Lp(a), consists of an LDL particle covalently attached to apolipoprotein (a). In numerous studies elevated plasma levels of Lp(a) are positively associated with increased risk of atherosclerosis, myocardial infarction and stroke. There are some experts who believe Lp(a) may be the single most important lipid in assessing one’s true risk of developing these conditions.

Combining Oral with Transdermal

Dose Sensitivity & Therapeutic Effect

One of the most luxurious medical treatments on earth is to receive magnesium massages on a consistent basis. Having at least an ounce of what is called magnesium oil rubbed all over ones body by either a trained or even untrained massage therapist is simply heavenly. One can also do this oneself meaning cover ones body all over with the magnesium oil like one would sunscreen and go out in the sun and have some fun.

Another method of administration is pouring magnesium chloride into ones bath at high concentrations and soak in a hot tub, perhaps with a cup of sodium bicarbonate in it. On page 201 of my **Transdermal Magnesium Therapy** book I recommend 2-8 oz (56,6 -226,4 g) of Magnesium Oil for a full body bath (ca 100liter) These initial recommendations for baths were very low. My excuse is the inexperience of the early days of transdermal magnesium therapy and also that here in Brazil we don't have a bathtub so my experience has been with body spraying and magnesium massage. I am now recommending much higher dosages for baths ranging anywhere from 2 to 4 pounds to even six pounds for professional use in clinics and spas.

In the early days when a gallon of oil was over 100 dollars even eight ounces sounded expensive to many people. Now you can buy flakes of high quality (low heavy metal profile) in quantity and use three pounds (which is equivalent to a gallon of oil) in a adult bath for approximately 15 dollars. Small baths for autistic and other children with serious problems would probably be about half that for a full strength bath.

I am not talking about a nice hot magnesium bath for simple relaxation but professional baths intended for strong therapeutic effect. The % of magnesium in the bath under my old recommendations came only to 45-180 mg/l magnesium. When you discover that open seawater has a content of 1300 mg/l magnesium we see that our early recommendations were way to low. The driving force behind transdermal intake is the concentration gradient.

The concentration of magnesium in the pure magnesium oil is about 80,000 mg/l and when you apply that directly on the skin, intake rate is high. But in the case of a bath application my new recommendation needs to be brought up to somewhere between 1500 and 5000 mg/l magnesium (1 to 4 times the sea concentration). Dead Sea therapy[1]has a concentration of up to 40,000 mg/l magnesium and people bathe every day in these waters. Fick's Law of Membrane Permeability says that the amount of any solute (magnesium) that will be absorbed is directly dependent upon the area of contact, the concentration of the solution and the time that the solute is in contact with the membrane.[2]

So we are talking about setting the therapeutic level of magnesium chloride concentrations in baths much higher and **recommend between 2 and 4 pounds in an average bath.** Physical therapists and

dermatologists, sport therapists, spas and other clinics will want to be using cost affective bath flakes as compared to ready made magnesium oil to achieve higher concentrations. Shipping costs are less also because the water has been taken out of the oil to make the flakes. The quality of the flakes are an important factor for excess heavy metal ions will also flow in with the magnesium thus my recommendation for Ancient Mineral products that come from 250 million year old deposits.

A third avenue of administration is to simply drink magnesium chloride in ones water or juice. **The best way is to combine one of the transdermal routes with oral** [3] **for concentrated doses that achieve maximum therapeutic effect.** Magnesium is important and desperately needed because it is so terribly deficient in people that even at low concentrations people have felt results. But when we are practicing medicine of whatever kind we are looking for dramatic shifts in peoples' conditions. Below we will have a penetrating discussion about doses and therapeutic effect but the basic idea, when using concentrated nutritional medicines like magnesium chloride, iodine and sodium bicarbonate is to take doses up to maximum levels possible.

Each spray of Magnesium Oil contains approximately 18 milligrams of elemental magnesium.[4]*An ounce would contain just over 3,300 mg. Five sprays in a glass of water would thus be almost 100 milligrams.*[5]

Three to five to even ten sprays of magnesium chloride in a glass of pure water or juice is an excellent way to take magnesium internally. It assists digestion, counteracts excess acidity in the stomach, and delivers magnesium swiftly into the bloodstream for distribution to all the cells of the body. Minerals like magnesium in ionic liquid form are vastly superior to pill forms. Much more magnesium will get absorbed and absorption will not depend on hydrochloric acid levels.

Several years ago I told the story of a retired pediatrician Dr. Herbert Mansmann Jr., director of the Magenesium Research Lab who was a diabetic with severe peripheral neuropathy. He was able to reverse the neuropathy and nerve degeneration with a year of using oral magnesium preparations at very high doses. "For example it took me 6 tabs of each of the following every 4 hours, Maginex, MgOxide, Mag-Tab SR and Magonate to get in positive Mg balance. I tell people this not to scare them, but to illustrate how much I needed to saturate myself. Most will only need 10% of this amount (still about three grams). I was doing an experiment on myself to see if it helped my diabetic neuropathy. It worked so I did it for one year, and I have had significant nerve regeneration."[6]

He was taking 20 grams a day but that was because he also had what is called magnesium wasting disease. He thought that about three grams would be sufficient for people without that disorder. When we are going for therapeutic effect with serious disorders like cancer or even autism we want to emulate Dr. Mansmann's dosage levels.

There are over 200 published clinical studies documenting the need for magnesium and many examples of miraculous "cures" from the use of this common mineral. Yet DAN (Defeat Autism Now) doctors underestimate autistic children's needs recommending only 50 mgs twice a day in oral form even though children with gut problems can absorb only small percentages through their intestines. The entire autism community needs to be acutely aware that its present dependency on oral magnesium supplementation is responsible for a sizable cause of less then excellent results from chelation. A complete changeover to transdermal/topical approaches to magnesium supplementation is called for with these children because their guts are seriously compromised meaning they cannot absorb magnesium well through oral consumption. Fifty milligrams twice a day is way too low. There is a huge difference between supplementing magnesium and using magnesium chloride as a medicine to effect real and direct changes in overall cell physiology.

Magnesium Torment (Deficiency)

All those years when doctors used to tell their patients its all in your heads were years the medical profession was showing its ignorance. It is a torment to be magnesium deficient on one level or another. Even if it's for the enthusiastic sport person whose athletic performance is down,[7]magnesium deficiency will disturb sleep and background stress levels and a host of other things that reflect on the quality of life. Depression and other neurological disorders are also extremely correlated with magnesium deficiency. Doctors have not been using the appropriate test for magnesium – their serum blood tests just distort their perceptions. Magnesium has been off their radar screens through the decades that magnesium deficiencies have snowballed.

Turning Paracelsus on his Head

So what do we do in the middle of this mess? We turn medicine's most basic principles upside down. Below is the very beginning of a chapter I published about two years ago called Beyond Paracelsus.[8]It describes the very heart of pharmaceutical pharmacology. As you read this remember that we are going to create a philosophy and practice of medicine exactly 180 degrees to the opposite. This is no small subject and it would be helpful to understand prerequisite information like the Science of Low Doses meaning that in reality we find that poisons poison people even at ultra low doses. That is what poisons in general do – they poison people, even in minuscule amounts.

While there is no such thing as a safe chemical, it must be realized there is no chemical that cannot be used safely by limiting the dose or exposure. Poisons can be safely used and be of benefit to society when used appropriately.
Royal Society of Chemistry

This statement by the Royal Society of Chemistry is one of the most basic assumptions of the chemical and pharmaceutical companies and the governments that supposedly regulate them. They use it as their guiding light no matter how wrong the assumption is, no matter how much death and disease is created from it. What we are seeing in the world today are massive spreads of chronic diseases like diabetes, neurological disorders, asthma, cancer and a host of other problems stemming from the in appropriate use of poisons. The assumption that poisons can be used safely is modern mans Pandora's box; once opened the most greedy power hungry industrialists felt free to use poison in everything from house hold products like soap and shampoo to putting it directly in our foods, medicines and even drinking water.

The problem all started with Paracelsus, sometimes called the "father" of toxicology, who wrote: "The dose makes the poison." The original quote actually is: "All things are poison and nothing (is) without poison; only the dose makes that a thing is no poison." In other words, the amount of a substance a person is exposed to is as important as the nature of the substance. For example, small doses of aspirin can be beneficial to a person, but at very high doses aspirin can be deadly. In some individuals, even at very low doses, aspirin may be deadly. We all know that everyone can drown in water and even too much oxygen will do you in. Thus it was Paracelsus' belief that it was not the substance which was toxic (since everything is toxic) but the amount. But is this really helpful to us today and does it reflect present realities? The big problem with people who fanatically follow Paracelsus comes down to this: hardcore believers in the dose makes the poison medical philosophy tend to forget one important thing and that is - poison poisons people, even at ultra low doses.

It is absurd to label pure water as poisonous simply because one can drown in it.

Though there is some perfect logic to Paracelsus statements there is a tragedy in the making defining everything along a poisonous scale as the world of medical science has done. Because we have defined

everything as potentially poisonous, there are people (Codex) who are saying non poisonous helpful substances like vitamin C or any vitamin and mineral are dangerous like poisons if you take too much. Therefore they are already, in certain countries, limiting the amount that is available to consumers. This is a crime because the reality is that we are needing increasing amounts of antioxidants like Vitamin C, A, E, and minerals like magnesium, selenium and zinc to deal with the toxic overloads.

The basic principle of Natural Allopathic Medicine is just the opposite of orthodox allopathic medicine. Instead of using poisons at low doses we use concentrated nutritional substances at exceptionally high dosages. I am not suggesting we drown anyone or dump a ton of vitamin C on a baby to see if he or she can breathe under all that weight. **Natural Allopathic Medicine** is the name not only of a new book of mine in progress but is the name of the medical approach I am introducing this fall.

If someone is having a stroke or heart attack you certainly do not want to throw them into a bath with four ounces of magnesium inside.

My suggestion for cancer patients and anyone else with serious illness is to bring levels of substances like magnesium chloride, iodine and sodium bicarbonate up to very high levels. **The dose makes the effect in Natural Allopathic Medicine were the dose makes the poison in modern medicine.** When we are confronting serious chronic or even acute situations we do want to maximize the strength of our treatments.

A sane rule of thumb for magnesium supplementation (not for therapeutic effect) is approximately 6-8 mg/kg (3-4 mg per pound) of body weight per day. That translates into a total dietary magnesium intake of 600 to 900 mg per day for a 200-lb man which is already way above the RDA, about double. With children some researchers indicate that 10 mg/kg/day are appropriate because of their low body weight and increased requirements for growth. Athletes also need more depending on their stress and training levels and we can always adjust upwards when under great emotional stress or when seriously ill.

Our cells are best served when they are brimming with magnesium reserves.

In general, for a large adult, spraying one ounce of Magnesium Oil a day all over the body is recommended for six months to recover cellular levels with that adjusted downward for children depending on their age and size. This coupled with oral intake, especially for adults, is necessary to get the maximum kick out of magnesium. When magnesium levels are at extremely low levels intravenous application is an option and is often necessary in emergency situations. See my upcoming book **Magnesium – The Ultimate Heart Medicine** for more information on this. Very strong therapeutic magnesium baths yield another level of effect which competes quite handedly with intravenous applications but they are no a substitute for them in emergency situations obviously.

Magnesium chloride and Vitamin C have similar toxicity profiles with overdose from both resulting at worst usually in diarrhea unless the kidneys are seriously compromised.

Strong therapeutic foot soaks are another option and are especially important for diabetics who suffer from diabetic neuropathy. Soak the whole body or just the feet in bath water for 20-30 minutes, at a temperature of about 108 degrees The most effective protocol for this therapy is to begin with a daily body or foot bath every day for the first 7 days, (starting at lighter concentrations and building up) then continue with a maintenance program of 2-3 times a week for 6-8 weeks or longer. Sensitive care must be taken especially with children as to dose levels, water temperature and magnesium concentrations. Muscle spasms might occur on rare occasions if one forgets to get out of the tub so it is necessary to supervise children and the length of time they remain soaking in magnesium chloride. All strong reactions like redness in local areas to diarrhea or even muscle spasms are indications to reduce concentration.

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[1]German research have shown Dead Sea salts have ultimately been the reason for reduced amounts of LangerhansA cells in the epidermis, and conversely salts of sodium chloride were void of any effect at all. (al G. S., 1990 December). Magnesium chloride is also discussed when the topic of dermatitis comes into play as an excellent treatment protocol. The anti-inflammatory result of utilizing hypertonic Dead Sea solution on atopic dermatitis by means of magnesium ions is well known. (al., 2002) Further studies also revealed that the magnesium solution greatly reduced inflammation in allergic contact dermatitis. The study involved five patients with an identified nickel allergy, where magnesium chloride (not sodium chloride) stifled nickel-sulfate induced contact dermatitis. (Greiner J, 1990 November)

[2]Diffusion is the mechanism by which components of a mixture are transported around the mixture by means of random molecular (Brownian) motion (cf. permeation: the ability of a diffusant to pass through a body - dependent on both the diffusion coefficient, D, and the solubility coefficient, S, ie, permeability coefficient, P = D.S). Flynn et al. cite Berthalot as postulating, at the beginning of the nineteenth century, that the flow of mass by diffusion (ie, the flux), across a plane, was proportional to the concentration gradient of the diffusant across that plane.
www.initium.demon.co.uk/fick.htm

[3]Dr. Raul Vergin offered the following guidelines for oral intake of a 2.5% Magnesium Chloride hexahydrate ($MgCl_2$-$6H_2O$) solution (i.e.: 25 grams or approximately one ounce of pure food grade powder in a liter of water). The quantity of elemental magnesium contained in a 125 cc dose of the 2.5% solution is around 500 mg.
Dosages are as follows:
Adults and children over 5 years old 125 cc
4 year old children 100 cc
3 year old children 80 cc
1-2 year old children 60 cc
Over 6 months old children 30 cc
Under 6 months old children 15 cc

125 milliliter = 4.2267528 ounce [US, liquid]
cc and ml are equivalent

Dr. Vergin indicates that “In acute diseases the dose is administered every 6 hours (every 3 hours the first two doses if the case is serious); then space every 8 hours and then 12 hours as improvement goes on. After recovery it's better going on with a dose every 12 hours for some days. As a preventive measure, and as a magnesium supplement, one or two doses a day can be taken indefinitely. Magnesium Chloride, even if it's an inorganic salt, is very well absorbed and it's a very good supplemental magnesium source.”

[4]Magnesium chloride is an ionic compound because it has a metal, magnesium, and a nonmetal, chlorine. Magnesium will lose two electrons and form a +2 charge. Chlorine will gain one electron to form a chloride ion with a -1 charge. The formula for the compound is $MgCl_2$. To get the formula weight, find the atomic weights and add them together taking the subscripts into account. Magnesium is 24.3; chlorine is 35.5; so two would be 71.0. The total gives 95.3 as the formula weight.

[5]Magnesium Oil from the sea weighs 12 pounds per gallon. Distilled water weighs only 8 pounds. Thus we can calculate in a straight away manner how much elemental magnesium is in each gallon.

[6]“I was saturated at about 3 grams of elemental Mg per day, but went to 20 grams for over a year. I now take 5 grams, and stools are semi-formed, and the surrounding water is clear, 3-4 per day.” “Mg is very safe, since the gut absorption is regulated by serum Mg levels, and then the Mg stays in the gut and results in varying degrees of diarrhea. Then the dose is too high. Want soft semi-formed stools. Mine, while on high dosages of magnesium were liquid every 2-4 hours for 2 years, the electrolytes every month were normal, but for low potassium, part of my urinary Mg wasting, both,” wrote Mansmann.
Dr. Mansmann concludes, “I have had diabetic neuropathy for over 10 years. The most significant symptom is my neuropathic pain of burning feet, called erythromelalgia. With the aid of Mg I can completely suppress the symptom, but if my blood glucose level is acutely elevated, because of a dietary indiscretion, the pain flares in spite of an apparent adequate dose of Mg. It goes away with extra Mg gluconate (Magonate) in an hour or so in either case. Without the Mg it will last for six plus hours, even though the blood glucose level is normal in about two hours.” “It is my belief that every one with diabetes should be taking Mg supplementation to the point of one’s Maximum Tolerated Dose, which is until one has soft-semi, formed stools. In addition, anyone with neuropathy, without a known cause, must be adequately evaluated for diabetes and especially those with poorly, slowly, healing foot sores of any kind. Since the use of Mg is safe I see no reason that this should not be “the standard of care”.

[7]Seelig, MS. Athletic stress, performance and magnesium in consequences of magnesium deficiency on the enhancement of stress reactions; preventive and therapeutic implications:a review. J Am Coll Nutr, vol.13, no. 5, pp. 429-446, 1994

[8]Auroleus Phillipus Theostratus Bombastus von Hohenheim, immortalized as "Paracelsus," was born in 1493. Paracelsus, a Swiss doctor, pioneered the use of chemicals and minerals in medicine. His name appears as a significant figure among voluminous numbers of works on homeopathy, natural medicine,

alternative medicine, and botanical studies. Many see him as the predecessor of chemical pharmacology and therapeutics and the most original medical thinker of the sixteenth century.

To Patients about Emotions in Cancer

Short View

Please note that in other books of mine we pay much more attention to the mental, emotional and spiritual aspects of cancer. It is not easy to keep ones perceptual balance when dealing with cancer meaning we easily get obsessed with one aspect and neglect the rest. This book is about one dimension of cancer though an important one because it directs us how to attack cancer head on.

Many practitioners have recognized certain patterns of thinking, believing and feeling in cancer patients. There is a great tendency of cancer patients to feel burdened by some poor self-image, unresolved conflict and worries, or past emotional conflict/trauma that still lingers in his subconscious mind and cellular memories. Cancer, the physical disease, does not develop so easily unless there is a strong undercurrent of emotional uneasiness and deep-seated frustration. Often when there is a war on the imagination level or when our imaginations are going in one direction and our hearts wanting to go in another this kind of split tears into the immune system opening the door for infectious process.

These factors represent another side of cancer that takes a softer type of medicine to address. Thus my book ***Soft Medicine*** will be released soon as well as ***HeartHealth***. Both of these works address the deeper issues of cancer and of ourselves. But with all the above said sometimes cancer is largely a case of toxic poisoning, of a mouth full of amalgam, or heavy metal buildup of many types and so forth. This book is not trying to cover what my book ***Winning the War on Cancer*** does.

In the Kitchen and House with Bicarbonate

To get your laundry sparkling clean, add 1/2 cup baking soda to your washing machine load.

Sodium bicarbonate is found in almost every kitchen and makes an excellent replacement for toothpaste for it is excellent in stabilizing and curing problems in the oral cavity. There is really no end to the uses this extremely helpful concentrated food/medicine can be put to. Everyone knows its use as an anti-acid in Alka-Seltzer. Just remember it, like everything else in this life needs to be used with prudence. There is nothing that exists that does not have some danger implied, after all we can drown in water and get hit by a car walking down a quiet street. But after reading this book you will be a world class expert on sodium bicarbonate and laugh in the face of professionals who would warn you to try something more dangerous, less effective and certainly dramatically more expensive.

Many households are looking for natural alternatives for chemical-laden cleansers. While there is no denying the effectiveness of many chemical cleansers, in many cases natural cleaning products that are just as efficient and far kinder to people and the environment.

Sodium Bicarbonate is a great cleaner, a deodorizer, a mild abrasive, a stain remover and has hundreds of other uses. More and more of us are becoming aware of the hazards of using toxic chemicals around the house, especially when small children and pets are around. Even though Baking Soda is mild it is highly effective and makes even tough cleaning jobs easy. It is a naturally occurring mineral that has been on the market since the middle 18 hundreds. Comparing the cost of any commercial cleaning product to baking soda, which is just a fraction of the price, it’s a wonder that not everyone has switched over already.

One can buy Baking Soda in large cartons from a restaurant wholesaler. To 4 ½ lbs/ 2kgs of soda one can add a ¼ cup of orrisroot powder and a few drops of my favorite scent; lavender in spring and summer, cinnamon in the fall and pine in the winter. To use as Carpet Freshener sprinkle Baking Soda mix on carpet or couch and let it sit for ½-1 hour. It eliminates pet and other odors quite effectively. Remember to add some to the vacuum bag too.

You can't be too careful when it comes to food handling and preparation. Wash fruits and vegetables in a pot of cold water with 2-3 table-spoons baking soda; the baking soda will remove some of the impurities tap water leaves behind. Or put a small amount of baking soda on a wet sponge or vegetable brush and scrub your produce. Give everything a thorough rinsing before serving.

If you or someone in your family is sensitive to the high-acid content of tomato-based sauces or coffee, you can lower the overall acidity by sprinkling in a pinch of baking soda while cooking (or, in the case of coffee, before brewing).

Need a stand-in for yeast when making dough? If you have some powdered vitamin C (or citric acid) and baking soda on hand, you can use a mixture of the two instead. Just mix in equal parts to equal the quantity of yeast required. What's more, the dough you add it to won't have to rise before baking.

Keep your wooden or plastic cutting board clean by occasionally scrubbing it with a paste made from 1 tablespoon each baking soda, salt, and water. Rinse thoroughly with hot water. Most kitchen drains can be unclogged by pouring in 1 cup baking soda followed by 1 cup hot vinegar (simply heat it up in the microwave for 1 minute). Give it several minutes to work, then add 1 quart (1 liter) boiling water. Repeat if necessary. If you know your drain is clogged with grease, use 1/2 cup each of baking soda and salt followed by 1 cup boiling water. Let the mixture work overnight; then rinse with hot tap water in the morning.

Looking for a more powerful dishwashing liquid? Try adding 2 tablespoons baking soda to the usual amount of liquid you use, and watch it cut through grease like a hot knife! Here you really see the power of

power of bicarbonate in action.

Swimming pool applications gives us another idea about what we are doing inside the liquid pools of our bodies when we take bicarbonate orally. People normally add about 1 1/2 pounds (680 grams) baking soda for every 10,000 gallons (38,000 liters) of water in your swimming pool to raise the total alkalinity by 10 ppm (parts per million). Most pools require alkalinity in the 80-150 ppm range. Maintaining the proper pool alkalinity level is vital for minimizing changes in pH if acidic or basic pool chemicals or contaminants are introduced to the water.

One can go on and on with bicarbonate and its uses. If one wants to get into every aspect and possibility with common baking soda just Google ‘baking soda house hold uses.’

This concludes this first comprehensive presentation of sodium bicarbonate’s use in medicine. This first edition will rapidly expand as patients and practitioners alike follow some of the instructions in this book and send in their results and testimonies. Bicarbonate is the Trojan horse sitting inside the inner plaza of the pharmaceutical companies.

Product Sources

These are the best companies with the best products we have found for our protocols.

Bob's Red Mill, Aluminum Free, Baking Soda, Gluten Free, 16 oz (1 lb) 453 g;
www.iherb.com/ProductDetails.aspx?c=1&pid=6226023434917756229

At your supermarket or in bulk at Coscos

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r-ALA from RalaPure
www.wellnesspartners.biz/RalaPure_R_Alpha_Lipoic_Acid_p/1261-ra01.htm

-ALA for chemically sensitive people, no biotin, and dosage adjustable for children: www.geronova.com/products/product_briefs/k_rala_10.php

www.geronova.com/products/product_briefs/k_rala_10.php (liquid)

www.geronova.com/products/product_briefs/k_rala_bioenhanced_rla.php (caps)

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Glutathione sources

Nebulized Glutathione: www.apothecure.com/glutathione.php Dr. Whitacker recommended

Also see: phoenix-cfs.org/Glutathione%20Building%20in%20CFS.htm

Source for buffered (with bicarbonate) to prevent bronchospasm, reduced glutathione that can be mixed with distilled water for a nebulizer: **www.theranaturals.com/products.html** An isotonic solution is produced when one Reduced L-Glutathione™ Plus capsule is dissolved in roughly 5 milliliters of distilled water. **Reduced L-Glutathione plus** scroll down to find it $35 for bottle of caps. No script needed.

Saltpipe:

Cisca Saltpipe
www.thesaltpipe.co.uk/benefit.htm

Saltpipe avail in US:

Chelators:

Chelorex from science Formulas:
www.scienceformulas.com/

Heavy Metal Detox from Dr. Georgiou:
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