

# FIGHT 4 U

with Dr. Garry F. Gordon MD,DO,MD(H)

Learn how Dr. Gordon's Fight for Your Health  
program is now more **EFFECTIVE**  
and **ESSENTIAL** than ever!



## **WEBINAR DISCLAIMER**

**Longevity Plus and Dr. Garry Gordon do not provide medical advice, diagnosis or treatment through this webinar. The content of this webinar, such as text, graphics, images and other material contained within are for informational purposes only. The content is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding a medical condition. Never disregard professional medical advice or delay in seeking it because of something you have read, heard or seen in the webinar.**

## **Dr. Garry F. Gordon, MD, DO, MD(H)**

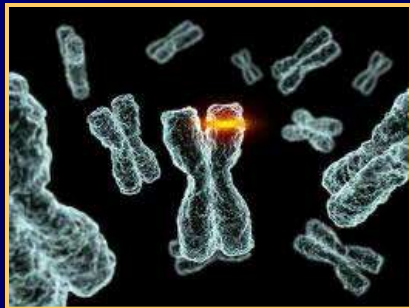


- **President of Gordon Research Institute**
- **Doctor of Osteopathy 1958, Chicago College of Osteopathy**
- **Honorary MD 1962, University of California Irvine**
- **Radiology Residency 1964, Mt. Zion, San Francisco**
- **“Father of Chelation Therapy”**
- **Past Board Member of Arizona Homeopathic Medical Examiners**
- **Co-Founder of the American College for Advancement in Medicine (ACAM)**
- **Past Medical Director of Mineralab**
- **Board of Directors Member for IOMA (International Oxidative Medicine Association)**
- **Treasurer AHIMA (Arizona Homeopathic Integrative Medical Association)**
- **Author of numerous books including latest entitled “Detox With Oral Chelation”**

# FUNCTIONAL MEDICINE

## Predictive, Preventive, Personalized, and Participatory

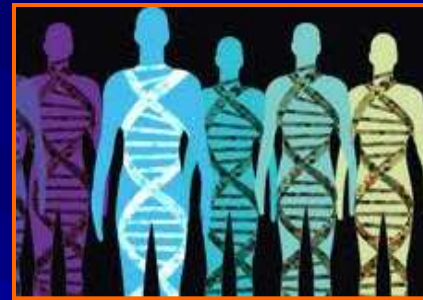
Functional medicine is the future of conventional medicine—available now. It seeks to identify and address the root causes of disease, and views the body as one integrated system, not a collection of independent organs divided up by medical specialties. It treats the whole system, not just the symptoms.



DNA/Telomerase  
Testing



Diet & Lifestyle  
Modification



Personalized  
Therapies



Community  
Group Support

Intensive lifestyle therapy—not just wellness counseling or prevention, but lifestyle treatment of existing chronic disease—focusing on pre-diabetes, diabetes, and heart disease has been proven to **work better than medication or surgery.**

# Dr. Garry Gordon's **F<sup>2</sup>IGH<sup>2</sup>T For Your Health Program**

The key areas in the **F<sup>2</sup>IGH<sup>2</sup>T** Protocol are:

**F = Food and Focus**

**I = Infections**

**G = Genetics**

**H = Heavy Metals and Hormones**

**T = Toxins**

# **F = Food**

**Many people are sensitive to specific foods which when eaten become stressful to the body. The immune system must then mount a response to these substances every time they are consumed.**

**40% of the population needs to be off all dairy, and 30% should eat a gluten-free diet". In people with chronic illness, these numbers are likely even higher.**

#1 NEW YORK TIMES BESTSELLER

"I hope Dr. Hyman's new book will inspire you as he has inspired me."

—PRESIDENT BILL CLINTON



THE  
**BLOOD  
SUGAR  
SOLUTION**

The UltraHealthy Program for Losing Weight,  
Preventing Disease, and Feeling Great Now!



Mark  
Hyman, MD

Author of the bestsellers *UltraMetabolism*  
and *The UltraMind Solution*

**Obesity is the #1 cause of preventable death in America.** Gaining just 11 extra pounds doubles your risk for type 2 diabetes, while gaining over 17 pounds triples it.

**Diabetics have a four-fold increased risk for dementia.** The link is so strong that some experts today call Alzheimer's "type 3 diabetes."



**"Will Inspire You As He Has Inspired Me."**

"In the last decade, the rise of obesity and diabetes has emerged as a crisis that threatens our families, the global economy, and the success of our next generation. I've made drastic changes to my own diet and exercise routine since my heart troubles surfaced in 2004 and I hope Dr. Hyman's new book will inspire you as he has inspired me."

—President Bill Clinton

**Diabetes is the leading cause of high blood pressure.** Some 75% of diabetics have it or will develop it.

**Diabetes** is also the leading cause of kidney failure, liver failure from fatty liver, and blindness among people aged 20 to 74, is a major cause of depression, leads to nervous system damage in 60% to 70% of diabetics.

# The Blood Sugar Solution – Diabesity, Toxicity and other Self-Health Assessment Quizzes

Dr. Mark Hyman

1. Do You Have Diabetes?
2. Magnesium Quiz
3. Vitamin D Quiz
4. Essential Omega-3 Fatty Acids Quiz
5. Thyroid Quiz
6. Sex Hormone Imbalance Quiz
7. Inflammation Quiz
8. Digestion Quiz
9. Toxicity Quiz
10. Energy Metabolism Quiz
11. Oxidative Stress or Rusting Quiz
12. Stress and Adrenal Fatigue Quiz
13. Take Action! Take the Comprehensive Diabetes Quiz

Do you have high Triglycerides or Low HDL?

Do you Crave Sugar & Carbs?

Do you have Belly Fat?

Do you have a Family History of Diabetes or Obesity?

Do you have High Blood Pressure?



## **Origins and evolution of the Western diet: health implications for the 21st century**

Loren Cordain, S Boyd Eaton, Anthony Sebastian, Neil Mann,  
Staffan Lindeberg, Bruce A Watkins, James H O'Keefe, and  
Janette Brand-Miller

**There is growing awareness that the profound changes in the environment (eg, in diet and other lifestyle conditions) that began with the introduction of agriculture and animal husbandry  $\approx$ 10000 y ago occurred too recently on an evolutionary time scale for the human genome to adjust. In conjunction with this discordance between our ancient, genetically determined biology and the nutritional, cultural, and activity patterns of contemporary Western populations, many of the so-called diseases of civilization have emerged.**

**In particular, food staples and food-processing procedures introduced during the Neolithic and Industrial Periods have fundamentally altered 7 crucial nutritional characteristics of ancestral hominin diets: 1) glycemic load, 2) fatty acid composition, 3) macronutrient composition, 4) micronutrient density, 5) acid-base balance, 6) sodium-potassium ratio, and 7) fiber content.**

**The evolutionary collision of our ancient genome with the nutritional qualities of recently introduced foods may underlie many of the chronic diseases of Western civilization.**

The following should be considered in using  
**Food** to improve health:

- **Avoid foods that you know to be *(or suspect of being)* sensitive to.**
- **Eat organic foods to avoid exposure to pesticides and other toxins.**
- **Incorporate foods that are health-promoting by reducing processed “dead” foods and eating foods that have superior nutritional value.**
- **Avoid Genetically-modified (GM) foods.**
- **Avoid cookware that may leach toxins into your food and ultimately into your body.**
- **Support gastrointestinal health with prebiotics, probiotics and supportive nutrients.**

## FOOD ALLERGIES

### *The Medical Detective*

*Memoirs of  
A Most Unusual Doctor*



*Patrick Carlisle*

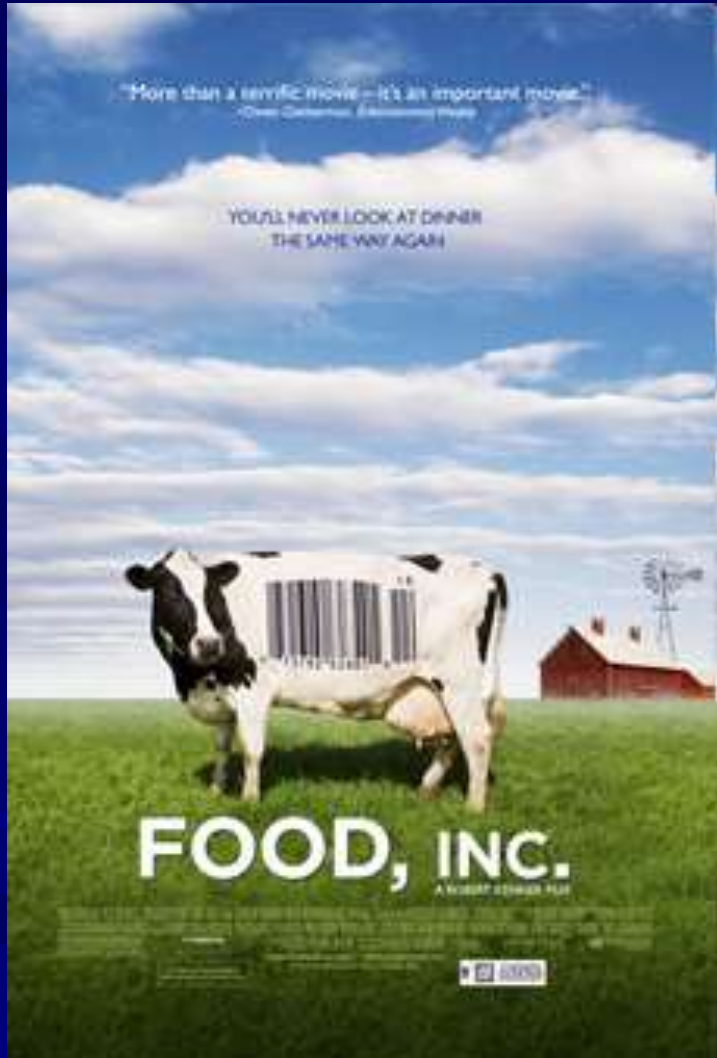
Although written as a work of fiction, each story is based upon a real life event as experienced by a general practice doctor in rural England. The medical problems described genuinely occurred, and the way of solving them also occurred as described.

*“... Dr. James explained that there is a difference between a food allergy and a food intolerance... food allergies are obvious.*

*A food intolerance is a reaction that gradually develops without it being obvious... the most common effect is to cause inflammation in susceptible tissues.*

*Although there are some blood tests that can sometimes help, the only way to identify a food intolerance is a process of avoidance and challenge...”*

# How much do we really know about the food we buy at our local supermarkets and serve to our families?



In *Food, Inc.*, filmmaker Robert Kenner lifts the veil on our nation's food industry, exposing the highly mechanized underbelly that has been hidden from the American consumer with the consent of our government's regulatory agencies, USDA and FDA.

Our nation's food supply is now controlled by a handful of corporations that often put profit ahead of consumer health, the livelihood of the American farmer, the safety of workers and our own environment. We are riddled with widespread **obesity**, particularly among children, and an epidemic level of **diabetes** among adults.

<http://www.foodincmovie.com/>

# Antibiotics in the Animals We Eat: Low-dose antibiotics in animal feed fuel drug-resistance in human infectious diseases.

By Bonnie M. Marshall and Stuart B. Levy

April 1, 2012

Since 1976, several persuasive scientific studies have illustrated how animals fed low-dose antibiotics not only propagate resistant bacteria, but spread these resistant strains to farmers, their families, community residents, and ultimately, hospitalized patients.

Particularly worrisome is the continued use in animals of antibiotics that are close structural relatives of those that are used in human medicine. It is feared that, in time, these drugs will lose potency as bacteria express “cross-resistance” to the related drugs.

While US farmers and other stakeholders have argued tenaciously for the continuation of subtherapeutic dosing, Europeans adopted the “precautionary principle,” instituting sequential bans on the practice beginning in the mid-1990s. Arguments on both sides of this issue continue to the present day, but evidence of the negative consequences of low-dose antibiotic feeding has been mounting.

**It is a matter of concern, however, that the FDA does not address the ongoing use of penicillins and tetracyclines as growth promoters.**



## Could Drugs be Plumping up Kids?

Research suggesting that antibiotics given to young children may increase obesity spurs scientific debate

By Edyta Zielinska | August 23, 2012

Antibiotics aren't only used by farms to prevent infection; they're also used to plump up chickens, cows, pigs, and turkeys. Now, researchers suggest that antibiotics given to young children could have the same weight-gaining effect.

Some researchers think that low dose antibiotics make farm animals heftier by altering their gut microbiota, which is responsible for digesting food and making nutrients available to the host.

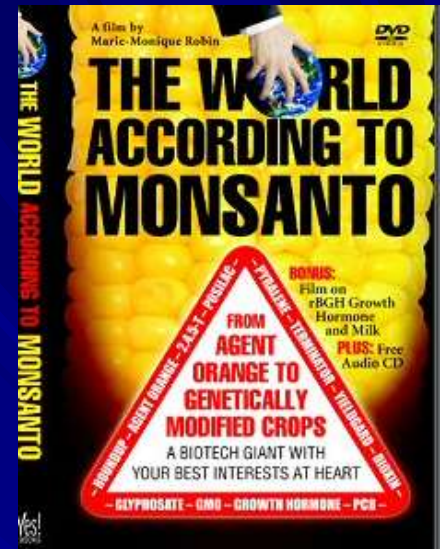
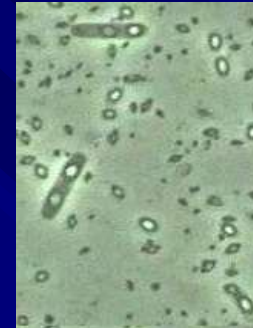
When researchers from New York University School of Medicine gave young mice low doses of antibiotics, on a schedule similar to that given to farm animals, they saw the mice develop more fat stores than controls, in work published yesterday (August 22) in *Nature*.

Analysis of the mouse gut microbiota showed that the microbial community had shifted to include a greater proportion of *Firmicutes* species, which the author speculated could make more calories available to the host than other groups of commensal bacteria.



# GM FOODS IN DIET SHOWS TOXIC REACTIONS IN THE DIGESTIVE TRACT

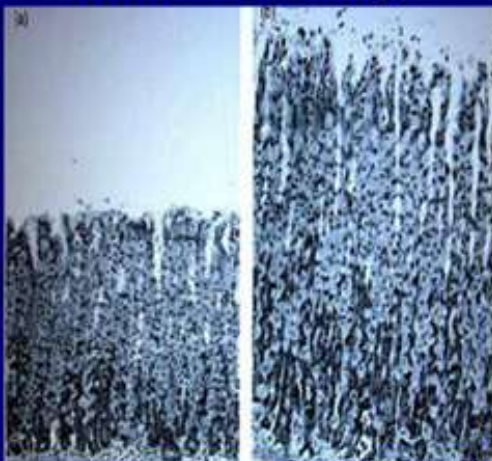
Monsanto's genetically modified Bt corn, engineered to kill the larvae of beetles, such as the corn rootworm, contains a gene copied from an insect-killing bacterium called *Bacillus thuringiensis*, or Bt.



Bt-toxin has been identified in the blood of both pregnant and non-pregnant women, as well as the umbilical blood of their babies.

Researchers believe this can be explained by its presence in the normal diet.

**Stomach Lining**



**NON-GM**

**GM**

**Intestinal Wall**



**NON-GM**

**GM**

Genetically engineered corn is present in the vast majority of all processed foods and drinks in the form of high fructose corn syrup, and you also ingest it when eating meat from animals fed Bt corn, which most livestock raised in confined animal feeding operations (CAFO, or so-called "factory farms") are.

Bt-crops may play a role in the rise in health problems such as gastrointestinal problems, autoimmune diseases, food allergies, and childhood learning disorders

# Russia to Stop Import of U.S. Corn Linked to Cancer

A Russian consumer rights group said it would cease the purchase and import of American-grown, genetically modified (GM) corn after a study was released linking the GM food to breast cancer.



The study, conducted by researchers at the University of Caen in France, documented the effects of GM “Roundup-ready” corn on laboratory rats over a two-year period (the average life span of this rat species). **The results showed a significantly greater occurrence of breast cancer, kidney damage and liver damage in the test groups fed GM corn.**

Other test groups were given water containing trace amounts of Roundup or fed all-natural corn. **All groups that consumed Roundup showed elevated levels of cancer.**

Russia's Institute of Nutrition has contacted the European Union for counsel, and the European Food Safety Authority is reviewing the study's validity. The research has already been peer reviewed.

**Russia is not the first country to take issue with the GM corn. Genetically modified American corn is not sold in stores in the United Kingdom, though it is still used in feed for hens, pigs and cows.**



# Getting to the Root of the Problem – Dysbiosis

**Dysbiosis (also called dysbacteriosis)** are microbial imbalances on or within the body. Dysbiosis is most prominent in the digestive tract or on the skin, but can also occur on any exposed surface or mucous membrane such as the vagina, lungs, nose, sinuses, ears, nails, or eyes.

- **Bloating, belching, burning, flatulence after meals**
- **A sense of fullness after eating**
- **Indigestion, diarrhea, constipation**
- **Systemic reactions after eating**
- **Nausea or diarrhea after taking supplements**
- **Rectal itching**
- **Weak or cracked finger nails**
- **Dilated capillaries in the cheeks and nose in the non-alcoholic**
- **Post-adolescent acne or other skin irritations such as rosacea**
- **Iron deficiency**
- **Chronic intestinal infections, parasites, yeast, unfriendly bacteria**
- **Undigested food in the stool**
- **Greasy stools**
- **Skin that's easily bruised**
- **Fatigue**
- **Amenorrhea (absence of menstruation)**
- **Chronic vaginitis (vaginal irritation)**

Some have speculated that other symptoms, such as impotence, [loss of libido](#), [infertility](#), muscle atrophy, cramps and [joint pain](#), are also linked to malabsorption. A fair amount of research supports this connection.

# What are the major causes of intestinal dysbiosis?

- Diets that are quite poor or imbalanced and lacking nutritional supplementation; imbalanced diets may be extreme in carbs, fat, or animal products
- Food allergies or sensitivities (also a *byproduct* of dysbiosis)
- Frequent antibiotic or drug therapy
- An immune system that is suppressed; this can occur for a number of reasons, including emotional stress
- Intestinal infections
- Parasite infestation
- Inflammation
- Too little stomach acid production – overuse of antacids.

# Analysis of the Gut Microbiota in the Old Order Amish and Its Relation to the Metabolic Syndrome

Zupancic ML, Cantarel BL, Liu Z, Drabek EF, Ryan KA, et al. (2012)

## Abstract

Obesity has been linked to the human gut microbiota; however, the contribution of gut bacterial species to the obese phenotype remains controversial because of conflicting results from studies in different populations. To explore the possible dysbiosis of gut microbiota in obesity and its metabolic complications, we studied men and women over a range of body mass indices from the Old Order Amish sect, a culturally homogeneous Caucasian population of Central European ancestry.

We characterized the gut microbiota in 310 subjects by deep pyrosequencing of bar-coded PCR amplicons from the V1–V3 region of the 16S rRNA gene. Three communities of interacting bacteria were identified in the gut microbiota, analogous to previously identified gut enterotypes. Neither BMI nor any metabolic syndrome trait was associated with a particular gut community. **Network analysis identified twenty-two bacterial species and four OTUs that were either positively or inversely correlated with metabolic syndrome traits, suggesting that certain members of the gut microbiota may play a role in these metabolic derangements.**

## **Glutathione deficiency in type 2 diabetes impairs cytokine responses and control of intracellular bacteria**

Kai Soo Tan, Kok Onn Lee, Kee Chung Low, et al

Type 2 diabetes mellitus has been described as a global epidemic fueled by population growth, aging, urbanization, and increasing obesity. **The number of people diagnosed with diabetes is expected to grow from 171 million in 2000 to 366–440 million by 2030.**

Type 2 diabetes is increasingly being recognized as a disorder of the innate immune system characterized by a chronic low level of inflammation and deregulation of the inflammasome.

To discover host susceptibility factors that would predispose diabetic individuals to *B. pseudomallei* infections, we screened the immune profile of PBMCs isolated from diabetic patients and their age- and sex-matched healthy controls in response to *B. pseudomallei*. We found that defective IL-12 and therefore IFN- $\gamma$  production by cells from diabetic patients led to poor control of intracellular bacterial replication.

Furthermore, **we were able to trace the defective IL-12 response to a deficiency in intracellular reduced glutathione (GSH) in diabetic cells not only in response to *B. pseudomallei* but also to *Mycobacterium tuberculosis*.**

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*Science* 25 March 2005:

Vol. 307 no. 5717 pp. 1920-1925

## **Immunity, Inflammation, and Allergy in the Gut**

Thomas T. MacDonald, Giovanni Monteleone

### **Abstract**

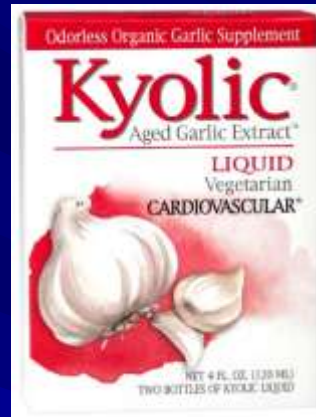
The gut immune system has the challenge of responding to pathogens while remaining relatively unresponsive to food antigens and the commensal microflora. In the developed world, this ability appears to be breaking down, with chronic inflammatory diseases of the gut commonplace in the apparent absence of overt infections.

In both mouse and man, mutations in genes that control innate immune recognition, adaptive immunity, and epithelial permeability are all associated with gut inflammation. This suggests that perturbing homeostasis between gut antigens and host immunity represents a critical determinant in the development of gut inflammation and allergy.



**ACS 200** (Advanced Cellular Silver) daily to reduce pathogenic organisms related to gastrointestinal dysbiosis

**Probiotic** supplements with acidophilus such as Kyolic Garlic and Kyo-Dophilus® used daily



**Beyond Fiber** to both detoxify the gastrointestinal tract and support the growth of beneficial probiotic flora



# **F = Focus**

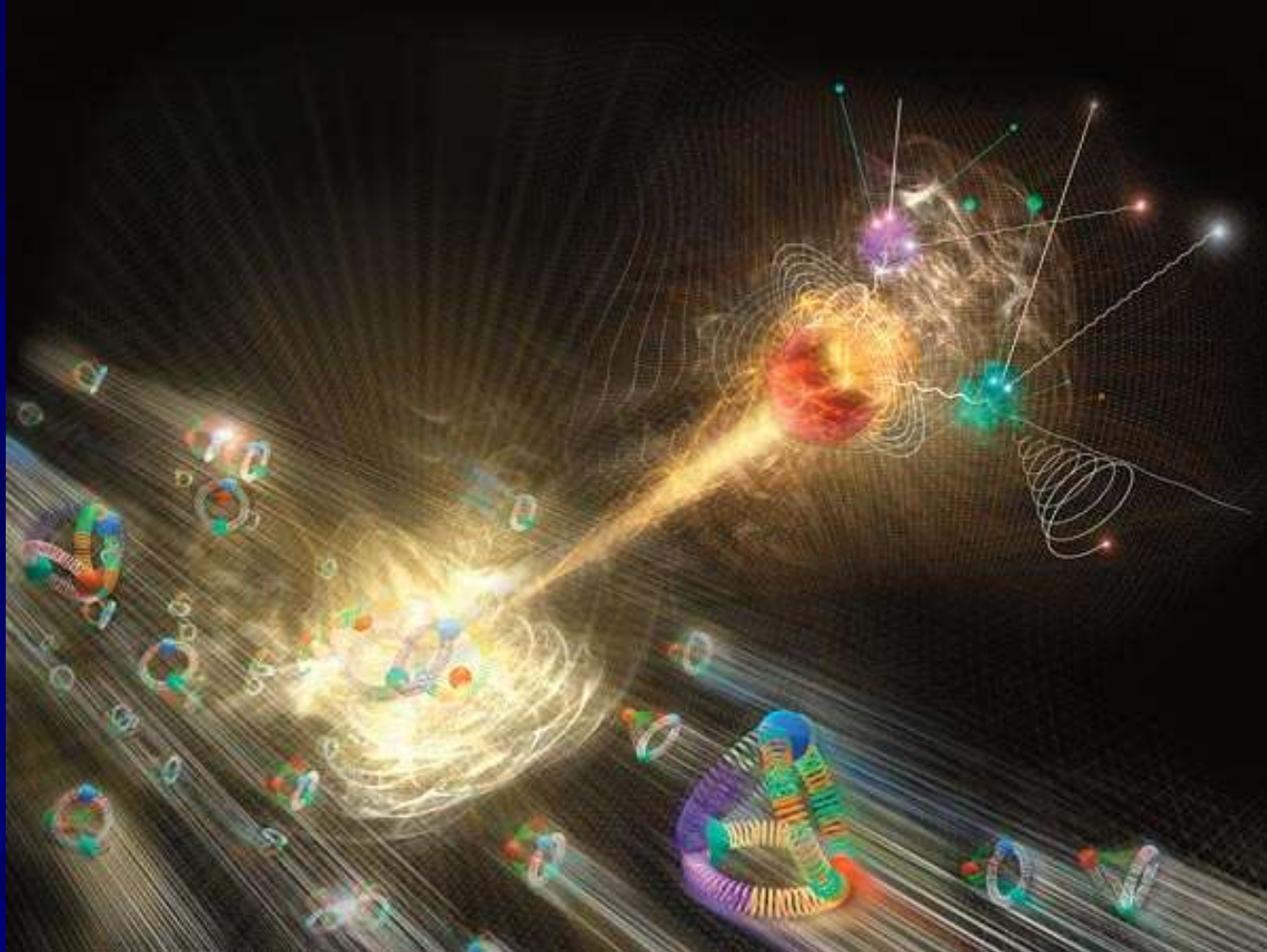
**Focus refers to the power of the mind and the significant benefits of Mind-Body Medicine in our quest for health.**

**There are over 100 genes in the body that are activated by thoughts, feelings, and experiences.**

**We can have a dramatic and positive impact upon our health by simply taking control of our consciousness.**



# AS ABOVE – SO BELOW: Higgs Boson “God Particle” Discovered?



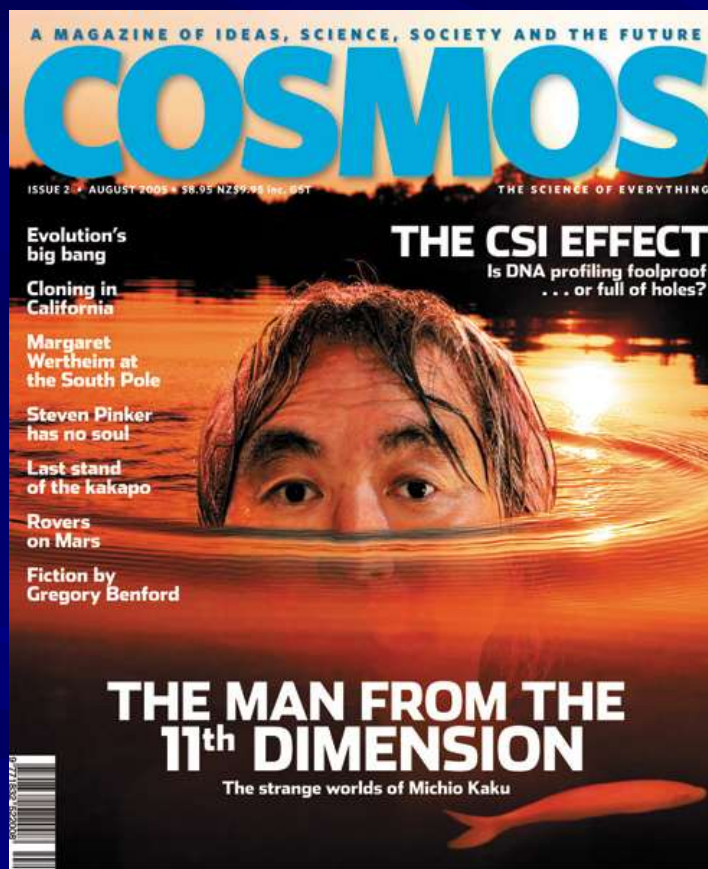
The long-sought particle, thought to be at the core of ALL existence, may complete the standard model of physics by explaining why objects in our universe have mass—and in so doing, why galaxies, planets, and even humans have any right to exist.

**In an artist's conception, a Higgs boson erupts from a collision of protons.**

*Illustration by Moonrunner Design Ltd., National Geographic*

# THE MAN FROM THE 11TH DIMENSION *By Elizabeth Finkel*

His mind wanders incredibly complex worlds of eleven dimensions and he is trying to complete Einstein's unfinished masterpiece: a 'theory of everything'. Meet one of the world's leading theoretical physicists, Michio Kaku, a founder of string field theory and a man as charming as he is imposing.

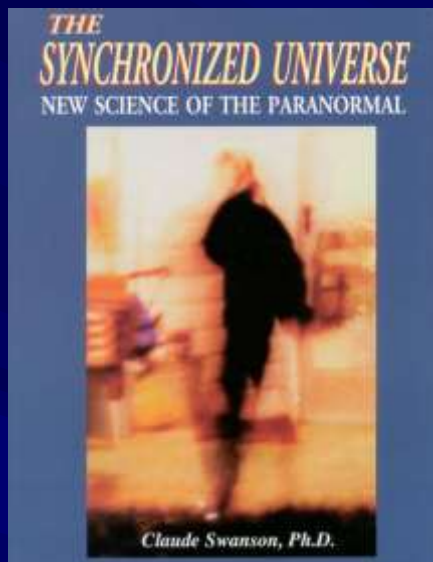


Dr. Michio Kaku is the co-creator of string field theory, a branch of string theory. He received a B.S. (summa cum laude) from Harvard University in 1968 where he came first in his physics class.

He went on to the Berkeley Radiation Laboratory at the University of California, Berkeley and received a Ph.D. in 1972. In 1973, he held a lectureship at Princeton University.

Michio continues Einstein's search for a "Theory of Everything," seeking to unify the four fundamental forces of the universe—the strong force, the weak force, gravity and electromagnetism.

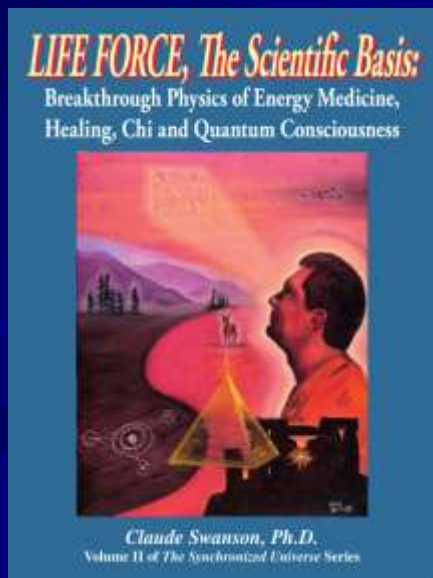
# The Synchronized Universe - A new scientific revolution!



Physicist Dr. Claude Swanson, educated at MIT and Princeton University, describes the latest discoveries in Energy Medicine.

**“We are learning the ‘Secret of Life’, how the body’s trillions of cells grow, repair and heal... Electromagnetism and Earth energies hold part of the answer... we are witnessing the integration of CONSCIOUSNESS with physics“**

It is called CHI, PRANA, MANA, ORENDO, WAKEN, BARAKA, and LIFE FORCE.



It is the energy which enables adepts, Yogis and Shamen to achieve the miraculous feats they do. It enables QiGong masters from China to project their energy over thousands of miles to heal injured cells and to cure cancer in laboratory experiments.

Today we have documented proof of how this energy changes the laws of physics, bringing together the Theory of Relativity and Quantum Mechanics, and is the explanation for many strange phenomena which we in the West call "paranormal.“

<http://synchronizeduniverse.com/>

# Conscious Creation

## The law of gravity + the law of energy + The law of observation

The Law of Attraction is one of the most powerful laws governing the energy of the universe. Whether or not we understand it, like gravity, it affects our lives without fail and without discrimination.

The law of attraction operates upon the vibration of our thoughts, with “like attracting like”. Wherever we place our attention, energy and focus, with the corresponding emotional state or “feelings” about it... those frequencies will vibrationally attract the same of its kind.

**(positivity = high vibration = health) (negativity = low vibration = disease)**

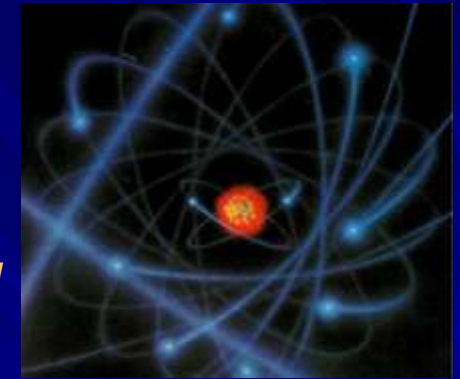
Applying the Law deliberately to attract what we want in our lives is a practice of Conscious Creation through our thought process. It teaches the use of ‘attention’ and ‘intention’ to deliberately attract higher vibrations to enhance the quality of our lives...

***Everything*** in the universe is made up of energy (atoms containing electrons, protons, neutrons, and quarks), and the law of observation states that

**ENERGY FOLLOWS THOUGHT.**

## Cellular communication – electrons and photons as messengers

Researchers have found that cells are in communication all the time. The DNA molecule, for example, radiates *and* absorbs in the millimeter wave band.



Can this be the source of the “Backster Effect”, of cell-to-cell communication?

**Backster Effect** – *experiment postulating that plants can communicate with other lifeforms. By measuring the rate at which water rises from a philodendron's root into its leaves, using a polygraph to record altered electrical resistance signals from the plant taking up the water – surprisingly the graph tracing began to show a pattern typical of the response you get when you subject a human to emotional stimulation of short duration".*

Now It has been proven that a “sick” cell radiates *something*, and when a healthy cell receives this radiation, it too becomes sick (Kaznachayev, 1967, 1981, 1982). The opposite also occurs, sick cells can be brought back to health with radiation from healthy cells.

Can this explain “energy healing”? Source, strength and intention of the energy being radiated?

*(from p. 234 of The Synchronized Universe – Claude Swanson, PhD)*



**TIME Ideas**

Essential Insights. Great Debates. Informed Opinions.



Pastor Rick Warren,  
author of 'The Purpose Driven Life'

## How Faith and Health Go Hand In Hand

by Mehmet Oz, MD – May 31, 2012

Rick Warren changed my world view within an hour of my meeting him. We were speaking in earnest about the work he is doing to deliver basic health services in Sub-Saharan Africa. I was impressed by his genuine desire to be of service to the world — something he wrote about at length in his bestseller *The Purpose Driven Life* — and his realization that houses of worship are in a unique position to deliver on that promise.

Health clinics and hospitals may be scattered unevenly and inequitably around the world, but there is almost no town so isolated, no village so remote that it doesn't have a religious building within it or nearby. This is a global infrastructure like none other, one that's typically staffed by people for whom the highest goal is serving others and relieving suffering. Rick has convinced religious leaders of many faiths that their primary responsibility is to mend their people, so churches, temples, mosques and other religious centers could step into the breach, offering life-saving screenings and treatments in places that are often without the distribution networks for even the most basic medicines.

Pastor Rick Warren, the author of the über-bestseller *The Purpose Driven Life* and the leader of the Saddleback mega-church in Lake Forest, Calif., was struck by how out of shape his 20,000-strong congregation had gotten and, he readily admitted, he was no better, tipping the scales at 295 lbs. — or a full 90 lbs. too much for his 6-ft.-3-in. frame. He suspected he had a way to fix all that — one that might work in the wider world as well — and the secret, he believed, lay in Scripture, specifically in the Book of Daniel.

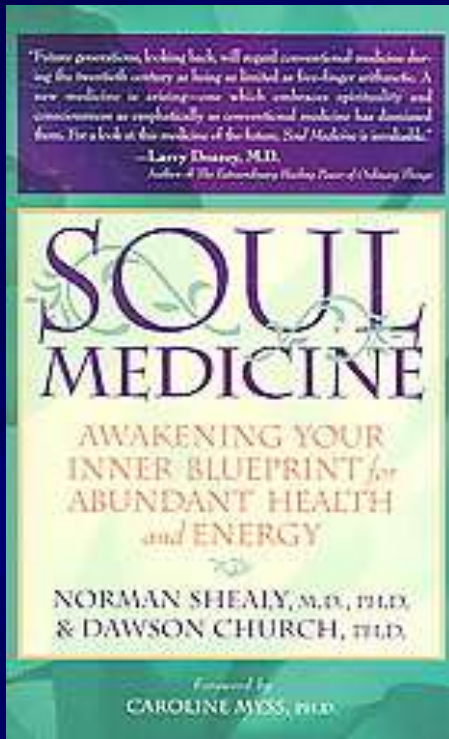
The screenshot shows the homepage of 'THE DANIEL PLAN' with the tagline 'GOD'S PRESCRIPTION FOR YOUR HEALTH'. The navigation menu includes HOME, START, EAT, MOVE, THINK, HEAL, CONNECT, and MEDIA. A search bar is located in the top right. The main content area features a large banner for 'PASTOR RICK ON THE DR. OZ SHOW!' with a 'WATCH NOW' button. Below this are three smaller featured items: 'Taking Names' (with a runner image), 'The Family that Lost 500 Pounds' (with a group photo), and '6 Delicious Ways to Enjoy Fresh Berries' (with berry drinks). On the right side, there are five green call-to-action buttons: 'START A GROUP' (with 'SIX WEEK VIDEO STUDY' subtext), 'YOUR HEALTH PROFILE' (with 'CREATE ONE NOW' subtext), 'TRACK YOUR PROGRESS' (with 'UPDATE YOUR MEASUREMENTS' subtext), 'DANIEL PLAN FAQ'S' (with 'GET ANSWERS' subtext), and 'WEEKLY UPDATES' (with 'SIGN IN TO SUBSCRIBE' subtext). A 'Miss a week?' dropdown menu is visible at the bottom left of the main content area.

**The Daniel Plan** a program of smart eating, workout classes, small-group support meetings, walk and worship sessions and more, much made available both in person and online.

Pastor Warren recruited three marquee names from the world of medicine — Drs. Mehmet Oz, Daniel Amen and Mark Hyman (all of different faiths) — to help spread the good-health message.

The Saddleback members fell in love with the plan. More than 15,000 of them have signed up so far and in the past 18 months alone, they have lost a collective 260,000 lbs.

<http://www.danielplan.com/>



Healing, by definition, is a sacred art. **Practically all of the ancient texts describe the art of healing as a divine process in which healing the body first requires healing the spirit.**

When the potential of technical and chemical medicine accelerated during the second half of this century, the "spirit" of healing was made ill.

Though not a deliberate intention on the part of the scientific community, respect for the healing power of prayer, faith and love diminished dramatically as chemical medicine produced more and more physical results.

For all of us who are interested in understanding the nature of healing, this book is a necessary part of our library. It is becoming increasingly evident that the themes of this next millennium are healing and the emergence of the sacred into the entire weave of life.

Norm Shealy and Dawson Church have performed a valuable service in presenting *Soul Medicine*.



Bruce H Lipton, PhD

Uncovering The Biology of Belief

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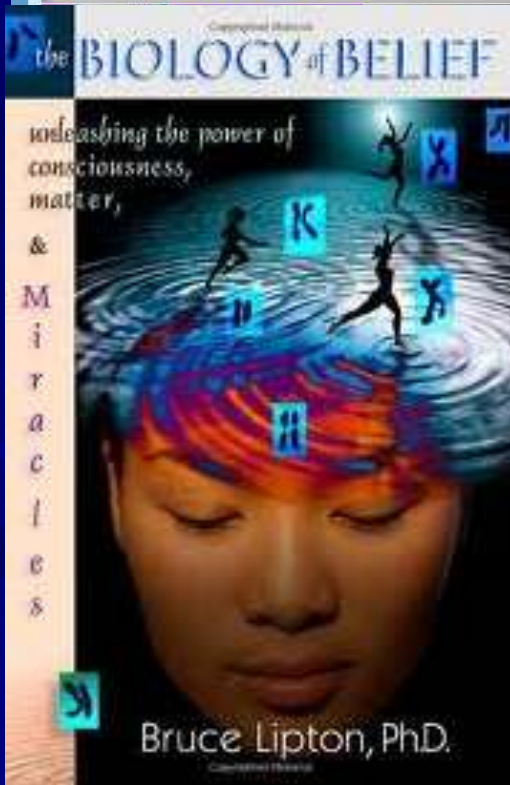
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12/09 [What if It Really Works?](#)



**Dr. Bruce Lipton is an internationally recognized leader in bridging science and spirit.**

**The new sciences quantum physics and epigenetics are revolutionizing our understanding of the link between mind and matter.**

**By retraining our minds to create healthy beliefs, we can change the physiology of our trillion-celled bodies.**

<http://www.bruce-lipton.com/>

# I = INFECTIONS

Why is it that in today's society infections contribute to serious health problems such as autoimmune diseases, arteriosclerosis, and even cancer?

**There is a clear correlation between infection and toxicity.**

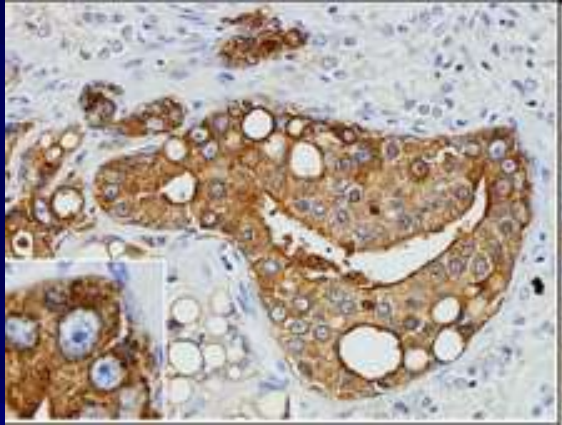
- Today, we have over 1000 times the amount of lead in our bones than our ancestors did just 400 years ago.
- Children are born already mercury toxic as a result of the toxicity of their mother.
- Toxins impair immune function and set the stage for chronic infections.

## Infections Causing Human Cancer

By Harald zur Hausen.

**Viral, bacterial, and parasitic diseases have accompanied humankind since the earliest times and have had more impact on history than any other single factor. Influenza and smallpox devastated cities and ruined empires, each claiming more lives worldwide than all wars combined. Plague killed approximately 200 million, and malaria still claims the life of a child every 30 seconds.**

**Other than the direct toll inflicted by infectious diseases, numerous studies have established a relationship between microorganisms and chronic conditions such as atherosclerosis, neurologic disorders, cancer, and obesity. The link between microorganisms and increasing numbers of diseases never before envisioned as having microbial etiology opens fascinating scientific, medical, and public health perspectives.**



Human prostate cancer tissue. Brown, granular staining shows malignant epithelial cells that express XMRV proteins

*Image: R. Schlaberg and H. M. Thaker*

## Viral cause for prostate cancer?

Prostate cancer is increasingly looking like an infectious disease, a new study shows, and may be sexually transmitted.

By Tabitha M. Powledge

[Published 7th September 2009 09:26 PM GMT]

Mounting evidence suggests that prostate cancer is an infectious disease caused by a recently identified virus. The latest report, published today (September 7) in the *Proceedings of the National Academy of Sciences*, found the virus was associated especially with aggressive prostate cancers and noted that "all individuals may be at risk" for infection.

The notion that prostate cancer is an infectious disease like cervical cancer would not surprise most cancer experts, said Ila Singh of the University of Utah, the study's senior author. Almost 20% of visceral cancers are now proven infectious diseases, and there is a lot of indirect evidence from epidemiology and genetics that prostate cancer may be one of them.

The suspect is xenotropic murine leukemia-related virus (XMRV), a gammaretrovirus similar to viruses known to cause cancer in animals. Researchers at Columbia University and the University of Utah found the virus in more than a quarter of some 300 prostate cancer tissue samples, especially in malignant cells. That prostate cancer is a viral disease is not yet proven, but this is the third independent confirmation that XMRV infects prostate tissue.

**One out of every three adults in America has cancer, but most incidences are as yet undiagnosed and undetected.**

According to the American Cancer Society, “the probability that an individual, in the course of their lifetime, will develop cancer or die from it” is 1 in 2 for men (50%), and 1 in 3 for women (33.3%). Extrapolating from the male-female ratio of 49:51, the chances that any individual, male or female, will get cancer in their lifetime is 41%!

**Every human being has cancer cells existing in the body which are just seeking a low-oxygen environment where they can multiply into the full-blown disease.**

## Chemo, Radiation can Increase Malignancy of Tumors

Tumors consist of a diverse collection of cells, many of which are harmless (benign). The cancer stem cell is the most dangerous and is also very difficult to locate. There is only about one cancer stem cell for every 10,000 benign cells.



According to recent research, traditional cancer treatments may actually incite the growth of more of these dangerous cancer stem cells. These stem cells promote tumor growth as well as cause cancer to spread within the body.

In an interview with FoxNews.com, Dr. Chiang Li of Harvard Medical School in Boston, said "Radiation and chemotherapy not only might create cancer stem cells, any pre-existing cancer stem cells in a tumor were very resistant to radiation and chemotherapy, so they remain as well".

Studies continue to show that chemotherapy and radiation rarely provide a comprehensive, safe solution to cancer. Thus far, America's multi-billion-dollar search for a cure has provided only a handful of insufficient treatments that cause dozens of side effects.

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# Cancer as a Metabolic Disease

On the Origin, Management,  
and Prevention of Cancer



Thomas N. Seyfried

 WILEY

Copyrighted Material

## Cancer as a Metabolic Disease *[excerpts from pg(s) 5-6 and 17]*

Radiation therapy is given to many cancer patients. Radiation will kill both cancer cells and normal cells.

Some normal cells that are not killed outright can be metabolically transformed into tumor cells.

Moreover, those tumor cells that survive the radiation treatment will sometimes grow back as more aggressive and less manageable cancers in the future.

Emerging evidence suggests that cancer is a metabolic rather than genetic disease.

**Cancer is a disease of defective cellular energy metabolism, and most of the genomic defects found in cancer arise as secondary downstream effects of defective energy metabolism.**



Harvard Health Publications  
HARVARD MEDICAL SCHOOL

*Trusted advice for a healthier life*



## Global cancer research database reveals what you can do to lower your risk

POSTED AUGUST 30, 2012, 11:00 AM

Daniel Pendick, Executive Editor, *Harvard Men's Health Watch*

By the year 2030, the number of people diagnosed annually with cancer worldwide could reach 21 million. This week, the Union for International Cancer Control (UICC) is meeting in Montreal to discuss how to diminish the rising tide of cancer.

The long-term solution, experts think, lies in another startling statistic: that 40% of cancers stem from factors that we can control.

At the meeting, the American Institute for Cancer Research and the World Cancer Research Fund International (AICR/WCRF) rolled out the **latest update** to the world's largest central database of research on how lifestyle choices influence the risk of cancer. Key causes of "preventable" cancer include unhealthy diets, lack of exercise, being overweight, alcohol and tobacco, and not taking full advantage of preventive vaccinations and screenings.

"The fact is that changes in our lifestyle can powerfully protect us against cancer," says Dr. Anthony Komaroff, editor in chief of the *Harvard Health Letter* and a professor of medicine at Harvard Medical School. "In fact, we can do more to protect ourselves against cancer than our doctors can do for us."



40% of cancers stem from factors that we CAN control

Key causes of "preventable" cancer include unhealthy diets, lack of exercise, being overweight, alcohol and tobacco...

"we can do more to protect ourselves against cancer than our doctors can do for us" ~ Dr. Anthony Komaroff  
editor-in-chief, *Harvard Health Letter*





## **The Prime Cause and Prevention of Cancer** **Dr. Otto Warburg – 1931 Nobel Laureate**

*Dr. Warburg stated “Cancerous tissues are acidic, whereas healthy tissues are alkaline. Water splits into  $H^+$  and  $OH^-$  ions, if there is an excess of  $H^+$ , it is acidic; if there is an excess of  $OH^-$  ions, then it is alkaline.”*

**...tumors live in the body anaerobically.**

**...cell respiration is impaired if the active groups of the respiratory enzymes are removed from the food; and that cell respiration is repaired at once, if these groups are added again to the food. No way can be imagined that is scientifically better founded to prevent and cure a disease, the prime cause of which is an impaired respiration.**

**...the prevention of cancer requires no government help, and no extra money.**

**Healthy tissues are alkaline whereas cancerous tissues are acidic. Cancer does not survive in an alkaline state.**

Mol Aspects Med. 2010 Feb;31(1):60-74. Epub 2009 Dec 6.

## **The Warburg effect and mitochondrial stability in cancer cells.**

Gogvadze V, Zhivotovsky B, Orrenius S.

Institute of Environmental Medicine, Division of Toxicology, Karolinska Institutet, Box 210, Stockholm SE-17177, Sweden.



### **Abstract**

**The last decade has witnessed a renaissance of Otto Warburg's fundamental hypothesis, which he put forward more than 80 years ago, that mitochondrial malfunction and subsequent stimulation of cellular glucose utilization lead to the development of cancer.**

**Since most tumor cells demonstrate a remarkable resistance to drugs that kill non-malignant cells, the question has arisen whether such resistance might be a consequence of the abnormalities in tumor mitochondria predicted by Warburg.**

**The present review discusses potential mechanisms underlying the upregulation of glycolysis and silencing of mitochondrial activity in cancer cells, and how pharmaceutical intervention in cellular energy metabolism might make tumor cells more susceptible to anti-cancer treatment.**

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# CAUSE OF CANCER & pH

by Herman Aihara, author of “Acid & Alkaline”

If the condition of our extra cellular fluids, especially the blood, becomes acidic, our physical condition will first manifest tiredness, proneness to catching colds, etc. When these fluids become more acidic, our condition then manifests pains and suffering such as headaches, chest pains, stomach aches, etc.

According to Keiichi Morishita in his Hidden Truth of Cancer, If the Blood develops a more acidic condition, then our body inevitably deposits these excess acidic substances in some area of the body such so that the **blood will not be able to maintain an alkaline condition** which causes these areas such as the **cells to become acidic and lowers in oxygen.**

Some cells, instead of dying - as normal cells do in an acid environment - survive by becoming abnormal cells. Abnormal, or malignant cells **THRIVE** in an acidic and anaerobic (low oxygen) environment.

They do not correspond with brain function, nor with our own DNS memory code. This is cancer.

# **pH (Hydrogen potential) and Electrons**

## **An Overlooked Key Nutrient**

All physical things are comprised of atoms. An atom consists of a central nucleus which is positively charged, and electrons which are negatively charged in shells or orbits around that central nucleus.

Atoms combine with one another because of their desire to lose, gain, or share electrons.

The phenomenon of electrons from one atom being shared with another atom is essential for construction of the complex biochemical compounds, organelles, cells, tissues, and organs comprising life.

The release of energy as electrons move from one energy level to another is responsible for the energy required in all body processes.

**Modern living has created an electron-deficient environment that is creating electron-deficient bodies. Electron Deficiency is another way of saying something is **Acidic**.**

## Signs/symptoms of Acidosis

- **Weight gain and diabetes.** When our body is too acidic, we suffer from a condition known as Insulin Sensitivity which forces excessive insulin to be produced. The end result is that the body is flooded with so much insulin that it in turn converts every calorie into fat. In addition, the acidosis state also disrupts the insulin producing pancreatic beta cells. These beta cells are especially sensitive to pH and simply cannot survive if the body is too acidic.
- **Accelerates free-radical damage and premature aging.** Acidosis is the first step towards premature aging - wrinkling, age spots, failing hormonal systems, interfering with eyesight, memory, and all the common signs of aging. Unwanted wastes not properly eliminated from the body actually poison the cells and accelerates degeneration.
- **Disrupts nerve and brain function.** Acidosis also disrupts lipid and fatty acid, which are involved in nerve and brain function. This disruption causes neurological problems such as MS, MD as well as problems with hormonal balance within the endocrine system.

- An acidic environment also **causes LDL-cholesterol to be laid down at an accelerated rate in the heart**, inappropriately lining and clogging up the vascular network, damaging arterial walls, **causing cholesterol oxidation and the formation of plaque with heavy metals.**
- **Corrodes arteries, veins, and heart tissues.** It could be compared to an acid that eats into marble, as it erodes and eats into cell wall membranes of the heart, arteries and veins. During this process of erosion, our heart structures and inter connective tissues are weakened. The heart is normal when the pH of blood plasma is slightly alkaline, having a pH of 7.35 to 7.41.
- **Acid pH blood results in arteriosclerosis** (hardening of the arteries) aneurysm (widening and ballooning of artery walls), arrhythmias (abnormal rhythms of the heart including tachycardia), myocardial infarction (heart attacks) and strokes (a cardiovascular accident).
- **Slows the delivery of oxygen into the cell.** Having an acidic pH will reduce the amount of oxygen that is delivered to the cells. They will eventually die.

## **Glucose deprivation activates a metabolic and signaling amplification loop leading to cell death**

The altered metabolism of cancer can render cells dependent on the availability of metabolic substrates for viability. Investigating the signaling mechanisms underlying cell death in cells dependent upon glucose for survival, we demonstrate that glucose withdrawal rapidly induces supra-physiological levels of phospho-tyrosine signaling, even in cells expressing constitutively active tyrosine kinases.

Using unbiased mass spectrometry-based phospho-proteomics, we show that glucose withdrawal initiates a unique signature of phospho-tyrosine activation that is associated with focal adhesions. Building upon this observation, we demonstrate that **glucose withdrawal activates a positive feedback loop involving generation of reactive oxygen species (ROS) by NADPH oxidase and mitochondria, inhibition of protein tyrosine phosphatases by oxidation, and increased tyrosine kinase signaling.**

In cells dependent on glucose for survival, glucose withdrawal induced ROS generation and tyrosine kinase signaling synergize to amplify ROS levels, ultimately resulting in ROS-mediated cell death. Taken together, these findings illustrate the systems-level cross-talk between metabolism and signaling in the maintenance of cancer cell homeostasis.

# Medical Maverick

## Dr. Tsuneo Kobayashi

Originally published at [www.japaninc.com](http://www.japaninc.com) December 2005

### Melding East and West: a forerunner of cancer treatment and prevention.

by John Dodd



Over the last 30 plus years, he has become a thorn in the side of conventional cancer physicians, not least for his idiosyncratic behavior and treatment methods, which are based on a lifetime of experimentation and observation, and a belief in the holistic nature of the human body. He uses Chinese herbal medicines in addition to drugs for biochemical-modulation and apoptosis-inducing and cancer-vessel treatment, as well as sophisticated methods of applying **TMCA (tumor marker combination assay)**, heat therapy and immunology.

***Proof Kobayashi Method Works: In the last 25 years, he has treated more than 20,000 early stage patients, and more than 2,000 mid-to-latter stage patients, who subsequently went into long term remission, with an average life span after treatment of seven years.***

In comparison, the average life span of breast cancer patients in remission is 4.5 years (Source: US National Cancer Institute) and for prostate cancer patients it is around 2 years.

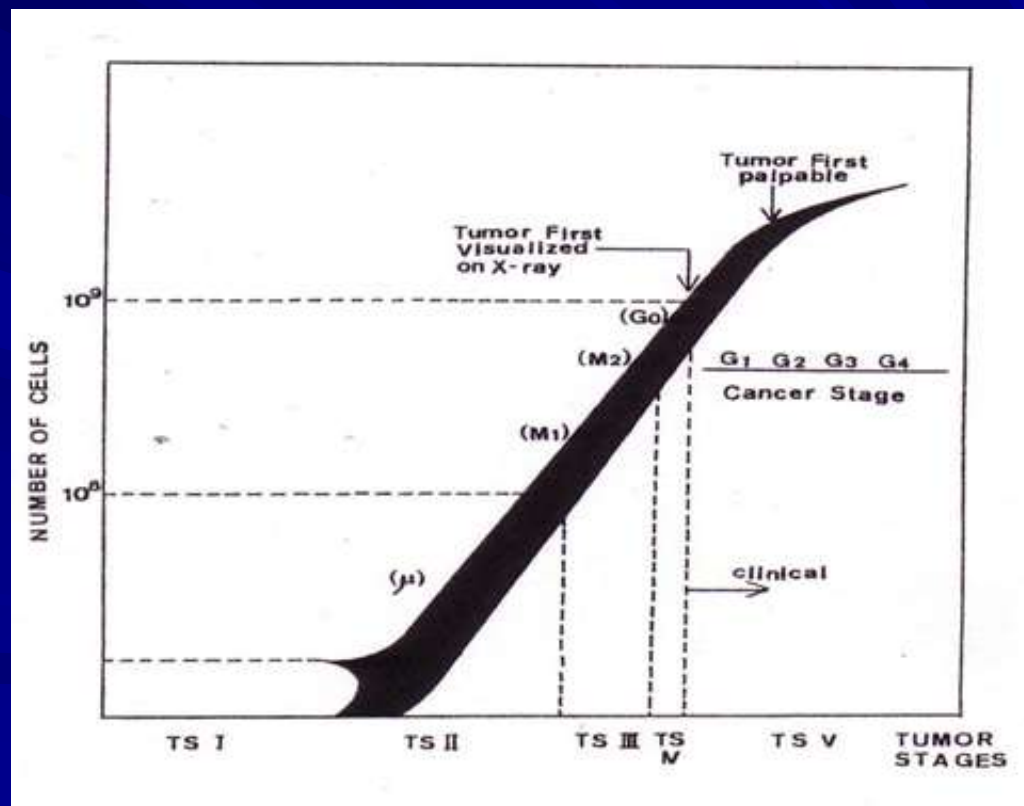
<http://www.euro-med.us/dr-kobayashi-story.pdf>



## Tumor First Palpable typically after seven years of growth...

Regardless of the process by which normal cells become cancerous, as these toxic cells fatten and grow, they require more nutrients to survive. Over time, a network of blood cells and friendly neighbors start to emerge and the tumor grows into a palpable lump that until recently was one of the few clues for a cancer diagnosis. A tumor that is detectable by feel has been growing for approximately seven years.

By that time, more often than not, treatment is too late. Early detection significantly increases the likelihood of survival, and much research is geared toward detecting cancer-prone and individual cancer cells long before a tumor forms. Tumor markers, such as those developed by Dr. Kobayashi, are one method of early detection.



# Researchers explore blood test to detect early breast cancer

Posted October 03, 2012

Stephanie Watson, Executive Editor

Harvard Women's Health Watch



According to cancer researchers Stefan Bossmann and Deryl Troyer, their experimental test can identify cancer before symptoms appear by detecting unique enzyme patterns given off by cancer cells.



The test exposes a tiny amount of a person's blood to iron nanoparticles coated with amino acids and a dye. The particles interact with cancer enzymes to form signature patterns, which doctors can detect.

"We can see cancers that do not show up with current imaging technology, and that are too small to be seen by other methods," says Dr. Bossmann, who is a professor of chemistry at Kansas State University. Cancers from different types of cells (breast vs. lung, for example) give off slightly different enzyme signatures.

The researchers say their test can detect very early breast cancers (stages 0 and 1), as well as early lung cancers (stages 1 and 2), within an hour, with 95% accuracy. They discovered this after testing their method on 32 participants with various stages of breast or lung cancer, as well as on a 12-person control group without cancer.

# Ozone for Cancer now accepted by medical board in California



Dr. Robert J. Rowen's

**SECOND OPINION**

The Independent Thinker's Guide to Health and Wellness

**Male patient (age 56) with stage 4 colon cancer with considerable involvement in his liver and high liver enzymes. His oncologists, who told him that chemo would be worthless, had written him off.**

**Referred to me for oxidative and integrative therapies, patient signed informed consent and received oxidation therapies, IV-C, and supplements. During his three weeks with us, his physical condition improved. Patient "cancelled" further treatment to seek therapy covered by insurance. Patient died and wife filed complaint against my license.**

**California board conducted investigation of case, and had opportunity to review other patients with similar diagnosis, and receiving identical therapies...**

**Male patient (age 76) – colon cancer with huge mets to liver. Diagnosis included a bleeding cecal tumor, loss of 40% of his blood volume, alkaline phosphatase of 580, and 2 masses in his liver of 11 and 9 cm respectively. Case considered terminal with only a few weeks (at best) to live. Patient received identical oxidative regimen, and with compliance, had 100% FULL REMISSION from end-stage terminal cancer.**

**I was questioned on ultraviolet blood irradiation, ozone major autohemotherapy, ozone minor autohemotherapy, IV-C, supplements, and other aspects of integrative medicine. The investigator and the doctor were quite intrigued with much of what we do, including how I analyze dental interference fields.**

**After thorough investigation – California board has officially closed the case.**

Curr Opin Clin Nutr Metab Care. 2006 Jul;9(4):339-45.

## **Oxidative metabolism in cancer growth.**

Ristow M. Department of Human Nutrition, Institute of Nutrition, University of Jena, Jena, Germany.

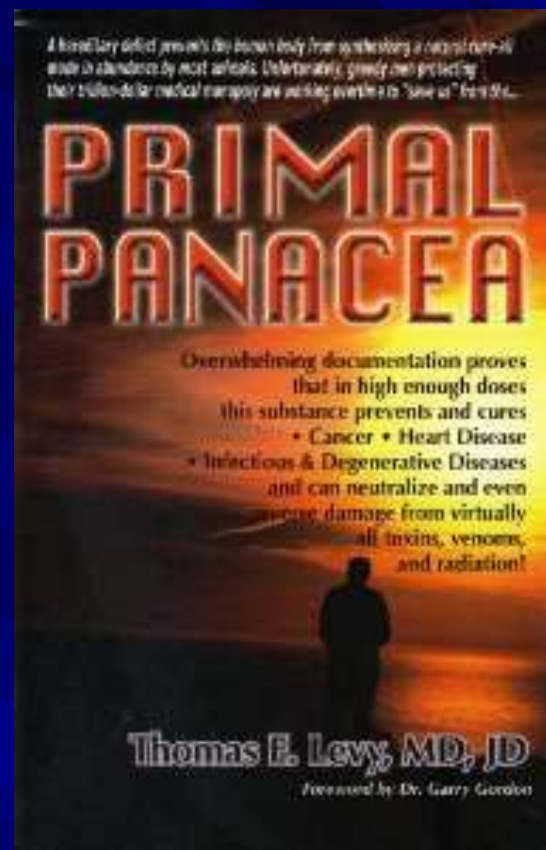
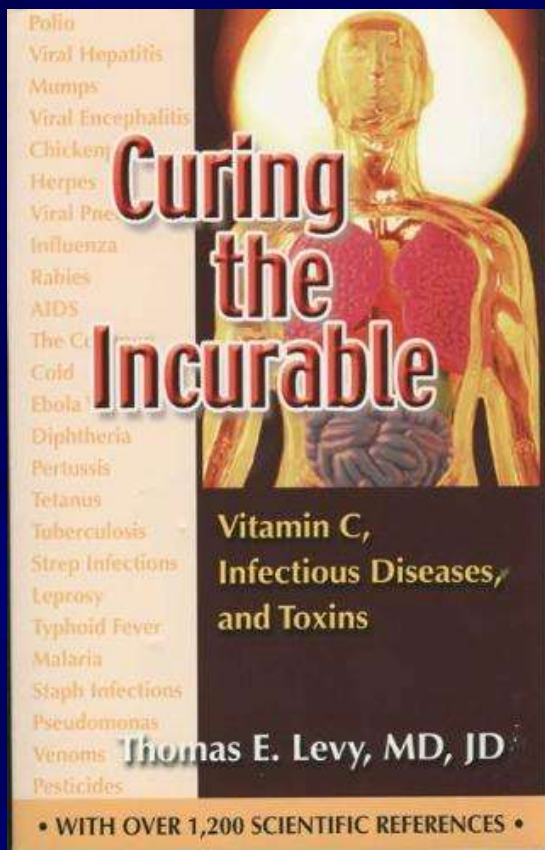


### **Abstract**

**Recent evidence suggests that oxidative metabolism may have a key role in controlling cancer growth.**

**More than 80 years ago, Otto Warburg suggested that impaired oxidative metabolism may cause malignant growth. This assumption, later known as Warburg's hypothesis, has been experimentally addressed for many decades. It employs multiple approaches including cell lines, implanted xenografts and other animal models, by biochemical methods to quantify glycolytic and mitochondrial fluxes and signaling pathways including the rates of intermediate metabolism, respiration and oxidative phosphorylation.**

**The hallmarks of cancer growth, increased glycolysis and lactate production in tumors, have raised attention recently due to novel observations suggesting a wide spectrum of oxidative phosphorylation deficits and decreased availability of ATP associated with malignancies and tumor cell expansion. The most recent findings suggest that forcing cancer cells into mitochondrial metabolism efficiently suppresses cancer growth, and that impaired mitochondrial respiration may even have a role in metastatic processes.**



## VITAMIN C

Vitamin C, given at sufficiently high doses, by itself, can cure life-threatening infections and neutralize many otherwise fatal toxin exposures, according to author Thomas E. Levy, MD, JD in his extensively referenced book, *Vitamin C, Infectious Diseases, and Toxins: Curing the Incurable*, and his newest book "Primal Panacea".

Thomas Levy's books are unmatched in the medical literature. According to Dr. E. Cheraskin, more than 80,000 scientific papers and reports have been written about vitamin C since its chemical nature was first discovered early in the 20th century. The Vitamin C Foundation credits Levy with "doing an almost impossible feat of reading, analyzing and clearly explaining the meaning of the massive science behind vitamin C."

[http://findarticles.com/p/articles/mi\\_m0ISW/is\\_2003\\_May/ai\\_100767885/](http://findarticles.com/p/articles/mi_m0ISW/is_2003_May/ai_100767885/)

# Relation between plasma ascorbic acid and mortality in men and women in EPIC-Norfolk prospective study: a prospective population study

Prof Kay-Tee Khaw FRCP, Sheila Bingham PhD, Ailsa Welch BSc, Robert Luben BSc, Nicholas Wareham MRCP, Suzy Oakes, Nicholas Day PhD

THE LANCET

Volume 357, Issue 9257, Pgs 657 - 663

3 March 2001

doi:10.1016/S0140-6736(00)04128-3

Plasma ascorbic acid concentration was **inversely related to mortality from all-causes**, and from cardiovascular disease, and ischaemic heart disease in men and women.

**Risk of mortality in the top ascorbic acid quintile was about half the risk in the lowest quintile ( $p < 0.0001$ ).**

The relation with mortality was continuous through the whole distribution of ascorbic acid concentrations. A 20  $\mu\text{mol/L}$  rise in plasma ascorbic acid concentration, equivalent to about 50 g per day increase in fruit and vegetable intake, was associated with about a 20% reduction in risk of all-cause mortality ( $p < 0.0001$ ), independent of age, systolic blood pressure, blood cholesterol, cigarette smoking habit, diabetes, and supplement use.



**Bio En'R-G'y C** is an exciting new form of Ribose Nucleotide Activated (RNA) Vitamin C containing Riboperine metabolites that safely allows patients to take daily high doses without stomach upset, cramping, or diarrhea.

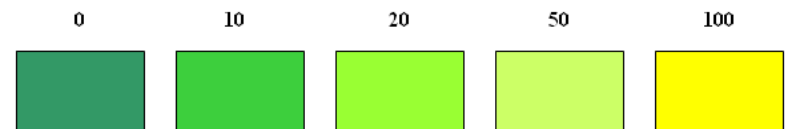
Each serving of Bio En'R-G'y C 's unique form of L-Ascorbate C crystals, has been further enhanced with 2000 mg of GMS-Ribose for increased bio-availability.

Preliminary double blind, human trials on one or more of the ingredients of GMS-Ribose taken with Vitamin C have been shown to enhance the uptake of Vitamin C plasma levels above 30% of subjects on placebo.



**A BRIGHT SPOT**  
on this urine stick  
test means  
you will have a  
brighter future!

#### COLOR CHART – mg/dL vitamin C (Ascorbic Acid)



#### Directions:

1. Dip reagent strip in freshly collected urine and remove immediately or alternatively, wet the reagent strip by passing through the urine stream.
2. While removing, run the edge of the strip against the rim of the urine collection cup to remove excess urine.
3. 30 seconds after removing from urine, compare reagent side of test area with corresponding color chart.

# Alkalinizing Foods and Supplements

by Ronald Klatz, MD, DO and Robert Goldman, MD, PhD, DO, FAASP Townsend Letter  
August/September 2010



**Vitamin K May Slash Cancer Risk** – EPIC-Heidelberg study documented participants with highest average intakes of K2 were 14% less likely to *develop* cancer, and increased vitamin K2 intakes corresponded to a 28% *reduction* in cancer mortality.



**Garlic May Counteract Key Cancer Process** – ‘Nitrosation’ is a cellular process in which substances in foods and water are converted into cancer-causing compounds. Researchers have observed that “*allyl sulfur compounds abundantly present in garlic may inhibit nitrosation in humans*”.

**Vitamin and Calcium Supplements May Lower Breast Cancer Risk** – Study findings presented at the American Association for Cancer Research 101<sup>st</sup> Annual Meeting 2010, from the Ponce School of Medicine (Puerto Rico), researchers have concluded that “*Vitamins and calcium intake are protective for breast cancer and are associated with higher DNA repair capacity levels. Vitamins’ intake is an independent protective factor for breast cancer while the protective effect of calcium may be explained by an increased DNA repair capacity*”.



**Pomegranates May Help Prevent Breast Cancer** – The fruit contains antiaromatase phytochemicals and is rich in ellagitannins, both compounds associated with anticancer properties. Studies suggest that pomegranate [ellagitannin]-derived compounds have the potential to prevent estrogen-responsive breast cancers.



**Omega-3 Fatty Acids May Reduce Risk of Colon Cancer** – Recent 5 year study from the US National Institute of Environmental Health Sciences (North Carolina) has found that participants consuming the most long-chain omega-3 fatty acids had a reduced risk of distal large bowel cancer, with those in the highest quartile achieving a 39% reduced risk.



**Green Tea May Modify Lung Cancer** – Green tea is especially high in polyphenols, a potent type of antioxidant, and previous studies have shown that drinking green tea may confer anticancer benefits. One study found that non-smokers who did not drink green tea had a 5.16-fold increased risk of lung cancer, compared with non-smokers who drank at least one cup per day. Among smokers, those who did not drink green tea at all had a 12.71-fold increased risk compared to those who drank at least one cup per day.

**Pistachios May Reduce Lung Cancer Risk** – Pistachios are known to exert heart-healthy benefits by producing a cholesterol-lowering effect and providing antioxidants, such as gamma tocopherol. Two ounces of pistachios per day could be incorporated into dietary strategies designed to reduce the risk of lung cancer without significant changes in body mass index.



**Broccoli Extract May Reduce Skin Cancer Risk** – Johns Hopkins University (Maryland) fed broccoli sprout extracts high in glucoraphanin (which has been identified as a potent anticarcinogen) to laboratory mice previously exposed to UV radiation. The researchers found that a daily dose of 10 moles of glucoraphanin inhibited the subsequent development of skin tumors – with skin tumor incidence reduced by 25% and tumor volume by 70%

## Essential Daily Defense™

No other garlic-based product comes close to the powerful, synergistic combination of natural chelating and detoxification activity of this unique formula.



Formulated to help the body excrete undesirable toxins, heavy metals and lipids, while helping control excessive blood clotting tendencies. Blood clots are believed to cause 85% of the deaths from heart attacks and/or strokes!

*Essential Daily Defense™* is such a powerful chelator that many health professionals now use this formula (in therapeutic levels of 6-18 caps a day) in place of intravenous therapies for most heavy metal toxicities, including lead, mercury, cadmium, etc.

*Let's take a closer look at some of the natural ingredients in EDD...*

### Supplement Facts

Serving Size: 3 capsules

Ingredient	Amount Per Serving	% Daily Value
Niacin	20 mg	100
Vitamin B-6 (pyridoxine HCL)	20 mg	1000
Garlic Powder (organic high-Allicin)	800 mg	*
Calcium Disodium EDTA	400 mg	*
MSM (Methylsulfonylmethane)	100 mg	*
Malic Acid	50 mg	*
Betaine HCL	50 mg	*
Carrageenan (Red Algae)	600 mg	*
Papain	100 mg	*
Horsetail Powder	40 mg	*
Red Yeast	100 mg	*
dl-Methionine	50 mg	*
Beta Sitosterol	100 mg	*
Hawthorne Extract (Crataegus oxycantha) 1.8% Vitexin	10 mg	*

\*Daily Value not established.

Other Ingredients: Gelatin, Vegetable Grade Stearic Acid, Magnesium Stearate, and Maltodextrine.

Contains: Soy

Store in a cool, dry place away from sunlight.  
KEEP OUT OF THE REACH OF CHILDREN.

Dr. Madrid has done an excellent job bringing together the astounding breadth of research and clinical uses of vitamin D. This book will go a long way towards enlightening readers about the importance of vitamin D testing and supplementation.

— Julian Whitaker, MD, author of *Health & Healing*, and founder of the Whitaker Wellness Institute.

# VITAMIN D PRESCRIPTION

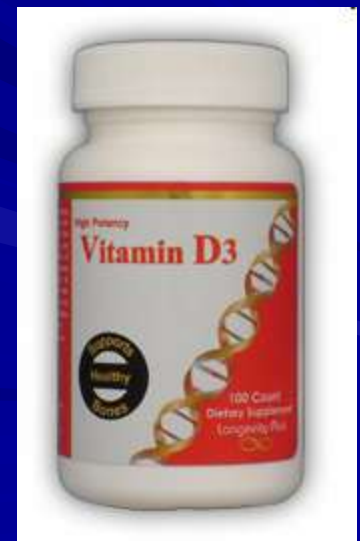
The Healing Power of the Sun &  
How It Can Save Your Life

Eric Madrid MD

## Vitamin D Prescription

One of the most useful nutritional tools we have at our disposal for improving overall health, the latest research shows that 1,25-dihydroxy **Vitamin D3** deficiency is linked to a surprising number of other health conditions such as depression, back pain, cancer, both insulin resistance and pre-eclampsia during pregnancy, impaired immunity and macular degeneration. **Vitamin D3, 5,000 Units**

Prevention costs just pennies a day and can be as easy as using less sunscreen, spending more time in the sun or supplementing with vitamin D3.



<http://vitamind-prescription.com/about/>

# G = GENETICS

## Epi-genetics and methylation defects

**Genetics** can play a role in our ability to detoxify from numerous environmental insults. Optimizing methylation becomes a key strategy in improving the ability of the body to remove harmful substances that may have negative impacts on our health.

**Epigenetics** (“above genetics”) is the study of how environmental factors influence gene expression.

NOVA

<http://www.pbs.org/wgbh/nova/genes/>

# GHOST IN YOUR GENES

Experts investigate how a mysterious "second genome" helps determine our biological fates.

Randy Jirtle is director of the Laboratory of Epigenetics and Imprinting at Duke University and is a professor of radiation oncology at the school's medical center. His groundbreaking research with agouti mice has revealed that a mother's diet during pregnancy can influence gene expression in her offspring by altering the epigenome.



## A Tale of Two Mice



A mouse gives birth to identical-twin sisters. One has brown fur and will grow up to be lean and healthy; the other has yellow fur and is destined to be obese and prone to disease.

Supplementation of maternal diet with genistein and other compounds induced alterations in DNA methylation that were reflected in offspring coat color changes.

*image: Randy Jirtle*



Genetic  
Engineering  
& Biotechnology  
News

GEN news highlights: Jan 21, 2011

## Association between DNA Methylation and Obesity May Explain Related Chronic Diseases

A team of researchers at the Medical College of Georgia's Georgia Prevention Institute note a link between the presence of fat and chemical changes in DNA that may help explain the increased risk of chronic diseases in obese individuals. Specifically, they observed higher levels of methylation in a portion of the UBASH3A gene and lower levels in part of the TRIM3 gene.

The paper, "Obesity related methylation changes in DNA of peripheral blood leukocytes," is published online in *BMC Medicine*. The team observed that in comparison with the lean controls one CpG site in the UBASH3A gene showed higher methylation levels and one CpG site in the TRIM3 gene showed lower methylation levels in the obese cases... On the basis of those results they concluded that obesity is directly associated with methylation change in blood leukocyte DNA.

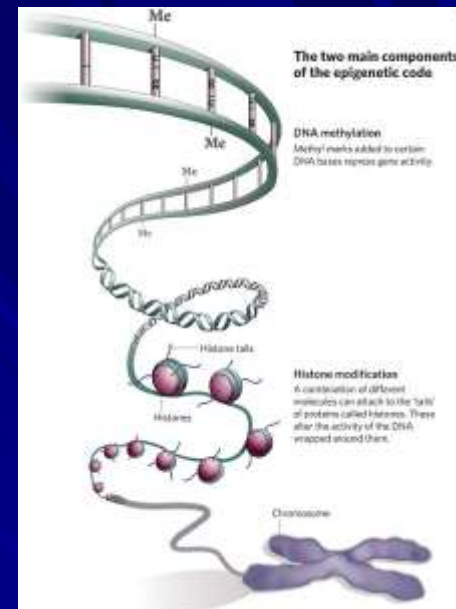
Both UBASH3A and TRIM3 genes are known to have roles in regulating the immune system, which is often dysregulated in obese individuals. The dysregulation of the genes can result in a level of chronic inflammation that contributes to diseases such as cardiovascular disease and diabetes. Increased methylation can further impact immune function by affecting gene-expression levels, which effects downstream functions of proteins produced by those genes.

<http://www.genengnews.com/gen-news-highlights/association-between-dna-methylation-and-obesity-may-explain-related-chronic-diseases/81244568/>

# Toxic and Heavy Metal Exposure Early In Life May Promote Disease Later in Life Via Epigenetics

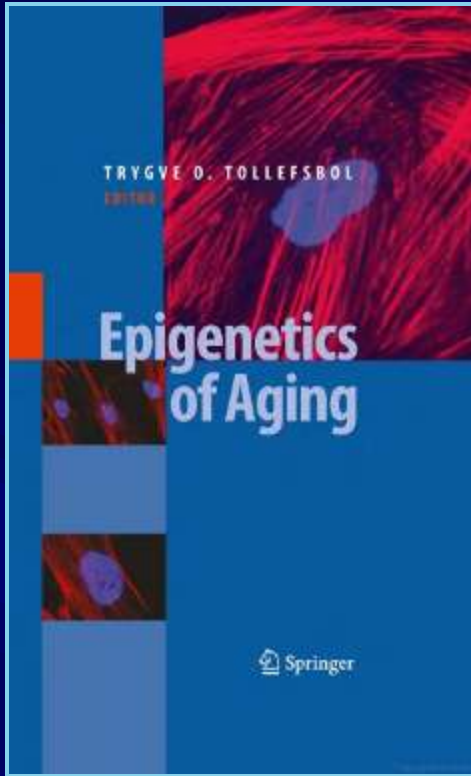
Metals and Neurotoxicology. J. of Nutr. 138,12,2007.  
Wright, RO, et al.

Minerals are necessary for normal cellular, metabolic and neurological function. It is well known that nutrient mineral deficiency can impair neurological development. Iron deficiency is a good example. However, it is also known that iron excess can also impair neurological development. Some transitional nutrients can cause later-life health disturbances when deficient in the diet, but in excess can be just as harmful. These include iron, copper, manganese and zinc as well as others. Heavy metals such as lead, cadmium, mercury, and arsenic are also neurotoxins and when present early in life can contribute to impaired neurodevelopment and detrimental health effects later in life and have been called the “fetal origins of disease.” Suggesting that early environmental metal exposure can program later life gene expression, or fetal programming. The mechanism for this phenomenon is termed epigenetics. Epigenetics is the study of heritable changes in gene expression that occur without changes in DNA sequence, that unlike mutations, are reversible and responsive to environmental influences. DNA methylation is the most studied of the epigenetic process that regulated gene silencing.



*Quinton Marine Plasma works similarly to Methylation Therapy with MSM, TMG and ACTIVE Folic Acid, B-6 and Sublingual B12 to undo the epigenetic changes that exposure to toxins like Bisphenol A are producing in our population. It is obvious that there is nothing in the world to offer this level of ULTRA TRACE MINERAL REPLETION.*

~ Dr. Garry F. Gordon, MD, DO, MD(H)



*Epigenetics of Aging*

2010, Part V, 315-326, DOI: 10.1007/978-1-4419-0639-7\_17

## ***DNA Methylation and Alzheimer's Disease***

Thomas van Groen

### ***Abstract***

Epigenetics plays a direct and indirect role in the chances of developing Alzheimer's disease. The decreased DNA methylation status with increasing age of the amyloid precursor protein (APP) gene promoter will boost transcription of this gene, leading to higher levels of APP. Furthermore, both the BACE and PS1 genes show similar decreased promoter methylation with aging, causing higher levels – and activity – of  $\beta$ - and  $\gamma$ -secretases, increasing APP processing toward A $\beta$  production. Together, this increases the levels of A $\beta$  that will lead to the development of the pathology that is characteristic of sporadic AD.

Furthermore, ***epigenetics plays a role through the nutritional status of the individual, i.e., through low folate and high homocysteine levels the DNA methylation level can be decreased. It is of interest to note that it has been shown that AD patients tend to have low levels of folate and high levels of homocysteine.*** Finally, parental influences in the inheritance of AD have been demonstrated, likely caused by gene imprinting.



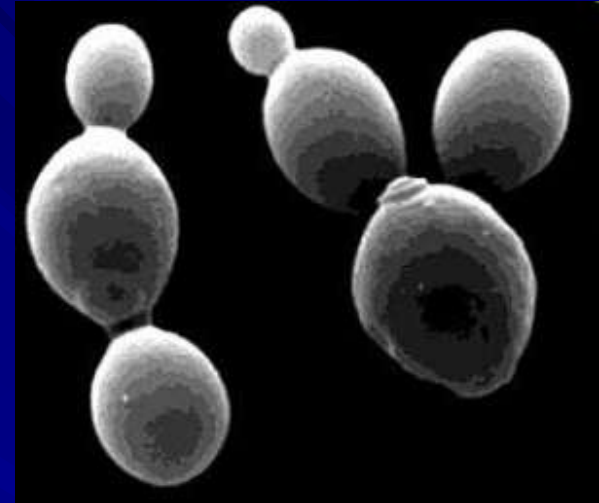
# Good News In Our DNA: Defects You Can Fix With Vitamins And Minerals

ScienceDaily (June 3, 2008)

As the cost of sequencing a single human genome drops rapidly, with one company predicting a price of \$100 per person in five years, soon the only reason not to look at your "personal genome" will be fear of what bad news lies in your genes.

University of California, Berkeley, scientists, however, have found a welcome reason to delve into your genetic heritage: to find the **slight genetic flaws that can be fixed with remedies as simple as vitamin or mineral supplements.**

*"Our studies have convinced us that there is a lot of variation in the population in these enzymes, and a lot of it affects function, and a lot of it is responsive to vitamins," Marini said. "I wouldn't be surprised if everybody is going to require a different optimal dose of vitamins based on their genetic makeup, based upon the kind of variance they are harboring in vitamin-dependent enzymes."*



*Electron microscope image of budding yeast, Saccharomyces cerevisiae. UC Berkeley researchers insert variants of human enzymes into yeast to see if these enzymes can be tuned up with vitamins.*

<http://itsnotmental.blogspot.com/2008/06/nutrition-genes-and-brain-dysfunctions.html>

Related to Cancer, Aging, Heart disease, Depression, Endothelial Dysfunction, Neuropathy...all involving 'sub-optimal' detoxification and supplementation of essential vitamins and minerals.

## **Nutrition, genes, and brain dysfunctions: Folate**

Friday, June 6, 2008

Sometimes eating a healthy diet is not enough. In their search to answer why supplementing with folate helps some people with the brain symptoms of schizophrenia, NARSAD-funded research scientists are studying some people with schizophrenia who may have genetic defects that lower the amount of folate available in their bodies for their cells to use.

Folate, folic acid, Pteroylglutamic acid, are names for a water-soluble vitamin (B9) critical for the normal functioning of our cells, and for the development of neurons. We use folate, working synergistically with vitamin B12 (cobalamin) and vitamin C to help break down, use, and create new proteins that are then used to form red blood cells and help produce DNA.

Since folate is water-soluble, it is not stored in our bodies. Any excess is excreted out, so we need a daily fresh supply. Green leafy vegetables are rich in folate.

Folate is best known as the vitamin critical in pregnancy to prevent birth defects such as the neural tube defect—spina bifida, and to promote proper brain development. It also lowers homocysteine levels. High levels of homocysteine during pregnancy may increase the risk of the child developing brain disorders that may be later diagnosed as schizophrenia. [1, 2]

Poor diet may explain why some people with symptoms of schizophrenia are helped with folate supplementation, but their genes may explain why some people even with a healthy diet may need supplementation.

# Methylation support has become vital

**Bio En'R-Gy C** - which contains methyl donors in the form of both MSM and TMG



**Beyond B12** (which contains B12 as methylcobalamin and three forms of folic acid including 5-MTHF).



# **H = HEAVY METALS**

**Heavy metals are a major contributor to impaired health and are found in nearly everyone on the planet today.**

**People exposed to lead have developed cognitive difficulties. By age 80, 1 in 2 will develop Alzheimer's disease.**

**Could disturbed cognition and the loss of our ability to learn be directly related to heavy metal accumulation?**

# Efficacy of DMSA Therapy in a Sample of Arab Children with Autistic Spectrum Disorder

Eleonor BLAUCOK-BUSCHa; Omnia R. AMINb; Hani H. DESSOKIc; Thanaa

RABAHD. A Journal of Clinical Medicine, Volume 7 No.3 2012 August 13

Medica - a Journal of Clinical Medicine

ORIGINAL PAPERS

**Objective:** *the aim of this study was to provide evidence that DMSA detoxification treatments cause a reduction of the heavy metal burden in the autistic, and that this reduction lessens neurological symptoms associated with ASD (Autistic Spectrum Disorder).*

**Method:** *The participants were 44 children, age 3 to 9 years of age, with Autistic Spectrum Disorder (ASD) according to Diagnostic and Statistical Manual of Mental Disorders 4<sup>th</sup> Edition, (DMS-IV). The severity of the autistics symptomatology had been measured by the Childhood Autism Rating Scale (SCARS). We collected urine samples before and after the DMSA challenge test, comparing urine metal output. We also compared the results of the DMSA detoxification(=the urine challenge test) with behavioral effects, typical for ASD.*

**Results:** *The DMSA challenge test increased the urine metal output for a number of potentially toxic metals. Statistically significant difference were noted between the baseline urine and DMSA challenge test regarding the level of cadmium, mercury, and lead (P=0.006, P=0.049, and P=0.008 respectively). We also noted that behavioral effects, typical for ASD (autism spectrum disorders) were reduced with this method of detoxification. A comparison between CARS Subscales and Total Score before and after a 6-month chelation program showed greatest improvements for Verbal and nonverbal communication (P <0.001), Taste, Smell and Touch (P 0.001) and Relating to People (P 0.005). Other improvements were noted for Adaptation to Change and Improvement.*

**Conclusion:** *DMSA chelation increased the urinary output of toxic and neuro-toxic metals. Our data supports evidence that detoxification treatment with oral DMSA has beneficial effect on ASD patients.*



## Made in China: Our Toxic, Imported Air Pollution

Mercury, sulfates, ozone, black carbon, flu-laced desert dust. Even as America tightens emission standards, the fast-growing economies of Asia are filling the air with hazardous components that circumnavigate the globe.

*It is estimated that Asia is churning out 1,400 tons of Mercury emissions a year, and take as little as four days to reach North America.*

Mercury plumes can wobble in latitude and altitude or park themselves in one spot for days on end. Emissions from China—and from the United States, and indeed from every industrial country—feed a network of air currents that, as equal-opportunity polluters, serve up toxic mercury around the world.

## Commentary

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### Lead Poisoning-One Approach to a Problem That Won't Go Away

John D. Bogden,<sup>7</sup> James M. Oleske,<sup>2</sup> Donald B. Louria<sup>1</sup>

<sup>1</sup>Department of Preventive Medicine and Community Health; and <sup>2</sup>Department of Pediatrics, UMDNJ-New Jersey Medical School, Newark, NJ 07103-2714 USA

Patterson et al. (9) have compared current skeletal lead concentrations with those of Southwest American Indians who lived 700-1,000 years ago by use of museum samples. They found that the *present concentrations are about 500 to 1,000-fold greater than those of the museum samples, suggesting that current body lead burdens are about three orders of magnitude greater than those of our preindustrial ancestors.* Thus, it should not be surprising that adverse health effects have been associated with modestly increased bone lead stores in recent studies, including diminished academic achievement and aggressive behavior in children, and anemia, high blood pressure, and compromised renal function in adults (10-13).

Because lead is a ubiquitous and widespread contaminant, it will not be possible to eliminate additional environmental exposure of Americans of all ages. This inevitable exogenous exposure will be augmented by endogenous exposure as a result of past and ongoing bone lead accumulation. Dietary Calcium and Lead In the last 25 years, the blood lead concentration used to define poisoning or excessive exposure has fallen progressively from 40 to 30 to 25, and finally to 10 pg/dl (3).

## **Bone lead content assessed by L-line x-ray fluorescence in lead-exposed and non-lead-exposed suburban populations in the United States (blood lead/soil lead/lead-processing factories/pollution)**

JOHN F. ROSEN\*<sup>t</sup>, ANNEMARIE F. CROCETTI\*, KENNETH BALBI\*, JULIE BALBI\*, CHERYL BAILEY\*, ISABELLA CLEMENTE\*, NANCY REDKEY\*, AND SARAH GRAINGER\*

\*Albert Einstein College of Medicine, Montefiore Medical Center, 111 E. 210th Street, Bronx, NY 10467; and <sup>t</sup>Department of Community Medicine, New York Medical College, Valhalla, NY 10595

*Communicated by Clair Patterson, December 17, 1992*

**Current evidence linking release of bone Pb to blood is conclusive.**

**Studies of Pb workers, under conditions when there is a change in exposure, have demonstrated release of Pb from bone to blood. Blood Pb concentrations in retired workers are strongly influenced by bone Pb content; and two distinct kinetic compartments of Pb in bone have been described. These compartments have half-times of about 1 and 13 years, respectively. Significant contributions to blood Pb concentrations from bone stores have been documented.**



# Accumulated Lead Exposure and Risk of Age-Related Cataract in Men

Debra A. Schaumberg, ScD, MPH; Flavia Mendes, MD; Mini Balaram, MD; M. Reza Dana, MD, MPH; David Sparrow, DSc; Howard Hu, MD, MPH, ScD

*JAMA.* 2004;292:2750-2754.

**Context** Low-level lead exposure may increase the risk for a number of chronic age-related diseases. Several studies have documented the presence of lead in lenses with cataract. The intrusion of lead into the lens may alter lens redox status and cause protein conformational changes that decrease lens transparency.

**Objective** To determine the relationship of cumulative lead exposure with the development of cataract.

**Design, Setting, and Participants** Tibial (cortical) and patellar (trabecular) bone lead levels were measured by K x-ray fluorescence between 1991 and 1999 in a subset of participants in the Normative Aging Study (NAS), a Boston-based

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**Dr. Gordon comments: Finally proof that bone lead levels are adversely affecting the health of our brain, as the eye is an extension of the brain. Therefore immune suppressing is occurring.**

**Results** The mean age of the study participants was 69 years and cataract was identified in 122 men. The age-adjusted OR (95% CI) for cataract for men in the highest vs lowest quintile of tibia lead level was 2.68 (1.31-5.50). Further adjustment for pack-years of cigarette smoking, diabetes, blood lead levels, and intake of vitamin C, vitamin E, and carotenoids resulted in an OR of 3.19 (95% CI, 1.48-6.90). For patella lead level, there was an increased risk of cataract in the highest vs lowest quintile (OR, 1.88; 95% CI, 0.88-4.02), but the trend was not significant ( $P = .16$ ). Blood lead levels, more indicative of short-term exposure levels, were not significantly associated with cataract (OR, 0.89; 95% CI, 0.46-1.72;  $P = .73$ ).

**Conclusions** These epidemiological data suggest that accumulated lead exposure, such as that commonly experienced by adults in the United States, may be an important unrecognized risk factor for cataract. This research suggests that reduction of lead exposure could help decrease the global burden of cataract.

## Men with high levels of bone lead 6 times more likely to die from heart disease

September 10th, 2009

**WASHINGTON** - Men with high levels of lead in bones are six times more likely to die from heart disease, according to a new study.

Researchers from the Harvard School of Public Health (HSPH) and the University of Michigan School of Public Health found that bone lead was associated with a higher risk of death from all causes, particularly from cardiovascular disease.

“The findings with bone lead are dramatic,” said Marc Weisskopf, assistant professor of environmental and occupational epidemiology at HSPH and lead author of the study.

**The results showed that the risk of death from cardiovascular disease was almost six times higher in men with the highest levels of bone lead compared to men with the lowest levels.**

The risk of death from all causes was 2.5 times higher in men with the highest levels of lead compared to those with the lowest levels.

Given that bone lead may be a better biomarker of cumulative lead exposure than blood lead, it may be the best predictor of chronic disease from exposure to lead in the environment.

*The study appears in journal Circulation. (ANI)*

# NO SAFE LEVEL OF LEAD!

## Blood lead levels and mortality

**Archives of Internal Medicine (AMA Official Journal)**

2002 Nov 25;162(21 ):2443-9

Lustberg M, Silbergeld E.

Department of Epidemiology and Preventive Medicine, University of Maryland

**Despite declines in blood lead levels during the past 20 years, lead exposure continues to be a public health concern. Studies have linked lead exposure with increased risk for diverse health outcomes. Few studies have evaluated the association of lead exposure and mortality in the general population. METHODS:** To evaluate the association of lead exposure and mortality in the United States, we used the recently released mortality follow-up data for participants of the Second National Health and Nutrition Examination Survey, a national cross-sectional survey of the general population conducted from 1976 to 1980. Survey participants aged 30 to 74 years with blood lead measurements were followed up through December 31, 1992 (n = 4292). **RESULTS:** After adjustment for potential confounders, individuals with baseline blood lead levels of 20 to 29 microg/dL (1.0-1.4 micromol/L) had 46% increased all-cause mortality (RR, 1.46; 95% confidence interval [CI], 1.14-1.86), 39% increased circulatory mortality (RR, 1.39; 95% CI, 1.01-1.91), and 68% increased cancer mortality (RR, 1.68; 95% CI, 1.02-2.78) compared with those with blood lead levels of less than 10 microg/dL (<0.5 micromol/L).

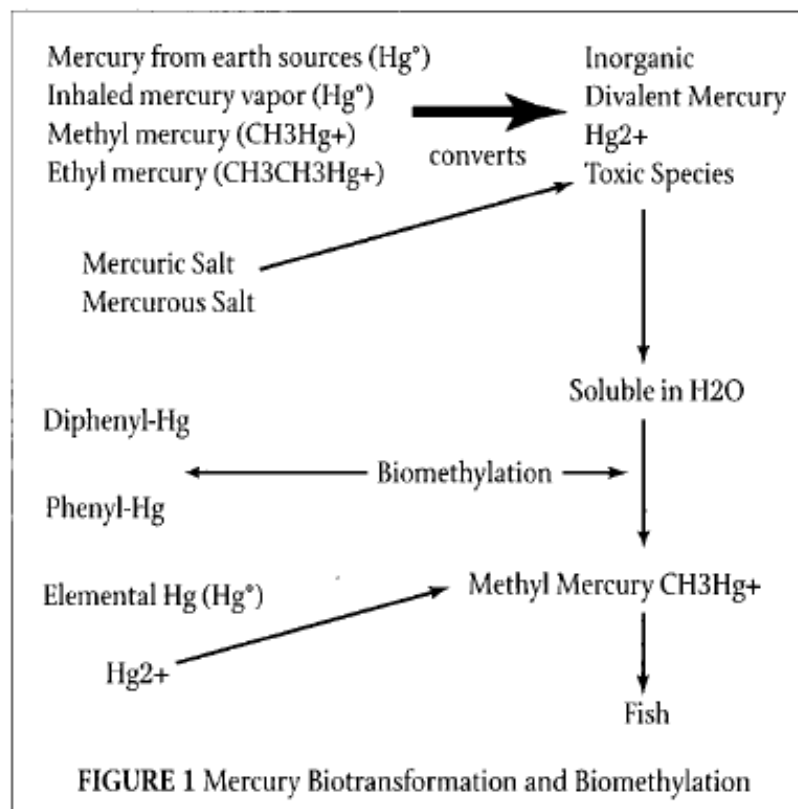
## The Role of Mercury and Cadmium Heavy Metals in Vascular Disease, Hypertension, Coronary Heart Disease, and Myocardial Infarction

Mark C. Houston, MD, MS, FACP, FAHA

Mark Houston, MD, MS, FACP, FAHA, is editor-in-chief for the *Journal of the American Nutraceutical Association* and has published more than 70 clinical research studies and authored 3 books. He is clinical professor of medicine, Vanderbilt University School of Medicine; and director of the Hypertension Institute, Vascular Biology and the Life Extension Institute, Saint Thomas Hospital in Nashville, Tenn, where he also serves as medical director of Clinical Research and section chief of the Division of Nutrition.

### INTRODUCTION

There is increasing concern regarding the overall health effects of exposure to various heavy metals in the environment. This is particularly true of mercury and less so with cadmium, lead, aluminum, and arsenic. The cardiovascular consequences of mercury and cadmium toxicity have not been carefully evaluated until recently. This paper will critically review the vascular consequences of mercury and cadmium toxicity in humans as it relates to hypertension, generalized atherosclerosis, coronary heart disease (CHD), myocardial infarction (MI), cerebrovascular accidents (CVA), carotid artery disease, renal dysfunction, and total mortality.



## Synergistic effects of toxic metals (mercury, lead, aluminum) are extreme.

Bernard Windham, M.D.

Mercury and lead are extremely neurotoxic and cytotoxic, but their combined synergistic effect is much worse. A dose of mercury sufficient to kill 1% of tested rats, when combined with a dose of lead sufficient to kill less than 1% of rats, resulted in killing 100% of rats tested(1). Thus with combined exposure the safe dose is 1/100 as much as the dose individually. Studies in Australia have confirmed similar relationships hold for people. This means most people in the U.S. are getting dangerous levels of these metals, enough to cause some neurologic effects.

(1) Schubert J, Riley EJ, Tyler SA. Combined effects in toxicology. A rapid systematic testing procedure: cadmium, mercury, and lead. Toxicol Environ Health 1978;4(5/6):763-776.

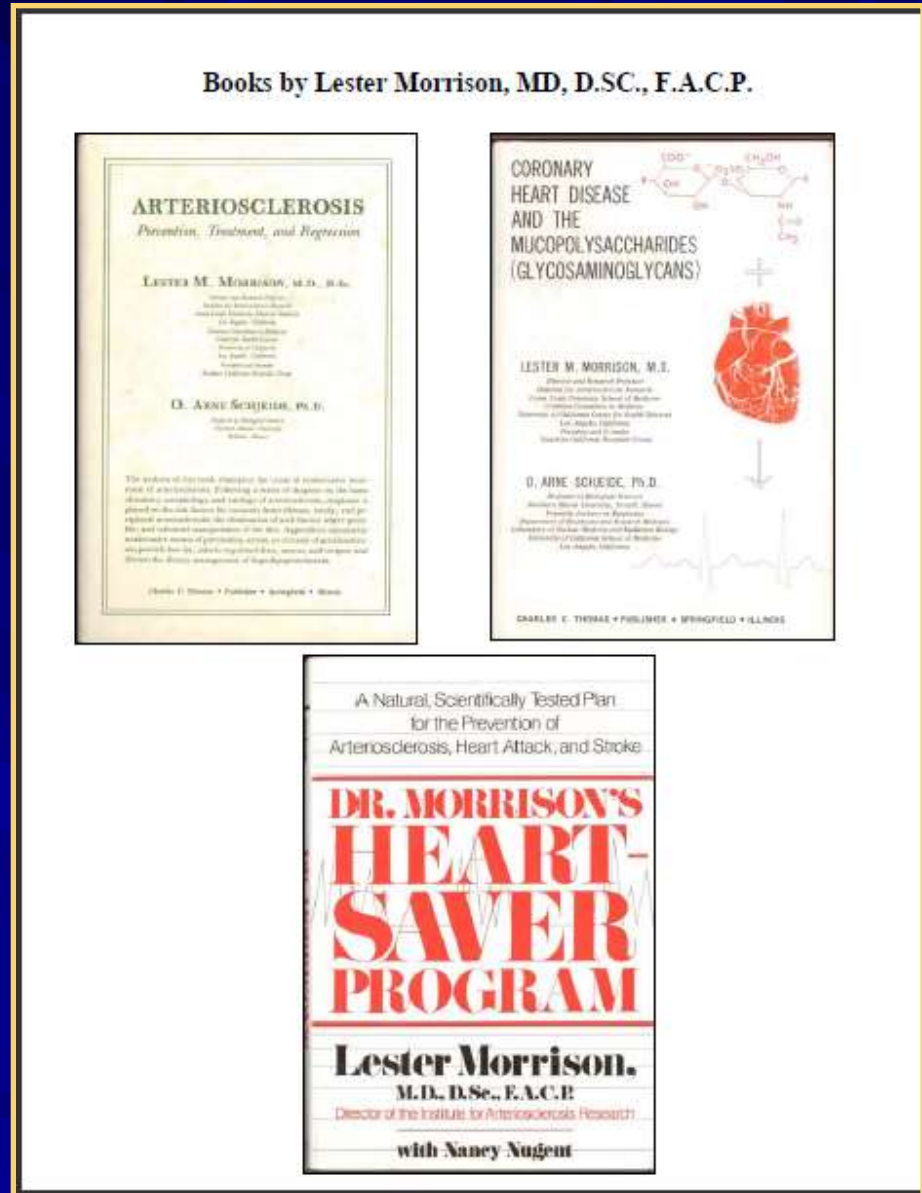
**Dr. Lester Morrison** spent \$10 million doing the research that led to his nutritional program that modifies viscosity and clotting.

He found a combination of several nutrients that act synergistically with his special mucopolysaccharides to help reverse arteriosclerosis and stop heart attacks.

The addition of EDTA made it far more effective and led to its incorporation into oral packets of nine pills. These packets include a strong multivitamin, a capsule each of omega-3 and primrose oil, a phosphatidyl serine with *Gingko biloba*, and three capsules containing the EDTA-enhanced institute formula.

*Dr. Morrison's two published studies reported an average 91% reduction in fatal heart attacks using his institute formula.*

This combination has been shown to lower viscosity using rheological testing. This is one reason that the packets help prevent fatal blood clots. Due to its weak benefits and side effects, I prefer these nine pills to aspirin, which I usually discontinue. ~ Garry Gordon, MD,DO,MD(H)



# TACT - Trial to Assess Chelation Therapy



The National Heart, Lung, and Blood Institute (NHLBI) and the National Center for Complementary and Alternative Medicine (NCCAM), both components of the National Institutes of Health (NIH), are sponsoring the Trial To Assess Chelation Therapy (TACT). TACT is the first large-scale, multicenter study to determine the safety and efficacy of EDTA chelation therapy for individuals with coronary artery disease.

**Update: TACT has completed enrollment. Participants will continue to be followed through 2011, and the results will be analyzed in 2012.**

This placebo-controlled, double-blind study includes more than 1,600 participants aged 50 years and older with a prior myocardial infarction (heart attack) to test whether EDTA chelation therapy and/or high-dose vitamin therapy is effective for the treatment of CAD.

This study, with a total cost of approximately \$30 million, is over 20 times larger than any previous study of chelation therapy. It is designed to be large enough to detect if there are any mild or moderate benefits or risks associated with the therapy.

## **Chelators as Life-Extending Substances**

**A number of studies confirm that chelating agents — particularly, EDTA — may have life-extending properties.**

**Johan Bjorksten and other scientists demonstrated the life-extending effects of EDTA on lowly rotifers (small multi-celled animals found in freshwater lakes and ponds).**

**In the Soviet Union in the 1970s, Dr. T.L. Dubina performed a series of studies with EDTA on the life span of rats. In most of the studies, the mean life span of female rats treated with EDTA was increased by nearly 50%, and in one study the maximum lifespan increased 18-25% over the control animals.**

**Other natural chelators include garlic, (10) Chlorella, (11) lactic acid, citric acid, and malic acid. Bjorksten demonstrated that lithium was also an effective aluminum chelator and crosslinkage inhibitor, stating that lithium continues to be the most effective electrolyte for aluminum detachment.**

**Bjorksten also believed that one of the benefits of exercise is that toxic heavy metals (especially aluminum) are chelated by the lactic acid that is generated.**

**Based on these and other studies, Bjorksten's associate, Prof. Donald Carpenter, calculated that the widespread use of chelation therapy would result in an average lifespan increase of over fifteen years.**



## Chelating Heavy Metals with Calcium EDTA: An Update Using Homotoxicology

© Copyright 2002 by Bruce H. Shelton, M.D., M.D.(h) DiHom & HEEL USA Medical Director, USA  
(Explore Issue: Volume 11, Number 5)

**Calcium EDTA is a vast improvement over its predecessor form of EDTA, in that by containing Calcium in the molecule, it doesn't extract calcium from the vein at its infusion site, which would otherwise cause a mild form of tetany and create the "burning" sensation that most patients complain about when getting a Chelation infusion.**

**The best advantage to this newer molecule comes with the higher concentrations obtained with faster infusion, and both MERCURY and LEAD molecules are able to be eliminated in a single IV, rather than using EDTA Chelation for lead and other Chelating molecules, such as DMPS for the MERCURY.**

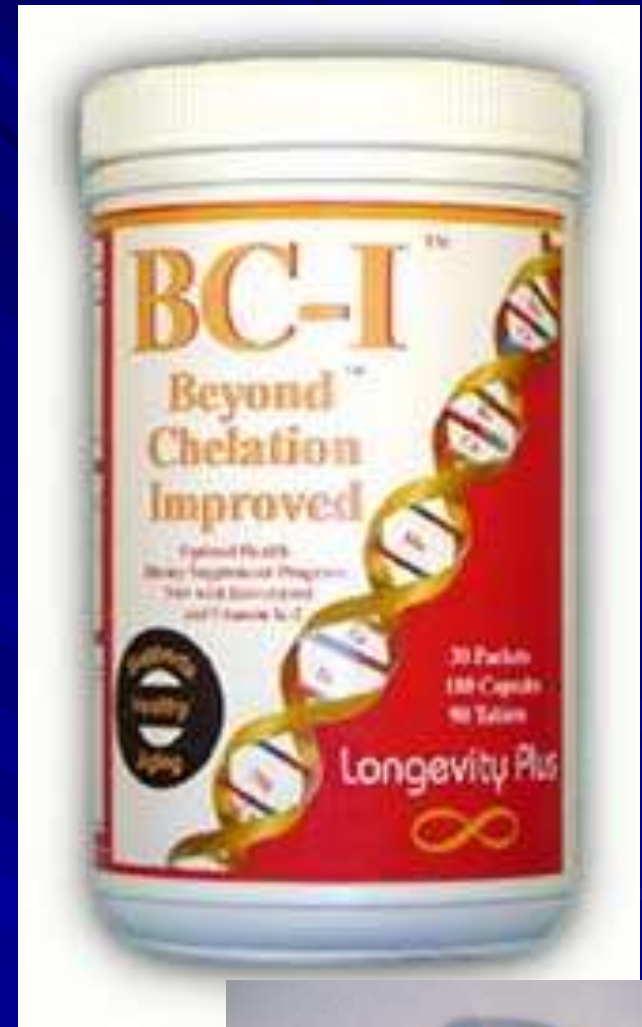
**In fact caEDTA can be given "straight" as a 1-2 minute IV push, or with all of the normal Chelation "ingredients" over 15 to 30 minutes.**

- 1. Three Grams (10.0cc) of Calcium Disodium EDTA (300mg/ml) (Apothecure) adjusted if Cockcroft-Gault indicates lowered Kidney Function Creatinine Clearance below 80ml/min**
- 2. 100ml of Normal Saline**
- 3. 1.0cc vitamin B-6 (100mg/ml)**
- 4. 0.25cc vitamin B-1 (100mg/ml)**
- 5. 0.25cc vitamin B-Complex-100**
- 6. 1.0cc vitamin B-12 (1000mcg/ml)**
- 7. 2.0cc vitamin B-5 (250mg/ml)**
- 8. 3.0cc vitamin C (Beet-derived) (500mg/ml)**
- 9. 2.0cc Magnesium Chloride (200mg/ml)**
- 10. 2.5cc Potassium Chloride (2mEq/ml)**
- 11. 0.1cc Heparin (5000USP Units/ml)**

## Beyond Chelation Improved (BC-I)

Each canister of Beyond Chelation Improved™ contains 30 packets. Each packet consists of:

- 3 *Beyond Any Multiple*™ caplets with **Vitamin K2**, Resveratrol, Tocotrienols, and Utah Sea Minerals
- 3 *Essential Daily Defense*™ capsules (which deliver a combined total of 400 mgs of EDTA)
- 1 Omega 3 marine lipid concentrate
- 1 Evening Primrose Oil capsule
- 1 Phosphatidyl Ginkgo Biloba capsule.



# **H = HORMONES**

**A hormone is a messenger molecule that works with receptors on cell membranes to tell a cell what to do.**

**They optimize our health potential by providing the body with the hormonal support it requires to perform at high levels of functioning.**

**Additionally, cholesterol is a precursor to hormone production. Without adequate levels of cholesterol, hormones are not produced.**



## **Correcting Hormone Imbalance with Detoxification**

Lyn Hanshew, MD

6/11/09

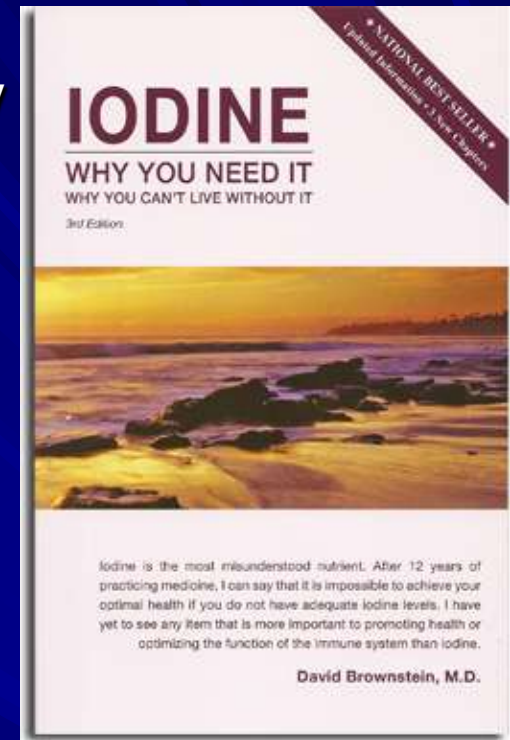
Environmental toxins such as heavy metals, pesticides, herbicides and volatile organic compounds are more pervasive than ever. From contaminated air and food, to pharmaceutical byproducts in water supplies, as our toxic exposure increases, so does our bio-accumulation of these same toxins. The body has limited ability to metabolize, mobilize and excrete these poisons. Stored toxins negatively impact the neurological, immune and endocrine systems and as significant damage is done, we develop symptoms and disease related to these impaired systems.

Let's examine symptoms related to a toxically impaired endocrine system. Hormones are messenger molecules that interact with receptors on the cell membranes to instruct the cell as to what to do. Common symptoms/diseases of deficient endocrine function include: Obesity, Diabetes, Hypercholesterolemia, Hyper or Hypo glandular function, Infertility, Fatigue, Chronic Fatigue, Fibromyalgia, Sexual dysfunction, Decreased libido, Impaired memory, Mood disorder, Sleep disturbance, Decreased cognitive function, Decreased cardiac function, Decrease muscle mass, Decreased bone mass, Osteopenia, Constipation, Cold hands/cold feet, and more. In conventional allopathic medicine, a patient is told that the "symptom" she is experiencing (such as one listed previously) is the "problem", and "Oh, have I got a pharmaceutical drug for you!" Pharmaceutical drugs do not correct the problem of poisoned endocrine pathways.

**Specifically related to hormone production and regulation, Mercury and other toxins prevent the conversion of Free T4 (inactive) to Free T3 (active). The enzyme required for this conversion is the 5'-deiodinase enzyme. This enzyme is inactivated by Mercury, Arsenic, Cadmium and Lead.**

■ Dr. David Brownstein, author of the book “Iodine, Why You Need It, Why You Can’t Live Without It”, states that “Approximately 1.5 billion people, about one-third of the earth’s population, live in an area of iodine deficiency as defined by the World Health Organization”.

■ Even though iodine is added to the salt supply, which can help prevent conditions such as goiter, it [iodized salt] is inadequate to prevent an iodine deficiency.



David Brownstein, M.D. is a Board-Certified family physician and is one of the foremost practitioners of holistic medicine. He is the Medical Director of the Center for Holistic Medicine in West Bloomfield, MI. Dr. Brownstein has lectured internationally to physicians and others about his success in using natural hormones and nutritional therapies in his practice.

***Hypothyroidism*** – As the body's iodine levels fall, hypothyroidism may develop, since iodine is essential for making thyroid hormone.

Common symptoms of problem with thyroid due to low thyroid or hypothyroidism are:

- Fatigue and weakness
- Low basal temperature (cold intolerance)
- Dry and coarse skin
- Hair loss
- Cold hands and feet
- Weight gain
- Insomnia
- Constipation
- Depression
- Poor memory, forgetfulness, dementia
- Nervousness and tremors
- Immune system problems
- Heavy menstrual periods



From *International Journal of Impotence Research*

## **Are Declining Testosterone Levels A Major Risk Factor for Ill-Health in Aging Men?** B. B. Yeap - 04/08/2009

As men grow older, testosterone levels fall, with a steeper decline in unbound or free testosterone compared with total testosterone concentrations. Lower testosterone levels have been associated with poorer cognitive function, and with impaired general and sexual health in aging men. Recently, lower testosterone levels have been linked with metabolic syndrome and type II diabetes, both conditions associated with cardiovascular disease, and shown to predict higher overall and cardiovascular-related mortality in middle-aged and older men.

However, reverse causation has to be considered, as systemic illness may result in reduced testosterone levels. Thus, the strength of these associations and the likely direction of causation need to be carefully considered. Furthermore, these conditions may overlap, for example aging, lower testosterone levels, erectile dysfunction and cardiovascular disease are interrelated.

Original Article

## Effects of Human Growth Hormone in Men over 60 Years Old



The NEW ENGLAND  
JOURNAL of MEDICINE

Daniel Rudman, M.D., Axel G. Feller, M.D., Hoskote S. Nagraj, M.D., Gregory A. Gergans, M.D., Pardee Y. Lalitha, M.D., Allen F. Goldberg, D.D.S., Robert A. Schlenker, Ph.D., Lester Cohn, M.D., Inge W. Rudman, B.S., and Dale E. Mattson, Ph.D.  
N Engl J Med 1990; 323:1-6 July 5, 1990

The declining activity of the growth hormone-insulin-like growth factor I (IGF-I) axis with advancing age may contribute to the decrease in lean body mass and the increase in mass of adipose tissue that occur with aging.

To test this hypothesis, we studied 21 healthy men from 61 to 81 years old who had plasma IGF-I concentrations of less than 350 U per liter during a six-month base-line period and a six-month treatment period that followed.

Plasma IGF-I levels were measured monthly. The administration of human growth hormone for six months in group 1 was accompanied by an 8.8 percent increase in lean body mass, a 14.4 percent decrease in adipose-tissue mass, and a 1.6 percent increase in average lumbar vertebral bone density ( $P < 0.05$  in each instance). Skin thickness increased 7.1 percent ( $P = 0.07$ ).

**Conclusions:** Diminished secretion of growth hormone is responsible in part for the decrease of lean body mass, the expansion of adipose-tissue mass, and the thinning of the skin that occur in old age. (N Engl J Med 1990; 323:1-6.)



# REMEDIES; Growth Hormone: The Secret of Youth or a Cautionary Tale?

By BONNIE DESIMONE  
Published: April 11, 2006

The New York Times

**SIXTEEN** years ago, a small-scale study of human growth hormone therapy among older men opened a large debate in the medical community over whether it could stave off physical decline.

Demands for prescriptions have increased, as has online demand for both legitimate and fraudulent forms of the product, known as **HGH** -- eventually growing into an estimated \$1 billion global market.

Because evidence shows potentially harmful side-effects, most mainstream doctors caution against using **HGH**, except in strictly delineated cases. Other doctors say it is an effective anti-aging weapon.

## Beyond GHS

Formulated with resveratrol, chromium picolinate and arginine, and herbal blend including tribulus, terrestris, and moomiya.



## Growth Hormone Herbal Blend

In addition to resveratrol, chromium picolinate and arginine, contains herbal complex made up from whole plant extracts of tribulus terrestris, schizandra, licorice and moomiyo, designed to maximize the output and anabolic (skeletal muscle growth) effects of IGF-1 (insulin like growth factor -1) and to reduce body fat (catabolic effects).



**Tribulus terrestris** is a herb that has been used in the traditional medicine of China and India for centuries. Research performed in Bulgaria and Russia indicates that tribulus increases levels of the hormones testosterone (by increasing luteinizing hormone), DHEA, and estrogen.



The hardy **schizandra** plant, also called the magnolia vine, is an ancient and traditional Chinese remedy, used to help alleviate a wide range of illnesses and conditions, and is believed to work by activating enzymes to produce glutathione.



**Moomiyo**, or “mumie” is a bio-stimulator, serves to elevate the immune system and neuro-hormonal regulation, controls oxidation-reduction processes, and has a positive influence on mineral metabolism. has been used by the elite Russian military and sports establishment for nearly four decades for increasing strength and muscle mass as well as for its recuperative powers.

# Ensure Safe, Effective Bio-Identical Hormone Replacement: Select the Right Hormone Test for Your Patient.

By Lara Pizzorno, MDiv, MA, LMT.  
Managing Editor, Longevity Medicine Review

Treating the sequelae of the age-and stress related decline in adult hormones with bio-identical hormone replacement (BHRT) can restore more youthful hormone levels and significantly alleviate symptoms associated with “normal” aging, optimizing health, happiness and quality of life. Successful and safe BHRT, however, necessitates laboratory testing to assess the patient’s current hormonal status, monitor treatment, and ensure that hormones are being metabolized in ways that reduce risks for cancer, cardiovascular disease, osteoporosis, other age-related diseases and declines in cognitive and sexual function.

24-Hour Urine Comprehensive Profile: Analytes & Reference Ranges for Women		
Analyte	Adult Reference Range*	
Creatinine	0.5 – 2.0 gm/24hr	
Total urine volume	1,200 – 3,000 mL	
Steroid		
	Amount excreted in µg/24 hr	
Sex Hormones	Luteal (Days 17-26)	Postmenopausal
Estrone (E1)	3.3 - 44.6	1.0 - 7.0
Estradiol (E2)	1.4 - 12.2	0 - 4
Estril (E3)	6.1 - 32.4	0 - 30
Total Estrogens	10.8 - 89.2	0 - 41
Estrogen Quotient (E3 / E1 + E2)	>1.0	
2-OH Estrone (Phase I metabolite)	3.8 - 38.1	0.2 - 5.4
16α-OH Estrone (Phase I metabolite)	2.1 - 7.9	0.15 - 3.5
2/16α Ratio (Ideal = 2 - 4)	1.8 - 5.5	0.6 - 5.0
4-OH Estrone (Phase I metabolite)	0.8 - 5.9	0.05 - 1.1
2-methoxyestrone (Phase II metabolite)	2.2 - 14.4	0.3 - 4.1
2-methoxyestradiol (Phase II metabolite)	0.2 - 2.2	0.03 - 0.54
Pregnanediol (progesterone metabolite)	1450 - 6140	200 - 1000
DHEA	100 - 2000	
Androsterone (DHEA metabolite)	500 - 3200	
Etiocolanolone (DHEA metabolite)	500 - 5000	
Testosterone	5.0 - 35.0	
5α-Androstanediol	3.0 - 35.0	
5β-Androstanediol	13.0 - 180.0	
Glucocorticoids		
Pregnanetriol (want ≥mid-range, indicator of substrate availability for cortisol pathway)	100 - 1500	
Cortisone (optimal range ~120-130 µg/24hr)	31 - 209	
Cortisol (optimal range ~90 µg/24hr)	30 - 170	
Cortisone: Cortisol Ratio (always interconverting)	Ideal = 0.7	
Tetrahydrocortisone (THE, cortisone metabolite)	1700 - 4200	
Allo-tetrahydrocortisol (5α-THF, cortisol metabolite)	400 - 2100	
Tetrahydrocortisol (THF, cortisol metabolite)	900 - 2600	
(THE + 5α-THF + THF) x2 = daily cortisol output	5000 - 7000	
11β-OH Androsterone (terminal metabolite of cortisol; low value confirms insufficiency)		
11β-OH Etiocolanolone (terminal metabolite of cortisol; low value confirms insufficiency)		

Hormones can be assayed using saliva, blood (serum), and urine. Each testing method has advantages and disadvantages. Which of the three hormone test methods, or which combination of tests, you will wish to utilize will depend upon what information you need in a given clinical situation. [www.lmreview.com](http://www.lmreview.com)

# **Efficacy Comparison of Pueraria mirifica (PM) against Conjugated Equine Estrogen (CEE) with/without Medroxyprogesterone Acetate (MPA) in the Treatment of Climacteric Symptoms in Perimenopausal Women: Phase III Study**



Verapol Chandeying MD\*, Malinee Sangthawan MD\*\*

*J Med Assoc Thai* 2007; 90 (9): 1720-6 Full text. e-Journal: <http://www.medassocthai.org/journal>

Perimenopausal women attending the Menopausal clinic of Hat Yai Regional Hospital were voluntarily recruited. The vasomotor symptoms such as hot flushes and night sweats, as well as other unpleasant symptoms, urogenital and psychological symptoms, were also assessed. Patients were voluntarily enrolled and randomly received daily 50 mg raw material of PM, Group A, or daily 0.625 mg of conjugated equine estrogen (CEE) with/without 2.5 mg of medroxyprogesterone acetate (MPA), Group B, depend on nonhysterectomized/hysterectomized condition.

***Conclusion:*** PM, containing phytoestrogens, has estrogenic effect as similar as CEE, and can alleviate the climacteric symptoms in perimenopausal women. PM demonstrates great promise in the treatment of climacteric symptoms. However, optimal doses should be clinically assessed to meet appropriate individual responses.



## **H.R.T. Plus (Herbal Remedy from Thailand)**

**The New Activated Herbal Remedy from Thailand (H.R.T.) containing Pueraria mirifica, a Bio-Identical PhytoEstrogen complex of PhytoEstrogen and Isoflavones.**

**Pueraria mirifica is an indigenous herb of Thailand, known as "Kwao Kreu", belonging to the soy, bean & pea subfamily. Active principles in this plant are found in the tuberous root, which looks like a chain of round-shaped bulbs of various sizes connected to the next one via small root throughout the entire length of the root.**

**In a 2007 comparison study of the efficacy of Pueraria mirifica (PM) against Conjugated Equine Estrogen (CEE) with/without Medroxyprogesterone Acetate (MPA) in the treatment of climacteric symptoms in perimenopausal women.**

**PM was found to have estrogenic effect as similar as CEE, but without risk of increase of breast cancer incidence typically associated with CEE and/or MPA treatments.**



## **Estrogen-like activities and cytotoxicity effects of Thai herbal medicines as natural ingredients in anti-ageing**

Yingham B, et al.

The objective of the study was to search for the appropriate herbal extracts by comparative analysis of their estrogenic and cytotoxic activities. Some potentially estrogenic activity of herbal extracts in the management of female disorder symptoms was investigated by E-screen assay.

The extract of *P. candollei var mirifica* exerted the strongest estrogenicity and gave the highest level in growth promoting activity. It significantly stimulated cell proliferation at concentrations of 0.1-50  $\mu$ /ml ( $p < 0.05$ ) whereas higher concentration (100  $\mu$ g/ml) suppressed the growth of such cells. The maximal proliferative effect of this extract was achieved at 50  $\mu$ g/ml which is higher than the effect displayed by 0.1 nM E2.

**Results indicated that the phytoestrogenic substances in the extracts exerted their estrogenic activities through estrogen receptor pathways.**

## Aging Ills Reversed in Mice

Scientists Tweak a Gene and Rejuvenate Cells, Raising Hopes for Uses in Humans

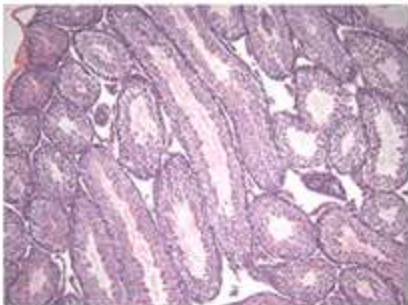
The research team led by Dr. Ronald DePinho of Dana Farber Cancer Institute made genetically engineered mice that aged prematurely.

The animals had short, dysfunctional telomeres and suffered a range of age-related problems, such as:

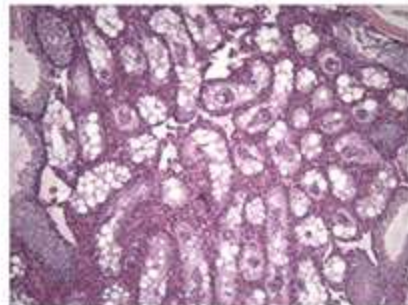
- atrophied spleens
  - intestinal damage
  - impaired sense of smell
  - shrunken brains
  - shrunken testes, depleted sperm count.
- Their telomeres had lengthened and the levels of telomerase increased, waking dormant brain stem cells, producing new neurons. **The mice spleen, testes and brains were rejuvenated and grew in size.**



**Two mice involved in an experiment on age-related degeneration. Mouse on left, whose telomerase gene was activated, showed notable improvements.**



aged testicular tissue



telomerase activated

## **Lepidium meyenii (Maca) reversed the lead acetate induced damage on reproductive function in male rats.**

Rubio J, Riqueros MI, Gasco M, Yucra S, Miranda S, Gonzales GF.



### **Abstract**

Rats were treated with 0, 8, 16 and 24 mg/kg of lead acetate (LA) (i.p.) for 35 days with or without Maca. Maca was co-administrated orally from day 18 to day 35. The lengths of stages of the seminiferous epithelium were assessed by transillumination. Also, sex organ weights, testicular and epididymal sperm count, sperm motility, daily sperm production, sperm transit rate and serum testosterone levels were measured.

Lead acetate treatment resulted in a dose-response reduction of lengths of stages VIII and IX-XI, and serum testosterone levels. However, rats treated with 8 and 16 mg/kg but not 24 mg/kg of lead acetate showed a low number of testicular spermatids, low daily sperm production (DSP) and low epididymal sperm count. Administration of Maca to rats treated with lead acetate resulted in higher lengths of stages VIII and IX-XI with respect to lead acetate-treated rats. Moreover, treatment with Maca to lead acetate-treated rats resulted in lengths of stages VIII and IX-XI similar to the control group.

**Maca administration also reduced the deleterious effect on DSP caused by lead acetate treatment. Maca prevented LA-induced spermatogenic disruption in rats and it may become in a potential treatment of male infertility associated with lead exposure.**





## **Longevity Maca** (*Lepidium meyenii* Walp) Powder

Maca's reputation as a powerful enhancer of strength and stamina and as a libido-fertility herb goes back more than 500 years, and today it is gaining worldwide attention for its effectiveness.

Maca is a radish-like root that grows in the mountains of Peru. Peruvian Maca Root naturally contains significant amounts of amino acids, carbohydrates, vitamins, and minerals.



**Maca is both a hormone balancer and an adaptogen.** It helps stimulate the pituitary gland, acting as a kind of tonic for the hormone system. When the pituitary gland functions optimally, the entire endocrine system becomes balanced, because the pituitary gland controls the hormone output of the other three glands.

# T = TOXINS

Toxins are ubiquitous in our environment - We simply cannot avoid them.

Bisphenol A (BPA) leads to insulin resistance and fat accumulation, and environmental chemicals like PCB's and pesticides lead to oxidative stress and neuroinflammation

**“All of us today are an experiment in toxicology”**

# How Toxins Make You Fat: 4 Steps to Get Rid of Toxic Weight

by Dr Mark Hyman – February 20,2012

**Scientists recently uncovered a surprising and disturbing fact: environmental toxins make you fat and cause diabetes.**



Inside the body, these chemicals monkey with our ability to balance blood sugar and metabolize cholesterol. Over time, the changes can lead to insulin resistance.

This discovery should be headline news but no one is talking about it. Why? Because there are no drugs to treat it. In the quest to conquer the two biggest epidemics of our time—diabetes and obesity—we've got to turn our attention to the heavy burden environmental toxins put on our bodies.

The Centers for Disease Control and Prevention's National Report on Human Exposure to Environmental Chemicals, found that nearly every person they tested was packing a host of nasty chemicals, including flame retardants stored in fatty tissue and BPA (Bisphenol A), a hormone-like substance found in plastics, excreted in urine.

**Even babies are contaminated. The average newborn has 287 chemicals in her umbilical cord blood, 217 of which are neurotoxic (poisonous to nerves or nerve cells).**

## The Environmental Working Group studies that have shown:



From  
Environmental Working  
Group

134 chemicals are shown to cause **CANCER**

151 chemicals cause **BIRTH DEFECTS**

154 are **HORMONE DISRUPTORS**

186 chemicals contribute to **INFERTILITY**

130 chemicals cause **IMMUNE SYSTEM TOXICITY**

158 chemicals are **NEUROTOXINS**

Autism now 1 in every 150 children.

57% increase in childhood brain cancer.

84% increase in acute lymphocytic leukemia in children (1975 – 2002)

About 7.3 million American couples have trouble becoming pregnant, or carrying to term, a 20% increase in the last 10 years. Sperm count decrease one percent every year.



***“The combined evidence suggests that neurodevelopmental disorders caused by industrial chemicals has created a silent pandemic in modern society.” ~ Lancet, November 8, 2006.***

**WATCH THE VIDEO: <http://video.yahoo.com/watch/6431545/16676271>**

# Coming in 2012: Genetically Modified front lawns and the mass spraying of neighborhoods and playgrounds with RoundUp!

Sunday, July 17, 2011 - by Mike Adams, the Health Ranger



NaturalNews.com  
Natural Health, Natural Living, Natural News

Thanks to a recent admission by the USDA that it does not have the regulatory framework to even regulate GMOs, the world of biotech is set to unleash a tidal wave of genetically modified seeds upon the United States.

Scotts Miracle-Gro is now moving full speed ahead on its GMO yard grass product. This is a home consumer yard grass seed which, of course, resists glyphosate – or RoundUp.

RoundUp, in other words, may be coming soon to a neighborhood near you.

And it's not just the lawns, either: This combination of Scotts GMO grass and RoundUp chemicals could be used on playgrounds, schoolyards, community centers and parks.

Once this goes into production, there will be virtually no place your family can go in America that isn't contaminated with genetically modified grass seeds and toxic glyphosate chemicals.

# Six Risky Chemicals You're Carrying In Your Body

by [Dr. Mercola](#) | January 07 2010



The U.S. Centers for Disease Control and Prevention has released its latest assessment of the chemicals people are carrying around in their bodies. The bio-monitoring study is the most comprehensive in the world, measuring 212 chemicals in the blood and urine of 8,000 Americans.

The CDC highlighted a few chemicals because they are both widespread -- **found in all or most people tested** -- and potentially harmful.

- **Polybrominated diphenyl ethers** (Better known as "flame retardants" or PBDEs )
- **Bisphenol A** (or BPA, which is found in most plastics)
- **PFOA** (perfluorinated chemicals used to create heat-resistant and non-stick coatings on cookware)
- **Acrylamide** (formed when carbohydrates are cooked at high temperatures)
- **Mercury/Methylmercury** (mostly from eating fish)
- **MTBE** (gasoline additive that although phased out in favor of ethanol, has contaminated many drinking water supplies)

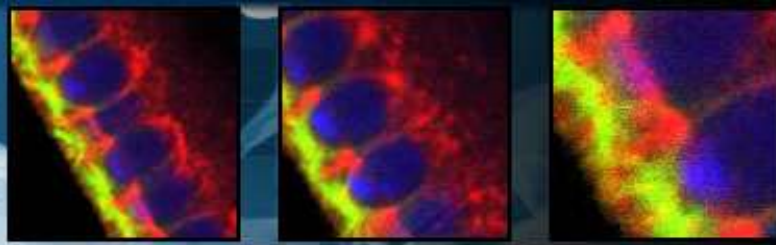
**It's not just the quality and quantity of our food that is making us sick... but the toxic materials we use to prepare, cook and store it too...**

**David Ewing Duncan  
cooks breakfast at home.  
On the menu: PBDEs, phthalates,  
PCBs, and a side of PFAs.**



**A class of chemicals, called phthalates, is added to plastics, including some food wraps, for pliability.**

**These chemicals can cause cancer and other developmental problems in lab animals, even at relatively low doses.**



## DNA Methylation - Negative Effects of Plastic Additive Blocked by Nutrient Supplements

DURHAM, N.C. - Experiments in animals have provided additional and tantalizing evidence that what a pregnant mother eats can make her offspring more susceptible to disease later in life.

*We have shown that during early fetal development, maternal nutrient supplements of methyl-donating substances (folic acid, choline, vitamin B12, and betaine) or genistein, found in soy products, can counteract the reduction in DNA methylation caused by BPA.* Nevertheless, we have not yet tested if exposure to these nutrient supplements can reverse the negative effects of BPA in adulthood.

Methylation support has become vital to help deal with THE TOXINS Found in everyone.



# **ZeoGold™ Has Superior DETOX Capacity and Performance**

**Generally, ZeoGold™ powder has superior DETOX capacity and performance for inorganic metallics vs. other zeolite DETOX products, because of the higher CEC capacity, ultrahigh surface area available for sorption and optimized particle size. The natural zeolites remove Pb or other metal cations present in water solutions and biological, aqueous milieu via:**

- a) exchange for ions (e.g., Na, K, Ca, H+) in the zeolite, crystallites for the Pb or other metal cation.*
- b) by direct, surface sorption.*
- c) by physically, removing particulate forms of Pb or trace metals that get “trapped” in the zeolite, micro-crystals or pore structures.*
- d) indirectly, by altering the intestinal tract microflora and/or bio-film layer that can alter the utilization or processing of trace metals.*

**The mechanism for removal of Pb and other toxic, trace metal cations for ZeoGold™ is the same as for Clinoptilolite products, but superior DETOX performance can be expected from the ZeoGold™ doses (100 to 250 mg/day) than the Clinoptilolite products.**



## 24 – Medical Applications of Zeolite

Kresimir Pavelic and Mirko Hadzija  
*Ruder Boskovic Institute, Zagreb, Croatia*

Zeolites are among the most important inorganic cation exchangers. The aluminosilicate structure is negatively charged and attracts cations that come to reside inside the pores and channels. Zeolites have large empty spaces, or cages, within their structures that can accommodate large cations, such as  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Br}^+$ , and  $\text{Ca}^+$ , and even relatively large molecules and cationic groups, such as water, ammonia, carbonate ions, and nitrate ions. The basic structure of zeolites is biologically neutral (pg 1141).

### HANDBOOK OF ZEOLITE SCIENCE AND TECHNOLOGY



EDITED BY  
SCOTT M. AUERBACH  
KATHLEEN A. CARRADO  
PRABIR K. DUTTA

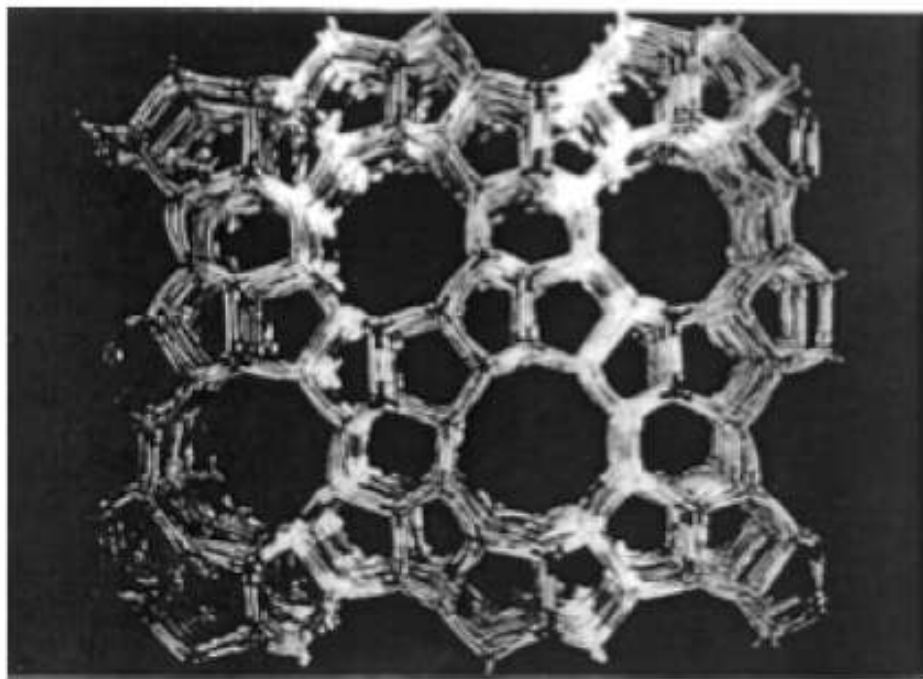


FIGURE 1 A repeated unit cell of the crystal structure of hydrophobic silica zeolite (MHZ™) molecular sieve; anesthetic agent is selectively captured in the honeycomb-shaped silica zeolite crystals. In just 500 g of silica zeolite, the total internal surface area available for capturing anesthetic would cover 70 football fields.

Therefore...

**100 g of zeolite internal surface is equal to 14 football fields.**

**The internal surface area of the Micronized Hydro-Colloidal Zeolite crystal structure of only 7.15 g would cover the surface area of an entire 100 yard football field.**

**1 g of zeolite internal surface is equal to 14 yards of a football field.**

**100 mg (one ZeoGold capsule) = 1.4 yards of one football field.**

## 24 – Medical Applications of Zeolite (cont.) from pg 1146

### IV. Removal Of Heavy Metals and Organopoisoning

Heavy metals released in wastewater are among the most worrisome pollution problems due to their cumulative effects along the food chain. The natural zeolites clinoptilolite, phillipsite, and chabazite are particularly useful in selectively eliminating ammonia and heavy metals such as  $\text{Cd}^{2+}$ ,  $\text{Pb}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Cu}^{2+}$ , and particularly  $\text{Cr}^{3+}$ . Generally, clinoptilolite is stable in an acidic environment and shows high selectivity for many heavy metals.

### V. Antimicrobial Effects

Tissue conditioners containing silver-exchanged zeolite showed a strong in-vitro antimicrobial effect on *Candida albicans*, and also on nasocomial respiratory infections of *S. aureus* and *P. aeruginosa*. All microbes were killed whether they have been immersed in saliva or not.

A new type of antibacterial temporary filling material in dentistry was incorporated into urethane acrylate monomer paste. These materials exhibited prominent in-vitro antibacterial activity against *Streptococcus mutans* and *Streptococcus mitis*.

## **Visible benefit using Zeolite-based topical cream.**

**Zeolite has the ability to draw out impurities, and neutralize free radical damage that age the skin.**



**Zeolite as an antioxidant also helps to restore natural pH-value, balancing acid and irritated skin conditions.**

*Biochim Biophys Acta. 2005 Sep 25;1756(1):1-24.*

## **The role of pH dynamics and the Na<sup>+</sup>/H<sup>+</sup> antiporter in the etiopathogenesis and treatment of cancer.**

### **Two faces of the same coin--one single nature.**

Harguindey S, Orive G, Luis Pedraz J, Paradiso A, Reshkin SJ.  
Centro Médico La Salud, Independencia, 13-01004 Vitoria, Spain.



Conventionally, cancer represents a daunting and, frankly, confusing multiplicity of diseases (at least 100) that require an equally large variety of therapeutic strategies and substances designed to treat the particular tumor. However, when analyzed phenotypically, cancer is a relatively uniform disease of very conserved hallmark behaviors across the entire spectrum of tissue and genetic differences.

Cancers share common biochemical and physiological characteristics independent of the varied genetic backgrounds, and that there may be a common mechanism underlying both the neoplastic transformation/progression side and the antineoplastic/therapy side of oncology.

**Hydrogen ion-dependent oncogenesis and parallel new avenues to cancer prevention and treatment using a H<sup>+</sup>-mediated unifying approach: pH-related and pH-unrelated mechanisms.**

**Cancer cells have an acid–base disturbance that is completely different than observed in normal tissues and that increases in correspondence with increasing neoplastic state: an interstitial acid microenvironment linked to an intracellular alkalosis.**

# The Effect of Hydrogen Ions on Humans

by John Brennan – April 2011

When a type of substance called a Bronsted acid dissolves in water, it releases hydrogen ions, increasing the hydrogen ion concentration. **Chemists measure hydrogen ion concentration as pH: the lower the pH, the more hydrogen ions.**

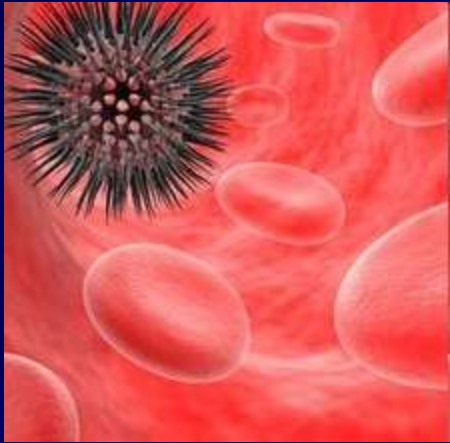
Hydrogen ion concentration, or pH, plays a variety of important roles in human physiology.

**Proteins** are large molecules that carry out many of the most important tasks in your body. Their structure is shaped partly by special bonds called hydrogen bonds that can form between different amino acids in the protein molecule. Compartments inside your cells maintain different pH levels. **Lysosomes** are compartments inside your cells that **maintain a low pH** within them; this low pH, or high hydrogen ion concentration, **helps the lysosomes break down worn-out cell components.**

**Stomach lining parietal cells** secrete **hydrogen and chloride ions – or hydrochloric acid.** This strong acid dramatically reduces the pH of the contents of your stomach, which helps to kill bacteria and break down molecules in your food. The **hydrogen ions also affect digestion by ensuring that an enzyme called pepsin assumes the proper configuration** it needs to do its job. Pepsin breaks up proteins in the food you eat for better digestion.



The juice in these oranges contains more hydrogen ions than hydroxide ions.



## The Effect of Hydrogen Ions on the Cell Walls

By Jacquelyn Jeanty – ehow Health Aug 2011

Cell walls play a vital role in moving nutrient materials into cells and moving waste materials out. In order to do this, pumps and channels situated along cell membrane walls work together to target specific materials for transport. **Hydrogen ions assist in maintaining the electrical balance that enables cell structures to communicate and function properly.**

Hydrogen ions affect the electrical potential within cell membrane walls.

The materials responsible for **maintaining this balance include potassium, calcium, sodium, chloride and hydrogen ions.** Ion materials naturally carry an electrical charge since they're missing one or more electrons. In effect, the charges they carry alter cell wall gradients whenever an ion passes through it.

As hydrogen ions move across cell walls, certain conditions may speed up or slow down the rate at which they cross. Ions can flow freely across a membrane when there's a low concentration of them on the other side in a ***passive transport mechanism***.

Ion flow can also move at a slower rate if high positive charges already exist on the other side of the wall. In this case, **additional energy may be needed to move hydrogen ions against the natural flow.**



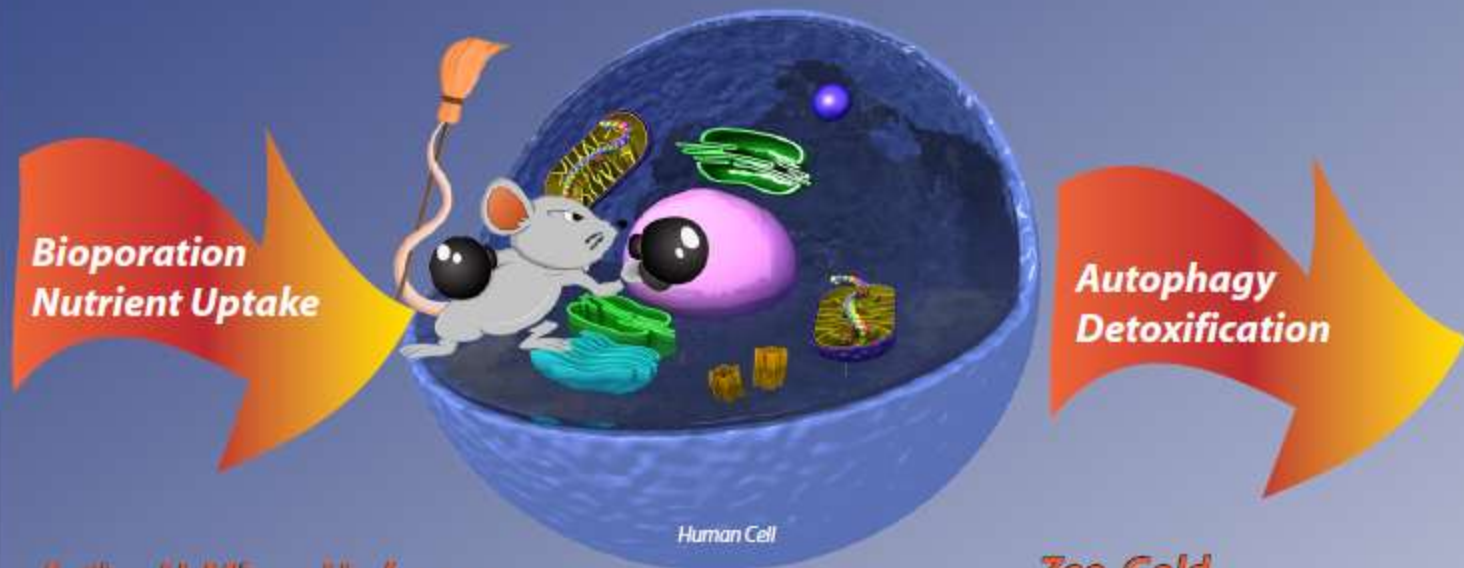
**F<sup>2</sup>IGHT<sup>2</sup>T-E<sup>2</sup>M**  
with  
**M.I.C.E.**



# M.I.C.E. = Magnetically Induced Cellular *EXERCISE*

## **Advanced Detoxification**

*With Electro-Nutrient Therapy (ENT) requiring  
PEMF as M.I.C.E (Magnetically Induced Cellular Exercise)*



*Active H-Minus Hydrogen  
Bio En'R-Gy' - C  
Beyond Chelation Improved (BC-I)  
Zeo-Gold*

*Zeo-Gold  
Bio En'R-Gy' - C  
Beyond Fiber  
EDTA (calcium edta)*

# PEMF – The Fifth Element

Most people know we need food (earth), water (water) and oxygen (air) to survive.

And many people also know they need full spectrum sunlight (fire) or you get what is referred to as SAD (seasonal affective disorder).

That makes FOUR critical elements:

**EARTH/FOOD**



**WATER**



**FIRE/SUNLIGHT**



**AIR/OXYGEN**



However, every organism on earth (that includes people) has evolved to the natural magnetic signals of the earth and that part of the solar radiation that is able to penetrate our atmosphere.

We have learned that these PEMF signals are of great importance to internal regulation of every organism.

# The Earth's Magnetic Field is Weakening

Over the last 165 years, scientists have measured the Earth's magnetic field and have recorded a decline of its' strength.

Today the magnetic field of the Earth is measured at 0.5 gauss. It is estimated that the field of the Earth 4,000 years ago was 5.0 gauss.

***That is a decrease of 90%!***

In addition, the Earth's natural magnetic signal is often distorted by our modern way of living. The power grid, electrical appliances, mobile phone's, mobile phone towers, Satellite signals, TV broadcast stations, tall buildings, asphalt, draining pipes and more are responsible for us not getting the signals we have evolved to. The immune system suffers because of this.



## Power Failure

**Does mitochondrial dysfunction lie at the heart of common, complex diseases like cancer and autism?**

By Megan Scudellari

Over the last five years, a growing number of papers by researchers around the world have implicated dysfunctional mitochondria in many elusive diseases, including Parkinson's, autism, and aging.

Leading the charge is a respected and renowned member of the National Academy of Sciences, Dr. Douglas Wallace, founder of the field of human mitochondrial genetics.

***“Every one of the diseases we can't solve is absolutely logical if we put energy at the center,”*** Dr. Wallace says.

Medicine fails to solve many of today's common, complex diseases, Wallace asserts, because the fundamental paradigm is wrong: the medical establishment has spent far too long focusing on anatomy and ignoring energy—specifically, mitochondria.



## The cells of living tissue are electrical direct current (DC) systems

All life generates an electrical DC charge



This natural DC charge is created by the movement of ions in and out of cell membranes which are responsible for a healthy cell membrane's electrical charge of approximately – 70 mV.

***Any challenge to the cell***, such as oxygen/nutrient deficiency, toxicity, tissue changes or inflammation, **alters ion movement and the charge on the cell membrane changes.**

This altered charge profoundly affects the homeostasis of the cell and normal metabolic processes, including the movement of nutrients into, and waste products of metabolism out of the cell.

~ *Martin Milner, ND*

# ***Fueled by Electro-Magnetic Energy***

## ***We are only as healthy as our cells***

***“By regenerating the cells in our bodies we can help our cells become and stay healthy with pulsed electromagnetic fields.***

***The earth creates magnetic fields, without which life would not be possible. Science teaches that everything is energy. All energy is electromagnetic in nature. All atoms, chemicals, and cells produce electromagnetic fields. Science has proven that our bodies actually project their own magnetic fields and our seventy trillion cells in the body communicate via electromagnetic frequencies.***

***Disruption of electromagnetic energy in cells causes impaired cell metabolism. This is the final common pathway of disease. If cells are not healthy, the body is not healthy.”***

**William Pawluk, MD, MSc, and Donna Ganza, ND**  
***Excerpt from 101 Great Ways to Improve Health***

# PEMF.US

*Pulsed Electro-Magnetic Field*

## PMT-100 The Solution

With more than 40 years of clinical studies, researchers believe that the pulsed signal nudges the body's chemistry so the healing process may proceed more rapidly.

### Office Models



### Portable Models



All Terrain

Portable

<http://www.pemf.us>



## PEMF's are like a spark plug or catalyst for energy production in the cell.

Just like a car needs oxygen, fuel and an ignition or spark plug, so does the human cell need fuel (glucose), oxygen and a "spark plug" or ignition. This ignition is PEMF or pulsed magnetic energy from both the earth and movement/exercise on the earth.



We can also think of PEMF as a battery recharger for the human cell. We now know that the voltage of a healthy cell is about 70-110 millivolts and when we get sick that voltage drops below 50 millivolts or less and cancer cells are 30 millivolts or less. Pulsed electromagnetic fields (PEMF) act like a catalyst and battery recharger for the human cells and these PEMF's are critical for human metabolism.

PEMF's also improve microcirculation, oxygenation (up to a 200% increase), help in nerve regeneration, pain management and many other health promoting benefits. There are over 1000 clinical studies and over 7000 research papers validating the therapeutic benefits of PEMFs.

## Dr. Oz Recommends PEMF

Pulsating Electromagnetic Therapy is shifting the paradigm of pain management

Pulsed electromagnetic field (PEMF) therapy is FDA-approved to fuse bones and has been cleared in certain devices to reduce swelling and joint pain.



Transcranial Magnetic Stimulation (TMS) and Magnetic Resonance Imaging (MRI) work on the same physics.

All energy is electromagnetic in nature. All atoms, chemicals and cells produce electromagnetic fields (EMFs).

Every organ in the body produces its own signature bioelectromagnetic field.

Science has proven that our bodies actually project their own magnetic fields and that all 70 trillion cells in the body communicate via electromagnetic frequencies.

Nothing happens in the body without an electromagnetic exchange. When the electromagnetic activity of the body ceases, life ceases.

Watch this amazing 10 minute video to learn more...  
<http://www.youtube.com/watch?v=cZSOKT-IdFE>

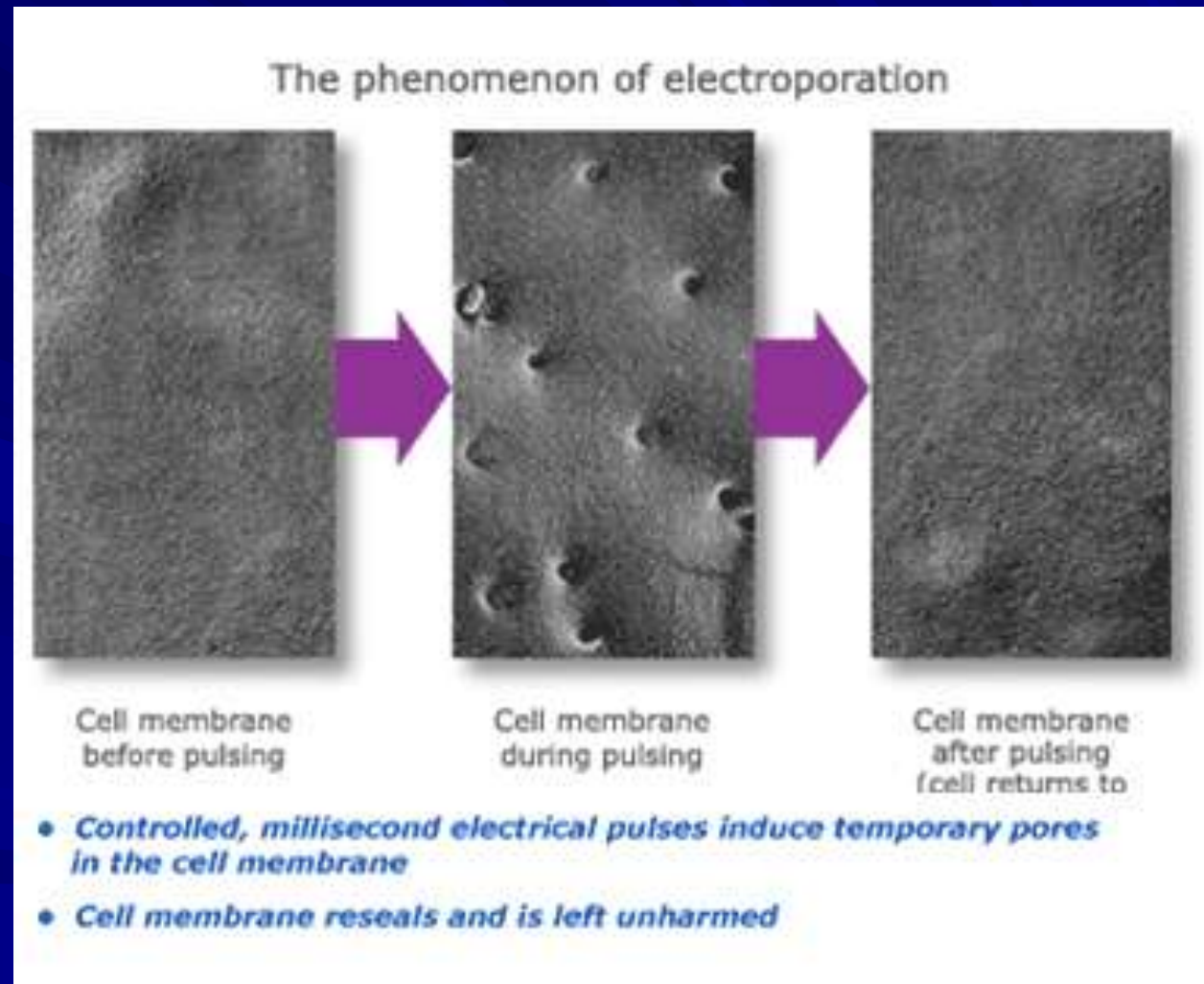




# PEMF induces Electro-poration – Increasing Cellular (TMP) Transmembrane Potential

Applied PEMF stimulates electroporation of the cell membrane, where tiny pores or “ion channels” are opened during pulses.

This effect increases trans-membrane potential, electron transport, and free radical scavenging, which is significantly important for anti-aging and treating chronic diseases including cancer.



# **PEMF Therapy Increases Cellular Membrane Permeability and Cellular Metabolism**

As early as 1940, it was suggested that magnetic fields affect the TMP and the flow of ions in and out of the cells and might therefore influence cellular membrane permeability.

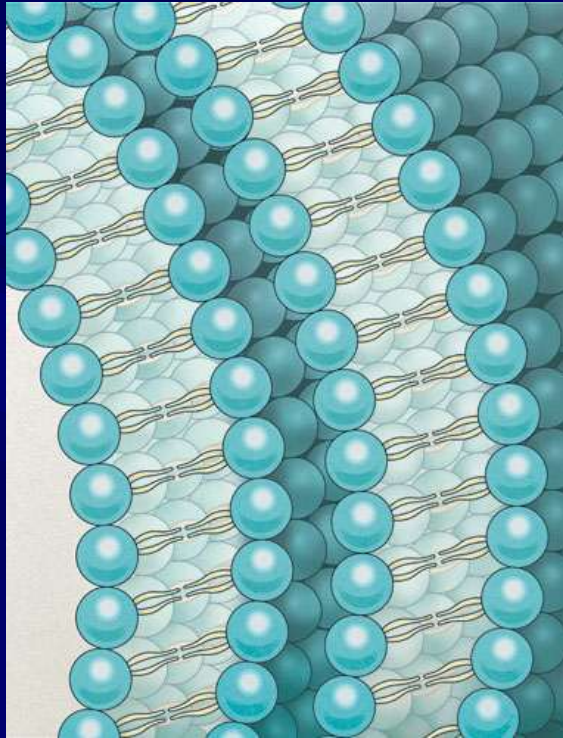
It has since been established that magnetic fields can influence ATP (Adenosine Triphosphate) production; increase the supply of oxygen and nutrients via the vascular and lymphatic systems; improve the removal of waste via the lymphatic system; and help re-balance the distribution of ions across the cell membrane.

Healthy cells in tissue have a voltage difference between the inner and outer membrane referred to as the membrane resting potential that ranges from -70 to -80 mV. This causes a steady flow of ions through its voltage-dependant ion channels.

**As the magnetic field created fluctuates, it induces an electron flow or a current in one direction through the living tissue. As electrons always flow from a negative (cathode) to a positive (anode) potential, when the magnetic field vanishes, the direction of the electron flow is reversed. Therefore such induced polarized currents stimulate the exchange of ions across the cell membrane.**

# The Enigmatic Membrane

By Muriel Mari, Sharon A. Tooze, and Fulvio Reggiori  
February 1, 2012

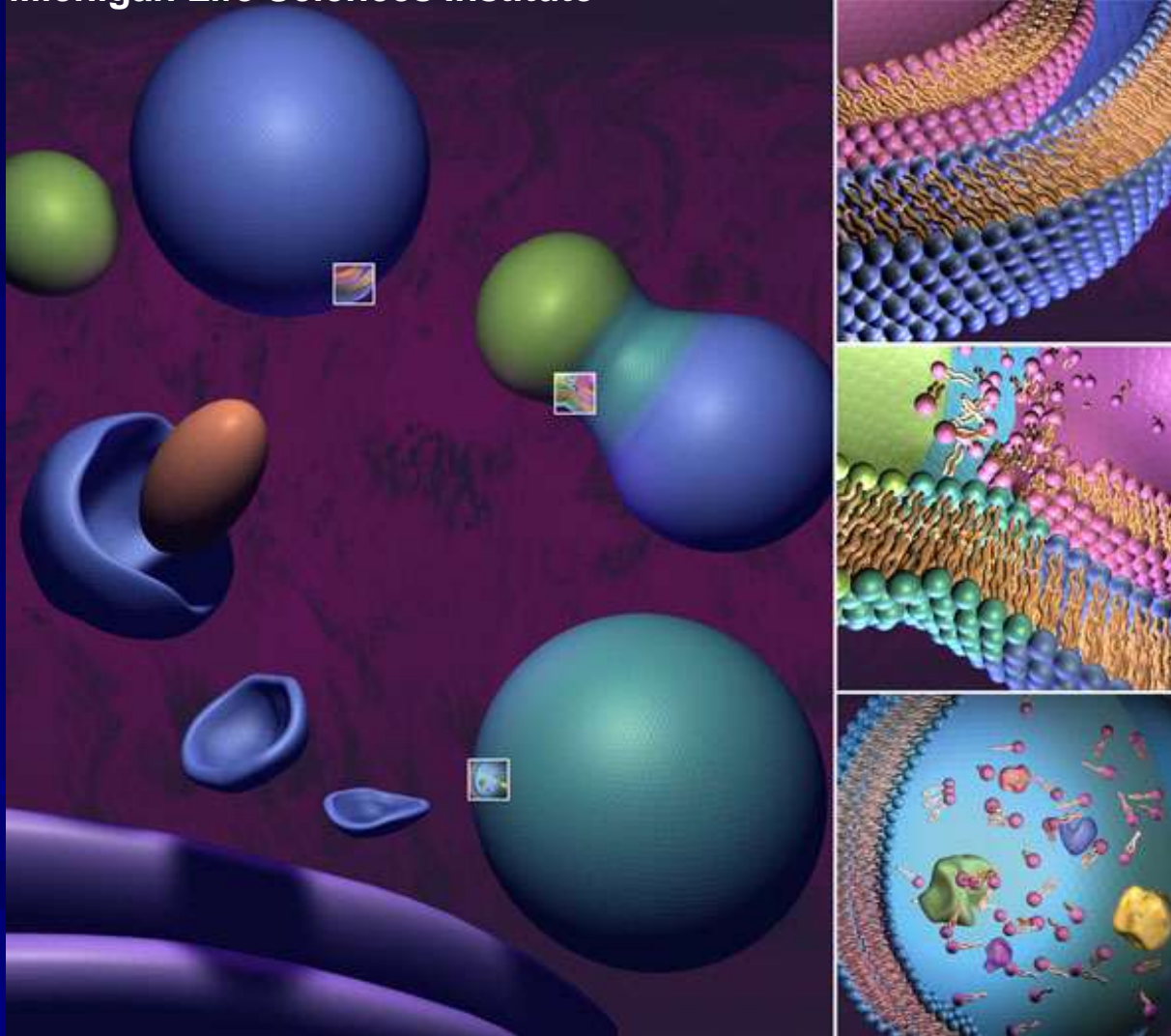


Cells live longer than their internal components. To keep their cytoplasm clear of excess or damaged organelles, as well as invading pathogens, or to feed themselves in time of nutrient deprivation, cells degrade these unwanted or potentially harmful structures, and produce needed food and fuel, using a process they have honed over millions of years known as **autophagy**.

This catabolic process involves the selection and the sequestration of the targeted structures into unique transport vesicles called autophagosomes, which then deliver the contents to lysosomes where they are degraded by lytic enzymes. This conserved eukaryotic pathway plays a central role in a multitude of physiological processes, including programmed cell death, development, and differentiation.

Autophagy plays a protective role against aging, tumorigenesis, neurodegeneration, and infection. Given all this, it is not surprising that an impairment of autophagy is correlated with various severe pathologies, including cardiovascular and autoimmune diseases, neuro- and myodegenerative disorders, and malignancies.

**"Autophagy is the only way to get rid of damaged parts of the cell without trashing the whole thing. So in a nerve cell, for example, you'd want autophagy to correct problems without destroying the cell."** ~ Daniel Klionsky, research professor at University of Michigan Life Sciences Institute



Autophagy is the process by which cells recycle cytoplasm, proteins, and dispose of excess or defective organelles.

Cells form a double-membrane vesicle (blue) that sequesters cytosol and organelles (red oblong).

The resulting autophagosome fuses with the lysosome (green sphere), allowing the cargo to be broken down and reused, or disposed of.



## Cellular Workout: Autophagy

The cell's recycling system, may be responsible for the health benefits of exercise.

By Megan Scudellari | January 18, 2012



It's indisputable—exercise is good for you. But on a molecular level, scientists aren't really sure why.

Published online today in *Nature*, researchers show that a cellular housekeeping mechanism, called autophagy, could be the source of the beneficial effects of exercise, including protection against diabetes.

Targeting the pathway could mimic the health effects of exercise—all the perks with none of the sweat—and help treat type II diabetes, the authors suggest.

Autophagy is an internal recycling system that degrades damaged or unwanted organelles and proteins in a cell and produces energy. In animal models, this process has been shown to protect against cancer, neurodegenerative disorders, infections, diabetes, and more. “Exercise is known to protect against all these same diseases,” said Beth Levine, a biologist at the University of Texas Southwestern Medical Center, “so it made sense to us that exercise might induce autophagy.”

# PEMF and Stem Cells - Research

## Stimulation of osteogenic differentiation in human osteoprogenitor cells by pulsed electromagnetic fields: an in vitro study.

Jansen JH, van der Jagt OP, Punt BJ, Verhaar JA, van Leeuwen JP, Weinans H, Jahr H.  
BMC Musculoskelet Disord. 2010 Aug 23;11:188.PMID: 20731873 [PubMed - in process]

## Modulation of osteogenesis in human mesenchymal stem cells by specific pulsed electromagnetic field stimulation.

Tsai MT, Li WJ, Tuan RS, Chang WH.  
J Orthop Res. 2009 Sep;27(9):1169-74.PMID: 19274753 [PubMed - indexed for MEDLINE]

## Effect of pulsed electromagnetic field on the proliferation and differentiation potential of human bone marrow mesenchymal stem cells.

Sun LY, Hsieh DK, Yu TC, Chiu HT, Lu SF, Luo GH, Kuo TK, Lee OK, Chiou TW.  
Bioelectromagnetics. 2009 May;30(4):251-60.PMID: 19204973 [PubMed - indexed for MEDLINE]

## Osteoprotegerin (OPG) production by cells in the osteoblast lineage is regulated by pulsed electromagnetic fields in cultures grown on calcium phosphate substrates.

Schwartz Z, Fisher M, Lohmann CH, Simon BJ, Boyan BD.  
Ann Biomed Eng. 2009 Mar;37(3):437-44. Epub 2009 Jan 13.PMID: 19139991 [PubMed - indexed for MEDLINE]

## Pulsed electromagnetic fields enhance BMP-2 dependent osteoblastic differentiation of human mesenchymal stem cells.

Schwartz Z, Simon BJ, Duran MA, Barabino G, Chaudhri R, Boyan BD.  
J Orthop Res. 2008 Sep;26(9):1250-5.PMID: 18404656 [PubMed - indexed for MEDLINE]

[http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed&cmd=DetailsSearch&term=PEMF+stem+cells&log\\$=activity](http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed&cmd=DetailsSearch&term=PEMF+stem+cells&log$=activity)

# Cell Re-Programmers Take the Nobel

*John B. Gurdon and Shinya Yamanaka win this year's Nobel Prize in Medicine for learning how to reboot cellular development.*

*By Beth Marie Mole | October 8, 2012*

John B. Gurdon of the Gurdon Institute in Cambridge and Shinya Yamanaka of Kyoto University in Japan have won the 2012 Nobel Prize for Physiology or Medicine for finding that cells of an adult organism—once thought be terminally locked into their developed state—can start anew.

...**pluripotent embryonic stem cells give rise to all the cells of the body, including those of the skin, intestines, and brain. Yamanaka's finding showed that intact, adult cells can be rebooted into what are now known as induced pluripotent (iPS) cells, which, like embryonic stem cells, can give rise to many different cell types.**

The cells are also showing promise for cell replacement therapies to treat various illnesses.

Paul Fairchild, director of the Oxford Stem Cell Institute, stated these cells “**provide much-needed models of rare and complex disease states while providing sources of cells that may one day be used to replace those that are either worn out or compromised by degenerative diseases.**”



## Toxins, Telomeres and Cellular Aging

A typical cell can only accurately replicate itself approximately 50-times. Each time a cell divides, the DNA's end-cap, or telomere, gets slightly smaller. Eventually, the telomeres become so short that the chromosomes are damaged in the process and the cell can no longer divide. However, if the enzymes telomerase and polymerase are present in adequate quantities, telomeres are protected and can even grow longer!

**Free radicals** are unstable oxygen molecules created during the course of normal cellular function. If enough free radicals exist, they can damage other components, including DNA and proteins, causing cellular stress. Antioxidants are substances found in plants that absorb unstable oxygen molecules. If the body has adequate antioxidants present, it can minimize free radical damage.

**Toxins** from chemicals, environment pollutants, processed foods and other sources all take their toll on the body. If these toxins are allowed to accumulate in the body, eventually cellular and organ functions suffer.

**However, if cells are continually detoxed and fed proper nutrients, there is evidence that they may live indefinitely.**

Aging Cell. 2006 Aug;5(4):325-30.

## **Insulin resistance, oxidative stress, hypertension, and leukocyte telomere length in men from the Framingham Heart Study**

Demissie S, Levy D, Benjamin EJ, Cupples LA, Gardner JP, Herbert A, Kimura M, Larson MG, Meigs JB, Keaney JF, Aviv A.

Boston University School of Public Health, Department of Biostatistics, Boston, MA, USA.



### **Abstract**

**Insulin resistance and oxidative stress are associated with accelerated telomere attrition in leukocytes. Both are also implicated in the biology of aging and in aging-related disorders, including hypertension. We explored the relations of leukocyte telomere length, expressed by terminal restriction fragment (TRF) length, with insulin resistance, oxidative stress and hypertension. We measured leukocyte TRF length in 327 Caucasian men with a mean age of 62.2 years (range 40-89 years) from the Offspring cohort of the Framingham Heart Study. TRF length was inversely correlated with age ( $r = -0.41$ ,  $P < 0.0001$ ) and age-adjusted TRF length was inversely correlated with the Homeostatic Model Assessment of Insulin Resistance (HOMA-IR) ( $r = -0.16$ ,  $P = 0.007$ ) and urinary 8-epi-PGF(2 $\alpha$ ) ( $r = -0.16$ ,  $P = 0.005$ ) - an index of systemic oxidative stress. Compared with their normotensive peers, hypertensive subjects exhibited shorter age-adjusted TRF length (hypertensives =  $5.93 \pm 0.042$  kb, normotensives =  $6.07 \pm 0.040$  kb,  $P = 0.025$ ). Collectively, these observations suggest that hypertension, increased insulin resistance and oxidative stress are associated with shorter leukocyte telomere length and that shorter leukocyte telomere length in hypertensives is largely due to insulin resistance.**

# Telomere dysfunction induces metabolic and mitochondrial compromise

**nature** International weekly journal of science

Nature 470, 359–365 (17 February 2011)  
doi:10.1038/nature09787

Telomere dysfunction activates p53-mediated cellular growth arrest, senescence and apoptosis to drive progressive atrophy and functional decline in high-turnover tissues. The broader adverse impact of telomere dysfunction across many tissues including more quiescent systems prompted transcriptomic network analyses to identify common mechanisms operative in haematopoietic stem cells, heart and liver.

Consistent with PGCs as master regulators of mitochondrial physiology and metabolism, telomere dysfunction is associated with impaired mitochondrial biogenesis and function, decreased gluconeogenesis, cardiomyopathy, and increased reactive oxygen species.

In the setting of telomere dysfunction, enforced *Tert* or *PGC-1 $\alpha$*  expression or germline deletion of *p53* (also known as *Trp53*) substantially restores PGC network expression, mitochondrial respiration, cardiac function and gluconeogenesis.

We demonstrate that telomere dysfunction activates p53 which in turn binds and represses *PGC-1 $\alpha$*  and *PGC-1 $\beta$*  promoters, thereby forging a direct link between telomere and mitochondrial biology. We propose that this telomere–p53–PGC axis contributes to organ and metabolic failure and to diminishing organismal fitness in the setting of telomere dysfunction.

## **Diet, nutrition and telomere length**

Paul L. - Jean Mayer USDA Human Nutrition Research Center on Aging  
at Tufts University, Boston, MA 02111, USA.



U.S. National Library of Medicine  
National Institutes of Health

### **Abstract**

The ends of human chromosomes are protected by DNA-protein complexes termed telomeres, which prevent the chromosomes from fusing with each other and from being recognized as a double-strand break by DNA repair proteins. Due to the incomplete replication of linear chromosomes by DNA polymerase, telomeric DNA shortens with repeated cell divisions until the telomeres reach a critical length, at which point the cells enter senescence.

Telomere length is an indicator of biological aging, and dysfunction of telomeres is linked to age-related pathologies like cardiovascular disease, Parkinson disease, Alzheimer disease and cancer. Telomere length has been shown to be positively associated with nutritional status in human and animal studies. **Various nutrients influence telomere length potentially through mechanisms that reflect their role in cellular functions including inflammation, oxidative stress, DNA integrity, DNA methylation and activity of telomerase, the enzyme that adds the telomeric repeats to the ends of the newly synthesized DNA.**

## **Association of Marine Omega-3 Fatty Acid Levels With Telomeric Aging in Patients With Coronary Heart Disease**

Ramin Farzaneh-Far, MD; Jue Lin, PhD; Elissa S. Epel, PhD; William S. Harris, PhD; Elizabeth H. Blackburn, PhD; Mary A. Whooley, MD  
*JAMA*. 2010;303(3):250-257

**Increased dietary intake of marine omega-3 fatty acids is associated with prolonged survival in patients with coronary heart disease.**

**We measured leukocyte telomere length at baseline and again after 5 years of follow-up. Multivariable linear and logistic regression models were used to investigate the association of baseline levels of omega-3 fatty acids DHA and EPA with subsequent change in telomere length.**

**Individuals in the lowest quartile of DHA+EPA experienced the fastest rate of telomere shortening, whereas those in the highest quartile experienced the slowest rate of telomere shortening. Levels of DHA+EPA were associated with less telomere shortening before and after sequential adjustment for established risk factors and potential confounders.**

**Among cohort of patients with coronary artery disease, there was an inverse relationship between baseline blood levels of marine omega-3 fatty acids and the rate of telomere shortening over 5 years.**



# The Power of Exercise: Buffering the Effect of Chronic Stress on Telomere Length

Puterman E, Lin J, Blackburn E, O'Donovan A, Adler N, et al. PLoS ONE

5(5): e10837. doi:10.1371/journal.pone.0010837

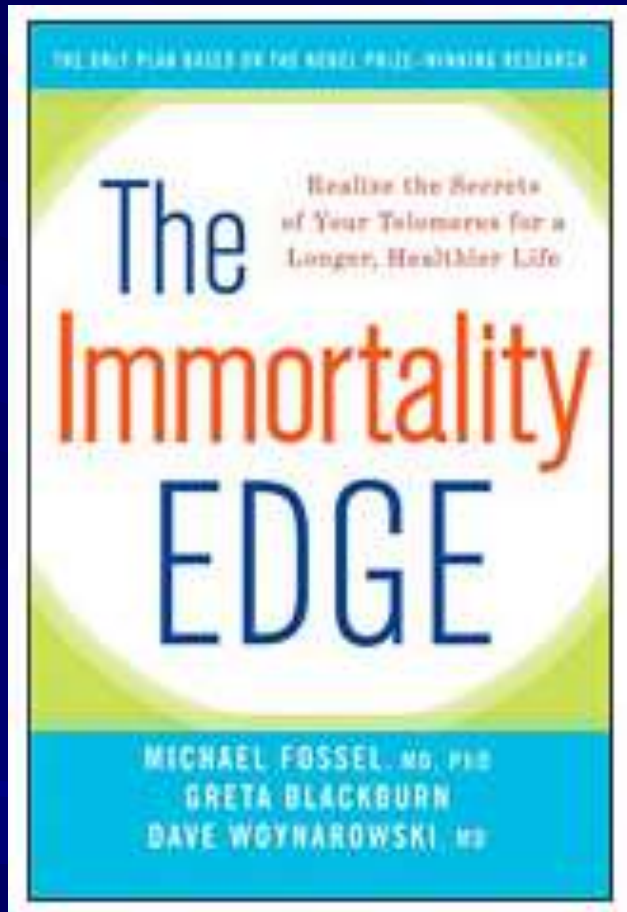
**Chronic psychological stress is associated with detrimental effects on physical health, and may operate in part through accelerated cell aging, as indexed by shorter telomeres at the ends of chromosomes. However, not all people under stress have distinctly short telomeres, and we examined whether exercise can serve a stress-buffering function.**

63 healthy post-menopausal women underwent a fasting morning blood draw for whole blood TL analysis by a quantitative polymerase chain reaction method. Participants completed the Perceived Stress Scale (Cohen et al., 1983), and for three successive days reported daily minutes of vigorous activity. Participants were categorized into two groups-sedentary and active (those getting Centers for Disease Control-recommended daily amount of activity). The likelihood of having short versus long telomeres was calculated as a function of stress and exercise group, covarying age, BMI and education.

**Logistic regression analyses revealed a significant moderating effect of exercise.** As predicted, among non-exercisers a one unit increase in the Perceived Stress Scale was related to a 15-fold increase in the odds of having short telomeres ( $p < .05$ ), whereas in exercisers, perceived stress appears to be unrelated to TL ( $B = -.59$ ,  $SE = .78$ ,  $p = .45$ ).

# The Immortality Edge

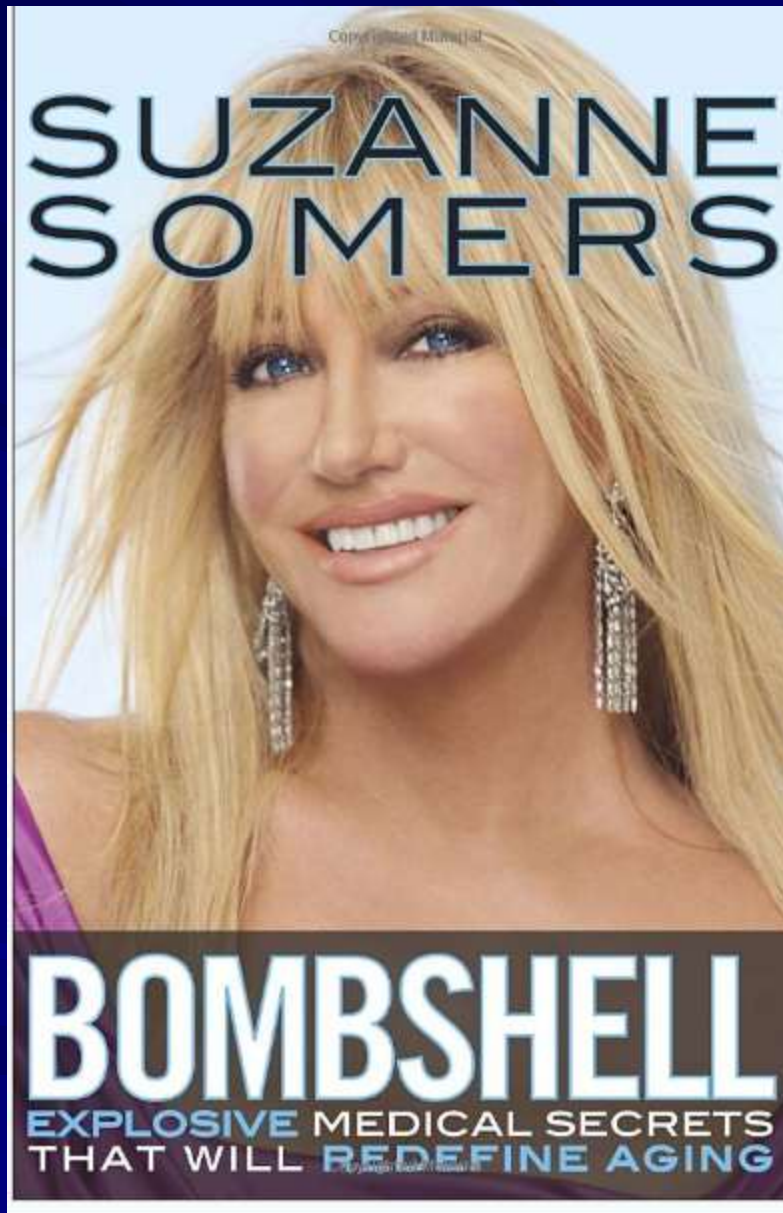
by Michael Fossel, MD, PhD, Greta Blackburn, Dave Woynarowski, MD



Realize your longevity potential with a plan Based on Nobel Prize-winning research. *The Immortality Edge: Realize the Secrets of Your Telomeres for a Longer, Healthier Life* (Wiley, 2011).

**Telomeres** play an important role in protecting our chromosomes from critical damage. The shortening of the telomere disrupts vital cellular function and promotes the previously seemingly inevitable onset of aging and various diseases, including cancer and Alzheimer's. Drawing from the groundbreaking discoveries about telomeres that won the 2009 Nobel Prize in Medicine, this book includes a highly prescriptive program that shows you how to live longer by slowing telomere shortening and by rejuvenating your cells through relatively simple alterations in nutrition and lifestyle.

<http://www.lef.org/Vitamins-Supplements/Item33829/The-Immortality-Edge.html>



## **BOMBHELL** by Suzanne Somers

Dubbed a health pioneer by the *Wall Street Journal* and called “crazy smart” by Dr. Mehmet Oz, Suzanne Somers has repeatedly opened up new terrain to health seekers worldwide. And now, with *Bombshell*, she does it again.

Acting like your personal medical detective, she has found the most advanced scientists, doctors, and health professionals and gotten them to share jaw-dropping advances that will stop deterioration and set you on the path to restoration and healthy longevity.

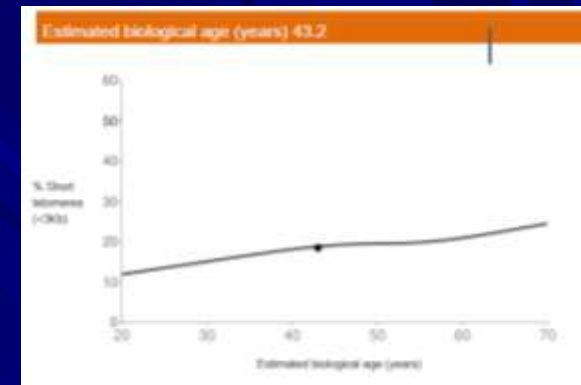
By taking advantage of these new bombshell advancements, you can live longer than ever with great quality of life, and experience a different way to age: with great health, strong bones, vitality, a working brain, and sizzling sexuality. All of it is yours for the taking if you are willing to make some simple, effective changes.



## TELOMERE TESTING

- Life Length is the only company in the world able to measure percentage of short telomeres in individual cells, which is the relevant indicator of cellular aging, rather than mean telomere length
- Life style and nutritional habits as well as stress, heredity, environmental factors, all influence on the percent critically short telomeres and our rate of aging
- Life Length has been founded based on the technology developed by Dr. María Blasco, Director of the prestigious Spanish National Cancer Research Center
- Life Length's Telomere Analysis Technology (TAT) is the reference test for use by physicians and individuals in preventive, personalized healthcare and for its clinical and diagnostic value in aging and age-related diseases

Graph correlation between age and % of short telomeres <3kb; point on line reflects biological age



Percentage of short telomeres – Comparative analysis by age range and pop percentiles

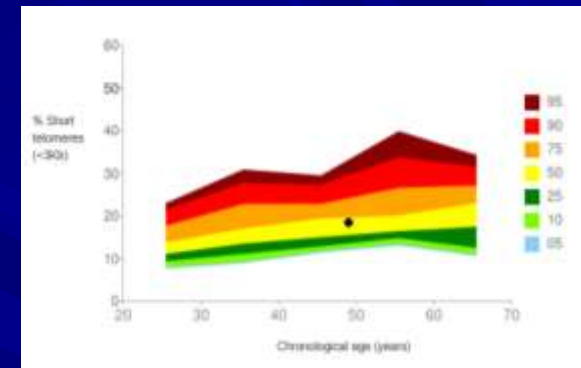
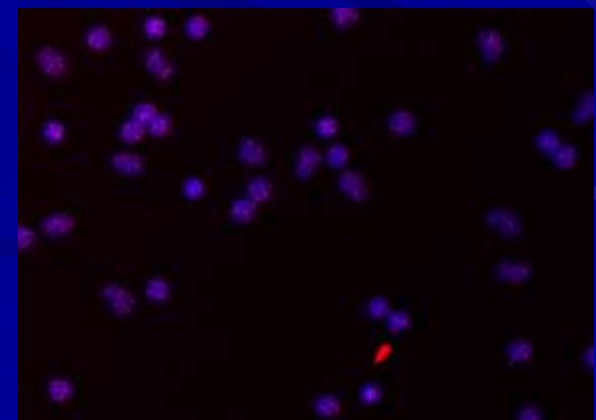


Image capture taken from the HT Q-FISH analysis – color intensity of end caps indicates telomere length





## Genetic testing for 70+ specific markers

Full Screen	Nutrigenomic Weight Management	Autism/ADHD Nutritional Support	Gene	SNPs	Name	Markers - Metabolic & Micronutrient	Nutritional Products	Protocol / Intervention
Lipid	Lipid Metabolism Type	Lipid Metabolism						Refer to specific Panel <a href="#">smart DNA Report</a>
Lipid	HDL regulation	Type Metal Binding	APOE	2	Apolipoprotein E			
Lipid			APOA1	1	Apolipoprotein A-I			
Lipid			APOC3	1	Apolipoprotein C-III			
Lipid			APOB100	1	Apolipoprotein B			
Lipid	Plasma Triglycerides		APOA5	2	Apolipoprotein A-V			
Lipid			CETP	2	Cholesteryl ester transfer protein			
Lipid	Fat absorption		FAPB2	1	Fatty acid binding protein type 2			
Lipid			ABCA1	1	ATP binding cassette transporter 1	1. Liposcan 2. Micronutrients Cu, Zn, selenium 3. Lipid Peroxidation 4. Fatty Acid Profile 5. Oxidated LDL		
Lipid			LPL	3	Lipoprotein lipase			
Lipid			LDLR	2	Low density lipoprotein receptor			
Lipid	Body fat metabolism	Body fat metabolism	ADRB2	2	Beta-adrenergic receptor 2			
Lipid	Body fat metabolism	Body fat metabolism	ADRB3	1	Beta-adrenergic receptor 3			
Lipid	Insulin resistance	Insulin resistance	PPAR-γ	1	activated receptor gamma			
Lipid N/A	Adiponectin/obesity		ADIPOQ	1	Adiponectin			
Lipid N/A	Childhood obesity		FTO	1	Fat mass and obesity associated gene			
Lipid N/A	Inhibition of lipolysis		PLIN	1	Perilipin 1			
Lipid			E-selectin	1	CD62 antigen-like family member E or endothelial-			
Lipid	HDL level		LIPC	1	Lipase			

- \* Phase I and Phase II Detox (Anti-aging) \* Oxidative Stress \* Bone Health
- \* Lipid Profiling \* Diabetes \* Inflammation \* Nutria-gen \* Lactose Intolerance
- \* Weight & Exercise Management

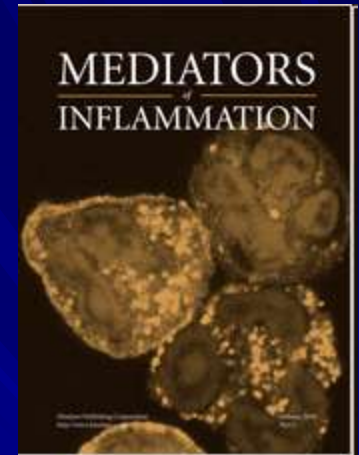
## *Mediators of Inflammation*

Volume 2011 (2011), Article ID 891752, 7 pages

doi:10.1155/2011/891752

### **Clinical Study: Malondialdehyde in Exhaled Breath Condensate as a Marker of Oxidative Stress in Different Pulmonary Diseases**

M. L. Bartoli, F. Novelli, F. Costa, L. Malagrino, L. Melosini, E. Bacci, S. Cianchetti, F. L. Dente, A. Di Franco, B. Vagaggini, and P. L. Paggiaro



**Oxidative stress plays an important role in the pathogenesis of many chronic inflammatory lung disorders, particularly in COPD and asthma, where it is an important consequence of irritant-induced damage of bronchial epithelial cells...**

**Among the many biological targets of oxidative stress, membrane lipids are the most commonly involved class of biomolecules. Lipid peroxidation yields a number of secondary products able to boost oxidative damage. In addition to their cytotoxic properties, lipid peroxides are increasingly recognized as being important in signal transduction for a number of events in the inflammatory response.**

**Malondialdehyde (MDA) has been widely studied as a product of polyunsaturated fatty acid peroxidation. High MDA levels have been observed in several biological fluids from patients with different airway diseases including asthma, COPD, and bronchiectasis.**

# What Your Breath Reveals! Each Patient Has a Unique Breath 'Fingerprint' That Doctors Could Use to Diagnose

by Melinda Beck

Every individual has a unique breath signature—like a fingerprint—that contains not only oxygen, nitrogen and carbon dioxide but also volatile organic compounds. Those are chemicals from inside and outside the body that evaporate at room temperature and are the source of most breath odors. Exhaled breath also contains nonvolatile compounds—microscopic droplets of proteins, antibodies, peptides and DNA that contain a wealth of additional health information.

EXHALED BREATH CONTAINS thousands of chemical compounds that can signal health issues. Scientists are developing tests to diagnose a growing list of diseases based on breath. Some diseases—and the clues that come out of your mouth:

- ASTHMA:** Nitric oxide levels rise when airways are inflamed.
- STOMACH ULCERS:** The gut bacteria *H. Pylori*, when mixed with a chemical tracer, emits a **carbon isotope** in breath.
- LUNG CANCER:** Tumors create dozens of unique **volatile organic compounds**, while sensory arrays identify telltale patterns.
- DIABETES:** Elevated levels of **acetone in breath** indicate ketosis, which reflects insufficient glucose.
- KIDNEY DISEASE:** 'Electronic nose' test recognizes **ammonia-like odor** linked to renal failure.
- LIVER DISEASE:** Patients whose livers can't metabolize a tracer solution containing methacetin show changes in **carbon dioxide levels**.
- IRRITABLE BOWEL SYNDROME:** **Elevated hydrogen** in breath can indicate bacterial overgrowth in small intestine.
- LACTOSE MALABSORPTION:** Undigested lactose in the colon is fermented by bacteria, **raising hydrogen breath levels**.
- HEART TRANSPLANT REJECTION:** Rejection creates 'oxidative stress' that produces **alkanes and methylalkanes** in breath.

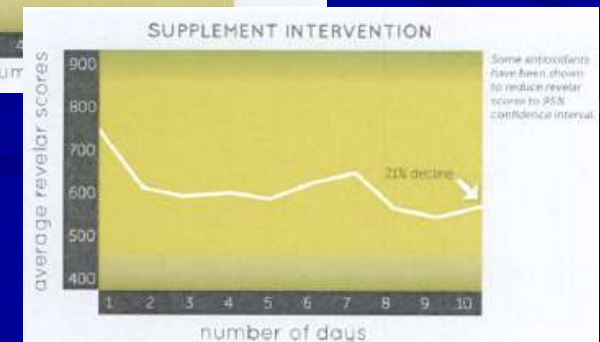
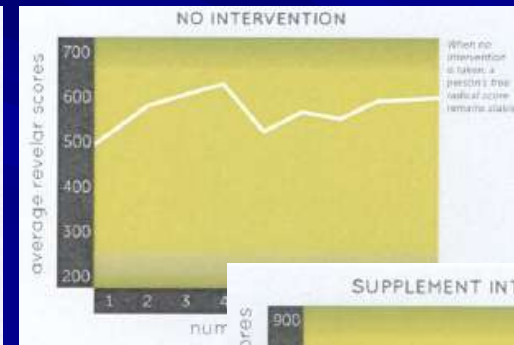
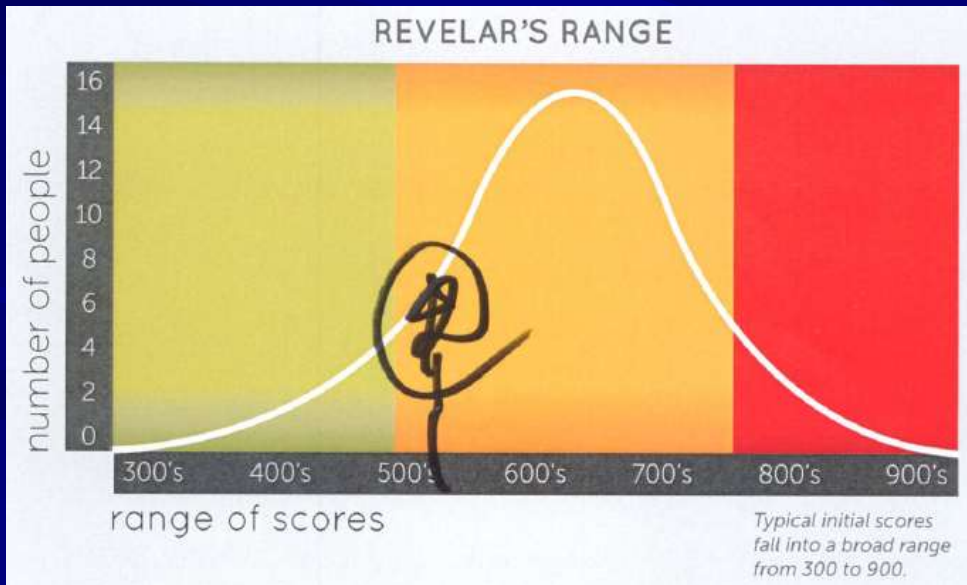
Source: WSJ reporting

# REVELAR™



**Antioxidant supplements can protect us from free radical damage. But which supplements and regimen really work?**

**Revelar provides the first accurate aldehyde measurement system that both detects and measures aldehydes in the breath. Aldehydes are known to be indicators of free radical damage also known as oxidative stress.**





# Who Needs to Detoxify?

We have learned that toxicity in the body is the primary culprit of most of the diseases present today.

Conditions like **diabetes**, cancer, **obesity**, asthma, ADD and ADHD, Autism, arthritis, fibromyalgia, multiple sclerosis, heart disease, and many others should be proof enough for the need to detoxify.

**Every man, woman, child  
and animal needs daily detoxification,  
as we are *all toxic!***

# **FIGHT for Your Health with Dr. Gordon's Power Drink**

**Beyond Fiber - 1 rounded tsp**

**Bio En'R-G'y C - 1 rounded tsp**

**MACA Powder - 1/2 tsp**

**Dr. Gordon's Organic  
Best of Greens - 1 rounded tsp**

**ZeoGold\* - 1 capsule (twist open and dissolve in drink)**



# Health Consultations

**Get a personalized health consultation! Dr. Garry Gordon offers his 53+ years of advanced medical experience to you via telephone, or in-person, for \$300 per hour.**

Arrangements may be made with Katie Isham, by calling her at the Gordon Research Institute at 928-472-4263, ext. 134, Fax to 928-474-3819, or by emailing Katie at [kisham@longevityplus.com](mailto:kisham@longevityplus.com), to learn more.

Appointments may include a review of all prior medical records and/or any new tests that can be ordered in preparation for your personalized consultation. Test panels can be more focused on ANTI-AGING, or cancer, depending on your concerns.

Since Dr. Gordon does not accept insurance, he has made arrangements for cash paying patients to obtain substantial discounts of 70% or more for any blood tests that he orders. In Addition, Dr. Gordon now offers the most advanced and comprehensive 72 gene test panel available anywhere for \$425.

**NOW YOU too can have your OWN PERSONALIZED \$10,000 PILL!**

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**FACT** is the world's largest **FREE** online school of Advanced Alternative Medicine with over 3000 practicing Healthcare Professionals participating and sharing their wisdom and experience with one another.



As a member of **FACT**, you will have access to the most current protocols for managing any health condition, including, Autism, ADHD, Alzheimer's, Cancer, Chronic Infections, Diabetes, Fibromyalgia, Guillain Barre Syndrome, Heart Disease and Hypertension, Insomnia, Lyme Disease, Menopause, Metabolic Syndrome, Multiple Sclerosis, Obesity, Parkinson's Disease, and more.

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In 25 years of practice, I have never seen anything like the PMT-100. This device has completely changed my practice and my life. It has more than doubled my practice, and reinstilled excitement in both my practice and myself.

I could not imagine treating patients without this device in my office as I would be cheating my patients otherwise.

**Every chiropractor NEEDS to have this technology in their office!**

Dr. Kim Shunkwiler, DC  
Westland, MI



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Dr. Allen Unruh, DC



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Dr. Garry Gordon  
MD, DO, NP  
Founder of Gordon Research Institute



I was personally involved in a bad motorcycle accident 4 years ago that left me crippled up and disabled. The Ortho team was able to save my right leg. In just 2 treatment sessions with the PMT 100 device I was able to alleviate almost 100% of the pain. This device has helped me get back a productive life.

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Dr. Curtis Ficenece, DC  
Fargo, ND

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# ***THANK YOU***

*Garry F. Gordon MD, DO, MD(H)*



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