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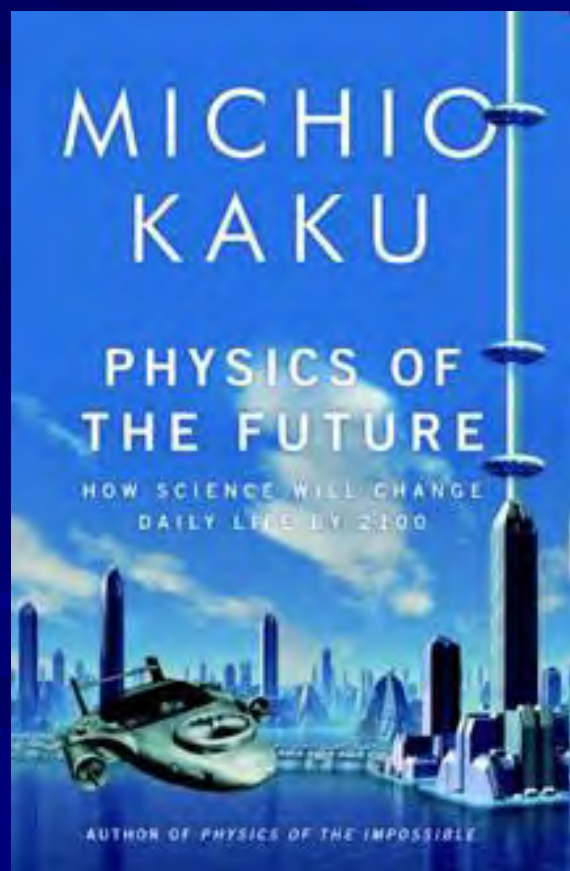
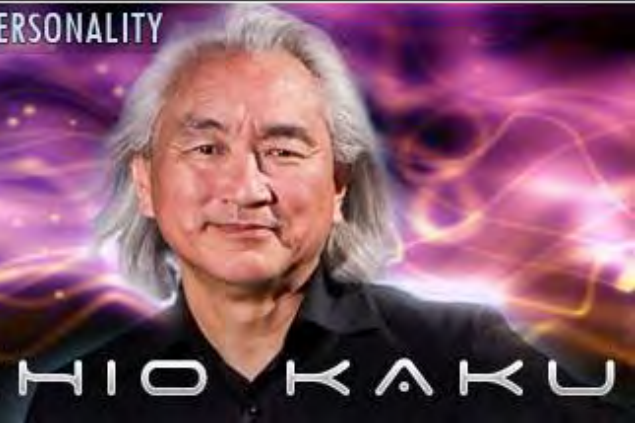
Why PEMF Induced Cellular Exercise Therapy is Essential for Optimal Health

***Dr. Garry F. Gordon, MD, DO, MD(H)
Gordon Research Institute
Payson, Arizona USA***

***Bangkok Thailand
7 – 9 September, 2012***

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DR. MICHIO KAKU



Based on interviews with over three hundred of the world's top scientists, who are already inventing the future in their labs, Kaku—in a lucid and engaging fashion—presents the revolutionary developments in medicine, computers, quantum physics, and space travel that will forever change our way of life and alter the course of civilization itself.

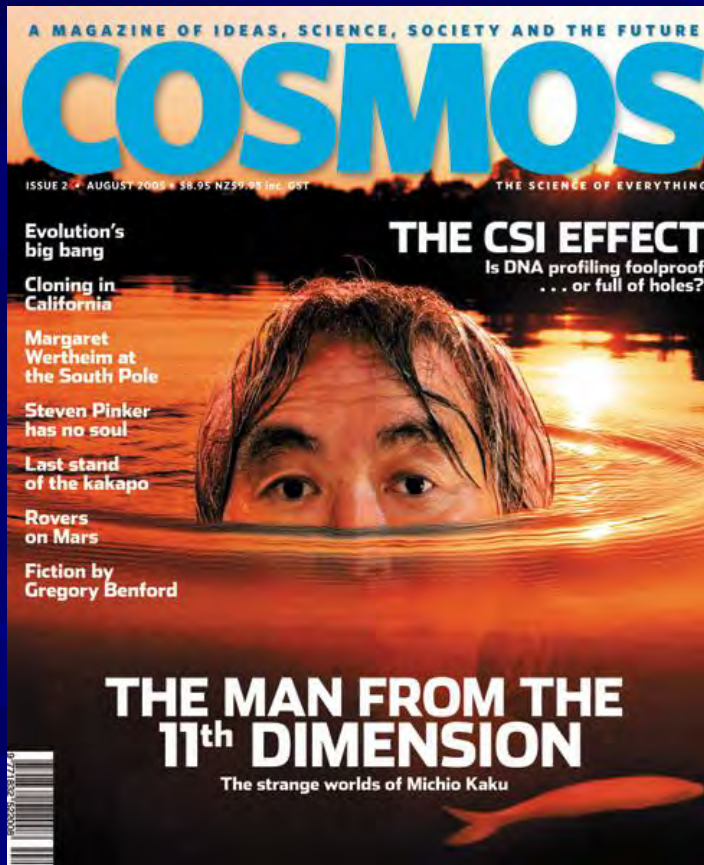
Dr. Kaku's astonishing revelations include:

Sensors in your clothing, bathroom, and appliances will monitor your vitals, and nanobots will scan your DNA and cells for signs of danger, allowing life expectancy to increase dramatically.

You will control computers and appliances via tiny sensors that pick up your brain scans.

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!

THE
SYNCHRONIZED UNIVERSE
NEW SCIENCE OF THE PARANORMAL



Claude Swanson, Ph.D.

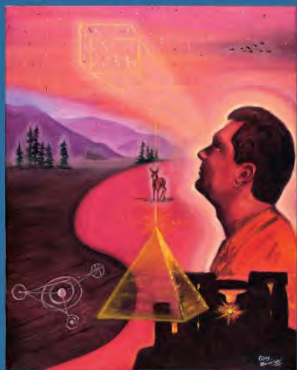
Physicist Dr. Claude Swanson, educated at MIT and Princeton University, describes the latest discoveries in Energy Medicine.

“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.

LIFE FORCE, The Scientific Basis:

Breakthrough Physics of Energy Medicine,
Healing, Chi and Quantum Consciousness



Claude Swanson, Ph.D.
Volume II of *The Synchronized Universe Series*

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/>

The Synchronized Universe Model (S.U.M.)

Assumes that all the particles in the universe interact with one another.

Dr. Claude Swanson Ph.D. thesis at Princeton was done in the "Gravity Group," which focuses on experimental cosmology and astronomy. His postgraduate work at Princeton and Cornell Universities on the design of superconducting plasma containment vessels for fusion energy systems.



Local electrons are tied to distant matter via photons.

The "virtual photons" in space are assumed to be created by the motions of other electrons. Most of them are created by the "distant matter" which contains almost all the matter of the universe.

The seemingly random "zig zag" dance they do is not random – it is really the communication between it and the distant matter – a purposeful, intimate and conscious dance with one another.

**SO ALL THE EXISTING ELECTRONS AND PROTONS AND
OTHER PARTICLES ARE ACTUALLY CONNECTED
TO ONE ANOTHER!**

Momentum and energy that is created here (locally) is absorbed there (universally) and vice versa, virtually instantaneously, able to travel backward in time as well as forward.

Photons which travel backwards in time are called "advanced waves", and are a perfectly valid solution of Maxwell's Equations which govern electromagnetism.

(from pgs 241 – 242 of The Synchronized Universe – Claude Swanson, PhD)

Bruce H Lipton, PhD

Uncovering The Bio

Home Articles ▾ The Biology of Belief ▾ Spontaneous Evolution ▾ Store Resources ▾ Calendar Ab



Dr. Bruce Lipton is an internationally recognized leader in bridging science and spirit. We are surrounded by the proof that we are poised to take an incredible step forward in the growth of our species.

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

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

Dr. Garry Gordon's F²IGH²T For Your Health Program

F² = Food and Focus - related aspect and leaky gut, and Focus (positive mental outlook): Acidophilus, Avoid food sensitivities (wheat, dairy) food supps to include Vitamin C and D

I = Infections - causing cancer, cardiovascular disease, autoimmune diseases: Ozone/UVB, HBO, Silver, Vit A, C and D including IV Vit C

G = Genetics - and epigenetics and methylation issues needed for detoxing B-12, MSM, TMG, 5'MTHF

H² = Heavy Metals and Hormones - Daily detoxification of mercury, lead; Hormonal balance and support for both men and women: Oral Chelation, Zeolite, DHEA, HRT, Melatonin, GH Support, Thyroid

T = Toxins - BPA, phtalates, and other toxins including household chemicals and everyday products: Exercise, IR/FIR Sauna, PEMF, Magnetics, Electrotherapy, cold (soft) lasers.

E² = Energy and Exercise - PEMF or pulsed electromagnetic frequency therapy that promotes healing through

Magnetically Induced Cellular Exercise, or MICE



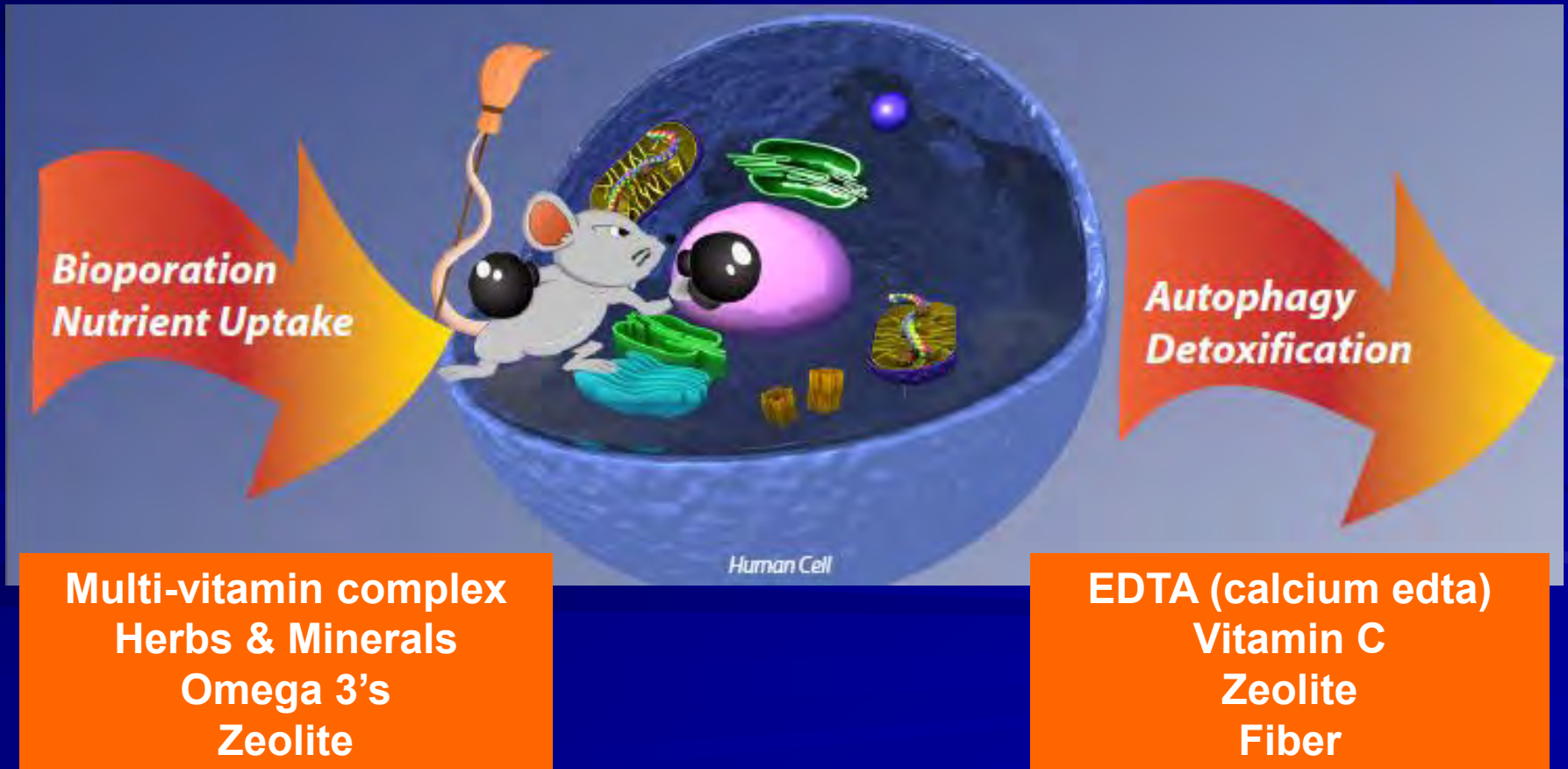
Dr. Gordon's Personal Daily Supplement Regimen

10 mins PEMF assisted Magnetically Induced Cellular Exercise twice per day

- Acetyl L-Carnitine (558 mg) 1 BID
- Adrenal Support, 1 BID
- Liquid Cellular Glutathione
- Liquid Colloidal Cellular Silver
- ACZ liquid zeolite
- Aloe caps for immune function
- B12 Sublingual, one at night
- Multivitamin and Chelation supplement
- Growth Hormonal Supplement With Resveratrol
- Lithium Orotate
- Herbal Brain Enhancer
- Boluoke Lumbrokinase
- D' Ribose
- DHEA 50 Milligram
- Benfotiamine
- 100% Chelated Magnesium Glycinate/Lysinate
- FibroBoost
- Phytosome Curcumins
- CoQ10, 100 mg one daily
- Mena Q7/Vitamin K2
- Quercetin Bromelain
- Trans-Resveratrol
- Pueraria mirifica (Herbal Remedy from Thailand)
- Hyal-Joint, 20 mg, one daily
- Immune System Support
- Kyodophilus probiotics
- L-5-HTP
- Master AntiOxidants
- Maximino
- Melatonin 10 mg, nightly
- N-Acetyl Cysteine (NAC)
- Omega 3 fish oil supplement
- Vitamin E
- Power Drink – Vitamin C, Maca, Organic Greens, stabilized rice bran and Fiber,
- Pregnenolone
- Stabilized R-Lipoic Acid
- Testosterone/Progesterone/Chry-H 150/5/200
- Thyroid 2 Grains, once daily
- Thyroid Support
- Vitamin D3, 5,000 Units
- Zeolite capsules

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

Pulsed electro-magnetic frequency (PEMF) therapy recharges the body's 70+ trillion cells. Like physical exercise, it increases cellular bioporation, oxygenation, alkalinity, energy production, and nutrient uptake – while promoting vital autophagic processes and detoxification of harmful toxins and metals.



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***

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.



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.

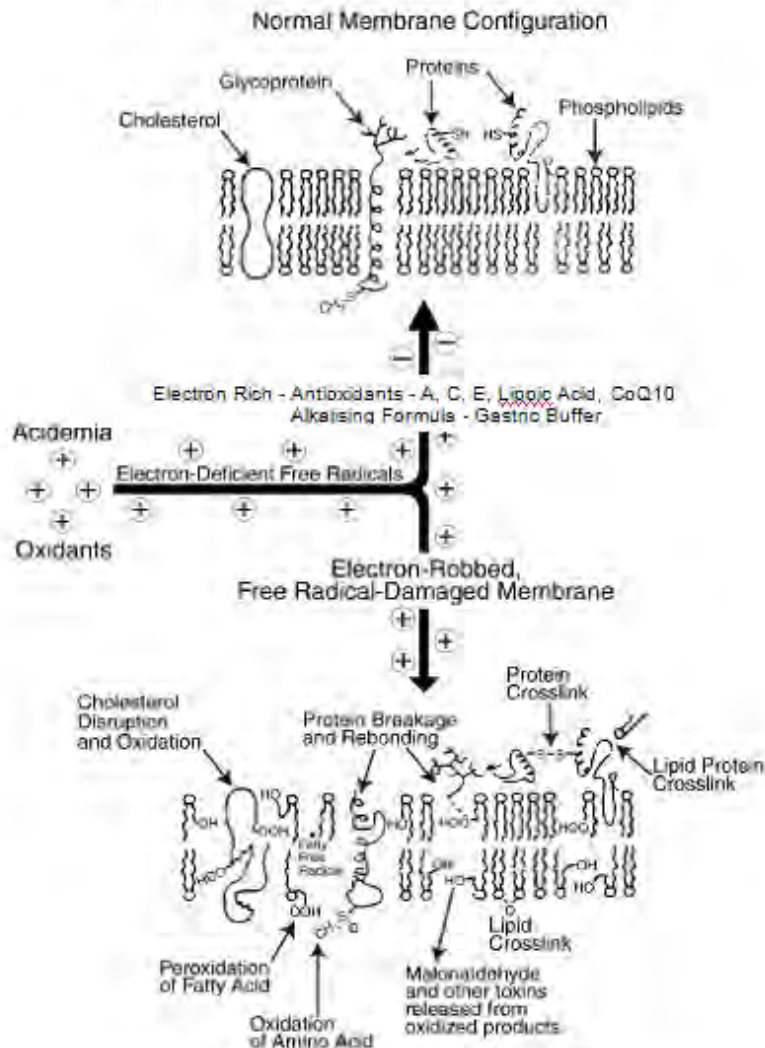
The phenomenon of electrons from one atom being shared with another atom is essential for construction of the complex biochemical compounds, organelles, cells, tissues, and organs comprising life.

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.**

Oxidation and Reduction

Electron Robbing, Free Radical Damage



Electron excess and deficiency can also be understood in terms of oxidation and reduction.

An oxidant is a chemical that is deficient in electrons and tends to take them from others. If a compound has its electrons stolen by an oxidant, it is said to be oxidized.

A reducing agent is a chemical that donates electrons to another chemical. The chemical that receives the electrons is said to be reduced.

An oxidation-reduction chemical reaction is one in which some chemicals are receiving electrons and others are losing them.

Oxidation-reduction reactions occur continuously in the body.

Why Do We Need Magnetism?

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.



Solar Storms – increasing activity and intensity thru 2012

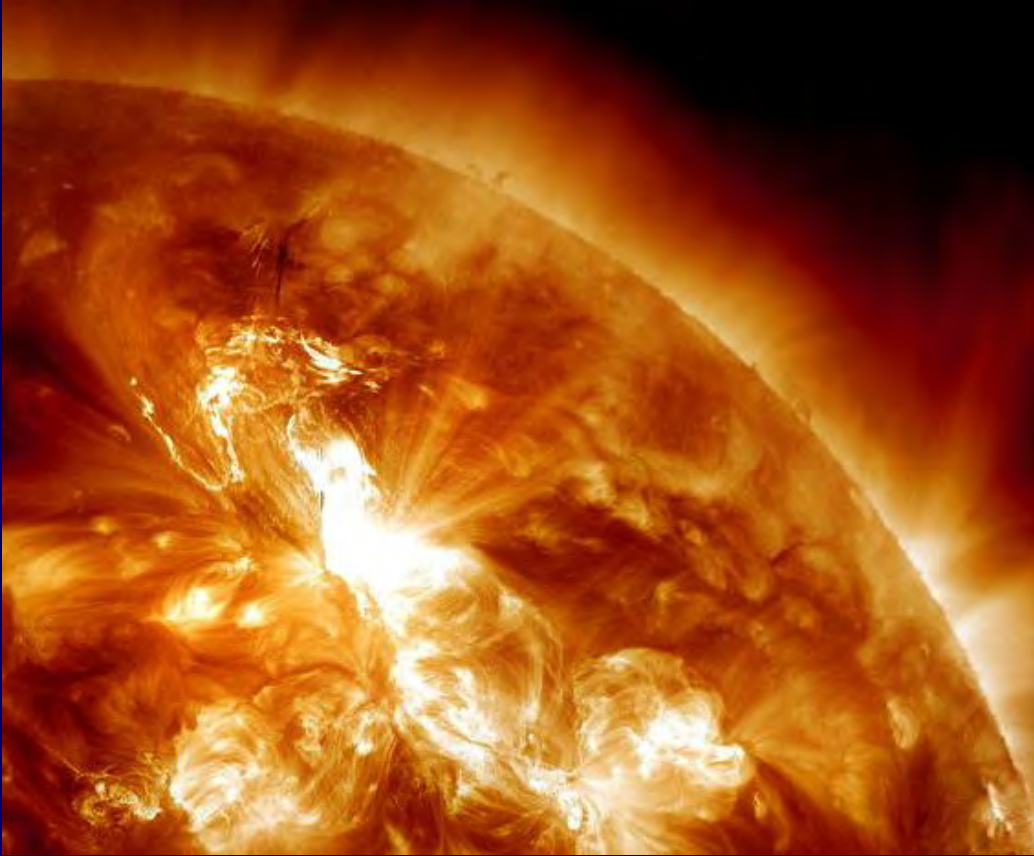


Image provided by NASA, taken Sunday night, Jan. 22, 2012, shows a solar flare erupting on the Sun's northeastern hemisphere. Space weather officials say the strongest solar storm in more than six years is already bombarding Earth with radiation with more to come.

An aurora appears when a magnetic solar wind slams into the Earth's magnetic field, exciting electrons of oxygen and nitrogen.

According to the National Oceanic and Atmospheric Administration, problems can include current surges in power lines, and interference in the broadcast of radio, TV and telephone signals.

Scientists have been expecting solar eruptions to become more intense as the sun enters a more active phase of its 11-year cycle, with an expected peak in 2013.

A role for the geomagnetic field in cell regulation.

Liboff AR.

Center for Molecular Biology and Biotechnology, Florida Atlantic University



Abstract

We advance the hypothesis that biological systems utilize the geomagnetic field (GMF) for functional purposes by means of ion cyclotron resonance-like (ICR) mechanisms.

Numerous ICR-designed experiments have demonstrated that living things are sensitive, in varying degrees, to magnetic fields that are equivalent to both changes in the general magnetostatic intensity of the GMF, as well as its temporal perturbations. We propose the existence of ICR-like cell regulation processes, homologous to the way that biochemical messengers alter the net biological state through competing processes of enhancement and inhibition. In like manner, combinations of different resonance frequencies all coupled to the same local magnetic field provide a unique means for cell regulation.

PMID:20707644 [PubMed - indexed for MEDLINE]

Bioelectromagnetics. 2009 Jan;30(1):21-8.

Prolonged weakening of the geomagnetic field (GMF) affects the immune system of rats.

Roman A, Tombarkiewicz B.

Department of Brain Biochemistry, Institute of Pharmacology, Polish Academy of Sciences, Kraków, Poland. roman@if-pan.krakow.pl



We found that the long-term shielding of the GMF could influence the functioning of the immune system in a sex-dependent manner.

The deprivation of the GMF delayed physiological thymus involution, that effect being more strongly expressed in females. The weakening of the GMF resulted in an increased number of peritoneal macrophages, especially in males.

The shielding of the GMF diminished the ability of macrophages to release NO and to synthesize O₂(-), those effects being more powerfully expressed in males and females, respectively.

It is proposed that the observed changes in the immune system occur as a consequence of the protective effect of GMF shielding on the circadian rhythm-dependent level of melatonin.

Transcranial Magnetic Stimulation (TMS) A Cure for Depression?



Dr. Oz investigates 'Transcranial Magnetic Stimulation', or TMS, a groundbreaking therapy for depression that's both noninvasive and FDA approved.

TMS is thought to help correct electrical signaling and chemical imbalances in the brain that trigger depression.

In transcranial magnetic stimulation (TMS), magnetic fields are sent through the scalp and skull to a particular area of the brain. When the magnetic field enters the brain it creates a small electrical current. This electrical current stimulates the brain cells (neurons) in a targeted brain area and causes them to fire (or send an electrical impulse).





Ask Your Doctor About: Pulsed Electromagnetic Field Therapy



Pulsed electromagnetic field therapy is a new approach to pain management that uses magnets to create pulsing, moving energy. These energy waves could change the way your body copes with pain. Learn more about this new treatment. Could it work for you?

Like 2k Send



Dr. William Pawluk, MD, MSc, appeared as PEMF Specialist on the Doctor Oz TV Show in November 2011, where they discussed the most effective types of pulsed electromagnetic field therapy.

<http://www.dr pawluk.com/doctor-oz-article-on-pemfs/>
<http://www.doctoroz.com/videos/ask-your-doctor-about-pulsed-electromagnetic-field-therapy>

Dr. Pawluk

"YOUR MEDICALLY-BASED SOURCE ON MAGNETIC FIELD THERAPY"

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Dr. Pawluk's Blog: Practical applications of PEFM therapies

The PEMF-100 device is an innovative, high intensity, very low frequency pulsed electromagnetic field generator. It is one of the most intense clinically useful electromagnetic devices available. The maximum field intensity is around 1920 Gauss (192 mT). The lowest field intensity is still likely close to 1000 Gauss.

Why are magnetic fields important to your health?



What should you know about pulsed electromagnetic field treatment?



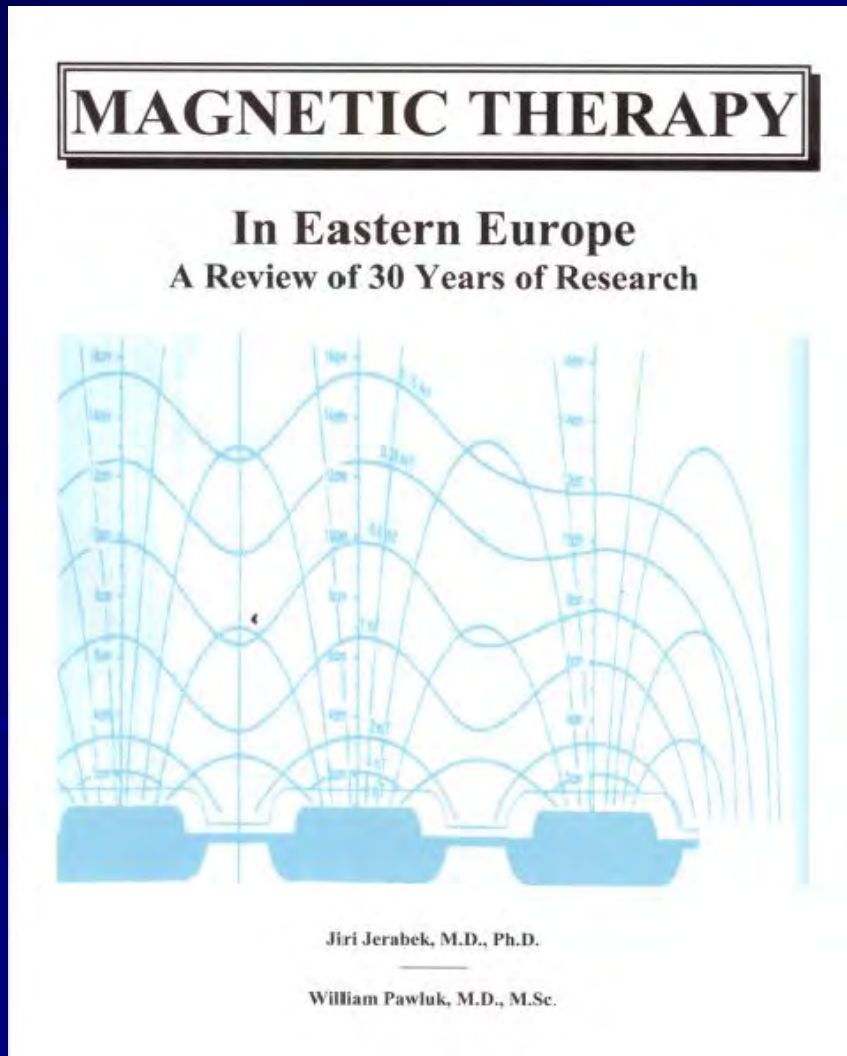
PEMF-100
www.drpawluk.com

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

Magnetic Therapy in Eastern Europe: A Review of 30 Years of Research

By Jiri Jerabek, MD, PhD and William Pawluk, MD, MSc

The book presents information summarizing conditions studied, magnetic field strength and type of field used, frequency and duration of application and summary of actual results. There are detailed descriptions of many studies on both static (permanent) and frequency (pulsed) fields.



Controlled human studies described include:

- Atherosclerosis
- Brain neurosecretion
- Breast fissures
- Burns
- Carpal tunnel syndrome
- Cervicitis
- Chronic bronchitis
- Controlled Studies Animals
- Corneal trauma
- Edema
- Endometriosis
- Femoral artery surgery
- Fractures
- Increased circulation
- Infected skin wounds
- Ischemic heart disease
- Limb grafts
- Liver function

And more...

Exercise Alters Epigenetics

Exercise causes short-term changes in DNA methylation and gene expression in muscle tissue that may have implications for type 2 diabetes.

By Hannah Waters | March 6, 2012

Exercise can delay the onset of diabetes by boosting the expression of genes involved in muscle oxidation and glucose regulation. A new study, published on March 6th in *Cell Metabolism*, suggests that DNA methylation drives some of these changes, and that they can occur within just a few hours of exercise, providing a potential mechanism for how exercise protects the body from metabolic disease.

People with type 2 diabetes are less responsive to insulin than healthy individuals, and thus have difficulties maintaining normal blood sugar levels. Certain metabolic genes, such as those involved in glucose transport and mitochondrial regulation, have been shown to be expressed at lower levels in diabetics, possibly explaining their decreased insulin responsiveness.

“Exercise is one therapeutic to maintain sensitivity of the organs to insulin and prevent diabetes,” said molecular physiologist Juleen Zierath of the Karolinska Institute, who in 2009 showed that diabetics have different DNA methylation patterns in muscle. This suggested “there might be some dynamic changes in methylation” after exercise, said Zierath, who teamed up with Romain Barres of Copenhagen University and others to further investigate a possible epigenetic mechanism of exercise-induced diabetes prevention.

Exercise Protects the Heart Via Nitric Oxide

Research , School of Medicine
May 4, 2011



EMORY

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CENTER

Exercise both reduces the risk of a heart attack and protects the heart from injury if a heart attack does occur. For years, doctors have been trying to dissect how this second benefit of exercise works, with the aim of finding ways to protect the heart after a heart attack.

Researchers at Emory University School of Medicine have identified the ability of the heart to produce and store nitric oxide as an important way in which exercise protects the heart from injury.

Nitric oxide, a short-lived gas generated within the body, turns on chemical pathways that relax blood vessels to increase blood flow and activate survival pathways. Both the chemical nitrite and nitrosothiols, where nitric oxide is attached to proteins via sulfur, appear to act as convertible reservoirs for nitric oxide in situations where the body needs it, such as a lack of blood flow or oxygen.

In experiments with mice, the researchers showed that four weeks of being able to run on a wheel protected the mice from having a blocked coronary artery; the amount of heart muscle damaged by the blockage was less after the exercise period. Importantly, the mice were still protected a week after the wheel was taken away.



PEMF Therapy and Nitric Oxide Production

Many cells in the body produce nitric oxide; however, its production by the vascular endothelium is particularly important in the regulation of blood flow. Abnormal production of nitric oxide, as occurs in different disease states, can adversely affect blood flow and other vascular functions. Nitric oxide is one of the few gaseous signaling molecules known and is additionally exceptional due to the fact that it is a radical gas. It is a key vertebrate biological messenger, playing a role in biological processes.

The March/April 2009 Aesthetic Surgery Journal published a study:

“Evidence-Based Use of Pulsed Electromagnetic Field Therapy in Clinical Plastic Surgery” that summarizes the evolution in the understanding of the physiological effects of PEMF therapy on cells and tissues.

Studies emerged suggesting that PEMF could modulate the production of growth factors and began to focus on enzyme systems with well-characterized calcium (Ca²⁺) dependence.

Plant Physiol. 2007 January; 143(1): 291–299.

Degradation of Oxidized Proteins by Autophagy during Oxidative Stress in Arabidopsis

Yan Xiong, Anthony L. Contento, Phan Quang Nguyen, and Diane C. Bassham*



Upon encountering oxidative stress, proteins are oxidized extensively by highly reactive and toxic reactive oxidative species, and these damaged, oxidized proteins need to be degraded rapidly and effectively. There are two major proteolytic systems for bulk degradation in eukaryotes, the proteasome and vacuolar autophagy. In mammalian cells, the 20S proteasome and a specific type of vacuolar autophagy, chaperone-mediated autophagy, are involved in the degradation of oxidized proteins in mild oxidative stress.

Using two macroautophagy markers, monodansylcadaverine and green fluorescent protein-AtATG8e, we here show that application of hydrogen peroxide or the reactive oxidative species inducer methyl viologen can induce macroautophagy in Arabidopsis (*Arabidopsis thaliana*) plants. Macroautophagy-defective RNAi-*AtATG18a* transgenic plants are more sensitive to methyl viologen treatment than wild-type plants and accumulate a higher level of oxidized proteins due to a lower degradation rate. In the presence of a vacuolar H⁺-ATPase inhibitor, concanamycin A, oxidized proteins were detected in the vacuole of wild-type root cells but not RNAi-*AtATG18a* root cells.

Together, our results indicate that autophagy is involved in degrading oxidized proteins under oxidative stress conditions in Arabidopsis.

Exercise as Housecleaning for the Body

By GRETCHEN REYNOLDS, Columnist
New York Times
February 1, 2012

When ticking off the benefits of physical activity, few of us would include intracellular housecleaning. But a new study suggests that the ability of exercise to speed the removal of garbage from inside our body's cells may be one of its most valuable, if least visible, effects.



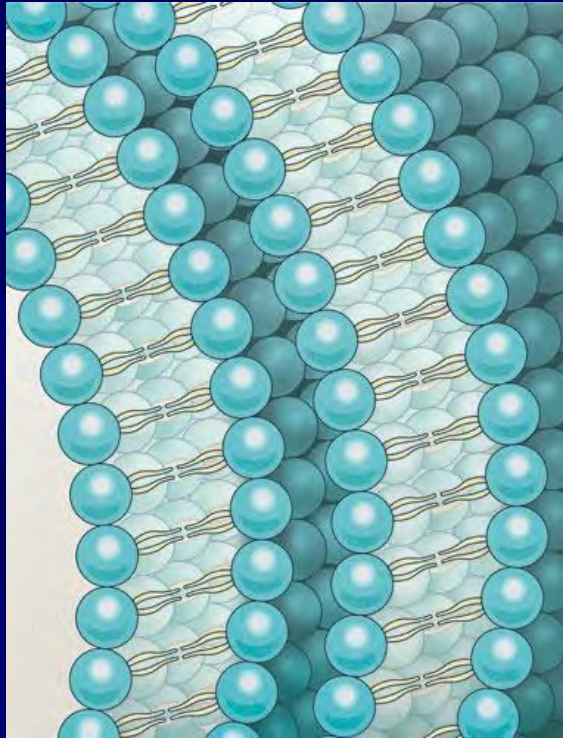
It's long been known that cells accumulate flotsam from the wear and tear of everyday living. Broken or misshapen proteins, shreds of cellular membranes, invasive viruses or bacteria, and worn-out, broken-down cellular components, like aged mitochondria, the tiny organelles within cells that produce energy, form a kind of trash heap inside the cell.

Through a process with the expressive name of autophagy, or "self-eating," cells create specialized membranes that engulf junk in the cell's cytoplasm and carry it to a part of the cell known as the lysosome, where the trash is broken apart and then burned by the cell for energy.

Without this efficient system, cells could become choked with trash and malfunction or die. In recent years, some scientists have begun to suspect that faulty autophagy mechanisms contribute to the development of a range of diseases, including diabetes, muscular dystrophy, Alzheimer's and cancer. The slowing of autophagy as we reach middle age is also believed to play a role in aging.

The Enigmatic Membrane

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



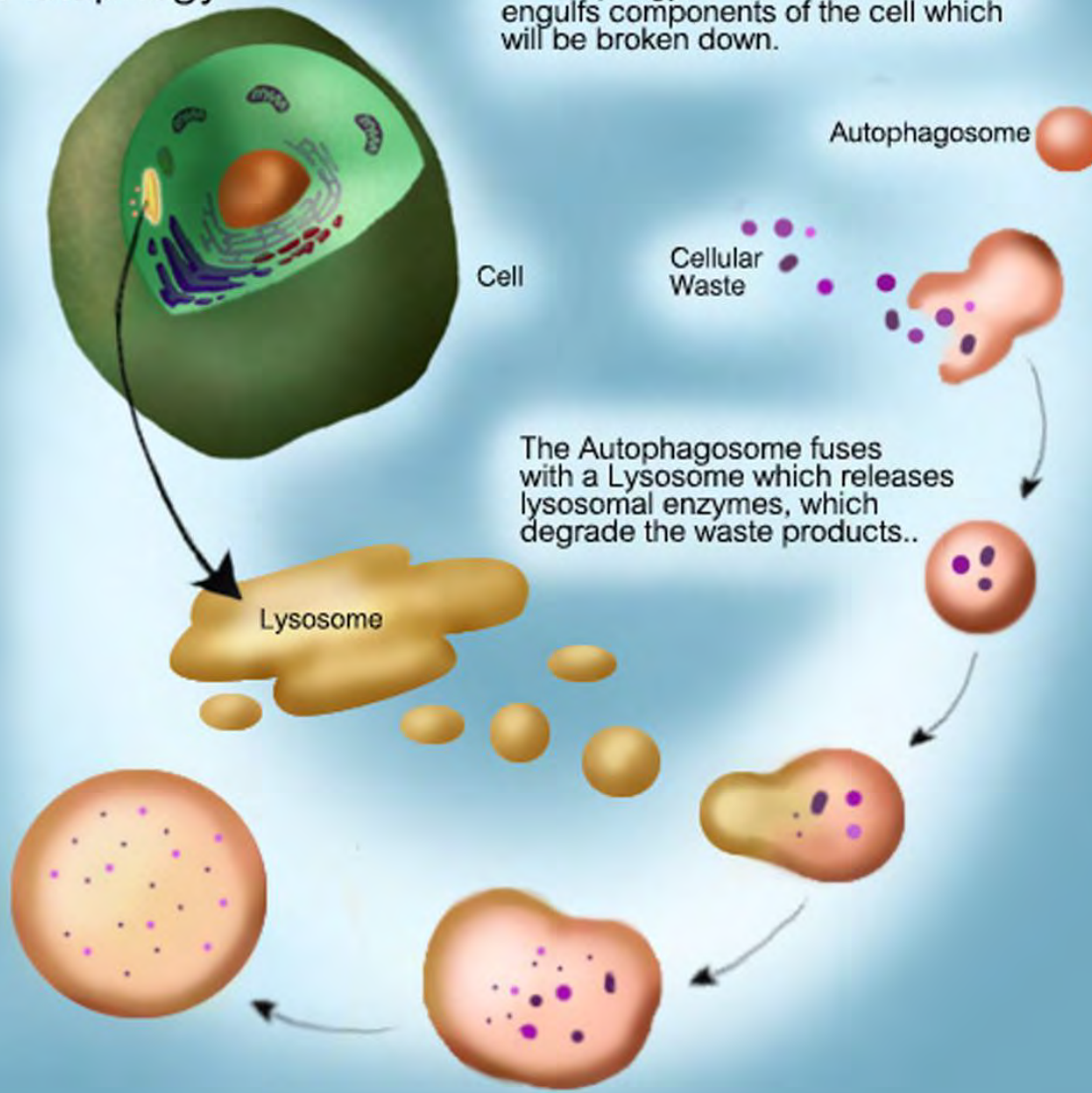
Cells live longer than their internal components. To keep their cytoplasm clear of excess or damaged organelles, as well as invading pathogens, or to feed themselves in time of nutrient deprivation, cells degrade these unwanted or potentially harmful structures, and produce needed food and fuel, using 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

In Autophagy, a membrane forms and engulfs components of the cell which will be broken down.

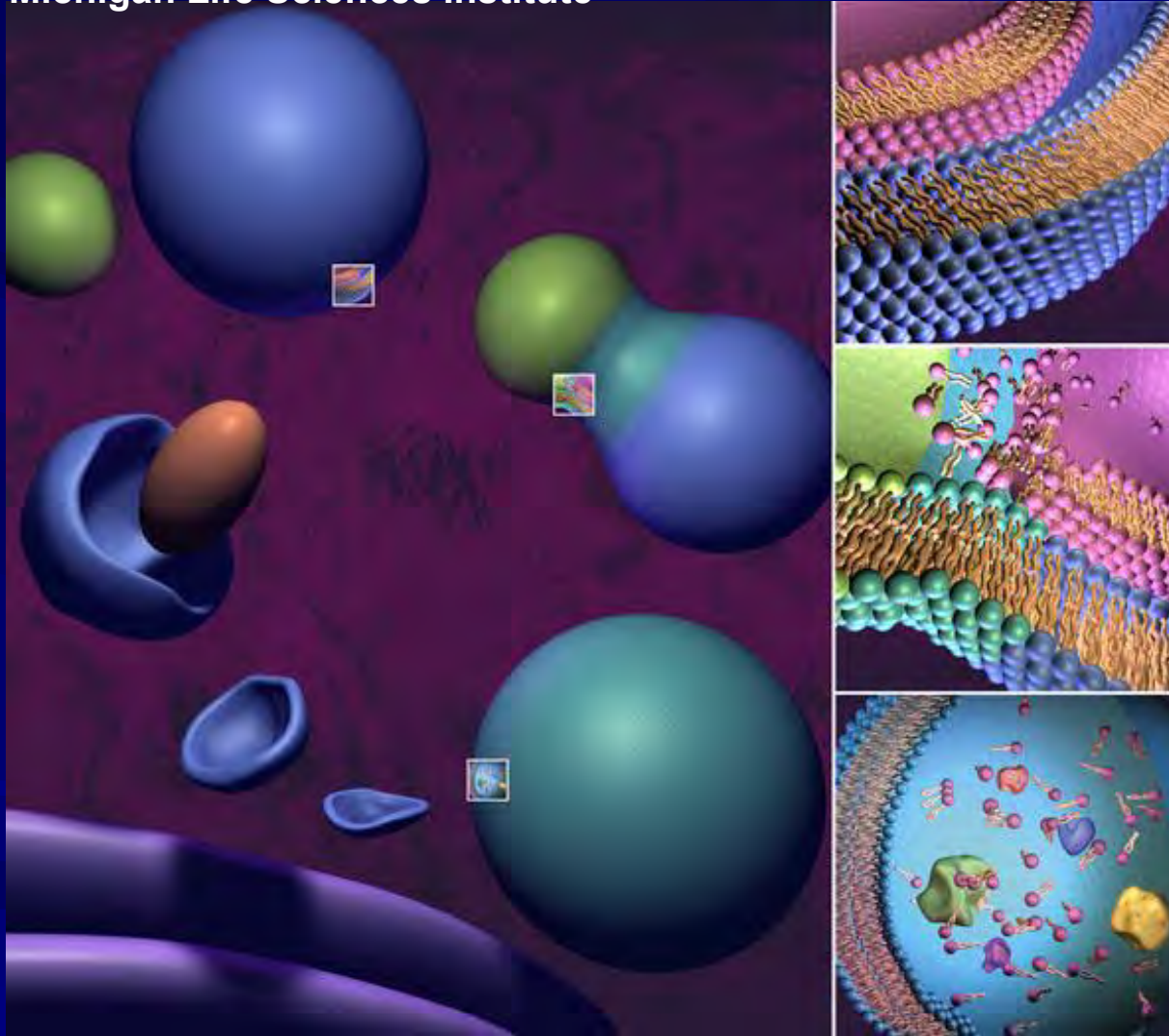


Recent developments reveal a crucial role for the autophagy pathway and proteins in immunity and inflammation. They balance the beneficial and detrimental effects of immunity and inflammation, and thereby may protect against infectious, autoimmune and inflammatory diseases.

Autophagy helps the cell fight infection by some kinds of invading bacteria and viruses, by cleaning them out of the cell's interior without having to discard the entire cell.

Sustained autophagy may also increase longevity by protecting cells against free radical damage and mutations in DNA.

"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.

Review Article

Journal of Molecular and Cellular Cardiology

Volume 51, Issue 4, October 2011, Pages 584–593

Autophagy as a therapeutic target in cardiovascular disease

Andriy Nemchenko, Mario Chiong, Aslan Turer, Sergio Lavandero, Joseph A. Hill

Abstract - The epidemic of heart failure continues apace, and development of novel therapies with clinical efficacy has lagged. Now, important insights into the molecular circuitry of cardiovascular autophagy have raised the prospect that this cellular pathway of protein quality control may be a target of clinical relevance.

Whereas basal levels of autophagy are required for cell survival, excessive levels – or perhaps distinct forms of autophagic flux – contribute to disease pathogenesis. **Our challenge will be to distinguish mechanisms that drive adaptive versus maladaptive autophagy and to manipulate those pathways for therapeutic gain. Recent evidence suggests this may be possible.**

Here, we review the fundamental biology of autophagy and its role in a variety of forms of cardiovascular disease. We discuss ways in which this evolutionarily conserved catabolic mechanism can be manipulated, discuss studies presently underway in heart disease, and provide our perspective on where this exciting field may lead in the future. This article is part of a special issue entitled “Key Signaling Molecules in Hypertrophy and Heart Failure.”

<http://www.sciencedirect.com/science/article/pii/S0022282811002483>



Townsend Letter

Chelation Therapy
Nonsurgical Treatment of Heart Disease

The Salt Secret
How Salt Can Lower High Blood Pressure

The Awesome Foursome
Four Nutrients to Reverse Congestive Heart Failure

Ground Yourself
A Surprising Remedy for Many Ills

Milk and Obesity
Is There a Connection?

Beyond Chelation Therapy
Device Helps Reverse Disease



The Examiner of Alternative Medicine
WWW.TOWNSENDLETTER.COM



Article by Martin Milner, ND featured in the May 2010 issue of Townsend Newsletter, along with article by Dr. Garry Gordon “Chelation and Cardiovascular Disease”

TOWNSEND LETTER – MAY 2010

Reversal of a Case of Advanced Coronary Artery Disease with Unstable Angina Using Pulsed Electromagnetic Field (PEMF) Cellular Exercise *by Martin Milner, ND*

It is wonderful to both the patient and physician when, after years of failed trials in both conventional and alternative medicine, a safe, natural method of cellular exercise makes dramatic change in a case of serious chronic disease. This case is an extraordinary example of reversing end-stage coronary artery disease with pulsed electromagnetic field cellular exercise (PEMF). The case also elucidates critical monitoring and decision-making horizons throughout patient management.

The Case

SH, a 65-year-old, very pleasant white Caucasian female, presented to our clinic with advanced coronary artery disease, diabetes, hypertension, and obesity. Her cardiac history began in 1996, when she went into cardiac arrest and was successfully defibrillated and brought back to life. She did lose sensation in two of her toes at discharge from this hospitalization. This loss of sensation was presumed to be a complication of chest defibrillation. During this hospitalization, significant ischemic heart disease was diagnosed on cardiac catheterization, and two stents were deployed into the left anterior descending and right circumflex coronary artery.

Progression to Advanced Coronary Artery Disease

As time progressed, her disease advanced, and a second angiogram involved the deployment of a third stent in her left anterior descending coronary artery. Her ischemic heart disease progressed further, and in 2005 she underwent three vessel coronary artery bypass graph surgery where the LAD stents were bypassed along with bypass surgery of the left circumflex and bypassing a new occlusion in the right anterior descending coronary artery. At the time of this

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.”

'If Physical Exercise Were a Drug, It Would Be Hitting the Headlines' ; Exercise Can Help Cancer Survivors, Says New Report

Macmillan Cancer Support - <http://www.macmillan.org.uk>

08-09-11

EXERCISE is a "wonder drug" for cancer survivors and may even prevent the disease coming back, according to a report published today. Macmillan Cancer Support said physical activity should be "prescribed" by doctors after "hard evidence" showed it can significantly help recovery and prevent other long-term illnesses.

The research also showed exercise had an impact on *preventing recurrence* of a few specific cancers.

- Women with **breast cancer** who exercise for **150 minutes a week at moderate intensity** have a **more than 40% lower risk of dying** and recurrence of disease compared to women who are active for less than one hour a week.
- Results of two studies on **bowel cancer** also show the **risk of dying or the disease coming back is cut by about 50%** in patients taking six hours a week of moderate intensity exercise.
- **Prostate cancer patients** have around a **30% lower risk of dying** from the disease and a **57% lower rate of disease progression** if they do three hours of moderate intensity exercise a week.

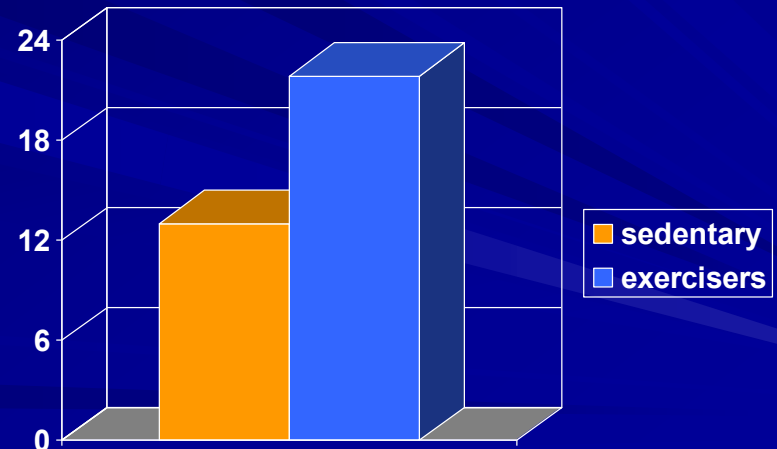
Exercise Associated With Longer Survival After Brain Cancer Diagnosis

ScienceDaily (June 21, 2011)

Brain cancer patients who are able to exercise live significantly longer than sedentary patients, scientists at the Duke Cancer Institute report.

The finding, published online June 20 in the *Journal of Clinical Oncology*, adds to recent research that exercise improves how cancer patients feel during and after treatments, and may also extend their lives. The study enrolled 243 patients at the Preston Robert Tisch Brain Tumor Center at Duke with advanced recurrent gliomas, lethal brain malignancies that typically result in a median life expectancy of less than six months.

The patients who reported participating in regular, brisk exercise - the equivalent of an energetic walk five days a week for 30 minutes, had significantly prolonged survival, living a median 21.84 months vs. 13.03 months for the most sedentary patients.

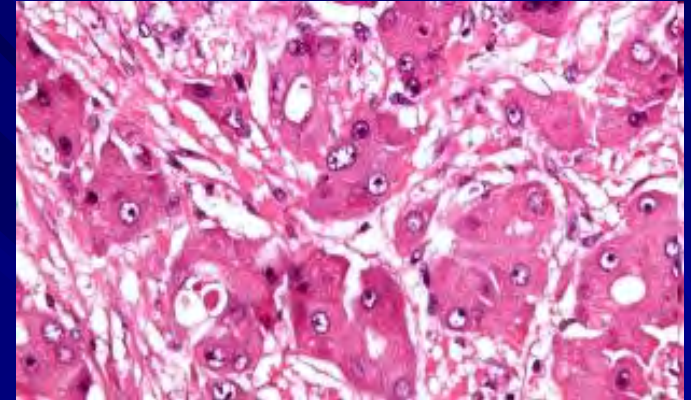


Electromagnetic Fields Shrink Tumors

New research shows that low-intensity fields can inhibit cancer cell proliferation.

By Bob Grant | The Scientist | January 11, 2012

Researchers have demonstrated that small doses of **electromagnetism can shrink liver and breast cancer cells without harming surrounding tissues**, according to a report published recently in the *British Journal of Cancer*.



Very high magnification micrograph of fibrolamellar hepatocellular carcinoma
Wikimedia Commons, Nephron

An international team, led by University of Alabama at Birmingham oncologist Boris Pasche, has shown that low-intensity electromagnetic fields can slow the proliferation of and hepatocellular carcinoma (HCC) cells, which are involved with a deadly form of liver cancer, and breast cancer cells. *“This is a truly novel technique,”* Pasche told *The Guardian*. *“It is innocuous, can be tolerated for long periods of time, and could be used in combination with other therapies.”*

In August, Pasche and his colleagues published a *British Journal of Cancer* paper showing that they could slow tumor growth in some HCC patients by treating them with low-level electromagnetic fields on a regular basis. In total, 41 patients received the treatments... after 6 months of treatment, tumor growth in 14 of those patients had stabilized, and **none experienced negative side effects**.

Electromagnetic Therapy

for energy production and cellular detoxification

In an article published in *Plos One*, November 2010, volume 5, issue 11 (Wang), page 4, Johns Hopkins' researchers found a **38% increase** in ATP production in P12 cells that were placed in a static magnetic field device that we supplied.

This increase could be much higher *in vivo* with the brain's pulsed DC electromagnetic field interacting with an enhanced earth-type field resulting in increased resonance of the mitochondria. All of this leading to enhance electron transfer in the creb cycle resulting in more ATP production.

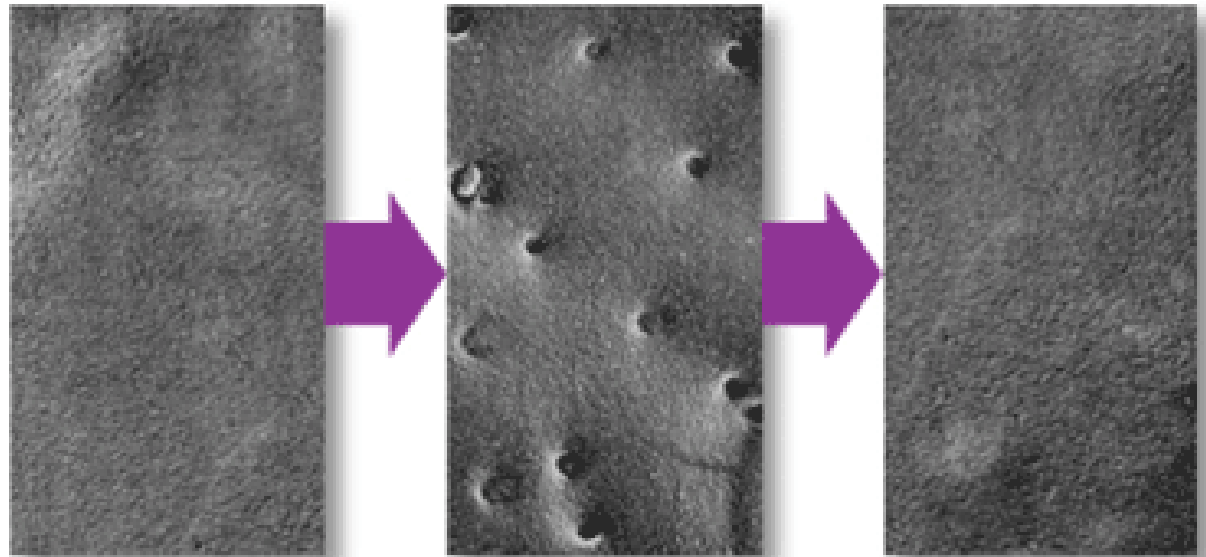
↑ ATP equals ↑ Na⁺ K⁺ pump function
which leads to ↑ charge of the cell
wall and ↑ metal excretion.

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.

The phenomenon of electroporation



Cell membrane before pulsing

Cell membrane during pulsing

Cell membrane after pulsing (cell returns to)

- *Controlled, millisecond electrical pulses induce temporary pores in the cell membrane*
- *Cell membrane reseals and is left unharmed*

PEMF Therapy Increases Cellular Genesis (Cellular Growth and Repair)

The many intra and inter cellular processes and activity stimulated by PEMF therapy lead to faster cellular and tissue regeneration. This fact is shown by the results of many studies on a variety of tissues, including bones, spine, cartilage, intestines, blood vessels, nerves, brain, and muscles.

In December 2004, the Swiss Medical Tribune stated that PEMF therapy provided:

“improvement of blood circulation, relief from pain, improvement of bone healing and the stimulation of nerve cells. Not only is the PEMF therapy effective in disease condition: it is an excellent means of preventing stress, assisting regeneration and recovery after sports exertion... Through metabolic activation and blood circulation more nutrients and oxygen are available to muscle cells, less damage is experienced, and efficiency is improved.”

This patient was diagnosed with parotid cancer and had surgery and radiation therapy in August of 2007. Following this, his face refused to heal. The side of his face stayed, pretty much as seen here for the next 3 1/2 years.



In late April, 2011, he started to apply PEMF to his face. 5 treatments and 2 weeks later, his face looked like this.

His face continues to improve with regular PEMF treatment sessions. The patient is, of course, very happy with the improvement in his face.

He is also very happy that the PEMF treatments have reduced the pelvic pain and frequent nighttime urination caused by an inflamed prostate!



Lassie Bit by Another Dog – Tissue Regeneration using PEMF



The bite injury interrupted the circulation to the leg causing tissue necrosis and removal of most of the leg.

PEMF treatments were given every other day - low intensity with butterfly at the top of the hip for 8 minutes, then midway down the leg...where the most growth of tissue and skin was needed for 3 minutes on medium intensity.

The morning after an evening treatment new skin and tissue growth appeared around the perimeter of the open wound, about the diameter of a piece of yarn.

Although it took awhile on this last section to fill in all the connective tissue and skin coverage, finally Lassie is back on her feet.



PEMF, cartilage and bones

In a study entitled: “**Modification of biological behavior of cells by Pulsing Electromagnetic fields**”, 20 subjects of ages between 57 and 75 years with decreased bone mineral density as defined by a bone densitometer, were treated with PEMF therapy during a period of 12 weeks by Ben Philipson, Curatronic Ltd. (*University of Hawaii School of Medicine, HI, USA*). **After a period of 6 weeks, the bone density rose in those patients with an average of 5.6%.**

Properly applied pulsed electromagnetic fields, if scaled for whole body use, have clear clinical benefits in the treatment of bone diseases and related pain, often caused by micro-fractures in vertebrae. In addition, joint pain caused by worn out cartilage layers can be treated successfully, through electromagnetic stimulation.

PEMF application promotes bone union by electric current induction, which changes the permeability of cell membrane allowing more ions across, affects the activity of intracellular cyclic adenosine monophosphate (cAMP) and cyclic guanosine monophosphate (cGMP), and accelerates osteoblast differentiation by activation of p38 phosphorylation.

PEMF stimulation also increases the partial oxygen pressure and calcium transport. Repair and growth of cartilage is thus stimulated, preventing grinding of the bones.

PEMF Bone Growth Stimulation

Electrical currents have been used to heal broken bones since the mid 1800s. However, it wasn't until the 1950s that scientists made an important discovery.

PEMF enhances the electrical polarity by inducing an electrical field at the fracture site which supports the natural healing process and stimulates fracture repair.

PEMF bone growth stimulation generates a time varying magnetic field within the body. The electric potential created by PEMF stimulates fracture healing.







Pulse 4 Life

[Visit Our Main Web Site](#)



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



"As a licensed Practitioner, you need to search for alternative ways to treat conditions. I've been practicing for 40 years and one of the most exciting things I've seen is this PEMF Technology.

Utilizing this technology adds a whole NEW dimension to a practice.

Dr. Allen Unruh, DC



"This is the most simplest device that can change your life and that of your patients. Every practitioner needs this type of Cellular Exercise in their Practice."

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.

Can you imagine a device that can provide your practice with a GREAT source of secondary stream Income and offer noticeable pain reduction for your patients? I believe that any practice without this technology will be left behind.

Dr. Curtis Ficenece, DC
Fargo, ND

[Register Now!](#)

<http://www.pulse4life.com/>

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, 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!



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 smart DNA Report
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
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- * Weight & Exercise Management

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