



WatersBioMed News

Upcoming Lectures

Listen to Dr. Waters speak about the one thing
all of us want to avoid—**AGING!**

Weight gain, hormones, toxins, memory loss...we can help!

He will elaborate on the topic of this newsletter.

See the insert for details!

These events are free and seating is first come, first served!

Question & answer following!

Friends and family are welcome!

Aging....are we turning into stone?

Calcium is the ultimate culprit. There is a constant struggle to balance calcium movement. It is needed to initiate events in all cells, but it must be pumped back out of the cells or it accumulates. High cellular calcium short circuits electron flow in the mitochondrion where, in health, 90% of the energy needed by the body is made.

Toxic metals displace iron from the electron carrying enzymes in the inner mitochondrial membrane. This iron is freed and each iron atom generates 1 million toxic radicals. These substances cause damage to the very structure that keep us alive and healthy – the mitochondrion, cell membranes, proteins and our genetic material, DNA itself.

These events at the molecular/biophysical level are what makes us age.



Finally, when toxic metals, excess iron, high sugar-induced inflammation cause the damage to the mitochondrial membranes, calcium enters at an unsustainable rate and is the ultimate cause of all sickness and finally, death. We die from the entropic doom of calcium entry. Like Lot's wife, we turn to stone and can no longer breathe and live.



Dr. Waters will
be on tour!

Join us!

Mineral Point 9/28

Waupun 10/5

La Crosse 10/26

Janesville 11/2



We will be CLOSED

December 24 — January 1

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Aging....let's slow it down!

Calcium is a vitally important mineral. It gives our skeleton its rigidity. In fact, almost all of the calcium in our body is contained in bone. However, calcium also functions as a regulator of almost all of the body's biochemical and physiological processes. These are extremely detailed and elegant systems to ensure that there is just the right concentration of calcium inside of our cells and indeed in tiny compartments within cells called organelles such as the mitochondrion. If not enough calcium is available to control cellular processing, a collapse in energy production occurs and the cells are weakened or even die. On the other hand, if even a slightly elevated concentration of calcium develops within cells and their compartments, equally disastrous events will occur. Calcium is the most regulated mineral in our body and it is the universal "second messenger" of most processes in the myriad of cell types in our body.

Unfortunately, the advice we are given by the Federal Government, nutrition "authorities", the American Medical Association and the food industry are at great odds with what is known about calcium biology.

Various government agencies and medical authorities recommend we ingest 1500mg of calcium daily especially if we are diagnosed with osteoporosis. This is generally very bad advice (there are always exceptions). First of all, taking calcium supplements has been shown NOT to improve bone density. Worse, following this advice leads to an increase in vascular disease (heart attacks, strokes, etc.). If you take in more calcium than you need in the form of oral supplements, the calcium starts to accumulate in your soft tissue (arteries, organs, etc.) instead of your bones. This fact was noted about 20 years ago by two female biologists who found that when they examined the tissue of animals that had been given extra calcium in their diet, the tissues appeared to contain bone-like deposits. In other words, their soft tissue becomes calcified. This is the exact phe-

nomenon occurring in human arteriosclerosis!

I gave you this short background of calcium's role in our body as a preface to understanding the mechanism of how we age and finally die.

Actually calcium itself isn't the problem (provided one isn't ingesting too much in the form of supplements). A number of dietary and environmental factors present in our modern world lead to calcium imbalance and the resultant accumulations of this element in the aging process.

These factors include:

1. A high, refined carbohydrate diet
2. An historically unprecedented burden of toxic metals in our environment and bodies. These include lead, mercury, cadmium, arsenic, antimony, tin, nickel, aluminum and others.
3. A progressive overload of iron as we age.
4. Deficiency of magnesium

The first factor, let's just cut to the chase and call it sugar, is what is driving the epidemic of prediabetes, diabetes, vascular disease and cancer that is spreading over the entire Earth.

When sugar increases beyond our ability to burn it to make energy, it begins to bind to and damage our proteins. This then causes damage to our mitochondria, the central player in our moment to moment need for a supply of energy. This sets the stage for further damage to not only our "powerhouses" the mitochondria, but also our DNA, cell membranes, enzymes, linings of our arteries (the endothelium) and virtually all the molecules in our body.

When the energy production by the mitochondria is reduced, an excessive amount of free radicals are produced. These are the molecular species that underpins all the diseases that befall us. Once energy production falls, we lose our ability to, as some examples, make hormones, repair injuries, think and remember, digest our food adequately, walk upstairs, etc. etc.

You can start to see how calcification in our cells and tissues results in our gradual loss of vigor – aging.

"Life belongs to the energetic." –

Walt Whitman

If this was the only factor leading us into the valley of failing health, we could at least improve the situation by alterations in diet and lifestyle. But the plot thickens... Which leads us to the second factor contributing to aging. Man has been mining metals from the Earth for thousands of years. But with all the advances in technology and the increase in world population to over 7.5 billion people, the results of the acquisition and use of these metals, many of them highly toxic, are a PRIMARY cause of illness. As mentioned above, there are many toxic elements that are damaging our health. To give examples of how these metals contribute to the diseases of aging will allow you to understand the gravity of this problem (and why you not only need to change your diet, but also undergo metal detoxification therapy) are the actual mechanism by which toxic metals do their damage.

Mercury has been banned in Norway and Sweden but the US FDA is still claiming there is no "compelling evidence" that dental mercury amalgams are dangerous for human beings and that it is perfectly safe for dentists to put this deadly poison into your mouth.

Let me explain what mercury does when it enters your body whether from chewing your food on dental mercury fillings or eating fish contaminated with mercury that entered the food chain via coal burning power plants and other sources.

Mercury has an affinity for sulfur. At the heart of your mitochondrial energy production factories are what are known as "iron-sulfur crystals." This is where the ultimate action is. Electrons and protons stripped from the food substances you eat are sent through these structures to make ATP – the "Energy of Life." Mercury is con-

"...taking calcium supplements has been shown NOT to improve bone density. Worse, following this advice leads to an increase in vascular disease (heart attacks, strokes, etc.). "

Chelation Therapy

Dr. Waters has offered chelation since 1983

centrated in mitochondria and insinuates itself into the iron-sulfur crystals, ejecting the iron atoms located there. These free iron atoms then participate in reactions that generate 1 million free radicals per iron atom ejected!

And you thought that sugar was killing you? These radicals then damage mitochondrial components, DNA and other molecular structures further and lead to a further reduction of energy production.

Lead, which is ubiquitous in our environment, also damages mitochondria, but it does so in an even more fundamental way – it opens calcium channels so that calcium flows into cells and their compartments and leads to a further collapse of energy production (discussed below). In other chemical reactions, lead generates free radicals which then cause even more damage to our cellular machinery.

The third factor involves iron. We can't live without it. It helps us carry oxygen to our tissues. It is at the center of our ability to burn fuel in the mitochondrion. The Government forced the cereal processing industry to add iron to all cereal products because modern milling removed most of the minerals from grain and iron deficiency caused anemia in kids and young women.

However, iron is a double-edged sword. Like calcium, it is very tightly regulated. It is a potent initiator of free radical production. And even a small increase in total body iron leads to various medical problems (especially metabolic syndrome/diabetes) and shortened life expectancy.

Too much iron literally sets us on fire. We rust internally. We now know that our physician ancestors that applied “bleeding and leeches” were not quacks. They didn't know why, on average, sick people got better after relieving them of a pint of blood, but they usually did. Prominent physician/scientists are again using phlebotomy to treat people. The difference is we now know whom to bleed – the ones with iron overload. We can now diagnose this condition by a simple blood test called serum ferritin. I have phlebotomized patients for 35 years. Now it is moving back into “orthodox medicine,” albeit slowly.

We started with a discussion of calcium. How does sugar, toxic metals, iron overload and calcium imbalance fit together to create a biochemical disaster and rapid aging?

The commonality for the first three factors is the production of excess free radicals and the resultant damage to cellular structure. This not only results in reduced energy production with a concomitant depression of all the processes needed to maintain health but is at the root of the ultimate balance of all life-sustaining events – the regulation of calcium transfer between cells and within the various compartments within cells. The machinery is extremely complex and fascinating. Here I hope to import the central truth of cellular aging, sickness and death.

The loss of confinement of calcium to specific levels in both the greater organism (the skeleton) and the cytoskeletal compartments—the membranes within each cell that sequester and deliver calcium as it is needed to support energy demand—is the proximate cause of illness and aging. More specifically, when calcium enters cells at a greater rate than it can be pumped back out by energy dependent enzymes systems, sickness begins. The body's total calcium may remain constant but it becomes maldistributed .

This is the constant struggle in nature – the relentless doom of entropy – the tendency to randomize, disorganization. This doom is exemplified by the relentless transfer of the calcium in our bones to our arteries, brain cells, ligaments, joints, heart valves – indeed, all of our soft tissue.

On top of all this, is the deficiency of the most important metal needed for normal energy metabolism – magnesium.

Free radicals generated by excess sugar, toxic metals and iron overload damage the ability of cells to maintain calcium at healthy concentration in cells and tissues of our bodies. We can't stop this process but we can slow it down and even reverse it to some degree. The first step in this endeavor is to improve the diet; but it is not enough.

We must lower the burden of toxic metals that have accumulated in the body over the lifetime. Remove the excess iron that likewise has contributed to free radical damage. And, most importantly, remove calcium deposits from the soft tissues of the body.

The amazing amino acid EDTA (Ethylenediaminetetraacetic Acid) fits the bill for all of these goals. I have used this treatment for 36 years on my patients, my family, my staff and myself. 80-90% of patients who undergo chelation therapy with EDTA experience significant improvements. This treatment improves energy production and circulation. It reduces inflammation including that occurring in autoimmune disease such as Rheumatoid Arthritis. It improves bone density in patients who are known to have osteoporosis. In addition, EDTA breaks up biofilms – collections of microorganisms that form a colony and glue themselves together with calcium to avoid identification and destruction by the immune system. More on this and how its related to Lyme disease and other chronic infections in a future newsletter.

This is a remarkable, much underutilized, safe and effective therapy for the diseases of aging.

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Forskolin—*Coleus forskohlii*—Highlighted Supplement



By raising cAMP, forskolin contributes to:

- Increased force in the contraction of your heart muscle.
- Relaxation of the arteries and other smooth muscle.
- Healthy levels of insulin secretion.
- Optimal thyroid functioning.
- Increased breakdown of fat

You have probably seen or grown coleus – a plant whose leaves come in a variety of colors. One species of coleus originating in Nepal contains a unique molecule known as forskolin. This remarkable molecule has been shown in hundreds of scientific studies to help a variety of human diseases. It does so because it increases the synthesis of a central regulator of metabolism – cyclic adenosine monophosphate (cAMP). This substance does the following;

- Inhibits release of histamine from basophils and mast cells. (helps allergies)
- Inhibits the stickiness of platelets.
- Dilates the bronchial tubes. (helps asthma)
- Lowers blood pressure and dilates blood vessels.
- Inhibits the central regulator of NF- κ B the elevation of which leads to systemic inflammation
- Reduces intraocular pressure in glaucoma
- Increases the contractility of the heart muscle (helps congestive heart failure)
- Improves blood sugar in diabetes

The orthodox medical profession would accuse doctors who prescribe this herb as promoting a “panacea” which is a substance that helps almost any disease. The scientific literature indicates that it does! It is no wonder that it is a principle agent used by Ayurveda, the oldest medical system on the planet.

In double blind studies, it has been shown to improve body composition and improve hormone balance (testosterone) in overweight and obese men. It is effective in metabolic syndrome (prediabetes and Type 2 diabetes) because it causes breakdown of fat and increases the body’s metabolic rate. In addition, it reduces food intake.

In conclusion, forskolin has been shown to be effective in the treatment of high blood pressure, diabetes, metabolic syndrome, asthma, psoriasis, allergies, cardiovascular diseases, including heart failure, glaucoma, cancer metastases and obesity. It stimulates heat production which means it shunts calories away from fat storage.

It is an herb I wouldn’t be without. It increases fat burning and decreases waist circumference without the stimulation caused by appetite suppressants.

The dose of forskolin is 250mg of the 10% extract twice daily.

Upcoming Lectures! See page 1 and insert for details

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