

## **Bone and Dental Health**

By Chris Morris ND

Minerals conduct and generate billions of impulses within the body, ensuring peak performance. Experts estimate that 90% of the population suffers from mineral imbalances and/or deficiency. Minerals are necessary for cell rejuvenation, growth, and repair. Hence Dr. Linus Pauling Winner of two Nobel Prizes states. *"You can trace every sickness, every disease, and every ailment to a mineral deficiency."*

Every second of your life, your body relies on the bioavailability of minerals and trace elements to conduct and generate billions of tiny electrical impulses. Without these impulses, not a single muscle, including your heart, would be able to function. Our brain would not function and our cells would not be able to use osmosis to balance our water pressure to absorb nutrients. The absorption of minerals primarily takes place within the small intestines. As our food passes through, minerals are transferred into the blood stream through the walls of the intestinal tract. This process can only happen if the minerals are ionically charged. As we age or the body suffers from disease, stomach acid declines, making the few minerals still available in our food supply unavailable to our bio-systems.

When we look at the bony structures of our body the re-mineralization of the bones, cartilage and teeth occurs when the right nutritional protocol is consumed. Bones and teeth are tissues that are constantly remodeling. They need to break down and rebuild themselves in order to maintain structural integrity. Contrary to popular belief, teeth and bones are not just calcium. Think of tubes that are made of, and filled with, proteins and hardened by calcium compounds. It is the hardening of this calcified protein that makes bone solid and crystallizes the teeth.

The National Osteoporosis Foundation estimates osteoporosis causes more than 1.5 million fractures each year, including more than 300,000 hip fractures and about 700,000 vertebral fractures, 250,000 wrist fractures and 300,000 fractures at other sites. These startling numbers don't reflect the structural integrity of the jaws and teeth that most of us don't associate when we talk about bone health.

The health care costs associated with osteoporosis-related fractures and dental procedures were responsible for an estimated \$30 billion in costs in 2005. Let's look at the challenges both of these structural health issues are being faced by today's baby boomer.

Bone health, from The Economist - July 5th 2002.

It describes how bone density tests have become the gold standard for assessing fracture risk. The article says "it was widely believed that a decrease in bone density was the main cause of osteoporotic fractures. But some of those who suffer such fractures have the same bone density as people who don't."

The article goes on to say - "Researchers now realize that collagen, the structural protein that gives bones its flexibility, also plays an important part in osteoporosis. That makes sense, because the more flexible a bone is, the less likely it is to break." The strength of a person's fingernails could be a good marker for our collagen status.

[Cell Synergy](#) specializes in building back and repairing the collagen. It is specifically designed to replenish and build back the glue (collagen) that holds the cellular matrix of the tissue together.

Many practitioners have highlighted the dangers of Rx drugs used to treat osteoporosis and osteopenia. And just recently Fosamax, a well known bisphosphonate, has been linked to brittle bones especially in long term use, the supposedly bone strengthening drug is now linked to fractures. In 2008, bisphosphonate sales exceeded \$3.5 billion according to data from IMS Health. In 2008, over 37 million prescriptions were written for the osteoporosis medications.

Although bisphosphonates are generally recommended for postmenopausal women, research does not indicate how long women should be on the drug. Many doctors now recommend a five-year limit. "When they are on it for five, six, seven or eight years, they lost their ability to remodel and regenerate their skeleton," said Lane. "Some women are very vulnerable and they will then develop problems of brittle bone." Also, with any type of bisphosphonate, you may be at an increased risk for jawbone problems known as osteo-necrosis.

In the field of dentistry that has been with us for a very long time, why do so many people still need cavities filled, root canals, crowns, gum grafts, and other 'special treatments' like implants and bone grafts? Do you think that no one has ever come upon good answers to prevent these problems in all the years that 'modern' dentistry has been around?

If you are concerned about the high cost of dental care and the almost complete lack of cost coverage even when you have insurance, you are definitely not alone. One thing we should not overestimate is the importance of our dental health.

You may scarcely notice your teeth when everything is fine. However, when something hurts, we have a cavity or perhaps need a root canal, we do notice. Most likely, at that point, we are willing to pay the price to get this dental work done. That price, as we undoubtedly know, can be very high, forcing us to make those payments as high as \$20,000 dollars or more if we would opt for surgery!?

What if there were some simple things that you could do to actually prevent expensive treatments in the first place? Here is something important to keep in mind. The pH balance of your mouth is extremely important. Bacteria multiply more rapidly in an acidic environment and foods and beverages that are acidic can leach the calcium and phosphate right out of your teeth causing them to weaken and be more susceptible to greater inflammation and cavities!

[Cell Synergy](#) helps to replenish and build back the metabolic reserves especially the mineral reserves in the body for not just the teeth and bones but throughout the body. Here are some of the many benefits:

**Neural capacity and brain function.** If you want to increase you learning capacity, improve your mood and improve your memory then look to nutrition and especially minerals as they will deliver in all these areas.

**Cardiovascular health.** Hypertension denotes mineral deficiency in the interior of the cells of the body. Once this deficiency is corrected, and in conjunction with adequate salt intake, the blood

pressure becomes normal once again. The more functionally important intracellular minerals are potassium, calcium, magnesium, zinc and selenium.

**Bone health and depression.** What researchers were curious about was the fact that quite a few women and men with a clinical diagnosis of depression had a high incidence of osteoporosis. So a study which was out of the *New England Journal of Medicine* was to look at whether such a relationship actually existed. It's just a brief way for us to see that there is this interaction. It's now been confirmed from this rather large scale study, and the conclusion is that past or current depression, particularly in women, is associated with decreased bone mineral density. What we're seeing is that in depressed patients, there is less calcium going into the bone.

### **The Importance of Balance**

How many times do we get a true picture of calcium, and the fact that calcium cannot form bone cells without the proper balance of magnesium and other important elements. There was a book written almost 30 years ago. It was called "*Magnesium and the Pathogenesis of Disease*". What it pointed out is that when magnesium deficiency exists, the prospect is great that we're going to see an imbalance within the cell between the levels of magnesium and calcium. Universally, when we have many of the serious illnesses such as cancer or heart disease or cardiovascular disease, what we inevitably find in the red blood cells, is a high level of calcium relative to magnesium. In healthy people of the same age, the same variables, like whether we smoke or not smoke, but at least not carrying these diseases, we'll find that the ratios are at least closer to the ideal ratio for calcium and magnesium.

When the calcium cells are formed inside the marrow of the bone, these osteoblasts, the specialized cells that facilitate the formation of bone must have magnesium to mature. So one of the worst things we're doing in this country is suggesting that when people take products like Tums with calcium, that not only doesn't provide the other minerals and trace elements, which there are eleven necessary to make the bone matrix and make strong bone, but it is also an alkalizing component. For absorption to occur with calcium, it must be ionic. This means it must be subjected to an acid exposure. That's the hydrochloric acid in our stomach. Once the hydrochloric acid has liberated the calcium from whatever matrix, whatever complex it is in, then, in the small intestine it gets readily absorbed. This is true of eight, key, positively charged minerals. Calcium is useless without the supporting cast of silicon, boron, strontium, manganese, copper, zinc, and magnesium.

Some minerals are very, very tricky. This is why this whole field can seem to be so complicated and take so many years to learn. For example, zinc is not an antioxidant and copper is not an antioxidant, but when they're together in proper ratios in a cell, they act as an antioxidant.

What is really interesting is the subject of heavy metals. The toxic substances like lead and cadmium can use the exact same protein carriers as the good minerals use. Remember the blue color in the air of a smoke filled room. I'm sure all of you have seen it. Well that blue hazy color tint in the smoke was cadmium. Cadmium is one of the most toxic substances known to mankind. It's involved in all eight processes for developing cancer. There are eight oncogenic processes that produce over 800 different types of cancer. What this cadmium does, it facilitates the evolution and the progress of every one of these types of cancers. That's why it's an insidiously dangerous type of heavy metal to get into the human body. It has a half life in human tissue of some 20 to 30 years. So when we're in a room with smokers and you're breathing that pollution and putting cadmium into your system,

what happens? It goes into your tissue and it stays there for at least the next 20, 30, 40 years. Then you get exposed to such things as DDT and other chemicals, which we're all exposed to and what does cadmium do? It helps transfer toxic chemicals from the tissue into the cells through the lipid membrane to increase that ratio. If we keep our zinc levels and copper levels optimal, then when we are exposed to the toxic trace elements like cadmium, the zinc and copper have occupied the metal protein carriers. Since there are no extra protein carriers to put it into the tissue because you've got optimum nutrition, what happens? It is excreted. That's exactly what we want. And that's the way to avoid it and other dangerous heavy metals more prevalent in our environment today than ever before.

So understanding how trace minerals work can do a lot to reduce the risk of many diseases. In a study at Oxford years ago where this was done by a group of Italian researchers. It was amazing to watch. They had given laboratory animals lethal amounts of lead in water (lead acetate) and the animals did not die. This was a real puzzle to them. They added one part per million of cadmium into the solution and the animals were all dead within 24 hours. Then they did the autopsies and they saw what the cadmium did. This is why it was a great breakthrough of the realization of how dangerous this heavy metal is.

Let's look at why we recommend whole fresh foods over processed foods and why this is so smart. If we were to take a whole wheat grain, we would have a 100% of everything that is in that wheat grain. If you process it into a 70% extracted flour, you've removed 30% of the product. What's the 30%? It's the outer layer, the ectosperm and the germ. That means you would leave the endosperm with the starch. Now watch what Nature's done. All of the minerals are in the ectosperm in the outer layer and you've removed all of them. The only one that's in the starch is cadmium, so when we produce a 70% extract from flour what have we done? We got rid of the zinc and the copper which was in a 200 to 1 ratio to the cadmium. So when we eat the whole grain, we get all the other essential nutrients and you don't have to worry about the cadmium in the starch. Why, because the other minerals out compete the absorption of the cadmium. This is what we do with a lot of plant elements. We process them down and we form compounds that can be very toxic to us.

A little knowledge and supplementation of the right kind of minerals in the full spectrum that they are available in can make a world of difference in our health and well being.