

Zinc

November
2010

Zinc has been somewhat of a forgotten element. While it was quite popular 8-10 years ago, the good ole' zinc lozenge to ward off cold and flu in the winter seems to have taken a back slide to newer remedies on the market. However, sometimes the newest fad isn't the most effective. For more information on using zinc for cold/flu prevention and therapy, view our October 2009 newsletter.

An essential element that humans must acquire from their diet, zinc plays important roles in growth and development, the immune response, neurological function, and reproduction. Nearly 100 enzymes depend on zinc for their part in metabolic reactions. Zinc has an important structural role in proteins and cell membranes. Loss of zinc from cell membranes increases their susceptibility to damage and impairs their function. Zinc has also been found to regulate gene expression by binding to DNA and influencing the transcription of specific genes.

Food Sources

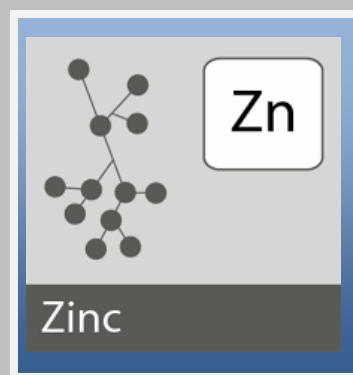
Animal sources, such as shellfish, beef, and other red meats are rich sources of zinc. Good plant based sources are nuts and legumes. Zinc bioavailability is higher in meat, eggs, and seafood because of the relative absence of compounds that inhibit zinc absorption and the presence of certain amino acids (cysteine and methionine) that improve zinc absorption. The zinc in whole grain products and plant proteins is less bioavailable due to their relatively high content of phytic acid, a compound that inhibits zinc absorption. The enzymatic action of yeast reduces the level of phytic acid in foods. Therefore, leavened whole grain breads have more bioavailable zinc than unleavened whole grain breads.

Copper-Zinc Relationship

The ratio of copper to zinc is clinically more important than the concentration of either of these trace metals. Taking large quantities of zinc (50 mg/day or more) over a period of weeks can interfere with copper bioavailability. The safe, tolerable upper limit for zinc is 40mg/day for adults and 12 mg/day for children ages 4-8 years of age. Likewise, exposure to increased copper levels whether through supplementation or contaminated water can reduce zinc levels. As explained earlier, it's the ratio that's most important. Iron and Calcium supplementation can also impair zinc absorption.

The symptoms of severe zinc deficiency include impaired growth and development, delayed sexual maturation, characteristic skin rashes, chronic and severe diarrhea, immune system deficiencies, impaired wound healing, diminished appetite, impaired taste sensation, night blindness, swelling and clouding of the corneas, and behavioral disturbances.

Mild zinc deficiencies are hard to identify but can be associated with poor healing, reduced immune system, and visual disturbances.



Zinc plays important roles in growth and development, the immune response, neurological function, and reproduction.

Animal food sources of zinc are more available to your body than plant sources.

Minerals in your body are in relationship to other minerals.

Supplementing with one mineral may create deficiencies in other minerals.

Unless you know precisely how much you need of each of the different minerals, it's best to get your minerals from food.

Laboratory testing will give you a good assessment of your body's mineral needs and imbalances.

Individuals at risk of zinc deficiency:

- Infants and children
- Pregnant and lactating (breast-feeding) women, especially teenagers and pregnant women who've been instructed to supplement with iron during the pregnancy.
- Patients receiving intravenous feedings
- Malnourished individuals, including those on low calorie diets and those with anorexia.
- Individuals with severe or persistent diarrhea or digestive disorders such as celiac disease, short bowel syndrome, Crohn's disease and ulcerative colitis
- Older adults (65 years and older)
- Strict vegetarians: The requirement for dietary zinc may be as much as 50% greater for strict vegetarians whose major food staples are grains and legumes, because high levels of phytic acid in these foods reduce zinc absorption

Hair elements testing is a good way to assess your zinc status as well as zinc:copper ratio. Testing of hair elements has had some controversy over the years. Much of the controversy arrives in choosing a trustworthy lab and how to interpret the data. The typical hair elements test will screen for the toxic elements: Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Cadmium, Lead, Mercury, Platinum, Thallium, Thorium, Uranium, Nickel, Silver, Tin, and Titanium. Essential and other elements tested are: Calcium, Magnesium, Sodium, Potassium, Copper, Zinc, Manganese, Chromium, Vanadium, Molybdenum, Boron, Iodine, Lithium, Phosphorus, Selenium, Strontium, Sulfur, Cobalt, Iron, Germanium, Rubidium, and Zirconium.

The hair root is in constant contact with blood vessels, allowing both essential and toxic elements to enter the hair shaft continuously as hair grows. In other words, hair analysis reflects long-term excretion rates of the various elements. One must understand that hair is an excretory tissue so any results that are "high" in the hair tissue are being excreted...when it comes to toxic elements, in a way this is a good thing. However, it does indicate exposure to the toxic element along with nutrient depletions it can cause. In addition, just because it's not coming out in the hair, doesn't mean you're not being exposed to that toxic element. It can indicate you have an inability to excrete the toxic element which can cause many health disorders from high blood pressure to memory and concentration issues. In our industrial society and with the very real problem of pollution, it is well understood you will get exposed to many toxic elements.

We can use the data from several stand points:

1. If you are getting exposed to toxic elements, we want to make sure they're being excreted efficiently.
2. Find ways within your control to try to reduce exposure with the understanding you cannot fully eliminate exposure due the nature of the world we live in today.
3. Try to apply nutritional protocols to help reduce the damage the toxic elements can cause and improve excretion of those elements.

Testing is the most important way to determine what dietary modification you need to make and reveal any areas you may need to supplement your diet. Hair elements and blood testing can give you a bigger picture of where you stand with regards to optimal health. Don't guess about your health...get tested today.

Compliments of

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**Don't Guess About Your
Health...**

**Schedule a Nutritional
Consultation Today!**

Call ... 760-735-8101

e-mail ... dr.cfarlow@cox.net

**Telephone Consultations
Available**

Federal Law requires that we warn you of the following:

1. Your individual health status and any required health care treatments can only be properly addressed by a professional healthcare provider of your choice. Remember: There is no adequate substitution for a personal consultation with your chosen health care provider. Therefore, we encourage you to make your own health care decisions based upon your research and in partnership with a qualified health care professional.

2. The Constitution guarantees you the right to be your own physician and to prescribe for your own health.