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Chitosan

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CHITOSAN (kite-o-san) Derived from chitin (kite`n), an acetylated aminopolysaccharide found in the exoskeleton of shrimp, crab, and lobster. It is a polymer of glucosamine that dissolves in acids (as found in the stomach)

FOR YOUR HEALTH

By Dr. Steven Schechter, N D.

Steven Schechter, N.D., is a nationally respected naturopathic doctor and consultant. He directs the Natural Healing Institute, a state-certified college of Naturopathy in Encinitas, CA. He authored the best-selling book, Fighting Radiation & Chemical Pollutants with Foods, Herbs & Vitamins (Vitality Ink, Encinitas, CA). He is available for phone consultations with people everywhere. 760/943-8485.

According to the National Institutes of Health (NIH) and the Centers for Disease Control (CDC), 30% of Americans carry 20% more weight than they should. NIH and CDC estimate a third of women and a quarter of men try to lose weight at any given time. A high fat diet is partly to blame.

There are many products that may help a dieter gain control:

Thermogenics to improve metabolism.

Specialized natural substances such as chromium, hydroxycitric acid (HCA), and amino acids such as L-carnitine to make the body react more

efficiently.

Fiber to curb hunger.

One fiber that shows promise is Chitosan. Unlike hydrophilic vegetable dietary fibers that absorb water, chitosan is lipophilic, meaning it has an affinity for fats. This animal fiber is so unique, it has no equal.

HOW CHITOSAN WORKS

When taking chitosan with food, the chitosan is dissolved by gastric juices in the stomach. It then mixes with the fats in the food to form a chitosan-fat complex. As it moves through the small intestine, this complex gels, entrapping the dietary fat and preventing it from being absorbed through the in-testinal walls and into the bloodstream. The chitosan-fat mixture then proceeds down the colon and is excreted.

THE VITAMIN CONNECTION

Vitamin C helps Chitosan work more efficiently. A study adding vitamin C (ascorbic acid) to Chitosan showed a synergistic effect that appeared to increase the fat holding capacity of the chitosan gel in the small intestine.

All fat soluble vitamins (A,D, and E) should be taken separately, preferably 3-4 hours before or after ingesting Chitosan.

RECOMMENDED USE

Take approximately 1000mg of Chitosan 30 minutes prior to eating your meal with 8 ozs of liquid.

SIDE EFFECTS

None noted. The most recent research did not find any increased diarrhea or constipation.

CAUTIONARY STATEMENTS

Pregnancy and Lactation

Although Chitosan is very safe, the added nutritional requirements of pregnancy and lactation recommend a cautionary approach. Chitosan may bind with essential fatty acids, fat-soluble vitamins, and certain minerals important for the baby's development.

Medications

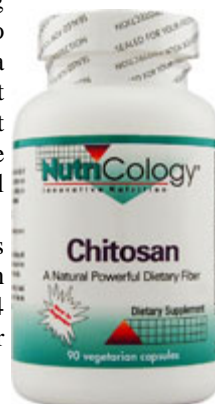
Chitosan may react with certain drugs. Check with your physician.

Allergies

Although shellfish proteins are not present in Chitosan, persons with extreme sensitivities should use caution. A reasonable and prudent approach is important. Similarly, chitosan should be used with discretion with growing children.

HEALTHWISE - Cholesterol

In animal studies, Chitosan showed positive results in lowering cholesterol levels. In a study by Sugano, Fujikawa et al, a 25 to 30% reduction in plasma cholesterol resulted with rats



fed a high cholesterol diet mixed with 2-5% chitosan. Another study by M. Sugano, Watanabe et al. shows several 5% Chitosan preparations almost completely prevented the rise of serum cholesterol.

In a third study by Ebihara, Schneeman et al., Chitosan was compared to several dietary fibers reported to lower plasma cholesterol by binding bile acids. In a comparison with guar gum and konjac mannan, with cellulose as a control, only the Chitosan appeared to bind with phospholipids.

Vahouny et al. Comparative effects of chitosan and cholestyramine on lymphatic absorption of lipids in the rat. *The American Journal of Clinical Nutrition* 38; pp. 278-284. August 1983.

Osamu Kanauchi et al. Mechanism for the Inhibition of Fat Digestion by Chitosan and for the Synergistic effect of Ascorbate; Applied Bioresearch Center, Corporate Research and Development Division: Japan, 1994.

Osamu Kanauchi, Keiji Deuchi et al. Mechanism for the Inhibition of Fat Digestion by Chitosan and for the Synergistic Effect of Ascorbate. Applied Bioresearch Center, Kirin Br. Co. Ltd., Japan. 1994

Sugano, Fujikawa et al. A novel use of chitosan as a cholesterol agent in rats; *The American Journal of Clinical Nutrition* 33. pp. 787-793. April 1980. George V. Vahouny, PhD et al. Comparative effects of chitosan and cholestyramine on lymphatic absorption of lipids in the rat. *The American Journal of Clinical Nutrition* 38. pp. 278-284. August 1983.

Sugano, Watanabe et al, Hypocholesterolemic Action of Chitosans with Different Viscosity in Rats. *Laboratory of Nutrition Chemistry, Kyushu University School of Ag. Japan. Vol. 23, No. 3, 1988.*

Chlorophyll

By Dr. Steven Schechter, ND.

Chlorophyll is essential to all life on earth. It harnesses the sun's energy for plant food in a series of reactions

which result in using water and carbon dioxide to produce carbohydrates and oxygen.

Through the tiniest one celled plants like Chlorella to more complex consumable plants and grasses, chlorophyll is part of the diet of most animals all the way up the food chain to humans.

The USDA recommends we eat at least five to nine servings of vegetables and fruit per day, including chlorophyll-rich leafy green plants.

There's a more intimate connection between humans and chlorophyll. Chlorophyll is so similar to heme (hemoglobin) in our own blood that only a single molecule separates the two: Magnesium at the center of chlorophyll, and iron at the center of the heme in red blood cells. Thus, chlorophyll has a powerful oxygenating effect and is very beneficial to blood health. Many naturopathic doctors recommend chlorophyll-rich foods for anemia.

Chlorophyll has been used in blood and liver disorders, to balance blood pressure, and support healthy menstrual cycles. Bleeding gums, varicose veins, constipation and hemorrhoids are also symptoms of a lack of chlorophyll-rich green foods in our diet.

The magnesium molecule in chlorophyll may have an effect on the immune system since it increases the activity of white blood cells.

Chlorophyll has also been used to help clean wounds of infection, clean tooth and gum affected with pyorrhea, used in a gargle after tooth surgery, and also help soothe infected tonsils.

Chlorophyll is a powerful deodorizer. Why do you eat parsley after a garlicky meal? To cleanse the breath. Dr. Gruskin, M.D. wrote in a report over fifty years ago from the Temple University school of Medicine where he was a Director of Experimental Pathology and Oncology: "Where a great deal of putrefaction with associated foul odor exists...the use of chlorophyll tends to clear up this foul odor rather promptly." He also noted that it was probably due to its bacteria killing ability.

There is no doubt chlorophyll-laden green foods are a crucial element to any healthy diet. Today, even with busy lifestyles with little time to plan elaborate meals, there are useful green supplements that are convenient and will fortify your body with the most elemental form of nutrition — chlorophyll, and other key nutrients.

Chlorella, the simplest of algae is perhaps the richest source, followed by wheat grass and barley grass, and the blue-green algae such as AFA and spirulina.

There are also drink mixes containing a combination of greens that are easy to combine with juice. Whatever you decide, make sure to include at least one serving of these nutrient rich foods in your supplementation regimen