

From our friends at "Back to Herbs"



Copper

Copper combines with certain proteins to produce enzymes that act as catalysts to help a number of body functions. Some help provide energy required by biochemical reactions. Others are involved in the transformation of melanin for pigmentation of the skin and still others help to form cross-links in collagen and elastin and thereby maintain and repair connective tissues. This is especially important for the heart and arteries. Research suggests that copper deficiency is one



factor leading to an increased risk of developing coronary heart disease.

Until recently, it was generally believed that most people consumed adequate quantities of copper. However, modern research has shown that this is not the case. In the United Kingdom and the United States for example, many typical meals have been analyzed for their metals content. According to recent surveys, only 25% of the US population consume the amount of copper a day estimated to be adequate by the US Food and Nutrition Board of the National Academy of Sciences. Typical diets in the US provide only about half of this amount and some diets in mainly industrialized countries contain less than 40% of the recommended dietary allowance.

The World Health Organization (WHO) and the Food and Agricultural Administration (FAA) are likely to suggest that the population mean intake of copper should not exceed 12mg/day for adult males and 10mg/day for adult females. These are regarded as the lowest intakes likely to produce the slightest biochemical evidence of undesirable effects in all but a small number of members of a population. Sufferers from Indian childhood cirrhosis or hereditary diseases such as Wilson's Disease retain excessive amounts of copper in the body and suffer from liver damage, often with fatal consequences. The symptoms of acute copper poisoning include nausea, vomiting and abdominal and muscle pain. Excess body copper can be removed by means of specific chelating agents or by the consumption of high levels of zinc.

The health benefits of copper include proper growth, utilization of iron, enzymatic reactions, connective tissues, hair, eyes, aging and energy production. Apart from these, heart rhythm, thyroid glands, arthritis, wound healing. RBC (red blood cell) formation and cholesterol are other health benefits of copper.

The health benefits of copper are crucial for healthy existence, as this mineral enables normal metabolic process in association with amino acids and vitamins. Copper cannot

be produced within the body and hence needs to be consumed from external food sources. Copper is the third most prevalent mineral in the body and the blood plasma protein, ceruloplasmin, mostly carries it.

Deficiency symptoms: Deficiency of copper can have the following symptoms in human beings:

- Anemia
- Low body temperature
- Brittle bones
- Osteoporosis
- Dilated veins
- Low white blood cell count
- Uneven heartbeat
- Elevated cholesterol levels
- Low resistance to infections
- Birth defects
- Low skin pigmentation
- Thyroid disorders

Some of the other symptoms include lethargy, paleness, sores, edema, stunted growth, hair loss, anorexia, diarrhea, bleeding under the skin and dermatitis. In infant boys, inherited copper deficiency of Menkes' syndrome can happen rarely, where natural absorption of copper becomes impossible. Early medical intervention is vital in such cases.

Copper is present in various food sources such as liver, meat, seafood, beans, whole grains soy flour, wheat bran, almonds, avocados, barley, garlic, nuts, oats, blackstrap molasses, beets and lentils. Copper is also absorbed into the human body by drinking water from copper pipes and by using copper cook wear. Oysters are the richest sources of copper. Copper content is lost because of prolonged storing in tin cans and in food materials that are high in acid content.

Benefits: Copper has many important roles to play in maintaining a healthy body and some of its benefits include:

- **Arthritis:** The health benefits of copper relate to its anti-inflammatory actions to assist in reducing the symptoms of arthritis.
- **Proper growth:** Copper is highly essential for normal growth and health. Thus, it is definitely important to include this mineral in balanced form in regular diets of an individual. It is helpful in protection of skeletal, nervous and cardiovascular systems.
- **Pigmentation to hair and eyes:** Copper is a vital element of the natural dark pigment, melanin, which imparts coloration to skin, hair, and eyes. Intake of copper supplements helps in protecting the graying hair.
- **Connective tissues:** Copper is an important nutrient that has a significant role in the synthesis of hemoglobin, myelin, body pigment melanin and collagen. It helps to protect the myelin sheath surrounding the nerves. It is also actively involved in the production of an element of connective tissue, elastin.
- **Brain Stimulation:** Copper is widely known as a brain stimulant. It is also otherwise called "Brain food". However, copper content in the diet has to be in right proportions. Too much copper is also not healthy for the brain.
- **Utilization of iron and sugar:** Copper helps in the absorption of iron from the intestinal tract and release from its primary storage sites like liver. It also helps in the utilization of sugar in the body.

- **Enzymatic reactions:** Copper is either an element or a cofactor of as many as 50 different enzymes that take part in various biological reactions within the body. These enzymes can function properly only in the presence of copper.
- **Helps in stalling aging:** Copper is a strong antioxidant, which works in the presence of the antioxidant enzyme, superoxide dismutase, to safeguard the cell membranes from free radicals.
- **Increases energy production:** Copper is essential for the synthesis of ATP (adenosine triphosphate), which is an energy storehouse of the human body.
- **Bactericidal properties:** Studies have shown that copper can destroy or inhibit the growth of bacterial strains such as E Coli.
- **Thyroid glands:** Copper has an important role in ensuring the proper functioning of thyroid glands.
- **RBC formation:** Copper helps in the production of red blood cells hemoglobin and bone.
- **Immunity:** Copper has an important role in the healing process and thus, ensures better wound healing. Copper acts as an extremely good immunity builder. It also works as a cure to anemic problems.
- **Reduces cholesterol:** Research studies have shown that copper can reduce bad cholesterol level and helps in increasing beneficial cholesterol.

Side effects: copper toxicity may cause abdominal pain, nausea, vomiting, diarrhea, severe liver damage, kidney failure, coma, and death.



Be sure to try NSP's Calcium-Magnesium, SynerPro® (150 tabs) NEW SIZE! , Bowel Detox (120 caps)

References:

http://www.copper.org/consumers/health/papers/cu_health_uk/cu_health_uk.html
<http://www.organicfacts.net/health-benefits/minerals/health-benefits-of-copper.html>

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Yours in Good Health!

Sincerely,

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