



Copper:

Why is Copper Important?

Copper is easily absorbed by the gastrointestinal tract and transported to the liver. It is then distributed to other parts of the body that require it. Copper works closely with iron to produce red blood cells. Copper is also important for hemoglobin production, sugar metabolism, and catecholamine biosynthesis. Without that proper amounts of copper your body cannot function properly.

What Body Functions is Copper Important for?

Hemoglobin Production: Copper aids in hemoglobin production by helping with the absorption and transport of iron by playing a role in the production of ceruloplasmin.

Sugar Metabolism: Copper plays a role in sugar metabolism by assisting in the regulation of glucose transport and insulin production.

Catecholamine Biosynthesis: Copper plays a role in the production of an enzyme that turns dopamine into norepinephrine.

Red Blood Cell Production: Copper and iron work together to synthesize red blood cells.

Estrogen Production: Copper is required for the production of certain enzymes that convert progesterone into estrogen. This is why women need to consume more copper than men do.

Different Types of Copper:

Cupric Oxide: This form of copper is inorganic and is found in many copper containing supplements.

Copper Gluconate: This form of copper is used as a nutrient or dietary supplement.

Copper Amino Acid Chelates: This form of copper has an increased bioavailability and can be used as a dietary supplement.

Food Sources Copper is in:

Food	mcg/serving
Animal Sources	
Beef Liver (3 ounces)	12,400
Eastern Oysters (3 ounces)	4,850
Unsweetened Baking Chocolate (1 ounce)	938
Dungeness Crab (3 ounces)	624
Turkey GIBLETS (3 ounces)	588
Atlantic Salmon (3 ounces)	273
Ground Turkey (3 ounces)	128
Low Fat Greek Yogurt (7 ounces)	42
Cow's Milk (1 cup)	27
Plant Sources	
Potato	675
Shiitake Mushrooms (½ cup)	650
Cashews (1 ounce)	629
Unsweetened Baking Chocolate (1 ounce)	938
Sunflower Seeds (½ cup)	615
Dark Chocolate (1 ounce)	501
Whole Wheat Pasta (1 cup)	263
Avocado (½ cup)	219
Spinach (½ cup)	157
Asparagus (½ cup)	149
Sesame Seeds (¼ cup)	147
Cereal or Cream of Wheat (1 cup)	104
Tomatoes (½ cup)	53
Apples (½ cup)	17

Signs and Causes of Copper Deficiency:

A deficiency in copper is rare. People with celiac disease, Menkes disease, or are taking high doses of zinc supplements are more likely to have a copper deficiency because their body's ability to absorb copper is disrupted.

Menkes' Disease: A rare genetic disease that doesn't allow for the body to store copper.

Signs of Copper Deficiency: Fatigue, weakness, memory problems, frequent sickness, and pale skin can be caused by copper deficiency.

Signs and Causes of Copper Toxicity:

A copper toxicity is very rare unless you have Wilson's disease. However, it can be caused by consuming too much water that contains high levels of copper.

Wilson's disease: A rare genetic disease that causes an accumulation of copper in the body.

Signs of Copper Toxicity: Fatigue, loss of appetite, abdominal pain, jaundice, muscle stiffness, lack of motor coordination, speech impairment, abdominal pain or cramps, nausea, diarrhea, and vomiting can be caused by copper toxicity.

****Exposure to high levels of copper can cause liver damage and gastrointestinal symptoms**

Supplementation of Copper:

Supplementation of copper can prevent, allergies, hair loss, AIDS, leukemia, osteoporosis, and gastric ulcers

***It is important to know that dietary intake of copper should be your main source of copper, and any copper supplements should supplement the copper you are already ingesting.**

Daily Recommended Dose of Copper:

Age	Male	Female	Pregnancy	Lactation
Birth to 6 months	200 mcg	200 mcg		
7-12 months	220 mcg	220 mcg		
1-3 years	340 mcg	340 mcg		
4-8 years	440 mcg	440 mcg		
9-13 years	700 mcg	700 mcg		
14-18 years	890 mcg	890 mcg	1,000 mcg	1,300 mcg
19+ years	900 mcg	900 mcg	1,000 mcg	1,300 mcg

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