National Institutes of Health
Office of Dietary Supplements

Copper Fact Sheet for Consumers

Nuts are a rich source of copper.

What is copper and what does it do?

Copper is a mineral that you need to stay healthy. Your body uses copper to carry out many important functions, including making energy, connective tissues, and blood vessels. Copper also helps maintain the nervous and immune systems, and activates genes. Your body also needs copper for brain development.

How much copper do I need?

The amount of copper you need each day depends on your age. Average daily recommended amounts are listed below in micrograms (mcg).

Life Stage	Recommended Amount
Birth to 6 months	200 mcg
Infants 7–12 months	220 mcg
Children 1–3 years	340 mcg
Children 4–8 years	440 mcg
Children 9–13 years	700 mcg
Teens 14–18 years	890 mcg
Adults 19 years and older	900 mcg
Pregnant teens and women	1,000 mcg
Breastfeeding teens and women	1,300 mcg

What foods provide copper?

Many foods contain copper. You can get recommended amounts of copper by eating a variety of foods, including the following:

- Beef liver and shellfish such as oysters
- Nuts (such as cashews), seeds (such as sesame and sunflower), and chocolate
- Wheat-bran cereals and whole-grain products
- Potatoes, mushrooms, avocados, chickpeas, and tofu

What kinds of copper dietary supplements are available?

Copper is available in many multivitamin/multimineral supplements, in supplements that contain only copper, and in other dietary supplements. Copper in dietary supplements is often in the forms of cupric oxide, cupric sulfate, copper amino acid chelates, and copper gluconate. It is not known whether one form of copper is better than another.

Am I getting enough copper?

Most people get enough copper from the foods they eat. However, certain groups of people are more likely than others to have trouble getting enough copper:

- People with celiac disease
- People with Menkes disease, a rare genetic disorder
- People taking high doses of zinc supplements, which can interfere with the ability to absorb copper and could lead to copper deficiency

What happens if I don't get enough copper?

Copper deficiency is rare in the United States. Copper deficiency can cause extreme tiredness, lightened patches of skin, high levels of cholesterol in the blood, and connective tissue disorders affecting the ligaments and skin. Other effects of copper deficiency are weak and brittle bones, loss of balance and coordination, and increased risk of infection.

What are some effects of copper on health?

Scientists are studying copper to understand how it affects health. Here are several examples of what this research has shown:

Cardiovascular disease

Studies looking at the effect of copper intake on heart disease have had mixed results. More research is needed to understand whether getting more copper from the diet or supplements might raise or lower the risk of cardiovascular disease.

Alzheimer's disease

Some research shows that people with higher levels of copper in their blood have a lower risk of Alzheimer's disease. Other research, however, shows that high amounts might increase Alzheimer's disease risk. More research is needed to determine whether high or low levels of copper affect the risk of developing Alzheimer's disease. Research is also needed to find out whether dietary supplements that contain copper could affect the risk of Alzheimer's disease or its symptoms.

Can copper be harmful?

Yes, copper can be harmful if you get too much. Getting too much copper on a regular basis can cause liver damage, abdominal pain, cramps, nausea, diarrhea, and vomiting. Copper toxicity is rare in healthy individuals. But it can occur in people with Wilson's disease, a rare genetic disorder. It can also occur if copper-containing water pipes leach copper into drinking water in your home or workplace.

The daily upper limits for copper are listed below in micrograms (mcg).

Ages	Upper Limit
Birth to 12 months	Not established
Children 1–3 years	1,000 mcg
Children 4–8 years	3,000 mcg
Children 9–13 years	5,000 mcg
Teens 14–18 years	8,000 mcg
Adults	10,000 mcg

Are there any interactions with copper that I should know about?

Copper is not known to interact with any medications. But it's always important to tell your doctor, pharmacist, and other healthcare providers about any dietary supplements and prescription or over-the-counter medicines you take. They can tell you if the dietary supplements might interact with your medicines or if the medicines might interfere with how your body absorbs, uses, or breaks down nutrients such as copper.

Copper and healthful eating

People should get most of their nutrients from food and beverages, according to the federal government's *Dietary Guidelines for Americans*. Foods contain vitamins, minerals, dietary fiber, and other components that benefit health. In some cases, fortified foods and dietary supplements are useful when it is not possible to meet needs for one or more nutrients (for example, during specific life stage such as pregnancy). For more information about building a healthy diet, see the *Dietary Guidelines for Americans* and the U.S. Department of Agriculture's MyPlate.

Where can I find out more about copper?

For more information on copper:

- Office of Dietary Supplements Health Professional Fact Sheet on Copper
- MedlinePlus®, Copper in diet

For more information on food sources of copper:

- Office of Dietary Supplements Health Professional Fact Sheet on Copper
- U.S. Department of Agriculture (USDA), FoodData Central
- USDA, Copper content of selected foods

For more advice on buying dietary supplements:

- Office of Dietary Supplements Frequently Asked Questions: Which brand(s) of dietary supplements should I purchase?

For information about building a healthy diet:

- *Dietary Guidelines for Americans*
- MyPlate

Disclaimer

This fact sheet by the Office of Dietary Supplements (ODS) provides information that should not take the place of medical advice. We encourage you to talk to your healthcare providers (doctor, registered dietitian, pharmacist, etc.) about your interest in, questions about, or use of dietary supplements and what may be best for your overall health. Any mention in this publication of a specific product or service, or recommendation from an organization or professional society, does not represent an endorsement by ODS of that product, service, or expert advice.

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