

Chromium Fact Sheet for Consumers



Chromium is a mineral found in many foods.

What is chromium and what does it do?

Chromium is a mineral found in many foods. Researchers do not fully understand what chromium does in your body, but it might help you use carbohydrates, fats, and proteins.

There are two main forms of chromium. This fact sheet is about chromium (III), the type of chromium found in foods and some dietary supplements. A different type of chromium, called chromium (VI) (sometimes called hexavalent chromium) is a poisonous byproduct of industrial manufacturing.

How much chromium do I need?

Scientists do not currently think that chromium is necessary for good health, and chromium deficiency has not been reported in healthy people. However, in 2001 scientists did consider chromium to be an essential nutrient, and they set recommended amounts based on the evidence available at that time. Here are the average daily recommended amounts in micrograms (mcg) that were established in 2001:

Life Stage	Recommended Amount
Birth to 6 months	0.2 mcg
Infants 7–12 months	5.5 mcg
Children 1–3 years	11 mcg
Children 4–8 years	15 mcg
Boys 9–13 years	25 mcg
Girls 9–13 years	21 mcg
Teen boys 14–18 years	35 mcg
Teen girls 14–18 years	24 mcg
Adult men 19–50 years	35 mcg
Adult women 19–50 years	25 mcg
Adult men 51+ years	30 mcg
Adult women 51+ years	20 mcg
Pregnant teens	29 mcg
Pregnant women	30 mcg
Breastfeeding teens	44 mcg
Breastfeeding women	45 mcg

What foods provide chromium?

Many foods contain chromium. The amount of chromium in fruits and vegetables depends on the amount of chromium in the soil and water in which they were grown. The amount in meat depends on the animal's diet. Using stainless steel equipment to process or cook foods can increase the chromium content of food because small amounts of chromium transfer to the food.

You can get recommended amounts of chromium by eating a variety of foods, including the following:

- Meats, such as ham, beef, and turkey
- Bread and other grain products
- Vegetables, such as lettuce and green beans
- Fruit, such as apples and bananas
- Juices, such as grape, orange, and tomato juices
- Brewer's yeast and nuts

What kinds of chromium dietary supplements are available?

Chromium is available in many dietary supplements, such as multivitamin/multimineral supplements and supplements that contain only chromium. Chromium in dietary supplements is in many forms, including chromium picolinate and chromium chloride. Your body absorbs chromium similarly from the different forms used in supplements.

What are some effects of chromium supplements on health?

Scientists are studying chromium supplements to understand whether they affect health. Here are some examples of what this research has shown:

High blood sugar levels and diabetes

Chromium supplements are often promoted to improve blood sugar control in people with type 2 diabetes. However, studies examining the effects of chromium on high blood sugar levels or diabetes have had mixed results. The American Diabetes Association does not recommend chromium supplements for people with diabetes because these supplements don't have a clear benefit. More research is needed to understand whether chromium supplements might improve blood sugar control in some people.

Metabolic syndrome

Metabolic syndrome—the combination of excess belly fat, high levels of fat in the blood, high blood sugar, high blood pressure, and low levels of HDL (“good”) cholesterol—raises the risk of heart disease, diabetes, and stroke. A few clinical trials have studied the effect of chromium supplements on metabolic syndrome. These studies did not show a benefit of chromium supplementation in people with metabolic syndrome.

Polycystic ovary syndrome (PCOS)

PCOS is a hormonal disorder that affects females of reproductive age. Symptoms include irregular periods, infertility, excess hair on the face or body, acne, and weight gain. PCOS raises the risk of diabetes and heart disease. Studies examining the effects of chromium supplements on PCOS have had mixed results. Any potential benefits appear to be very small. More research is needed to understand whether taking chromium might help lower the risk of PCOS or improve symptoms.

High cholesterol levels

High levels of LDL (“bad”) cholesterol can raise your risk of heart attack and stroke. Studies have examined whether chromium supplements improve cholesterol levels. The results of these studies have been mixed. More research is needed to understand whether chromium supplements have any effect on cholesterol levels.

Weight and lean body mass

Some chromium supplements are marketed for weight loss and to reduce body fat and increase muscle mass. However, clinical trials have found only a very small benefit. This benefit is unlikely to make any difference in health or appearance.

Can chromium be harmful?

Chromium from food and dietary supplements does not appear to cause any harm, but research is limited. People with kidney disease or liver disease should be cautious about taking high amounts of chromium.

Does chromium interact with medications or other dietary supplements?

Yes. Chromium supplements might interact or interfere with medicines that you take. Here are a few examples:

- Insulin. Taking chromium together with insulin might cause low blood sugar levels.
- Metformin and other anti-diabetes medications. If you take anti-diabetes medicine, taking chromium dietary supplements might cause low blood sugar levels.
- Levothyroxine. Levothyroxine is a medication used to treat hypothyroidism (a condition in which the thyroid gland does not make enough thyroid hormone). Taking chromium dietary supplements together with levothyroxine might reduce the amount of levothyroxine your body absorbs so you might not be getting the full effect of the medication.

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 these dietary supplements might interact with your medicines. They can also explain whether the medicines you take might interfere with how your body absorbs or uses chromium or other nutrients.

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 (e.g., during specific life stages such as pregnancy).

For more information about building a healthy dietary pattern, see the *Dietary Guidelines for Americans* and the U.S. Department of Agriculture's MyPlate.

Where can I find out more about chromium?

For more information on chromium and food sources of chromium:

- Office of Dietary Supplements Health Professional Fact Sheet on Chromium

For more advice on choosing dietary supplements:

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

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:

- MyPlate
- *Dietary Guidelines for Americans*

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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