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Memorial Sloan Kettering  
Cancer Center

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## FOR THE MEDIA

There is no clear evidence to show that chromium supplementation is effective for improving glucose metabolism, losing weight, or building muscle mass.

Chromium is an element required by the body in very small amounts (0.025 mg a day). Adequate amounts are usually obtained in the diet from foods such as American cheese, meat, fish, fruits, and whole grains. Lab experiments suggest chromium is involved in maintaining adequate levels of glucose, fats, and insulin in the body. In theory, this could help patients with type 2 diabetes, but the current evidence in human studies is mixed.

Chromium is sometimes combined with GTF (Glucose Tolerance Factor) in over-the-counter products. GTF is a yeast extract that helps with glucose metabolism in lab studies, but this effect has not been confirmed in humans.

## What are the potential uses and benefits?

- To treat diabetes

Clinical trials produced conflicting results regarding chromium's ability to lower blood glucose, cholesterol, and triglycerides.

- To treat polycystic ovarian syndrome

Data suggest that any effect of chromium on PCOS symptoms is small, with clinical relevance uncertain.

- To improve muscle mass

Clinical trials do not support this use.

- To improve weight loss

Clinical trials do not support this use.

## What are the side effects?

In rare cases, liver toxicity has occurred.

### Case reports

- Kidney failure: In two patients who took chromium supplements to enhance weight loss.
- Red skin lesions: Accompanied with fever, swelling, and high white blood cell counts.
- Destruction of skeletal muscle: In one patient while taking chromium picolinate in addition to other dietary supplements. Therefore, whether chromium caused this condition is not clear.
- Low blood sugar: In a 29-year-old man with diabetes who took chromium supplements in addition to insulin.

## What else do I need to know?

### Do Not Take if:

- You have liver or kidney problems: There have been some case reports of liver and kidney toxicities with chromium supplements.
- You are taking sulfonylureas or insulin: Chromium can lower your blood sugar even more.
- You are taking levothyroxine to treat underactive thyroid: In one study, chromium picolinate decreased bioavailability of this drug by 17%. Therefore, these two products should not be taken together; wait several hours in between.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

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