

**Aunt Cathy's
Guide to Nutrition:
CHROMIUM**



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Chromium is an important nutrient that has been in the news recently. There have been some unsubstantiated claims for chromium as a weight loss or muscle-building aid, and careful studies have NOT found it to be helpful for these uses.

However, chromium adequacy IS important for controlling blood sugar and fat metabolism (including triglyceride and cholesterol metabolism), and the diet of many Americans contains considerably less chromium than is recommended.

Current expert opinion is this:

- 1. Inadequate chromium intake can certainly contribute to high blood sugar (diabetes), to high blood triglycerides, and to cholesterol problems.**

A high triglyceride level in a person with diabetes is considered an important risk factor for stroke. In a study of men and women with diabetes who had high triglycerides, providing supplemental chromium just at the standard intake level of 200 mcg/day resulted in a significant improvement in triglyceride levels. The form of chromium used in that study was “chromium picolinate.” It appears that not all forms of chromium supplements are equally well absorbed and utilized by the body. The picolinate form has been shown to be one of the best absorbed sources. Chromium chloride, the form used in many multivitamins is less well absorbed. There is much interest now in studying the relative safety and the absorbability of the various chromium-containing compounds now used as supplements. There are also several large NIH studies underway exploring chromium supplementation in a variety of medical conditions. Stay tuned . . .

- 2. Many people in America eat a diet that does not provide enough chromium because much of the grain products we use have been “refined.”**

This process removes many important vitamins and minerals in grain, including

chromium and magnesium in particular, and most are not added back when the product is “enriched.” For example, only iron, and three B vitamins (thiamin, riboflavin and niacin) are added back to original levels. Folic acid is now added at a level above the original grain content.

In spite of recommendations, most Americans eat few whole grains and legumes. Interestingly, when people with diabetes are fed a diet that is rich in foods that are “high in fiber”, their blood sugar control often improves. This is often attributed to the effects of the fiber itself on absorption of carbohydrate in the intestine.

However, along with that effect there is the “accidental” great improvement in chromium and magnesium intake with a diet that is high in fiber-rich foods, and both of these nutrients have a role in blood sugar control. In other words, there are many players on the team supporting healthy blood sugars; it makes sense to assure that all are present in appropriate amounts.

It is reasonable to make sure that especially people with high blood sugar or high triglycerides or LDL cholesterol have an adequate chromium intake.

It is NOT safe to assume that they do without looking closely at their diet.

Eating lots of foods with refined sugar and flour -- even “healthy” foods like pasta increases the body's need for chromium (because chromium is needed in order to use them for energy), and these refined foods are not good sources of it.

The richest food sources are brewer's yeast, wheat germ, and oysters. Broccoli, cheese, prunes, peanuts, whole grain cereals, mushrooms, asparagus and peas are also sources.

3. If a supplement is used, how much is recommended?

For healthy people, there is no advantage of taking more than the recommended **"adequate and safe" range of 50-200 mcg/day**, although studies suggest that levels up to twice this amount may be helpful for some people with diabetes. This amount, even with a high fiber diet is not dangerous.

However, as with all minerals, excessive chromium can be toxic. Toxic chromium levels are usually only seen with accidental food contamination, not from intake of chromium-containing foods. But it may be possible to cause chromium poisoning from excessive use of chromium supplements, and it also appears that **excessive** supplementation may interfere with absorption of other important nutrients. So the safest course is to avoid **supplementation** above the recommended 200 mcg upper level unless advised to do so by a physician.