

Selenium & supplements

by Michèle Cossette

Micronutrients are vitamins and minerals that the body requires daily in small amounts to maintain good health. Selenium is a trace mineral that's thought to be important for preventing cancer and for the immune system to work properly. Here's what you need to know about this mineral and being HIV+.

Selenium is a mineral found in the soil. It's absorbed by the plants we eat and by the grazing animals we use for meat. It's also found in some fish that eat water plants. Everyone needs some selenium in their diet because it helps the immune system function properly and plays a role in preventing cancer. One of the best-known actions of selenium is that it is incorporated into specialized proteins (enzymes) that have antioxidant properties, meaning they help protect cells from damage by chemicals called free radicals.

The positive connection

People with HIV/AIDS, especially those who are also infected with hepatitis C, tend to have lowered blood selenium levels. Selenium is also decreased in people who have opportunistic infections (see glossary, page 15) or an HIV-associated cancer.

No one is 100% sure just yet how HIV interacts with selenium, but some studies have shown that diminished levels of selenium are linked with reduced CD4 counts and faster disease progression. Because low selenium levels are linked with an increased risk of developing opportunistic infections, selenium intake may be a factor in survival for people with HIV who have vitamin deficiencies.

Stocking up

Canada is one of only four countries in the world where the soil is rich enough in selenium to provide us with an adequate amount of the mineral through our homegrown diets. Beans and grain products are good sources, so look for meals that include breads, pastas and cereals. Canadian meat, poultry, fish and shellfish also supply it in abundance. Brazil nuts have the highest concentration of selenium. If your diet regularly includes these types of foods, you can safely assume you don't have to take a supplement.

When diet doesn't do it

Most people with HIV who are eating well don't need selenium supplements because it's well absorbed from the diet. But some experts say

that people who are malnourished or can't keep food down may benefit from supplementation. Selenium needs other vitamins like vitamin E, C and B12 to do its job. If you're not eating enough, chances are you're lacking more than just selenium. In that case, you should probably be taking a multi-vitamin. The average adult needs 55–60 micrograms (μg) of selenium a day. A good supplement should have about that much.

Too much of a good thing

Before you start popping the pills, a note of warning: too much selenium can be toxic. Called selenosis, the condition in its mildest form results in nausea and vomiting, rash, weakened fingernails, hair loss and garlic-smelling breath. Long-term exposure to high levels of selenium can damage the nervous system, causing weakness and a lack of mental alertness. Most people get about 100–200 μg from food a day and 400 μg is the maximum amount you should be taking in (from food and supplements) that won't result in ill effects.

A matter of balance

Finding just the right level between too much and too little can be tricky, as the margin between selenium deficiency and toxicity is narrower than for many other micronutrients. It's best to discuss your selenium status with a qualified nutritionist. Check out the Resources section where you'll find listings that can lead you in the right direction or offer nutritional counselling. **R**

Main sources of selenium

- Brazil nuts
- Beans (chick peas, kidney beans, lentils)
- Grain products: wheat germ, wheat bran, oat bran, bread, pasta, ready-to-eat cereal
- Eggs
- Meat and poultry
- Fish and shellfish

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