

Vitamins and minerals

Supplements can be helpful for specific conditions

Good nutrition is important to keep your immune system strong and protect your body against some of the chronic conditions common in people living with HIV. Deficiencies in essential vitamins and minerals can affect your long-term health, which is why many people, particularly those living with HIV, turn to supplements just to be sure they're getting enough. There isn't sufficient scientific evidence to support their widespread use by everyone living with HIV, but certain types of supplements can be beneficial in specific cases.

by Michèle Cossette

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Nowadays thanks to HAART, people living with HIV are generally stronger and healthier than they once were and true deficiencies are much less common. There's still concern, though, that lower levels of micronutrients in the blood increase the risk of disease progression and mortality in people living with HIV. What many people don't realize is that when you have an infection like HIV, vitamins and minerals are redistributed throughout the body in order to fight it off. So even if the level of vitamins or minerals in your blood seems low, that doesn't mean you don't have as much as you need. Furthermore, a review of the few studies that have been done since the introduction of HAART suggest that blood levels of some micronutrients may actually bounce back after people start therapy.

Right now there isn't enough conclusive scientific evidence that vitamin and mineral supplementation has any effect on morbidity and mortality in people without actual deficiencies. That being said, people living with HIV are more susceptible to certain conditions in which supplementation may be necessary.

Eat 'em up

Ideally, you should be getting all the vitamins and minerals your body needs from the food you eat. In addition to the micronutrients that are involved in normal metabolic activity, "whole food" contains compounds that may provide additional health benefits. Proteins are necessary to

maintain muscle mass, antibodies and enzyme production. Fruits and vegetables contain cancer-fighting chemicals, called phytochemicals because they are from plant sources. Grain products, legumes, nuts and seeds, fruits and vegetables contain fibres that prevent constipation and may also help alleviate diarrhea, decrease blood cholesterol and normalize blood sugar and insulin levels.

Fighting deficiencies

Some people living with HIV may not get all the micronutrients they need from diet alone. Again, HAART has helped a lot in this regard, but things like loss of appetite, absorption problems, chronic diarrhea or other side effects from your medication can occasionally lead to deficiencies. Always



Many different views are expressed on the benefits of supplements in general and for people living with HIV. This article is based on the published scientific evidence available at the moment. Other kinds of evidence, such as personal experience, may produce different views. Scientific evidence is based on clinical tri-

als that look at the impact of a substance on particular endpoints. With prescription drugs, these trials are paid for by the manufacturer and are required before the drug can be approved for use. Supplements have many smaller manufacturers and can be sold without being tested in clinical trials, so fewer of these studies are conducted.

check with your doctor or nutritionist, though, before taking a vitamin or mineral supplement. Excess iron, for example, can cause cell damage and has been shown to have deleterious effects on the immune system, which some researchers worry may accelerate the course of HIV infection. One study suggested that iron accumulation stimulates viral replication, while others have found that high iron stores may be associated with shorter survival times in patients with HIV infection. If you are taking a multivitamin without a prescription, make sure to select one that contains:

- no iron and no more than 10 mg of zinc
- no more than 900 mcg (3000 IU) of vitamin A
- 400 mcg of folic acid or less because a high intake can mask vitamin B12 deficiency

If your doctor or dietitian suspects a specific deficiency, he or she will consider your food intake, absorption and medication interactions before making a recommendation. If they find you do need supplementation, remember: pills

don't supply important substances like carbohydrates and fat that your body needs for energy. The role of vitamins and minerals is to help your body utilize the energy from the food you eat, not replace it, so be sure to maintain a healthy, well-balanced diet.

Bone health

People living with HIV often have low bone density (osteopenia) and disturbances in bone metabolism associated with HIV infection may accelerate bone loss. When the structure of the bone is altered as the condition worsens (osteoporosis), fragility of the bones increases the risk of fracture. If you're not getting enough calcium and vitamin D from your diet to maintain bone density, your doctor or nutritionist may suggest calcium and vitamin D supplementation to correct or prevent further bone loss. Other factors like exercise are also important in maintaining bone strength.

Vitamin D needs increase after the age of 50 in part because with age, the skin has a reduced capacity to produce vitamin D. At this stage, you may need more vitamin D than you would get from a normal, healthy diet. Therefore, Canada's new Food Guide recommends that all adults over the age of 50 take an additional daily vitamin D supplement of 10 mcg (400 IU).

Anemia

If you're anemic, your doctor will want to order specific blood tests to determine if the





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condition is related to nutritional deficiencies and can be treated with supplements. You shouldn't take iron supplements if deficiency or low storage was not revealed by the blood test. Iron can accumulate in the body in presence of certain conditions like uncontrolled HIV infection, liver disease (hepatitis), hemochromatosis (a genetic condition), high alcohol intake, tuberculosis or sickle cell disease.

Oxidative stress and HIV

Your body uses oxygen to extract energy from the food you eat. In the process, highly reactive side products called free radicals are produced. In fact, free radicals are produced by several normal processes throughout the body.

Uncontrolled HIV infection can produce excessive amounts of free radicals that can damage cell membranes and disrupt essential cell functions.

Most people living with HIV should get plenty of antioxidants from a diet rich in fruits and vegetables to counter the effects of oxidative stress



Who needs supplements?

- People with restricted food intake because of poor appetite, poor food access, food allergies or food intolerance.
- People with chronic diarrhea, which can diminish absorption.
- People who don't consume enough milk or enriched soy beverage should take a calcium and vitamin D supplement to prevent osteoporosis.
- Some natural medicines can interfere with your medication. Supplements and vitamins are

usually safe, but always check with your pharmacist or dietitian first. Vitamin E, for example, should be avoided with amprenavir (Agenerase®), which already contains a large amount of vitamin E.

Did you know?

Several studies have shown that the people who take supplements tend to be those that get more nutrients from their diet to begin with!

In people living with HIV, this so-called "oxidative stress" may play a critical role in the stimulation of viral replication and the development of immunodeficiency, both of which contribute to disease progression.

Antioxidants like vitamin A, vitamin C, vitamin E, carotenoids and selenium protect the body against oxidative damage and limit its harmful effects. For this reason, it was thought that people with HIV would benefit from supplementation with these vitamins. However, a number of recent studies have demonstrated that deficiencies in vitamin A, vitamin E and selenium are uncommon in people living with HIV. Oxidative stress was no different between clinically stable people living with HIV and healthy HIV-negative controls. Most people living with HIV should get plenty of antioxidants from a diet rich in fruits and vegetables to counter the effects of oxidative stress. Until further research confirms or challenges these findings, it is difficult to recommend antioxidant supplements for people without deficiencies. **R**