

## Calcium, milk, and osteoporosis <sup>[1]</sup>

(1) Dear Alice,

In college, I was told that I needed four cups of milk a day to make my calcium requirement. So for the past year, I've run up a serious milk bill. But now, I keep hearing that drinking milk, taking calcium supplements, etc. actually depletes the calcium from the body. I am worried about contracting osteoporosis in later life (I'm now 23 years old). What do you think?

Sincerely,  
Milked

(2) Dear Alice,

Does drinking milk prevent osteoporosis? Then what are the best ways to prevent osteoporosis?

Concerned

### **Answer**

Dear Milked and Concerned,

Make no bones about it — milk is an excellent source of calcium! There may be some downsides to guzzling milk, such as lactose intolerance or a hefty grocery bill, but there seems to be a few schools of thought when it comes to its impact on calcium loss (more on that in a bit). To build strong bones and ward off osteoporosis, milk (and calcium supplements to some extent) can do the body good, when consumed in moderation. If you feel like your milk-drinking habit is, ahem, milking you for all your worth, it may be time to try other tasty and inexpensive foods that are high in calcium. While it's great that you're paying attention to your calcium intake, it's also good to focus on maximizing its absorption and engaging in a few healthy lifestyle behaviors so all this effort doesn't go to waste (literally)!

According to the [Institute of Medicine](#) <sup>[2]</sup>, the amount of calcium your body needs varies by age. Children, ages one to three, need about 700 milligrams (mg) of calcium, while adolescents, adults, and pregnant women require 1,000 to 1,300 mg per day. One cup of skim milk packs about 300 mg of calcium, so it's true that you would need to drink three to four cups a day to

reach your recommended daily allowance (RDA) for calcium. However, some health experts warn it isn't necessary, or even healthy, to load up on dairy. Moreover, some researchers have found a correlation between high levels of vitamin A (milk is fortified with vitamins A and D) and fractures among older adults. With that in mind, you might consider limiting your dairy intake to one or two low-fat or fat-free servings a day, and trading out the others for calcium-rich foods such as:

- Beans including the white, kidney, and pinto variety
- Tofu
- Veggies such as broccoli, spinach, and Chinese cabbage
- Fruits including figs and oranges

*List adapted from the [Linus Pauling Institute at Oregon State University](#) [3].*

As you explore additional ways to get the calcium you need, here are some tips to maximize calcium absorption and pave the way for healthy bones:

- **Seek out vitamin D.** Spend 15 to 30 minutes in the sun each day (sunlight fuels vitamin D production), eat foods containing vitamin D (try fortified breakfast cereals, tuna fish, or salmon), or take a supplement.
- **Get enough vitamin K.** Try munching green leafy veggies like broccoli, Brussels sprouts, and kale.
- **Pair calcium-rich foods with acidic ones.** Try adding orange segments to your spinach salad or squirting lemon juice on steamed broccoli to facilitate calcium absorption.
- **Avoid going overboard with substances that limit the availability of calcium.** These include dietary fiber, magnesium, tannins in tea, or high protein diets.
- **Cut back on substances that can rob the body of calcium.** Such substances include salt, caffeine, cola, nicotine, and antacids containing aluminum.

Once calcium is absorbed into the body, more than 99 percent of it is used for building bones and teeth. Due to daily strain on the skeletal system, our bones are constantly broken down and reconstructed. After age 35, this rebuilding process naturally slows. In some cases, bone tissue deteriorates dramatically, leading to osteoporosis (literally meaning "little bone"), a disease characterized by bones that become more and more fragile. Even under slight pressure, bones can break and crush, causing broken wrists or hip fractures. Women, particularly Asian and white women, are at a higher risk than men partly because the decrease in estrogen in their bodies after menopause increases bone loss. Men and black women tend to have a greater amount of initial bone mass and are less likely to have problems with osteoporosis.

That being said, osteoporosis doesn't happen overnight. It begins with osteopenia, a demineralization of bone, and progressively gets worse. But with proper care, prevention is possible. Many factors influence the rate at which bone density decreases, including heredity, hormones, diet, physical activity, tobacco use, and certain medical conditions. You can't change your genes, but you can strengthen your bones by getting plenty of calcium as part of balanced diet, engaging in regular physical activity, and not smoking. Speaking with a health care provider can also help you assess your individual risk for osteoporosis and discuss ways to reduce your risk. To learn more about osteoporosis, check out the [International Osteoporosis Foundation](#) [4]. You might also think about meeting with a registered dietitian or a health promotion professional

to help you find ways to incorporate more foods into your diet that are high in calcium.

As you can see, there's more to building and maintaining strong bones than just drinking milk.

Alice!

Category:

[General Health](#) <sup>[5]</sup>

[Body Maintenance](#) <sup>[6]</sup>

[Nutrition & Physical Activity](#) <sup>[7]</sup>

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[Replacing dairy milk with soy](#) <sup>[8]</sup>

[Foods plentiful in potassium](#) <sup>[9]</sup>

[Milk + Alcohol: Does a body good?](#) <sup>[10]</sup>

## Resources

[Medical Services \(Morningside\)](#) <sup>[11]</sup>

[Columbia Health Nutrition Services \(Morningside\)](#) <sup>[12]</sup>

[Alice! Health Promotion \(Morningside\)](#) <sup>[13]</sup>

[Medical Services \(CUIMC\)](#) <sup>[14]</sup>

[Student Health Service Nutrition Services \(CUIMC\)](#) <sup>[15]</sup>

[Center for Student Wellness \(CUIMC\)](#) <sup>[16]</sup>

Published date:

Nov 16, 1995

Last reviewed on:

Oct 23, 2015

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