The Role of Calcium in Osteoporosis

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Osteoporosis and Calcium

In the time that it takes you to read this sentence right now, someone has just experienced a fracture related to osteoporosis.

This startling statistic highlights the real-life consequences of a disease that affects hundreds of millions of men and women. In fact, the International Osteoporosis Foundation reports that two out of three women over the age of 50 will experience an osteoporotic fracture, as will four out of five men.

This alarming trend puts the spotlight on diet and nutrients, specifically calcium, that can help minimize fracture risks and protect you against the worst of osteoporosis.

What Is Calcium Good For?

The mineral calcium plays important roles throughout your entire body. For example, your body uses the mineral to activate your muscles, control the production and release of various hormones, circulate blood, and even help your brain to communicate with the rest of your body.

But one of the most well-known effects that calcium has is on your bones and teeth.

Your bones and teeth are, in a sense, truly alive. As day-to-day life wears them down, the tissues in your bones and teeth repair themselves.

Calcium is one of the essential components in this process, and the mineral helps to renew the strength, mass and health of your bones and teeth. In fact, more than 99 percent of the calcium in your body is found in your teeth and bones.

This is why, while the true cause of osteoporosis and loss of bone mass has yet to be truly defined, researchers agree that calcium plays a vital role in your bone health and osteoporosis management.

Calcium for Osteoporosis: What Does the Evidence Say?

Is calcium helpful for osteoporosis or just a myth? Let’s take a look at the research.

Because loss of bone tissue and mass are the key markers of osteoporosis, and because calcium is one of the major constituents in bones and bone tissue, it makes sense that people think calcium plays a big role in bone strength and staving off osteoporosis.

The *British Medical Journal* recently did a systematic review of 59 different controlled studies on calcium and osteoporosis. This included studies that looked at how the calcium in your diet might affect your bone health.

The researchers noted that increasing the amount of calcium you ate, whether through food or through calcium supplements, was linked with improved bone mineral density.

Another review, this one of hundreds of other studies, has also linked calcium intake with reduced osteoporosis and a reduced risk of fractures.

This is one of many reasons why the Harvard School of Public Health concluded that “adequate, lifelong dietary calcium intake is necessary to reduce the risk of osteoporosis. Consuming adequate calcium and vitamin D and performing regular, weight-bearing exercise are also important to build maximum bone density and strength.”

While calcium isn’t the cure-all for this bone disease, your doctor may use calcium-rich foods and calcium supplements along with other treatments to restore your bone health and strength.

That being said, there are still many myths about osteoporosis:

- **It's a natural part of aging:** WRONG. It's preventable and not inevitable.
- **Only women get osteoporosis:** WRONG. Nearly 20 percent of Caucasian men in America will experience an osteoporosis-related fracture.
- **Weak bones can't get stronger:** WRONG. Through diet, supplements, exercise and other treatments, you can strengthen your bones.

Vitamin D: The Secret Link to Calcium’s Success

Your risks of osteoporosis, loss of bone mass and bone strength, and fractures goes up as you age. Likewise, the amount of calcium that you need changes based on your age.

Adult men and women ages 19 to 50 years need 1,000 milligrams of calcium per day. And while that dose stays the same for men ages 51-70, women of the same age need extra: 1,200 mg of calcium a day. If you're over 70 years of age, both men and women need 1,200 mg of calcium daily.

But it’s not just about calcium itself. Every nutrient that you eat is part of a complex digestive process. In this case, we’re talking about vitamin D.

“Vitamin D is required for optimal calcium absorption,” reports the Linus Pauling Institute at Oregon State University. “Several other nutrients (and non-nutrients) influence the retention of calcium by the body.”

Making sure you get enough vitamin D in your day or taking a calcium supplement that also includes vitamin D, can help you to absorb all the beneficial aspects of calcium.

In general, adults ages 19-70 need 600 international units (IUs) of vitamin D a day. Once you are age 71 or older, this requirement goes up to 800 IUs.

One of the best sources of vitamin D is through safe sunlight exposure. You can also find vitamin D in foods like egg yolks, fish liver oil, fatty fish and fortified kinds of milk and juices.

Next page: learn what foods are good sources of calcium, what to consider when choosing a calcium supplement and more.

What Foods Are Good Sources of Calcium?

In general, it’s always a good idea to get your nutrients from whole foods. Some of the best calcium-rich foods include:

- Plain low-fat yogurt, which nets you 415mg of calcium in an 8-oz. serving

- Black-eyed peas (211mg in 1 cup)
- Canned salmon (181mg in 3oz)
- Tofu (163mg in 3oz)
- American cheese (162mg in 1oz)
- Cottage cheese (138mg in 1 cup)
- Soy milk (93mg in 1 cup)

Other high calcium foods include dark, leafy greens (e.g. kale, spinach and collard greens), almond butter and broccoli.

Try and incorporate at least one calcium-rich food in every meal, and aim to get this mineral from a variety of sources to ensure you get a wide spectrum of complementary vitamins and minerals.

Calcium Supplements: Things to Consider

If you don’t get enough calcium through whole foods in your diet, calcium supplements can help to fill the nutritional gap.

Your doctor might strongly recommend calcium supplements in specific circumstances, such as if you're an older woman, if you follow a restrictive diet, or if you have a health problem that affects your ability to absorb calcium (e.g. inflammatory bowel disease).

While it's always best to get your nutrients from whole foods, supplements do have their place. One study found that taking a calcium supplement reduced bone loss in women by up to two percent.

If you're considering taking a calcium supplement, keep the following pointers in mind.

1. Don’t Forget Your RDA

Keep your daily recommended allowance (RDA) in mind. Use a supplement to do exactly that: supplement, not replace, what you already get in your daily meals.

More is not necessarily better and can even be harmful.

If you take too much calcium, you may experience bloating, gas, constipation and other digestive issues. Taking too much calcium may also raise your risks of kidney stones and calcium deposits in your blood (a health problem known as "hypercalcemia").

2. Space It Out

Take small doses. You can only absorb a certain amount of this essential mineral at a time.

Aim for no more than 500mg at a time, spaced throughout the day. For example, if your daily recommended allowance is 1,000mg of calcium, and you currently get 500mg of calcium through your food, you might take a 250mg supplement in the morning and another one in the afternoon.

Remember to talk to your doctor before making changes to your diet or supplement plan, especially if you’re trying to self-treat or prevent an illness or disease. Everyone’s body is different, and factors like lifestyle and diet can play a big role.

3. Read the Ingredients Label on Your Supplements

Don’t get swayed by fancy labels and marketing. Look at the ingredients. Not all supplements are the same.

In general, you’ll find most calcium supplements use one or both of two major forms of calcium: calcium

carbonate and calcium citrate.

Calcium carbonate tends to be the most budget-friendly since 40 percent of its weight is elemental calcium (the calcium you can absorb). To best absorb this form of calcium, you need to take it with food. However, people with sensitive stomachs sometimes say this type of calcium makes them feel ill.

Calcium citrate, on the other hand, is more expensive. While it contains less elemental calcium per weight compared to calcium carbonate, the calcium it does have is much easier for your body to absorb.

Calcium citrate also doesn't need to be taken with food and is gentler on your digestive system.

Use Calcium with Other Preventative Treatments

Calcium in your food and in your supplements isn't a magic bullet. Many people find it effective, but it should be just one important tool in your anti-osteoporosis toolkit.

To maximize calcium's effectiveness in keeping your bones strong and preventing osteoporosis-related fractures, take calcium along with other bone-building strategies.

1. Eat Healthy Fats

The National Osteoporosis Foundation reports that healthy omega-3 fatty acids are linked with better bone health. Some of the best sources of omega-3s come from fatty fish, such as salmon and sardines. If you follow a plant-based lifestyle, vegan-friendly omega-3s include chia seeds and flaxseeds and hemp oil.

2. Reduce Your Salt Intake

Most Americans eat far more salt than they need. Not only does excessive sodium in your food increase your risks of health problems like high blood pressure, but it can also cause your bones to lose calcium. Most people should get a maximum of 2,300 milligrams of salt daily.

3. Don't Drink Too Much Caffeine

Your morning coffee habit may be affecting your bone health. Excessive caffeine can reduce your body's ability to digest and absorb calcium.

The Mayo Clinic recommends no more than 400 milligrams of caffeine per day, which equals approximately four cups of brewed coffee.

You may wish to try alternative ways to energize yourself, such as aromatherapy or bright light therapy. Some people also find that caffeinated teas, such as black tea and green tea, are energizing but have a gentler, less jittery effect on the body.

4. Do Weight-Bearing Exercise

Pumping iron could pump up your bone strength. Lifting weights have been shown to help improve bone mineral density. Staying strong can also reduce your risks of falls, which helps to also prevent fall-related injuries and bone fractures.

Mix a strength-training regimen with regular cardio, such as going for a walk around the block or enjoying a morning swim at the community pool. One study found that staying physically active reduced hip fracture rates by 60 percent.

Osteoporosis and aging shouldn't mean you have to inevitably slow down and become fragile. Enjoy the active life you love. By ensuring your diet is on point and your lifestyle supports your bone health, you maximize the

benefits of calcium and keep your bones as strong as possible for as long as possible.