

# Osteoporosis and a bone-healthy diet

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**DEAR MAYO CLINIC:** I was recently diagnosed with osteoporosis and my health care team suggested that I eat a bone-healthy diet to prevent more issues and maintain strong bones as I age. What is osteoporosis, and how can I maintain a bone-healthy diet?

ANSWER: Osteoporosis is a condition that causes the bones to thin and lose their strength. When bones become weaker, sudden fractures can occur, even with minimal trauma. A [calcium](#)-rich diet is important to maintain optimal [bone](#) health and prevent osteoporosis. So, too, is vitamin D, which helps the body absorb calcium to deposit it into bones. The amount of calcium and vitamin D needed to optimize bone health increases with age.

Bones need nutrients so they can grow and maintain that growth. A bone-healthy diet can be a good strategy to prevent ongoing bone loss. This diet should be part of an overall healthy lifestyle that includes exercise and optimal calcium and vitamin D levels.

Here are five steps to eating well for strong bones:

1. Eat more [vegetables](#), fruits and whole grains.

Studies show that eating more vegetables and fruits will improve bone health. These foods are generally lower in calories and fat, and they are high in fiber and essential vitamins and minerals. They also contain phytochemicals, which are substances that can protect against various diseases, including osteoporosis.

Aim to eat four or more servings of vegetables and three servings of fruit each day. Fruits and vegetables are excellent sources of magnesium and potassium, as well as vitamins C, K and A. All play a role in maintaining bone health.

Also, eat four servings of grains daily. Choose whole grains when possible because [whole grains](#) contain more nutrients, especially magnesium and fiber, than refined grains do.

2. Choose healthy sources of protein and fat.

Protein is important for bone health because it's a major component of bone tissue and plays a role in maintaining bone. The best choices include [plant proteins](#), such as beans and nuts, as well as fish, skinless poultry and lean cuts of meat.

Plant proteins are rich in vitamins, minerals and estrogen-like plant compounds that help preserve bone. Low-fat dairy products, including milk and plain yogurt, are another good source of protein. These products provide calcium, which benefits bone health. Protein should account for 25% to 35% of your total daily calories.

You need some fat in your diet for your body to function properly. The best choices are monounsaturated fats, such as those found in olive oil, nuts and seeds. Cold-water fish also provide essential omega-3 fatty acids. Be mindful to avoid saturated fats, which have been shown to be detrimental to bone health in adults.

### 3. Get plenty of calcium.

Calcium is critical to bone health. This mineral is a key building block of bone, and it helps prevent bone loss and osteoporotic fractures in older people. Although the recommended daily intake for adults generally ranges from 1,000 to 1,200 milligrams, the typical diet provides much less.

If you're not getting enough calcium, try to increase your consumption of foods that are high in the mineral.

Traditional dairy products, such as milk, yogurt and cheese, are the richest [food sources](#). For example, one 8-ounce serving of skim, low-fat or whole milk contains about 300 milligrams of calcium.

Calcium is also found in:

- Plant-based milk, including almond, cashew and oat.
- Food sources rich in calcium, including kale and broccoli.
- Calcium-fortified foods, such as juices, cereals and tofu products.

It can be difficult to consume the daily requirement of calcium through diet alone. A calcium supplement may be recommended. But calcium should not be taken alone. Vitamin D is essential for proper calcium absorption, and magnesium helps direct the calcium to the bone, keeping it out of the soft tissues. Look for a calcium supplement that includes both ingredients.

#### 4. Limit sugar, salt and phosphate additives.

Foods that contain sugars added during processing generally provide a lot of calories, additives and preservatives, but they offer few health benefits. Limit your intake of processed foods and beverages, such as [soft drinks](#).

Aim to reduce the amount of salt in your diet, as well. Not only can salt cause [high blood pressure](#), but also it can increase the amount of calcium you excrete from your body with urination. Aim for a limit of 2,300 milligrams of salt daily—the equivalent of about 1 teaspoon.

Phosphorus is used as an additive in many processed foods. Too much phosphorus in your diet can interfere with how much calcium is absorbed through your small intestine.

Check labels on processed foods, but aim to choose fresh foods whenever possible.

#### 5. Limit alcohol and caffeine consumption.

Consuming more than one or two [alcoholic drinks](#) per day hastens bone loss and reduces your body's ability to absorb calcium. If you choose to drink alcohol, do so in moderation. For healthy adults, that means up to one drink per day for women of all ages and men older than 65, and up to two drinks a day for men 65 and younger. And drinking alcohol with meals will slow calcium's absorption, as well.

Caffeine can slightly increase calcium loss during urination. But much of its potentially harmful effect stems from substituting caffeinated beverages for milk and other healthy drinks. Moderate caffeine consumption—about two to three cups of coffee per day—won't be harmful as long as your [diet](#) contains adequate calcium.

With the right lifestyle modifications, you should be able to maintain strong, healthy bones as you age.

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