

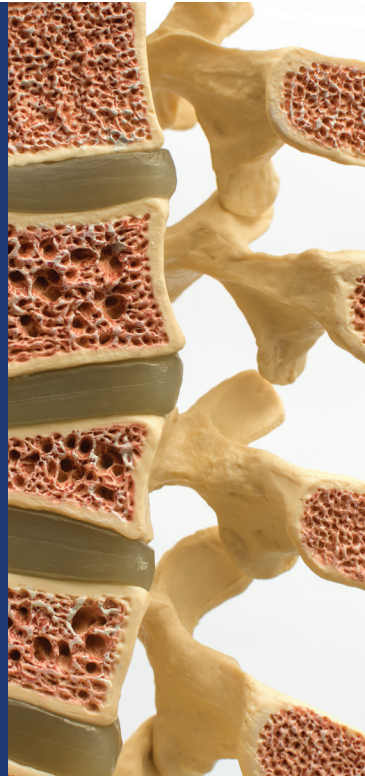
# THE CONNECTION BETWEEN NUTRITION AND BONE HEALTH

Diet can play critical roles in building and maintaining good bone health for people at every life stage—from infancy through older adulthood. Building your child’s “bone bank” is like saving for their education. Investing in good nutrition now will pay off with stronger bones in the future.

Too many Americans fall short of getting the important nutrients they need every day and that can lead to bone loss, low bone density and even broken bones.

## BONE BASICS

Bones are living, growing tissue. They stay healthy through a constant process of repair and rebuilding. Good bone health begins in childhood but continues throughout our lives. In childhood, we build bones. As we age, the remodeling process can become unbalanced. More old bone is removed, and less new bone is created. It’s never too early or too late to improve bone health. Osteoporosis prevention should begin in childhood and continue throughout life.



## WHAT IS OSTEOPOROSIS?

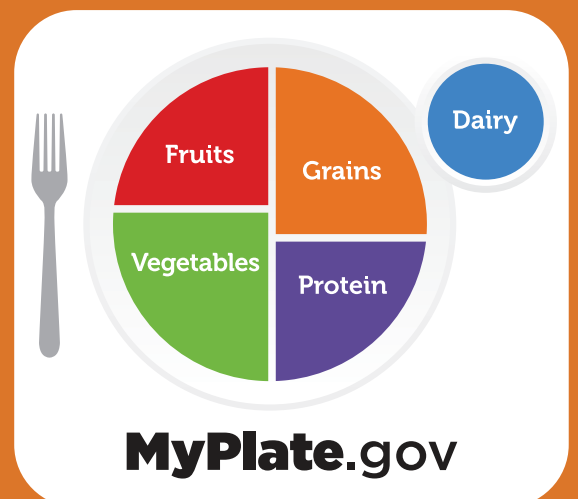
Osteoporosis is a bone disease that occurs when the body loses too much bone, makes too little bone, or both. This makes bones weaker. Approximately 54 million Americans have osteoporosis or low bone mass (also known as osteopenia).

When bones become fragile, they may break from a fall—or from a sneeze or minor bump.

Bones in the hip, spine, or wrist are most likely to break, but other bones can break too. Breaking a bone can cause serious complications, especially with older adults. In addition to causing pain, spinal fractures may cause height loss, leading to a stooped or hunched posture. A hip fracture may lead to long-term disability.

## EAT HEALTHY TO BUILD AND MAINTAIN STRONG BONES

- ✓ Eating a well-balanced diet with plenty of dairy, fruits, vegetables, and protein may provide enough of the nutrients needed to build and maintain strong bones. Check out the MyPlate Plan to learn how much you need from each food group.
- ✓ Two of the most important nutrients for bone health are calcium and vitamin D. Calcium is an essential building block for bones. Vitamin D helps the body absorb calcium. Calcium and vitamin D requirements vary by age and sex.
- ✓ Other nutrients in a healthy diet also help to maintain bone health throughout the lifespan.



# CALCIUM-RICH FOODS



In addition to building bones and keeping them healthy, calcium enables blood to clot, muscles to contract, and the heart to beat. About 99% of the calcium in the human body is in the bones and teeth.

Fortunately, there are many foods that are good sources of calcium (and other healthy nutrients). Dairy foods, such as milk, yogurt, and cheese are high sources in calcium.

For those with lactose intolerance, lactose-free dairy offers the same nutrients as milk, just without the lactose. Fortified soy milk can match the nutrition in dairy milk, and other plant-based milks may also be fortified with calcium. Be sure to read the label. Cheeses such as Cheddar, Colby/Monterey Jack, Mozzarella and Swiss contain minimal amounts of lactose. Yogurt's live and active cultures help to digest lactose. Greek and Icelandic yogurts have even less lactose because of the straining process. Certain green vegetables and other foods like tofu, sardines, and canned salmon also contain calcium. Some juices, breakfast foods, plant-based milks, cereals, snacks, breads and bottled water have added calcium.

Many people ask how much calcium they should be getting from food or supplements. Start by reviewing the Daily Calcium Recommendations to learn the total amount of calcium you need each day. The recommended amounts can be found on the National Institutes of Health site here: <https://ods.od.nih.gov/factsheets/Calcium-Consumer/>.



## IMPORTANCE OF VITAMIN D

✔ **Vitamin D plays an important role in protecting your bones both by helping your body absorb calcium.** Children need vitamin D to build strong bones, and adults need it to keep their bones strong and healthy. Your muscles and nerves also need vitamin D.

✔ **The three sources of vitamin D are: sunlight, food, and supplements.** Vitamin D is found naturally in very few foods including fatty fish like mackerel, salmon, canned tuna, and tilapia. Vitamin D is added to milk and other dairy products, orange juice, plant-based milks, and ready-to-eat cereals. Check the food label to see if vitamin D has been added to a product. People with certain medical conditions may need to take vitamin D supplements to support bone health.

You can find information on Vitamin D requirements here: [www.ods.od.nih.gov/factsheets/VitaminD-Consumer/](http://www.ods.od.nih.gov/factsheets/VitaminD-Consumer/).

## OTHER IMPORTANT NUTRIENTS

Sources of other important nutrients that may be important for bone health are:

- ★ **VITAMIN K.** Sources include dried plums (prunes) and certain dark green leafy vegetables like kale, collard greens, spinach, mustard greens, turnip greens and Brussels sprouts.
- ★ **POTASSIUM.** Sources include milk, dried plums (prunes), tomato products, raisins, potatoes, spinach, sweet potatoes, papaya, oranges, orange juice, bananas and plantains.
- ★ **MAGNESIUM.** Sources include spinach, beet greens, okra, tomato products, artichokes, plantains, potatoes, sweet potatoes, collard greens and raisins.
- ★ **VITAMIN C.** Sources include red peppers, green peppers, oranges, grapefruits, broccoli, strawberries, Brussels sprouts, papaya and pineapples.