

Osteoporosis: Building stronger bones

It's normal for bones to become weaker and less dense as you age. If you have osteoporosis, this happens more quickly, resulting in an increased risk of life-changing fractures. Luckily, there are ways to help keep your bones strong.¹



What are bones?

Bones aren't hard and lifeless; they're living, growing tissue. They are made up of three things:²

- Calcium helps make bones hard and strong
- Phosphorus helps keep bones strong
- Collagen helps make bones flexible

Bones have three main functions in the body. They help:²

- Support your body
- Allow you to move
- Protect your vital organs from injury

What is osteoporosis?

Osteoporosis is a bone disease that occurs when the body loses too much bone, makes too little bone, or both. This causes bones to become weak and more likely to break. Fifty-four million Americans have osteoporosis or low bone mass, making it the most common bone disease.³

What is osteopenia?

Osteopenia refers to bone mineral density that is lower than normal, but not low enough to be classified as osteoporosis. A person with osteopenia or low bone mineral density has an increased risk of developing osteoporosis in the future.⁴ As a precursor to osteoporosis, these two conditions share many of the same symptoms, risk factors, causes and treatment options.⁴

What causes osteoporosis?

Bone is continually being broken down and rebuilt—a process called remodeling. As people get older, bone breakdown happens faster than rebuilding making the bones weaker and more porous. People typically begin losing more bone than their bodies make in their 30s and the process speeds up with age.⁵

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Who's at risk for osteoporosis?

Certain factors have been associated with an increased risk of osteoporosis.⁶ Place a check mark by each risk factor that applies to you.

- | | |
|--|--|
| <input type="checkbox"/> Age 65 years or older | <input type="checkbox"/> Inactive lifestyle |
| <input type="checkbox"/> Caucasian or Asian ethnicity | <input type="checkbox"/> Heavy drinker |
| <input type="checkbox"/> Family history of osteoporosis | <input type="checkbox"/> Smoker |
| <input type="checkbox"/> Small bone structure or body weight | <input type="checkbox"/> Taking bone-weakening medications |
| <input type="checkbox"/> Poor diet (low in calcium and/or vitamin D) | |

What are the symptoms of osteoporosis?

Osteoporosis is called a “silent disease” because it often has no symptoms.³

How is osteoporosis diagnosed?

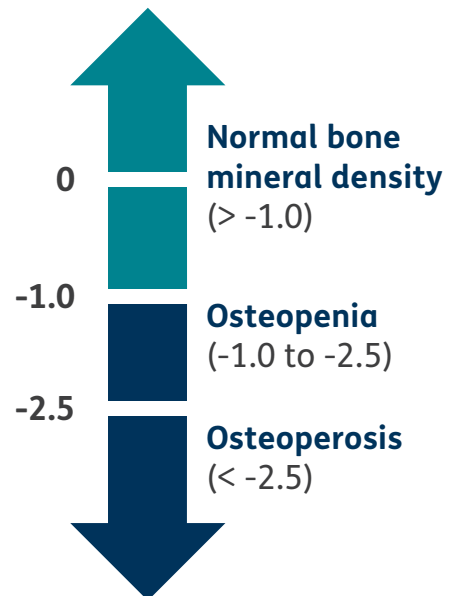
Measuring bone mineral density shows the strength of the bones and can help predict fracture risk. Bone density tests are quick, safe and painless. The most widely used bone density test is the DXA scan, which measures spine, hip and total bone density. The results come in the form of a “T-score.”⁷

How is osteoporosis treated?

The goals of treatment are to stop bone loss and rebuild bone to help prevent fractures. Your healthcare provider may recommend making changes to your diet and exercise routines and/or prescribe a medication.⁵

There are several medications prescribed to treat osteoporosis; some slow bone loss while others help rebuild bone. Talk to your healthcare provider to learn more about these medications and their side effects:⁸

- Bisphosphonates
- Hormones, such as estrogen
- Denosumab
- Teriparatide
- Abaloparatide



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Tips to help improve bone health

Osteoporosis may not be curable, but it's preventable and treatable. There are many things you can do to help strengthen your bones:⁶

- **Eat a diet rich in calcium.** Calcium helps build bones and keep them strong. Help get the calcium your body needs by loading up on calcium-rich foods like low-fat dairy products, canned fish with soft bones like salmon and dark leafy green vegetables like kale, collards and turnip greens.⁶
- **Get plenty of vitamin D.** Vitamin D helps your body absorb the calcium you're putting into it. You can get vitamin D from sunlight or eggs, fatty fish and some fortified foods and beverages.⁶

Recommended calcium and vitamin D intakes⁶

Gender and age	Calcium (milligrams/day)	Vitamin D (international units/day)
Men age 51–70	1,000	600
Women age 51–70	1,200	600
Men and women age 70+	1,200	800

- **Eat a healthy, balanced diet.** A diet with lots of fruits and vegetables and an adequate amount of calories helps support good bone health.⁶
- **Talk to your provider about taking a calcium and vitamin D supplement.** Calcium supplements come in two main forms: calcium carbonate and calcium citrate. Calcium carbonate is absorbed most efficiently when taken with food, whereas calcium citrate is absorbed equally well whether taken with or without food. Many calcium supplements also have vitamin D3 added.⁹
- **Be physically active.** Weight-bearing activities, strength training and tai chi may help strengthen bones and prevent falls.⁶
- **If you smoke, quit.** Tobacco use may decrease bone density.⁶
- **Limit alcohol.** Drinking too much alcohol may disrupt the balance of calcium in the body and lead to falls.⁶



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Help prevent falls

It's very important for people with osteoporosis to take steps to help prevent falls. Exercising, monitoring your medicines and getting your eyes checked can help. There are also several steps you can take to help fall-proof your home.¹⁰

Area of home	Action steps
Floors	<ul style="list-style-type: none">• Keep floors free of clutter (paper, books, towels, boxes, etc.)• Remove rugs or add double-sided tape or a nonslip backing• Tape cords and wires from lamps and telephones next to the wall
Stairs	<ul style="list-style-type: none">• Put up sturdy handrails on both sides• Have an electrician put in an overhead light and light switch at the top and bottom of the stairs• Make sure carpet is firmly attached to every step or remove carpet and attach nonslip rubber treads instead
Kitchen	<ul style="list-style-type: none">• Clean up spills as soon as they happen• If you must use a step stool, get one with a handrail (never use a chair as a stool)• Try to place items that you use often on lower shelves
Bathroom	<ul style="list-style-type: none">• Put a nonslip rubber mat or self-stick strips on the floor of the tub or shower• Put up grab bars inside the tub or shower and next to the toilet• If you are unsteady on your feet, use a shower seat and a handheld shower head to bathe
Bedroom	<ul style="list-style-type: none">• Place lamps on either side of the bed where they are easy to reach• Use a night light between the bed and the bathroom• Keep a flashlight with fresh batteries in your bedside table
Outside the home	<ul style="list-style-type: none">• Put in motion-sensor lights or dark-to-dawn lights• Keep your porch, deck, walkways and driveway free of leaves, snow, trash and clutter• Cover steps with a gritty, weather-proof paint and install handrails on both sides; if you live in an area that gets snow and ice, ask someone to sprinkle salt or sand on slippery steps and sidewalks

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References

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