

# Osteoporosis

What You Need To Know



## Permafold® Topics

1. What Is Osteoporosis?
2. Signs & Symptoms
3. Causes & Risk Factors
4. Diagnosis
5. Medical Care
6. Reasons to Contact Doctor/Provider
7. Self-Care / Prevention



## 1. What Is Osteoporosis?

Osteoporosis is a loss in bone mass and bone strength. Bones become less dense. This makes them weak and easier to break. Any bone can be affected. The hips, wrists, and spine are the most common sites.

Low bone mass and osteoporosis pose a major health threat.

- One out of every 2 women and one in 4 men over age 50 will have an osteoporosis-related fracture in his or her lifetime.
- After a fracture, persons are more likely to have chronic pain, a fear of falling, and depression. They lose independence and have a lower quality of life.
- One year after a hip fracture, 1 in 4 people dies, 1 can't walk, and 2 of the 4 can walk but are less mobile than before the fracture.
- In the U.S., costs for osteoporosis and related fractures have been estimated to be about \$14 billion a year.

## 2. Signs & Symptoms

Osteoporosis is a “silent disease.” It can occur without pain. You don't see or feel changes taking place inside your bones. Often, the first sign is a fracture of the hip, wrist, or spine. When signs and symptoms occur, they include:

- Gradual loss of height
- Rounding of the shoulders
- Sudden back pain
- Stooped posture
- Dowager's hump



Reviewed and Approved by the Senior Medical Advisory Board

American Institute for  
Preventive Medicine

This Permafold® is not meant to take the place of expert medical care or treatment. Follow your doctor's or health care provider's advice.

### 3. Causes & Risk Factors

Bone is living tissue. It breaks down and is replaced with new bone. Osteoporosis occurs when new bone does not replace old bone fast enough.

#### Risk Factors

- Being female. Women are more likely to develop osteoporosis than men.
- Low estrogen level. This occurs with menopause.
- Low testosterone level in men
- Aging
- A family history of osteoporosis or broken bones as adults
- Having a thin, small-framed body
- Lack of exercise, especially weight-bearing ones, such as walking and dancing
- Long-term bed rest
- Low calcium and vitamin D intake or absorption
- Smoking
- Drinking too much alcohol
- Long term use of some medicines, such as oral corticosteroids and antacids with aluminum
- Having certain health problems, such as anorexia nervosa, an over-active thyroid gland, and rheumatoid arthritis. Persons with Crohn's disease, ulcerative colitis, and celiac disease are at an increased risk, too.



### 4. Diagnosis

There is no cure for osteoporosis.

The focus is to:

- Prevent the disease
- Prevent further bone loss
- Build new bone

- All women 65 years of age and older should have a bone mineral density (BMD) screening test. Women who have had a fracture or are at a high risk for osteoporosis should get this test sooner than age 65, as advised by their doctors.
  - Older men should have a BMD test if they have key risk factors for BMD-related fractures:
    - A past fracture, possibly due to osteoporosis
    - Low body weight. Physical inactivity.
    - Prolonged use of corticosteroid medications.
- {*Note:* Follow your doctor's advice for when and how often to get screening tests for osteoporosis.}
- The most common test used to measure how dense bones are is a special X-ray known as a DXA or DEXA scan. You lie on a table and a technician moves a scanner above your spine, hip, or wrist. This safe and painless test takes about 10-20 minutes. Test results can identify persons who are at the highest risk for fractures.

Bone Mineral Density T-Scores*		
Category	T-Score Range	Examples
Normal Bone Density	-1 and higher	+ 0.4 - 1.0
Low Bone Density (Osteopenia)	Between -1.0 and -2.5	- 1.2 - 2.0
Osteoporosis	-2.5 and lower	- 2.8 - 3.0

\*T-Score compares your bone density with the average values in young adults of the same race and sex. A positive T-score means your bones are stronger than the average and a negative score means that your bones are weaker. The lower the T-score, the lower the bone density.

## 5. Medical Care

Talk about your bone health with your doctor.  
Discuss:

- Your personal and family medical history
- Medications you take and have taken
- Falls or broken bones you have had as an adult
- Self-Care / Prevention measures (see panels 7-12) you do already and ones you need help with

### Medical treatment may include:

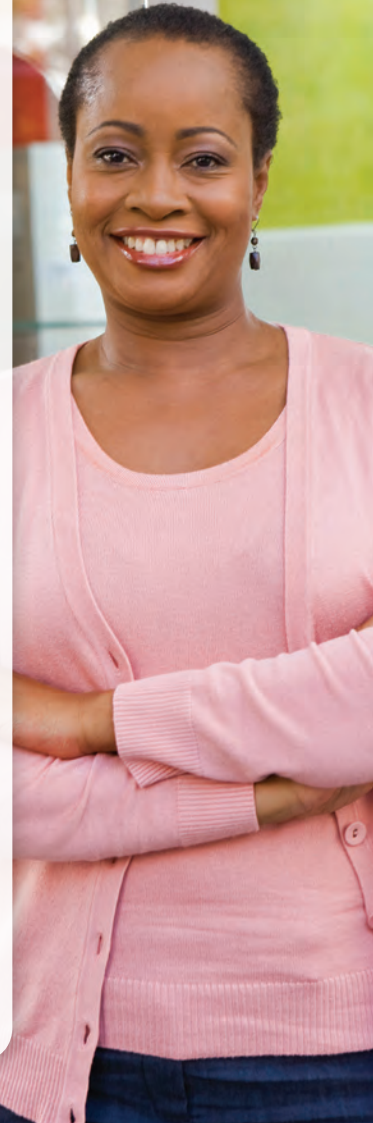
- Treatment for problems that increase the risk for low bone mass and osteoporosis
- Evaluating your risk of falls. Tests for this include ones that check your balance, vision, blood pressure, muscle strength, and heart rhythm.
- An exercise program for your needs. Physical therapy may be prescribed.
- High doses of vitamin D if your blood level is very low. Your doctor needs to prescribe this.
- Medications:
  - Some slow down the breakdown of old bone. Two categories of these are bisphosphonates (biss-FOSS-fuh-nates) and anti-resorptive agents. Some of these medications are pills. Others are given in shots or through an IV.
  - Another one (teriparatide) helps the body make new bone faster than the old bone is broken down.

Talk to your doctor about the benefits and risks of medications. Find out what side effects you should let him or her know about.



## 6. Reasons to Contact Doctor/Provider

- You have any “Signs & Symptoms” of Osteoporosis. (See panel 2.)
- You want to find out about medicines and other ways to prevent and/or treat osteoporosis.
- You are a female age 65 or older and have not had a bone mineral density (BMD) test.
- You are a female age 50 and older; you have had a fracture or are at high risk for osteoporosis; and you have not had a BMD test.
- You are an elderly male; you have risk factors for osteoporosis; and you need advice on getting a BMD test.
- After a fall, bump or strain, you have wrist, hip, or back pain.
- After a fall, you are not able to get up. Call or have someone call 9-1-1!





## 7. Self-Care/Prevention

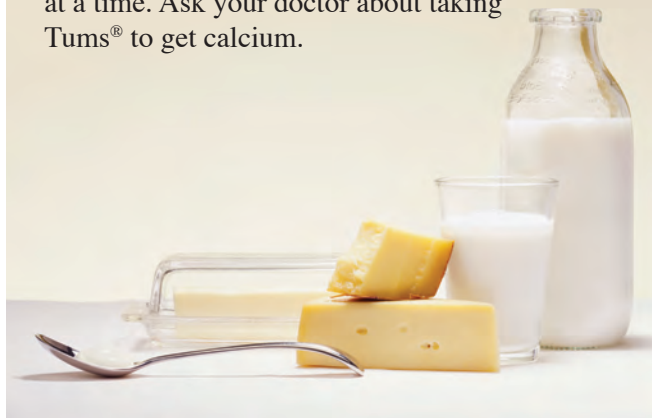
Get Your Recommended Adequate Intake (AI) for Calcium Every Day



Adequate Intakes (AIs) for Calcium\*

Age	Milligrams (mg) Day
1-3 years	700
4-8 years	1,000
9-18 years	1,300
19-50 years	1,000
51-70 years (males)	1,000
51+ years (females)	1,200
>70 years (males)	
<b>Pregnant and breast-feeding women:</b>	
14-18 years	1,300
19+ years	1,000
* Source: The Institute of Medicine (IOM). Follow your doctor's advice for calcium.	

- Choose high-calcium foods daily. Examples are milk, yogurt, salmon, and green leafy vegetables. (See good sources of calcium on the next panel.)
- Take calcium supplements, as advised by your doctor. It is best to limit calcium to 500 milligrams at a time. Ask your doctor about taking Tums® to get calcium.



Calcium Chart

Food Item	Amount	Calcium (mg)
Total brand cereal (food supplement)	½ cup	650
Lactaid brand milk (for lactose intolerance)	8 oz.	500
Yogurt, nonfat plain	8 oz.	450
Sardines, canned / bones	3 oz.	325
Milk, nonfat, low-fat, etc.	8 oz.	315
Milk, soy	8 oz.	300
Orange juice, calcium fortified	6 oz.	225
Tofu (with calcium)	½ cup	200
Salmon, canned / bones	3 oz.	180
Collard greens, cooked	½ cup	150
Cheddar cheese	1 oz.	120
Low fat frozen yogurt	½ cup	100
Pudding	½ cup	100
Turnip greens, boiled	½ cup	99
Almonds	¼ cup	95
Low-fat cottage cheese	½ cup	70
Pork and beans, canned	½ cup	70
Molasses, blackstrap	1 TBSP.	55
Powdered nonfat skim milk	1 TBSP.	50
Broccoli, chopped	1 cup	45
Orange, fresh	1	40
Chick peas, canned	½ cup	40

## Get Your Adequate Intake (AI) of Vitamin D Every Day

Read food labels for calcium content.

Nutrition Facts	
Serving Size 1 cup (228g)	
Servings Per Container 2	
Amount Per Serving	
Calories 250	Calories from Fat 110
% Daily Value*	
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 1.5g	
Cholesterol 30g	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

Look for low %DV from these nutrients

Look for high %DV from these nutrients

### Adequate Intakes (AIs) for Vitamin D\*

Age	International Units (IUs)/Day
1-70 years	600 IUs
> 71 years	800 IUs

\* Source: The Institute of Medicine (IOM). The American Academy of Pediatrics advises 400 IUs for children during the first year of life starting in the first few days. Follow your doctor's advice for vitamin D.

### Sources of vitamin D:

- Sun exposure (without sunscreen) on your skin. Fifteen minutes of midday sunshine may meet the daily need. {**Note:** You may not get vitamin D benefits from the sun: During winter months; if you have dark skin; and/or you are age 60 years and older.}
- Foods, such as fortified milks and cereals, egg yolks, saltwater fish, and liver.
- Vitamin D supplements, as advised by your doctor. The best source of vitamin D for bone health is vitamin D3.

\*Labels do not list calcium in milligrams (mg), but as a percentage of the daily value (DV). The DV for calcium is based on 1,000 mg of calcium per day. It's easy to figure out calcium in mg. Just add zero to the % DV. Examples are given in the chart below.

% DV of Calcium	
% DV of Calcium	Milligrams (mg) of Calcium
50%	500
40%	400
30%	300
20%	200
10%	100
5%	50

### More Self-Care / Prevention Tips

- **Eat a balanced diet. Have at least 5 fruits and vegetables every day.** These have many vitamins, minerals, and anti-oxidants that can benefit bone health, as well as overall health.
- **Don't smoke. If you smoke, quit!** Get help from your doctor, [www.smokefree.gov](http://www.smokefree.gov), and/or 1.800.QUIT.NOW (784.8669).
- **Limit alcohol.** Too much alcohol interferes with the body's need for calcium and vitamin D. It also increases the risk for falls.
- **Take medications, as prescribed.**

## Use Fall Prevention Measures


(Falling is what leads to broken bones for many people with osteoporosis.)

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- Ask your doctor if any medications you take could cause you to fall and how to deal with this. Find out how to deal with vision and balance problems, too.
  - Put salt or kitty litter on icy sidewalks. Or stay home during bad weather!
  - Use grab bars and safety mats, etc. in your tub and shower.
  - Use handrails on both sides of stairways.
  - When you reach for things on the floor or pick things up, bend at your knees, not at your waist.
  - Wear flat, sturdy, nonskid shoes.
  - If you use throw rugs, use ones with nonskid backs. Or tack them down to the floor.
  - Use a cane or walker, if necessary.
  - Keep halls, stairways, and entrances well lit. Use night lights in hallways, bathrooms, etc.
  - Keep a flashlight next to your bed.
  - Practice proper posture.

In the house, carry a cordless or cell phone with you, if you can. Doing this keeps you from rushing to answer the phone when it rings. You will also be able to call for help if you do fall.

## Be Physically Active

Physical activity throughout life is important for bone health. Putting stress on your bones tells your body that your bones need to be made stronger.

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- Do regular, weight-bearing exercise. Do this at least 3 or 4 times a week. Examples are walking, dancing, and step aerobics.\*
  - Do resistance exercises to strengthen muscles and build bone.\* Examples are using weights and resistance bands.
  - Do exercises that increase flexibility.\* Examples are tai chi, yoga and stretching exercises.

\* (**Note:** A person with osteoporosis should follow the exercise program outlined by his or her doctor.)

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### For More Information, Contact:

National Osteoporosis Foundation  
800.231.4222 • [www.nof.org](http://www.nof.org)

NIH Osteoporosis and Related Bone Disease National Resource Center  
800.624. BONE (624.2663) • [www.bone.nih.gov](http://www.bone.nih.gov)

Get Free Health Information, from:  
[www.HealthyLearn.com](http://www.HealthyLearn.com)

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