

(Can be downloadable)

Osteoporosis in the Elderly

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Warning to patients:

Always consult your Doctor before you consume any medicine. Self-medication is often dangerous and is to be always avoided. The information given below is merely as a service from Kinedex Healthcare Pvt Ltd., to increase awareness on health issues.

What is osteoporosis?

Osteoporosis literally means 'porous bones'. The bones in our skeleton are made of a thick outer shell and a strong inner mesh filled with collagen (protein), calcium salts and other minerals. The inside looks like honeycomb, with blood vessels and bone marrow in the spaces between bone. Osteoporosis occurs when the holes between bone become bigger, making it fragile and liable to break easily. Osteoporosis usually affects the whole skeleton but it most commonly causes fractures to bone in the wrist, spine and hip.

Who is at risk of Osteoporosis?

- A small, thin body frame
- A family history of osteoporosis
- Postmenopausal status in women or advanced age
- Asian race
- Abnormal absence of menstrual periods
- Anorexia nervosa or bulimia (Eating disorders)
- Low testosterone levels in men
- Diet low in dairy products (milk, yogurt, etc) or other sources of calcium and vitamin D
- Inactive lifestyle
- Long-term use of certain medications such as glucocorticoids, anti-seizure medications; gonadotropin releasing hormone, aluminum-containing antacids; certain cancer treatments; and excessive thyroid hormone
- Cigarette smoking
- Excessive use of alcohol and high salt, protein, and caffeine intake.

What are the most common symptoms of osteoporosis?

Osteoporosis is a silent disease with no symptoms and can be discovered only through bone density testing. However, if you've experienced any of these symptoms, you might have osteopenia (low bone mass) or osteoporosis:

- Fractures of the hip, wrist or pelvis
- Loss of height of more than an inch and a half
- Curvature of the spine or hunched-over posture
- Chronic back pain, usually in the middle or upper back.

How does osteoporosis develop?

A person reaches peak bone mass at around 30-35 years. After that point, bones slowly start to lose density or strength. Throughout life, bone density is affected by heredity, diet, sex hormones, physical activity, lifestyle choices, and the use of certain medications. The two major risk factors for developing osteoporosis are a low peak bone mass because the amount of bone in the skeleton will be more quietly depleted and fast bone loss because depletion will be accelerated.

How much calcium & Vitamin D does a woman over the age of 50 need each day?

Generally, the recommended intake of calcium is between 1,000 and 1,200 mg every day. Ensure adequate vitamin D intake. Normally, we make enough vitamin D from exposure to as little as 10 minutes of sunlight a day. If exposure to sunlight is inadequate, then vitamin D intake from supplements should be at least 400 IU but not more than 800 IU/day.

Can osteoporosis be slowed down?

There are a number of lifestyle factors that can help in slowing down the loss of bone mass in osteoporosis:

- Getting regular exercise, especially weight-bearing and muscle strengthening exercise.
- Getting adequate vitamin D, whether through diet, exposure to sunshine, or supplements.
- Consuming enough calcium to reduce the amount the body has to borrow from bone.
- Consuming adequate vitamin K, found in green-leafy vegetables.

What are weight-bearing exercises?

Weight-bearing exercises are ones that use your leg muscles. Such exercises include:

- Walking and hiking
- Jumping rope and aerobic dancing
- Basketball and volleyball
- Racquet ball and squash
- Soccer and field hockey
- Jogging and running
- Dancing
- Gymnastics and tennis
- Skiing and bicycling

While swimming and yoga are healthful activities, they are not considered to be weight-bearing exercises.

What is Bone Mineral Density Testing for detecting Osteoporosis?

Bone Mineral Density (BMD) test can tell you whether or not you have osteoporosis and how likely you are to develop it in the future. The results of the test can help you and your Doctor make decisions that may prevent fractures or further bone loss.

Who should have a BMD test?

- You are 65 or older.
- You and your physician have done a risk factor assessment and have determined that you are a high-risk individual.
- You have lost four or more cm in height overall or two or more cm in one year.
- You have kyphosis (excessive backward curvature of the spine resulting in either a hump or a more gradually rounded back).
- You are taking glucocorticoid medication, and want to determine if you are losing bone mass and whether treatment for osteoporosis is required.
- You have recently had a fracture in which osteoporosis is suspected and you want to make decisions about further diagnosis and treatment options.
- You already have osteoporosis and you and your physician are monitoring the effectiveness of the treatment.

What exactly happens during a bone densitometry test?

The most common bone density test in use today is called dual energy x-ray absorptiometry (DXA). This test involves lying on a table for a few minutes while a small x-ray detector scans your spine, one hip, or both. You may be asked to lift your legs onto a support to straighten your back for the test. **The test is safe and painless and does not require any injections or any other discomfort.**

How does a bone densitometer measure bone density?

A bone densitometer uses a detector to measure the transmission of small amounts of x-rays (light) through your bones. The amount of light that passes through the bone is measured, thus providing a radiologist with a picture that indicates how dense (thick or thin) your bones are.

What does the BMD test results indicate?

Your BMD is compared to two norms, "young normal" and "age-matched."

Young normal, known as your T-score, compares your BMD to optimal or peak density of a 30-year old healthy adult and determines your fracture risk, which increases as BMD falls below young-normal levels.

Age-matched, known as your Z-score, compares your BMD to what is expected in someone your age and body size. Among older adults, however, low BMD is common, so comparison with age-matched norms can be misleading.

The difference between your BMD and that of a healthy young adult is referred to as a standard deviation (SD). As outlined in the World Health Organization's diagnostic categories, individuals whose T-score is within one standard deviation of

the "norm" are considered to have normal bone density. Scores below the "norm" are indicated in negative numbers.

Bone Density Levels

Classification	Definition	Risk and Recommendations
Normal	Bone density is no more than 1 SD below the young adult normal value.	<ul style="list-style-type: none"> • Risk of fracture is very low. • Keep up your healthy lifestyle - getting enough calcium, vitamin D and physical activity.
Osteopenia (low bone mass)	Bone density is 1 SD to 2.5 SDs below the young adult normal value (-1 SD to -2.5 SDs).	<ul style="list-style-type: none"> • There is a 4x risk of fracture compared to a normal BMD. • Recommendations by your doctor will vary depending on your bone loss and age. • Talk to your doctor about lifestyle changes, including diet and exercise, to improve your bone health.
Osteoporosis	Bone density is more than 2.5 SDs below the young adult normal value (³ -2.5 SDs).	<ul style="list-style-type: none"> • There is an 8x risk of fracture compared to a normal BMD. • Medication is advised. • Talk to your doctor about lifestyle changes, including diet and exercise, to improve your bone health.
Severe Osteoporosis	Bone density is more than 2.5 SDs below the young adult normal value and there has been one or more fragility fractures (³ -2.5 SDs).	<ul style="list-style-type: none"> • There is a 20x risk of fracture compared to a normal BMD. • Medication is strongly advised. • Talk to your doctor about lifestyle changes, including diet and exercise, to improve your bone health.

How is osteoporosis treated?

The treatment of osteoporosis requires lifestyle changes and possibly medical treatment. Options include: a diet rich in calcium, daily exercise, and drug therapy.

What are good sources of calcium?

- Milk and other dairy products are a good source of Calcium. Those who cannot tolerate milk are usually able to tolerate **yogurt**. Yogurt is a wonderful source of calcium and it supplies other important nutrients as well.
- **Fortified orange juice** is a good source, again supplying other nutrients.
- **Broccoli** contains calcium that is fairly well absorbed.
- Also **cabbage, canned salmon and tofu** are good sources.

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