

MEGA

We care

Living with **Osteoporosis**

Managing your bone health

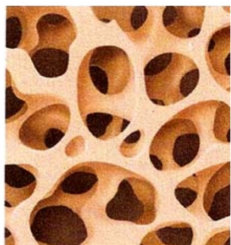


Osteoporosis

A guide to osteoporosis

What is osteoporosis?

Normal bone is composed of protein, collagen, and calcium all of which give bone its strength. Osteoporosis literally means 'porous bone', that is more compressible like a sponge, than dense like a brick. This disorder of the skeleton weakens the bone causing an increase in the risk for breaking bones (bone fracture).



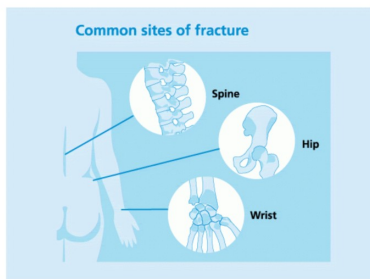
Normal



Osteoporotic bone

What are the common sites of fracture

The spine, hips, and wrists are common areas of bone fractures from osteoporosis, although osteoporosis-related fractures can also occur in almost any skeletal bone.



How common is osteoporosis?

1 in 2 Women over 50



1 in 5 Men over 50



What are the signs and symptoms of osteoporosis?

Osteoporosis usually has no signs or symptoms until a fracture happens - this is why osteoporosis is often called the 'silent disease'.



Who develops osteoporosis?

Both men and women are at risk of developing osteoporosis.



Women are at a greater risk of developing osteoporosis than men, mainly due to the rapid decline in

estrogen levels after menopause. Estrogen is an important hormone for maintaining healthy bones. When estrogen levels decrease, the bones lose calcium (and other minerals) at a much faster rate - bone loss is approximately 1% - 5% per year after menopause. Men also lose bone as they age, but their bone mass generally remains adequate until much later in life.



However, certain risk factors such as reduced calcium intake and low levels of vitamin D can increase age related bone loss. Although osteoporotic fractures are less common in men than in women, when they occur, these fractures are associated with higher disability and death than in women.

What are the risk factors for osteoporosis?



There are a number of other risk factors associated with osteoporosis:

Table 1. Common Risk Factors for Osteoporosis

Nonmodifiable	Modifiable
Older age	Low levels of calcium and vitamin D
Female gender	Reduced intake of vegetables and fruits
Menopause	Increased intake of caffeine, sodium, or protein
Family history	Sedentary lifestyle
Small frame or low body weight	Smoking
History of broken bones or height loss	Increased use of alcohol

Are you at risk?

If you are worried that you may be at risk, take a minute to fill in the questionnaire below.

If you answer 'yes' to more than one question it does not mean that you have osteoporosis, but it does indicate that you may be at risk and should talk to a physician. Your doctor will be able to advise whether you should take a bone density test – a simple, non-invasive procedure that takes about 15 minutes.

The IOF one-minute osteoporosis risk test

1. Have either of your parents been diagnosed with osteoporosis or broken a hip after a minor bump or fall?

Yes No

2. Have you broken a bone after a minor bump or fall?

Yes No

3. Have you taken corticosteroid tablets (e.g. cortisone, prednisone) for longer than 3 months?

Yes No

4. Have you lost more than 3 cm (just over 1 inch) in height?

Yes No

5. Do you regularly drink alcohol in excess of safe limits?

Yes No

6. Do you smoke more than 20 cigarettes a day?

Yes No

7. Do you suffer from diarrhea (caused by celiac disease or Crohn's disease)?

Yes No

For women
8. Did you go through menopause before the age of 45?

Yes No

9. Have your periods stopped for 12 months or more (other than because of pregnancy or menopause)?

Yes No

For men
10. Have you ever suffered from impotence, lack of libido or other symptoms related to low testosterone levels?

Yes No

When to seek medical advice?

Early detection is important in osteoporosis. Consider your risk factors, and then discuss prevention strategy with doctor. If you're a woman, it's best to do this well before menopause.



How is osteoporosis diagnosed?

A routine x-ray can reveal osteoporosis of the bone, which appears much thinner and lighter than normal bones.

Bone density test (medical name - Dual-energy X-ray Absorptiometry; DXA). It is a short, painless scan that measures the density (strength) of your bones, usually at the hip and spine. The result from this test is called a T-score.



T-score:

Normal: Higher than -1

Osteopenia: Between -1 and -2.5

Osteoporosis: -2.5 or lower



Treatments of osteoporosis

Lifestyle changes

- Increasing your calcium intake through your daily diet or supplements
- Increasing the amount of exercise each week
- Quitting smoking
- Decreasing your alcohol intake
- Increasing your exposure to limited sunlight to correct any vitamin D deficiencies, or with supplementation



Medications

Osteoporosis medications work by making the bone cells that break down bone ineffective, while leaving the cells that form bone alone. This reduces the amount of bone lost, so that a net gain in bone density occurs over time. There are several types of medication:

- Calcitriol
- Alfacacidol
- Bisphosphonates
- Strontium Ranelate
- Hormone Replacement Therapy (HT)
- Selective Oestrogen Receptor Modulators (SERMs)
- Other Agents



What else can I do to prevent problems?

One of the hazards of having osteoporosis is that if you fall you might break a bone. There are a number of measures you can take to reduce your risk of falling or other accidents including:

- Make your floor surfaces safe.
- Avoid slipping on wet surfaces:
- Keep steady: If you are unsteady on your feet, wear comfortable, rubber-soled shoes that won't slip.
- Avoid drinking alcohol if you think it might make you unsteady.



Can exercise help prevent & support people who have osteoporosis?

If bones are not 'used' they weaken. Regular weight-bearing exercise, which exerts a loading impact and stretches and contracts the muscles, stimulates bone to strengthen itself.

The National Osteoporosis Society recommends exercising at least three times a week for a minimum of 20 minutes.

Exercises that are considered useful for most people include:



There are two types of osteoporosis exercises that are important for building and maintaining bone density: weight-bearing and muscle-strengthening exercises.

Weight-bearing Exercises

These exercises include activities that make you move against gravity while staying upright. Weight-bearing exercises can be high-impact or low-impact.

High-impact weight-bearing exercises help build bones and keep them strong. If you have broken a bone due to osteoporosis or are at risk of breaking a bone, you may need to avoid high-impact exercises. If you're not sure, you should check with your healthcare provider.

Examples of high-impact weight-bearing exercises are:

- Dancing
- Doing high-impact aerobics
- Hiking
- Jogging/running
- Jumping Rope
- Stair climbing
- Tennis

Low-impact weight-bearing exercises can also help keep bones strong and are a safe alternative if you cannot do high-impact exercises.

Examples of low-impact weight-bearing exercises are:

- ▶ Using elliptical training machines
- ▶ Doing low-impact aerobics
- ▶ Using stair-step machines
- ▶ Fast walking on a treadmill or outside

Muscle-Strengthening Exercises

These exercises include activities where you move your body, a weight or some other resistance against gravity. They are also known as resistance exercises and include:

- ▶ Lifting weights
- ▶ Using elastic exercise bands
- ▶ Using weight machines
- ▶ Lifting your own body weight
- ▶ Functional movements, such as standing and rising up on your toes

Yoga and Pilates can also improve strength, balance and flexibility. However, certain positions may not be safe for people with osteoporosis or those at increased risk of broken bones. For example, exercises that have you bend forward may increase the chance of breaking a bone in the spine. A physical therapist should be able to help you learn which exercises are safe and appropriate for you.

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