

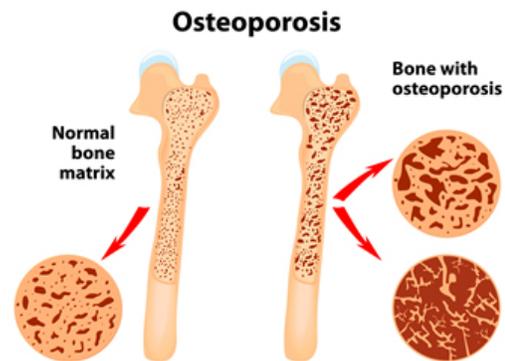
## Osteoporosis

### What is osteoporosis?

Osteoporosis is a condition in which the bones become thin, brittle, and weak. These changes can increase the risk of fractures. Fractures can lead to disability, pain and other organ system problems.

### Is osteoporosis more common in women or in men?

Osteoporosis occurs five times more often in women than in men.



### What are some risk factors for osteoporosis?

The following factors cause or contribute to osteoporosis and fractures:

- ❖ Certain medications
- ❖ Diseases such as inflammatory bowel disease, rheumatoid arthritis, and lupus
- ❖ Low calcium intake
- ❖ Vitamin D insufficiency
- ❖ Excess vitamin A
- ❖ High caffeine intake
- ❖ Aluminum (in antacids)
- ❖ Alcohol (three or more drinks per day)
- ❖ Inadequate physical activity or being immobile
- ❖ Smoking (active or passive)
- ❖ Being excessively thin

### What is the link between osteoporosis and menopause?

**Estrogen, a female hormone, protects against bone loss.**

- ❖ After menopause, the ovaries produce very little estrogen.

- ❖ This decrease in estrogen triggers a period of rapid bone loss in women that starts 1 year before the final menstrual period and lasts for about 3 years.
- ❖ The natural effects of aging on bones may contribute to this bone loss as well.

## What are some symptoms of osteoporosis?

- Osteoporosis may not cause any symptoms for decades.
- However, some signs and symptoms do occur as the disease progresses.
- As the spinal bones (vertebrae) weaken, they can fracture.
- Fracture in the front part of the spinal bones can result in loss of height or a slight curving of the spine.
- This type of spinal fracture often causes no pain.
- Sometimes, fractures of the spine can cause pain that travels from the back to the sides of the body.

## What is a bone mineral density test?

- In a bone mineral density (BMD) test, bone density is measured at the heel, spine, hip, hand, or wrist.
- Several types of BMD tests are available.
  - Dual-energy X-ray absorptiometry
  - **(DXA) of the hip and spine is considered to be the most accurate BMD test available.**

## Who should have a BMD test?

All women aged 65 years or older should have a BMD test.

- Women who are younger than 65 years and past menopause should have a BMD test if they have had a bone fracture because of fragile bones or have other risk factors for osteoporosis, such as
  - rheumatoid arthritis
  - smoking
  - alcoholism
  - a history of hip fracture in a parent
  - body weight less than 127 pounds.

## How is a DXA scan done?

- During a DXA scan, you lie down for 3–10 minutes while a machine scans your body.
- With this test you are exposed to a small amount of radiation—less than the amount in a normal chest X-ray.

## What do DXA scan results mean?

After the test, a T-score is given for each site measured.

- A negative score means that you have thinner bones than an average 30-year-old

woman.

- A positive score means that you have stronger bones than an average 30-year-old woman. If the T-score at any site is  $-1$  to  $-2.5$ , you have a low BMD and are at increased risk of osteoporosis.
- A score of  $-2.5$  or lower means that you have osteoporosis.
- Treatment usually is recommended to prevent fractures.

## How often should I have a BMD test?

How often you should have your BMD measured depends on your

- Age
- risk factors and
- results of your previous DXA scan.

More frequent testing is recommended for women with T-scores between  $-1.5$  and  $-2.49$ .

## What is FRAX?

FRAX is a tool used to estimate fracture risk.

- This computer program helps predict the risk of having a fracture within the next 10 years in women aged 40 years and older who are not taking prescription osteoporosis drugs.

## How does FRAX estimate fracture risk?

- FRAX takes into account your age, sex, body mass index, smoking, alcohol intake, and other risk factors for osteoporosis.
- Treatment is recommended if FRAX shows that you have a 3% risk of hip fracture; a 20% risk of a major osteoporotic fracture (fracture of the forearm, shoulder, or spine); or both.
- FRAX also is used to decide whether women younger than 65 years should have a DXA test.
- You can calculate your own FRAX by going to <http://www.shef.ac.uk/FRAX/>.

## What treatment is available for osteoporosis?

Various medications are used to treat osteoporosis and help reduce the risk of fractures. Some can be used for prevention.

## How can osteoporosis be prevented?

Lifestyle plays a key role in preventing osteoporosis.

- Exercise
- a healthy diet
- not smoking

can help keep your bones strong and healthy throughout your life.



## When is the best time to start taking care of my bones in order to prevent osteoporosis?

*It is never too early to start thinking about bone health.*

Good bone health should start during childhood.

This is the time to focus on building and keeping as much bone as you can through exercise, good nutrition, and staying healthy.

## How can exercise help prevent osteoporosis?

- Exercise increases bone mass before menopause and slows bone loss after menopause.
- Bone is living tissue and exercise makes it grow stronger.
- The Centers for Disease Control and Prevention recommend that healthy adults get 150 minutes of exercise a week, which works out to be about 30 minutes on most days of the week.

## What types of exercises help prevent osteoporosis and bone fracture?

Weight-bearing exercises can help keep bones strong.

- Weight-bearing exercises are activities that are performed while standing and that require your muscles and bones to work against gravity.
- An example is brisk walking.

Non-weight-bearing exercises, such as

- Tai Chi, Yoga, and
- Pilates

can build endurance and improve balance and posture, thereby reducing your risk of falls.

Strength training also is good for bones.

- In this type of exercise, muscles and bones are strengthened by resisting against weight, such as your own body, an exercise band, or handheld weights.

## How do calcium and vitamin D help build healthy bones?

Calcium is important to building and maintaining healthy bones.

Vitamin D helps the body absorb calcium.

Many people do not get enough calcium from food.

- To increase your daily levels of calcium, eat a variety of calcium-rich foods.
- Good sources of calcium include
  - dark, leafy greens, like spinach, kale, and collards;
  - dairy foods, such as yogurt, milk, and cheese; and
  - canned fish with soft bones, including salmon and sardines.
- You can increase your intake of vitamin D by eating foods fortified with vitamin D

- (orange juice, cereal, and milk).
- You also can get vitamin D by being in the sun for 15 minutes a few days a week.

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