

## Patient Information

For:

### Osteoporosis in Women

#### What is osteoporosis?

Osteoporosis is a disease that thins and weakens bones to the point where they may break easily. This disease most often causes fractures of the bones of the hip, spine, and wrist.

#### How does it occur?

In young healthy adults, bones continue to grow, reaching their greatest strength around ages 20 to 35. After that, bones slowly become weaker as you get older.

The risk of osteoporosis increases with age. Osteoporosis usually develops in women after menopause, between the ages of 45 and 55. Women have less bone mass than men and lose bone mass sooner and faster than men. After menopause women produce much less of the hormone estrogen. Estrogen helps women's bones stay strong. For example, it helps deposit calcium in the bones. Low levels of estrogen cause a weakening of the bones.

Osteoporosis is most common in white and Asian women, especially slender women, but it can occur in women of any race. You are also at higher risk if you have a family history of osteoporosis.

In addition to aging, other causes of osteoporosis are:

- lifestyle habits such as:
  - smoking
  - having more than 1 drink of alcohol a day
  - too little calcium in the diet
  - not enough weight-bearing exercise such as walking, dancing, or lifting weights
- surgical removal of the ovaries, which reduces estrogen levels
- long-term use of certain medicines, such as steroids used to treat asthma or arthritis, thyroid medicines, anticonvulsants, certain cancer treatments, and aluminum-containing antacids
- chronic diseases that affect the kidneys, lungs, stomach, or intestines or change hormone levels (examples of such diseases are diabetes, hyperthyroidism, and heart failure)

## **Patient Information**

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- intense exercise (such as marathon running), which reduces estrogen levels
- long periods of bed rest during serious illness, which speeds up the loss of calcium from bones
- eating disorders or too much dieting, which reduce estrogen levels.

#### **What are the symptoms?**

You may have no symptoms until a bone breaks. Broken bones are the most common problem for people with osteoporosis. Often it's the hip, arm, or wrist that breaks.

The bones of the spine are also a common area of thinning. Often, over time, the bones of the spine (vertebrae) collapse on themselves, one at a time, causing loss of height, back pain, and a stooping posture (dowager's hump).

#### **How is it diagnosed?**

Your healthcare provider may discover you have osteoporosis from an X-ray taken for some other problem. Otherwise, the diagnosis might be made from a review of your medical history and symptoms, a physical exam, X-rays, and blood tests. You may have a test to measure your bone mineral density, such as a DEXA scan.

#### **How long will the effects last?**

The risk of a broken bone resulting from osteoporosis increases with age. Once menopause begins, most women, especially Caucasian and Asian women, need to take precautions for the rest of their lives to prevent osteoporosis.

#### **How can I take care of myself and help prevent osteoporosis?**

- Follow the treatment prescribed by your healthcare provider.
- If you are taking medicine to treat your osteoporosis, be

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- sure to take it as directed. For example, medicines such as alendronate must usually be taken with a full glass of water in the morning on an empty stomach. You must remain upright for at least a half hour after taking it.
- Eat healthy foods, especially low-fat milk and dairy products, green leafy vegetables, citrus fruits, sardines, and shellfish.
  - Take a daily calcium supplement and vitamin D supplement if your healthcare provider recommends it. You can get vitamin D by drinking milk, taking supplements, or spending time in sunlight.
  - Do weight-bearing physical activity, such as walking, regularly. Be sure to exercise your upper body also. Weight-bearing exercise helps prevent bone loss and strengthens muscles, which can help prevent falls.
  - Stop smoking. Smokers may absorb less calcium from their diet.
  - Do not have more than 1 drink of alcohol a day. One drink is 1 ounce of hard liquor, one 12-oz serving of beer, or one 4-oz glass of wine.
  - Talk with your healthcare provider about hormone therapy or other medicines when you reach menopause.

#### **What can I do to reduce my risk of injury?**

If you have osteoporosis, you can reduce the risk of injury and broken bones if you:

- Avoid lifting heavy objects.
- Avoid unusually vigorous physical activity. Build your activity level gradually.
- Wear shoes that provide good support (such as running or walking shoes).
- Use support for walking, such as a cane, if you need it.
- Keep areas where you will be walking well lit and uncluttered. If you walk outside, avoid graveled areas or other uneven surfaces that could cause a fall.
- Avoid putting throw rugs on your floors at home.
- Be cautious about going outdoors when roads and sidewalks are icy.
- If you have had problems with falling, ask your healthcare provider if you should wear hip protectors.

For more information, call or write:  
National Osteoporosis Foundation  
1232 22nd Street NW

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Washington, DC 20037-1292  
800-223-9994  
202-223-2226  
Web site: <http://www.nof.org>  
Educational materials, information specialists

[Related Topics]  
Bone Mineral Density Testing

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#### How is it treated?

Treatment does not cure osteoporosis, it but can slow down the loss of bone and rebuild some bone.

Treatment may include increasing the calcium your body gets, usually through diet and supplements. Most adult women should have 1000 mg of calcium a day. Women who are over 50 need at least 1200 mg a day. Vitamin D is needed to help the body absorb the calcium. Up to age 50 200 IU of vitamin D is needed, after that 400 to 800 IU is needed.

Weight-bearing exercise, such as walking or stair climbing, also helps keep your bones strong. Doing this kind of physical activity every day may help stop further weakening \nof your bones.

There are several medicines that slow bone loss and help reduce fractures. These include:

- bisphosphonates such as risedronate (Actonel) and alendronate (Fosamax)
- calcitonin-salmon hormone (Miacalcin nasal spray)
- selective estrogen receptor modulators (SERMs) such as raloxifene (Evista) and tamoxifen (Nolvadex).

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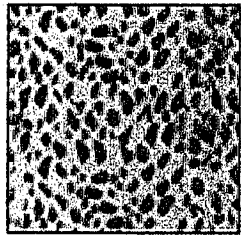
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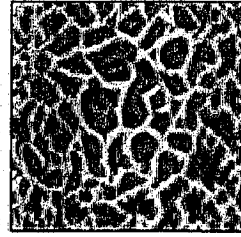
These medicines are prescribed if your bone mineral density tests reveal osteoporosis despite adequate exercise, calcium intake, and no smoking. They may also be prescribed if you have already had a fracture due to osteoporosis.

Treatment with the female hormones estrogen and progestin can help relieve some of the symptoms of menopause. It can also help prevent bone loss (osteoporosis). Hormone replacement therapy (HRT) may be prescribed to treat symptoms of menopause if other treatments have been tried and failed, and if you and your provider decide the benefits may outweigh the risks. HRT is also given to younger women who have had their ovaries removed, and in these cases it helps to treat or prevent osteoporosis. Depending on your age, treatment with estrogen and progestin may increase the risk for heart disease. It may also increase your risk for stroke, breast cancer, blood clots, some gallbladder problems, and possibly dementia. Also, estrogen taken without progestin increases the risk of uterine cancer if you still have your uterus. Discuss the risks and benefits of hormone therapy with your healthcare provider.

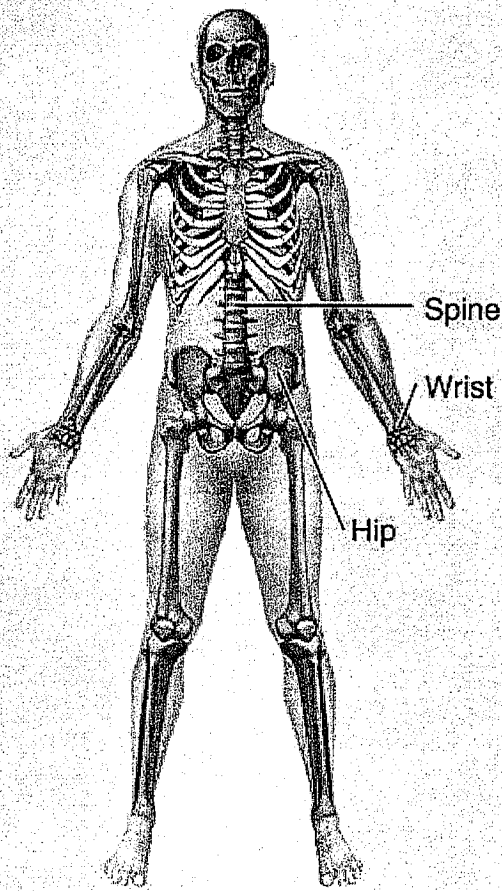
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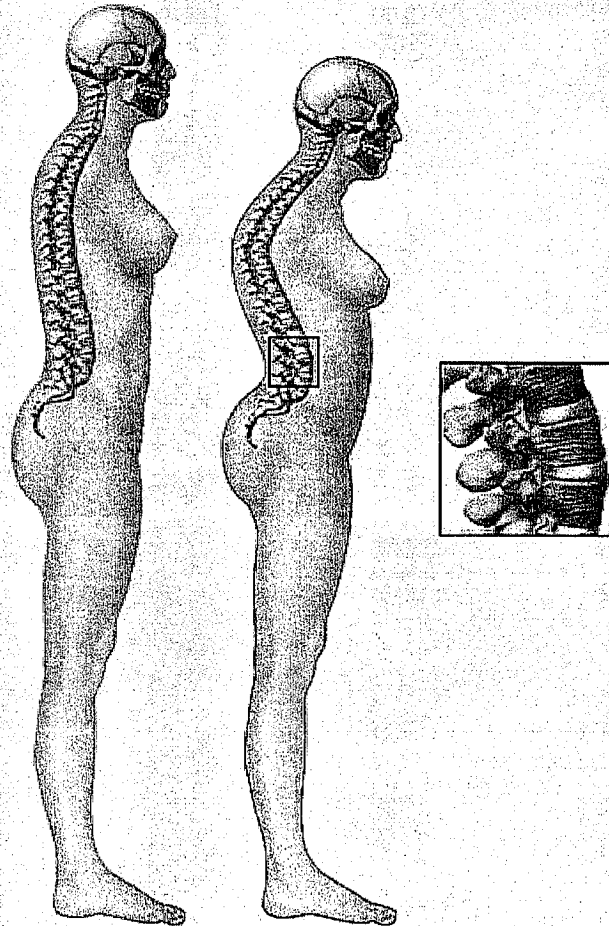
Normal Bone



Bone becomes thinner and weaker with osteoporosis.



Areas most commonly affected by osteoporosis



Over time, bones in the spine can become thin and collapse, causing a person to hunch over.