

[Home](#) > [Navigating Cancer Care](#) > [Side Effects](#) > Osteoporosis

PDF generated on July 21, 2016 from <http://www.cancer.net/navigating-cancer-care/side-effects/osteoporosis>

Osteoporosis [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 02/2016

Osteoporosis is the most common type of bone disease. It develops when the body breaks down more bone tissue than it can replace. As a result, bones become weak and fragile, making them more likely to fracture or break.

Causes of bone loss

As we age, our bodies are less able to replace the cells needed to repair and rebuild bone tissue. This means that the bones may become thin and more porous. In addition to age, other factors that can contribute to loss of bone mass include:

- Cancer that has spread to the bone, called metastatic cancer. Metastatic cancer causes bones to weaken in certain places. The cancers that most commonly spread to the bones include:
 - Breast cancer
 - Prostate cancer
 - Multiple myeloma
 - Lung cancer

- Bone cancer, which is cancer that starts in the bones.
- Receiving some types of chemotherapy.
- Being a woman, since women have a higher risk of osteoporosis than men. The risk of osteoporosis is especially high after menopause because of lower levels of estrogen. Estrogen is a hormone that helps maintain bone density.
- Hormone therapy for breast or prostate cancer. These treatments reduce levels of either estrogen or the male hormone, testosterone. A decrease of these hormones contributes to loss of bone mass and density.
- Heavy smoking and excessive alcohol consumption.
- A family history of osteoporosis.
- Other medicines, including the following:
 - Steroid therapy (such as prednisone)
 - Synthetic thyroid hormone therapy
 - Drugs for heartburn
 - Other commonly prescribed medicines
- Long-term bed rest and inactivity.
- Poor nutrition and not getting enough calcium and vitamin D.
- Race and ethnic background. People who are white or Asian have an increased risk of developing osteoporosis.

Fractures from bone loss

Fractures or bone breaks cause pain and movement problems that can interfere with a person's daily life. People with cancer who are more likely to experience fractures include:

- Those with metastatic cancer in the bones
- Those with bone cancer

If you have a higher risk of fractures, talk with your doctor about ways to lower your risk.

Signs and symptoms of bone loss

Loss of bone mass doesn't happen overnight. Often, people don't notice bone loss until they have pain, loss of function, or a fracture. The signs of more serious bone problems are often mistaken for arthritis-like symptoms.

Talk with your health care team about any symptoms from problems caused by osteoporosis you may experience, including:

- Back pain, often caused by a compression fracture or collapsed vertebra
- Loss of height over time
- Stooped posture or curved upper back
- Painful joints or stiffness
- A broken bone that happens more easily than expected, such as after a minor injury

Relieving side effects is an important part of cancer care and treatment. This is called symptom management or [palliative care](#) [3].

Diagnosing bone loss

The most common test used to measure bone mass is a dual energy x-ray absorptiometry (DEXA) scan or bone density scan. You may have this test before, during, and after cancer treatment.

A bone density scan measures the strength of the bone by looking at the amount of calcium it contains. Usually your doctor will take the measurements in the hip or the lower spine. Depending on how low your bone mineral density is, your doctor may diagnose osteopenia or osteoporosis. Osteopenia is mild bone loss.

Treating and managing bone loss

Treatment for bone loss often involves the use of bone-modifying drugs. These drugs slow the rate of bone thinning. They may also reduce new bone damage and promote bone healing. Patients who have bone pain from metastatic cancer also often receive these drugs. Bone-modifying drugs include:

- Bisphosphonates, which block the cells that destroy bone, called osteoclasts.
- RANK ligand inhibitors, such as denosumab (Prolia, Xgeva).

A possible condition linked with bone-modifying drugs is osteonecrosis of the jaw. It is an uncommon but serious condition. The symptoms include pain, swelling, and infection of the jaw; loose teeth; and exposed bone.

Your doctor may recommend seeing a dentist before bone-strengthening treatment begins. Also, tell your dentist if you are receiving treatment with a bone-modifying drug before having any dental procedures.

Managing bone loss and its symptoms may also include:

- **Calcium and vitamin D supplements.** The current recommendations are listed below. Before you take any vitamin or mineral supplement, talk with your doctor.
 - Vitamin D: 800 international units (IU) per day for women of all ages
 - Calcium supplements for women before menopause: 1,000 milligrams (mg) per day
 - Calcium supplements for women after menopause: 1,200 mg per day
- **Exercise.** Weight-bearing physical activity such as walking, dancing, and stair climbing places stress on your bones. This stress triggers the body to make cells that form bone. Regular weight-bearing exercise also builds strong muscles, which can help your balance.

Your doctor can recommend an exercise plan based on your needs, physical abilities, and fitness level.

- **Maintaining a healthy weight.** Eating a well-balanced diet is important to good bone health. Being underweight can contribute to bone loss and fractures.
- **Preventing falls.** Falling is the main cause of fractures for people with osteoporosis. Poor vision, shoes that don't fit well, a cluttered living space, mental impairment, drowsiness related to pain medicines, and poor concentration can increase your risk of falling. To help prevent falls, try doing exercises to improve your balance.

More Information

[Types of Cancer](#) [4]

[What is Metastasis?](#) [5]

[ASCO Answers Fact Sheet: When Cancer Spreads to the Bone](#) [6]

[Prevention and Healthy Living](#) [7]

Additional Resources

National Osteoporosis Foundation: [Learn about Osteoporosis](#) [8]

LIVESTRONG Foundation: [Osteoporosis](#) [9]

Links

[1] <http://www.cancer.net/navigating-cancer-care/side-effects/osteoporosis>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancer.net/node/25282>

[4] <http://www.cancer.net/cancer-types>

[5] <http://www.cancer.net/node/34686>

[6] http://www.cancer.net/sites/cancer.net/files/asco_answers_bone_metastasis.pdf

[7] <http://www.cancer.net/node/24868>

[8] <http://nof.org/learn>

[9] <http://www.livestrong.org/we-can-help/finishing-treatment/osteoporosis/>