



Medicines and Bone Loss

Some types of medicines can cause bone loss, making your bones weak, if used for a long time. Use over a short time is usually not a problem. When you have weak bones—a condition called osteoporosis—your risk of bone fractures goes up. Broken bones can lead to pain and disability. For example, some older people who break a hip may lose their ability to function independently.

Some people who take thyroid hormone worry about bone loss. The doses of thyroid hormone used to treat hypothyroidism (underactive thyroid) don't harm bone and shouldn't be cause for concern. Only high doses, used for thyroid cancer treatment, can cause bone loss.

High doses or long-term use of medicines called proton pump inhibitors (PPIs) can raise the risk of bone loss. PPIs, such as esomeprazole, lansoprazole, and omeprazole, are used for GERD (acid reflux), peptic ulcer, or heartburn. However, getting enough calcium and vitamin D may be enough to lower the risk.

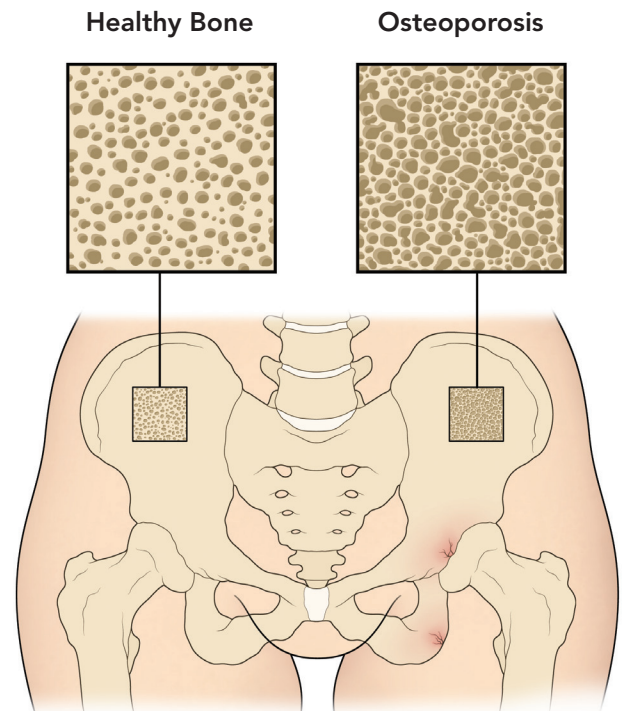
DID YOU KNOW?

Normally, your body continuously removes old bone and replaces it with new bone. Bone loss occurs when old bone breaks down faster than new bone can form.

WHICH MEDICINES CAN CAUSE BONE LOSS?

A number of medicines can cause bone loss if used over the long term (several years). Some common ones include

- Glucocorticoids, also called steroids, such as cortisone and prednisone. They are used to treat arthritis, asthma, lupus, multiple sclerosis, and other conditions.
- Some medicines such as phenytoin and phenobarbital, used to treat epilepsy.
- Gonadotropin-releasing hormone agonists (GnRH agonists), such as goserelin acetate and leuprolide acetate. They are used to treat endometriosis, prostate cancer, or female infertility.
- Aromatase inhibitors, such as anastrozole, exemestane, and letrozole. They are used to treat breast cancer.



Experts don't know yet whether selective serotonin reuptake inhibitors (SSRIs), such as fluoxetine and escitalopram, increase fracture risk. Some studies show a small effect on bone but others do not. SSRIs are used for depression and obsessive-compulsive disorder. Talk to your doctor if you take an SSRI and are concerned about bone loss.

OTHER MEDICINES THAT MAY CAUSE BONE LOSS

Medicine	Used For
Antacids that contain aluminum	Heartburn
Chemotherapy drugs	Cancer
Cyclosporine and tacrolimus	Preventing rejection of organ transplant
Heparin	Preventing blood clots
Loop diuretics such as furosemide and torsemide	Heart failure, edema (tissue swelling), some kidney problems
Medroxyprogesterone acetate	Contraception
Methotrexate	Cancer and rheumatoid arthritis
Thiazolidinediones such as pioglitazone and rosiglitazone	Diabetes

HOW IS BONE STRENGTH MEASURED?

A bone mineral density test called a DEXA scan—a type of very low dose X-ray—checks bone mass (the amount of calcium and other minerals in your bones). This test can show early bone loss before the more serious condition of osteoporosis occurs.

WHAT CAN I DO TO PREVENT BONE LOSS AND AVOID FRACTURES?

Talk with your doctor about what's best for you. Your doctor may advise you about

- **Adjusting your current medicines.** If your medicines may cause bone loss, make sure that you are taking the lowest possible dose for the shortest possible time.
- **Taking osteoporosis medicines.** Some medicines can prevent or treat osteoporosis. The most common type, called a bisphosphonate, is taken as a pill by mouth or as a liquid through a vein. This type of medicine keeps bones strong by helping the bones retain calcium.
- **Getting enough calcium and vitamin D.** Calcium and vitamin D are found in some foods. Good sources of calcium include milk, yogurt, cheese, collard greens, and foods with added calcium, such as cereal and soy drinks. Vitamin D, which helps the body absorb calcium, is made in the skin when people

spend time in the sun. It's also found in salmon, shrimp, and milk with added vitamin D. You may also need dietary supplements to get enough calcium and vitamin D.

- **Exercising regularly.** Two kinds of exercise help keep bones strong: weight-bearing exercise, such as walking, running, dancing, and climbing stairs; and exercise that strengthens muscles, such as lifting weights.
- **Choosing a healthy lifestyle.** Avoiding smoking can help keep bones strong. Smoking may lower the amount of calcium that the body can absorb. Some studies also show that drinking a lot of alcohol might weaken bones.

Questions to ask your doctor

- Do any of my medicines cause bone loss?
- Are there different medicines I can take?
- Do I need a bone density test?
- What should I do to protect my bones?
- Should I be taking medicine to protect my bones?
- Should I see an endocrinologist?

RESOURCES

- Find-an-Endocrinologist: www.hormone.org or call 1-800-HORMONE (1-800-467-6663)
- Hormone Health Network information about glucocorticoid-induced osteoporosis: www.hormone.org/Resources/upload/FS_OBH_Glucocorticoid_induced_Osteoporosis_EN-6-12.pdf
- Hormone Health Network information on osteoporosis: www.hormone.org/Osteoporosis/index.cfm
- Mayo Clinic information about osteoporosis: www.mayoclinic.com/health/osteoporosis/DS00128
- National Osteoporosis Foundation: www.nof.org
- National Institutes of Health:
 - MedlinePlus (about osteoporosis): www.nlm.nih.gov/medlineplus/osteoporosis.html
 - MedlinePlus (about medicines): www.nlm.nih.gov/medlineplus/druginformation.html
 - Osteoporosis and Related Bone Diseases National Resource center: www.niams.nih.gov/Health_Info/Bone/Osteoporosis/overview.asp

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April 2013

The Hormone Health Network offers free, online resources based on the most advanced clinical and scientific knowledge from The Endocrine Society (www.endo-society.org). The Network's goal is to move patients from educated to engaged, from informed to active partners in their health care. This fact sheet is also available in Spanish at www.hormone.org/Spanish.

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www.hormone.org