

Osteoporosis: Medications for Prevention and Treatment



Half of all women over the age of 50 will experience a fracture of their hip, wrist, spine or other bone due to osteoporosis.

What is osteoporosis?

Osteoporosis is a disease that makes bones thin and weak. Many more women than men have it. You can have osteoporosis for a long time before you know you have it. The first sign may be a broken bone in the hip, spine, or wrist, or sudden pain in your middle or lower back.

How can I tell if I have it?

Your doctor may recommend a bone mineral density (BMD) test to see if you have osteoporosis. If you do, he or she may prescribe one of the medications to prevent and treat bone loss described here.

How can I protect myself?

Getting enough calcium and vitamin D is very important to prevent osteoporosis. Bones are living tissue, and they make calcium “deposits and withdrawals” daily. Without enough calcium and vitamin D, your body will take calcium from your bones to keep your blood calcium levels normal. As a result, your bones will become thin, brittle, or misshapen.

Calcium helps form bones and teeth and keeps them strong to prevent breaks and decay. It also helps:

- blood clot normally
- muscles contract normally
- send nerve impulses
- lower blood pressure

- maintain a healthy weight
- reduce the risk of colon cancer

Without vitamin D, your body can't absorb and use calcium to make and keep strong bones. A diet low in vitamin D makes conditions such as osteoarthritis, hypertension, and cardiovascular disease worse for some people. Lack of vitamin D may also contribute to bone pain or chronic aches. Getting enough vitamin D may decrease the risk of colon cancer.

Are there any medications I can take?

Bisphosphonates (Fosamax) are newer drugs used to prevent and treat osteoporosis and other bone diseases. Because they are not hormones, they do not have the

How much calcium and vitamin D do I need each day?

The amount of calcium and vitamin D you need depends on your age (see chart).

Age (yr)	Number of high calcium foods per day	Calcium Mg/day	Vitamin D IU/day
Infants 2-11 mo.	discuss with pediatrician	discuss with pediatrician	200
1-3	2	500	200
4-8	3	800	200
9-18	4	1,300	200
19-50	3	1,000-1,500	800
51-70	4	1,200-1,500	800
71+	4	1,200-1,500	800
Pregnant or breastfeeding women	4	1,300	200

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same risks and benefits as hormones. Bisphosphonates work inside bone cells to lessen bone breakdown. They also:

- increase total body bone density, including in the spine and hip
- reduce fractures by half, about as well as estrogen
- have no effect on heart disease, cholesterol, or risk of blood clots
- do not improve hot flashes, vaginal dryness, or other symptoms of menopause
- have no effect on the uterus, breast, or risk of breast cancer

Bisphosphonates are specifically for treating and preventing bone loss. They may upset the stomach and need to be taken as instructed.

Here are some tips:

- Take your medication with a full glass of water when you first get up in the morning.
- Do not lie down, eat, drink, or take any other medication for at least 60 minutes (ideally 90 minutes) after taking the drug. You need to do this so the medication can be absorbed and do the most good for your bones.
- If you forget to take the medication in the morning, don't take it late in the day. Skip it, and take the usual dose the next morning.
- Take the entire pill; never split the pill.

- If you have side effects, tell your doctor or other health care professional, who may change your medication.
- Keep on taking calcium and vitamin D supplements. Bisphosphonates need them in order to work.

Raloxifene (Evista) affects the bones and liver similarly to estrogen, but does not affect the uterus or vagina. It stops the effect of estrogen on the breast.

In addition, it:

- is half as effective at increasing bone density as estrogen
- lowers the risk of spine fractures
- can double the risk of blood clots and should not be used by women with blood clot problems
- can cause hot flashes
- does not reduce vaginal dryness or other symptoms of menopause
- decreases breast cancer for tumors that are sensitive to estrogen
- does not appear to cause bleeding in the uterus or require the use of progestin
- is not expected to increase the risk of uterine cancer

While raloxifene has been shown to reduce the risk of fractures of the spine, its long-term effects are still being studied. It does not improve symptoms of menopause.

What about Hormone Therapy?

Hormone therapy (estrogen alone or estrogen and progesterone) is also very effective at reducing fractures. If a woman is taking hormones to relieve menopausal symptoms she will also have the benefit of bone protection, for as long as she takes the medication. Hormone therapy is not recommended as a treatment for osteoporosis.

Additional resources

- Connect to our Web site at kp.org to access health and drug encyclopedias, interactive programs, health classes, and more.
- Contact your local Kaiser Permanente Health Education Center or Department for health information, programs, and other resources.

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