



## Osteoporosis, prevention

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More than one million fractures occur in postmenopausal women every year because of *osteoporosis*, the age-related, progressive loss of bone mass. Men are at lower risk because they generally have greater bone mass and do not experience the type of hormonal changes with age that occur during menopause. Approximately 40,000 deaths each year are due to complications from hip fractures associated with osteoporosis.

However, women can slow or halt the gradual loss of bone mass by taking preventive steps before menopause. Even after menopause, maintaining an adequate amount of calcium, doing weight-bearing exercises and taking medication (if necessary) are the cornerstones of prevention.

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### What you can do

Making the right choices at each stage of your life can help reduce your risk of developing osteoporosis.

- *Lead a healthy lifestyle.* Exercise regularly, eat a well-balanced diet containing calcium-rich foods and quit smoking. Women should drink no more than one alcoholic beverage per day; men should not exceed two alcoholic drinks per day.
- *Change medications that contribute to bone loss.* Certain drugs, such as corticosteroids and long-term use of phenytoin or phenobarbital, increase bone loss and decrease bone growth. If you take a medication that you think might contribute to osteoporosis, talk to your healthcare provider about an alternative. Do not discontinue taking any medication without your doctor's approval.
- *Avoid caffeine.* Research indicates that excessive caffeine may contribute to bone loss.
- *Limit consumption of salt, protein and foods containing phosphorous* (such as meat), which increase the amount of calcium lost through urination.
- *Do not take antacids containing aluminum* (such as Di-Gel, Maalox and Mylanta), which can accelerate bone loss.
- *Get enough calcium and vitamin D.* Details are listed below:

### Calcium

Calcium is essential for healthy bones and vital organs in people of all ages. If your body is low in calcium, these organs will absorb it from your bones to function properly. The National Institutes of Health (NIH) recommends the following daily doses of calcium for adults: 1,000 to 1,500 milligrams

(mg) for men and women ages 19 to 65 (including women who are pregnant or breast-feeding) and 1,200 to 1,500 mg. per day for men and women over the age of 65.

Food is the best source of calcium. The highest amounts are found in:

- Dairy products, such as low-fat yogurt, skim or reduced fat milk, low-fat cheese, etc.
- Canned salmon and sardines (with bones)
- Dark green vegetables (kale, turnip greens, broccoli)
- Beans (kidney, soy, black-eyed peas)
- Calcium-fortified cereals, bread and fruit juice

Since most people have difficulty getting enough calcium through diet alone, supplements can help ensure adequate intake. Calcium supplements increase bone density in both men and women.

Despite calcium's importance in maintaining good health, too much can cause problems in some individuals. If you have kidney problems, check with your healthcare provider before taking calcium supplements.

## **Vitamin D**

Your stomach and gastrointestinal (GI) tract require vitamin D in order to absorb calcium. The vitamin is produced in the skin using the ultraviolet rays in sunlight. However, sunshine alone may not provide sufficient calcium to meet your daily requirements, especially during the winter (for those who live in northern latitudes). For this reason, most milk is fortified with vitamin D; other food products, such as cereals and bread, may also have added vitamin D. Dietary sources of vitamin D include fatty fish (sardines, salmon), egg yolks, liver and cheese.

The National Academy of Sciences recommends the following daily doses of vitamin D:

- 200 IU or 5 mcg. (micrograms) for people ages 19 to 50
- 400 IU or 10 mcg. for pregnant women and people ages 51 to 69
- 600 IU or 15 mcg. for people ages 70 and older. *Note: Your doctor may recommend a supplement containing as much as 800 IU (20 mcg.) of vitamin D if it appears you don't get sufficient levels of the vitamin through dietary sources or sun exposure.*

## **Physical activity**

The amount of work your bones do determines their density. Therefore, exercise plays a vital role in increasing bone mass when you're young, and in maintaining it when you're older. Weight-bearing activities and resistance exercises, such as walking, jogging and weight-lifting, are best for building bone mass. Try to vary your exercise program to work all parts of your body and gain lifelong benefits.

Even if you already have osteoporosis, the benefits of regular exercise are immeasurable. Physical activity can help prevent injuries and fractures, as well as slow further bone loss. If you are not currently exercising, it's always wise to check with your healthcare provider before you begin.

## Hormone replacement therapy (HRT)

The sex hormones *estrogen* in women and *testosterone* in men are essential for absorbing calcium. As a woman goes through menopause, her production of estrogen drops. As a result, her bones become thinner and weaker.

Hormone replacement therapy (HRT)—estrogen and its companion hormone *progesterone*—can help prevent bone loss associated with osteoporosis. However, studies have shown that it also increases a woman's risk of breast cancer, blood clots, and many forms of *dementia* (mental deterioration), including Alzheimer's disease. Consult your doctor if you are considering HRT for osteoporosis prevention; you and your health care provider should weigh its possible benefits as opposed to your personal risk of heart attack, stroke, blood clots, and breast cancer.

For women who cannot tolerate or prefer not to use HRT therapy, *selective estrogen receptor modulators* (SERMs), such as raloxifene (Evista) may provide a good alternative. SERMs (sometimes called "designer estrogens") prevent bone loss and may even increase bone mass. What's more, they do not increase the risk of breast cancer. In addition, SERMs improve *lipid* profiles (fats in the blood), and thus have the same beneficial effect on the heart as HRT. Raloxifene does not increase a woman's risk of endometrial cancer. Tamoxifen, another SERM, is generally not recommended for the prevention of osteoporosis.

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## Final note

Studies continually reveal new information about the diagnosis and treatment of bone loss. Call your healthcare provider for more information or contact the National Osteoporosis Foundation at 1-800-223-9994.