

## **Eight Steps to Prevent Osteoporosis**

As a teenager, I was pretty good at losing weight, whittling my 5-foot-5-inch frame down to 104 pounds. And although I was never diagnosed with an eating disorder, I stopped getting my period for about four years. Now ... I weigh 138 and haven't dieted in over a decade. I drink milk and eat yogurt, and my periods have been like clockwork since college. So I was stunned to hear from osteoporosis experts that when I hit menopause, I could be at high risk for this silent, bone-weakening disease.

"Your overall health habits, especially in your teen years, can affect your bones for the rest of your life," says Michelle Warren, M.D., medical director of the Center for Menopause, Hormonal Disorders and Women's Health at Columbia Presbyterian Medical Center in New York City. That's because women develop 40 percent of their bone mass between the ages of 14 and 17. You keep adding bone mass until you're about 30, but not the amounts you get in those early years. According to Dr. Warren, because of my previous habits, I may have low bone mass, or osteopenia, the precursor to osteoporosis. My case isn't unusual. According to the National Osteoporosis Foundation, an estimated 41 million women over 50 in the United States alone will be at risk for developing osteoporosis by 2020, signaling an epidemic. The World Health Organization predicts that the number of bone fractures due to osteoporosis will double over the next 50 years, worldwide ... You could be among them if you ever dieted or exercised to the point of amenorrhea (loss of periods), don't get enough calcium and vitamin D (two major bone builders), smoke or chronically use certain medications such as steroids for asthma.

**What can you do when your main bone-building years are behind you?  
Take the following eight steps to protect your bones now:**

- Pay attention to your period. If you miss your period for at least three consecutive months, see your doctor immediately. This may mean you're low on estrogen, a hormone that protects bones. "Estrogen deficiency causes an increase in the production of cells that remove bone from the body," explains Dr. Warren. Your physician may prescribe birth control pills to regulate your hormone levels.
- Get enough calcium. You need at least 1,200 milligrams of this mineral daily, but experts estimate that many women consume less than half that amount. Some good sources include low-fat yogurt (448 milligrams per cup), skim milk (352 milligrams per cup) and calcium-fortified orange or grapefruit juice (350 milligrams per cup). If you suspect you're not getting 1,200 milligrams, take a calcium supplement, preferably one that also contains vitamin D, which helps maximize the mineral's absorption. The supplements generally come in two forms -- calcium citrate and carbonate, which are both absorbed well by the body.

Calcium carbonate, found in Tums or Viactiv Soft Calcium Chews, however, is broken down by stomach acid, so take those with meals when stomach acid is high. And don't take more than 500 milligrams of calcium at a time, since your body can't absorb more than that at once.

- Cut down on caffeine. It may interfere with calcium absorption. Limit yourself to two to three cups of coffee, tea or caffeinated soda a day, advises Nelson Watts, M.D., head of the Bone Health and Osteoporosis Center at the University of Cincinnati Medical Center. "For every 8-ounce caffeinated beverage you consume, your body will fail to absorb 4 milligrams of calcium," Dr. Watts says. To make up for the loss, include an extra 40 milligrams of calcium in your diet: Put skim milk in your coffee or add a cup of spinach to a salad.
- Limit salt. Like caffeine, excess sodium also causes calcium loss. (The maximum recommended daily intake is 2,400 milligrams.) "Your body eliminates salt through the kidneys and takes calcium along with it," explains Dr. Watts. Read labels, and be especially wary of packaged foods such as canned soups, frozen dinners, prepared mixes and snack foods such as pretzels and popcorn, which tend to be loaded with sodium. For example, one cup of ready-to-serve soup contains 870 milligrams of sodium, more than a third of the recommended daily intake.
- Do bone-building exercises. Vertical jumping -- literally jumping up and landing on flat feet -- is an excellent impact exercise for bone strengthening and building. Studies show that women who jumped vertically 300 times a week increased bone mass in their hips by 2.8 percent. "Jumping shocks the bone, causing bone mass to build," says Christine M. Snow, Ph.D., director of the bone research laboratory at Oregon State University in Corvallis, who has conducted numerous vertical-jumping studies. (Jumping rope isn't as effective because you don't land as hard.) To avoid injury, build knee strength by doing squats and leg extensions. And practice first to perfect your form. "Make sure your knees are in line with your toes when you land, and don't turn your knees inward," says Snow. "A knock-kneed landing can increase your risk of injury."

Other exercises that build and strengthen bone include weightlifting and other high-impact activities like jogging and step aerobics. "The force placed on your muscles during these exercises strengthens your bones and stimulates growth," says Miriam E. Nelson, Ph.D., author of [Strong Women, Strong Bones](#) (Perigee, 2000).

- Eat the right amount of protein. A diet that contains more or less protein than the general requirement is associated with a decrease in bone density, says Dr. Warren. You need roughly 50 grams of protein daily,

which you can get by eating 3 ounces of swordfish, two cups of low-fat yogurt and one egg. Other good sources include lean red meat, skinless chicken, low-fat cheese, tofu and skim milk. In addition, extremely protein-dense diets may either decrease calcium absorption or increase calcium loss, according to the National Osteoporosis Foundation.

- Limit vitamin A. According to recent analysis of data from the Nurses' Health Study at Brigham and Women's Hospital in Boston, Mass., women who consumed the highest amounts of vitamin A in the form of retinol (2,000 micrograms or 6,600 International Units), had the greatest incidence of bone-loss-related hip fractures. "At high levels, vitamin A may cause bones to break down faster than they rebuild," explains Diane Feskanich, an assistant professor of medicine at Harvard University Medical School and the study's lead researcher. Read food and supplement labels for vitamin A amounts to make sure you're not getting too much. Feskanich suggests that you choose a multivitamin specifying that at least 20 percent of its vitamin A comes from beta-carotene, which doesn't harm bones the way retinol can. Also, look for a multi that contains 2,500 IU [international unit] of vitamin A rather than 5,000 IU. Fortified foods such as energy bars and cereal also contain vitamin A in retinol form, so be aware of how many you eat every day.
- Aim for five or more servings of fruits and vegetables daily. A recent study found that women who consumed 3.5 servings of fruits and/or vegetables daily had greater bone density than those who didn't. Fruits and vegetables are good sources of magnesium and potassium, two major nutrients -- besides calcium and vitamin D -- that protect bones.

**By Sandra Gordon**

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