

Managing Osteoporosis

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Osteoporosis

Osteoporosis is one of the most common bone diseases in the world. It is often called a silent disease. This is because there are usually no symptoms unless there is a fracture. The disease is characterized by a decrease in bone mass, which can lead to fractures. The fractures occur most often in the spine, hip, ribs, and wrist. They can occur from normal everyday activity. They are the only symptoms of osteoporosis.

The skeleton constantly sheds old bone and makes new bone. At about age 35, the bone-making process slows down. It may be helpful to think of bone as a bank account. You make deposits more often than withdrawals up to a certain age. When you reach this age, you are forced to make more withdrawals than deposits. Once the withdrawals become greater than the deposits, the bone bank dwindles. You will be in the best position if you have deposited as much as you can while you are still able.

Postmenopausal women are at high risk for osteoporosis. They produce little estrogen and that speeds up bone loss. Other factors that increase the risk of osteoporosis for both men and women are:

- Not being active
- Poor diet
- A low intake of calcium
- Overuse of caffeine
- High levels of alcohol or nicotine use

Other things that can lead to bone loss include:

- Bone marrow disorders
- Connective tissue disorders
- Hormone producing system (endocrine) abnormalities, including tumors of the pituitary and adrenal cortex
- Low levels of estrogen and testosterone
- Hyperthyroidism or hyperparathyroidism, which are gland disorders that affect how you break down food and levels of calcium and vitamin D in your blood
- Some medicines that may be necessary to treat you (including corticosteroids heparin, some anticonvulsants, and methotrexate)
- Hormonal therapy for prostate and breast cancers

If your doctor suspects that you may have osteoporosis, you will have a bone density test. The test is similar to an x-ray, but with much less radiation. It is a painless, accurate, and non-invasive test. It measures bone density in the wrist, lumbar spine, and hip. Your doctor will use the results of this test to determine your risk of fracture.

Components To Managing Osteoporosis

- Preventing fractures. Your doctor may want you to take medicine, exercise, or both. These can help decrease your risk of fractures. Various treatments that prevent bone loss or stimulate bone formation can be used to prevent fractures.
- Managing fractures (breaks). Fractures are managed through stabilization and pain relief. Physical therapy is used to help you regain function. It helps strengthen bone and muscle.
- Maintaining calcium intake. Most adults should get 1200–1500 mg of calcium every day. The best way to get calcium is through food. If you cannot get enough with your diet, you may need to take a calcium supplement. Calcium supplements come in many forms. Calcium carbonate and calcium citrate are the most commonly recommended forms. Calcium carbonate is less expensive, but it may cause increased gas and constipation. If you have these side effects, switch to calcium citrate. Read the label carefully to see how much actual calcium is in each tablet. This is sometimes referred to as elemental calcium. Confirm the amount you need with your doctor.
- Maintaining a daily intake of 600 (< 70 yrs old) – 800 (> 70 yrs old) units of vitamin D. Our bodies need vitamin D to absorb and use calcium. There are only a few sources of vitamin D. The main one is sunshine. It is also found in milk with added minerals and vitamins. The only other way to get enough is to take a vitamin D supplement. If you live in a northern climate and always or often use sunscreen (which blocks vitamin D), you may need vitamin D supplements. Your doctor can tell you how much vitamin D is right for you.
- Taking medicines. Several drugs can be used to treat osteoporosis. Your doctor will discuss your options with you and prescribe the one that best meets your needs. Your nurse will go over any specific instructions for taking your medicine.

Suggestions for Helping Yourself

- Your doctor may recommend exercise to strengthen muscle and bone. It can be weight bearing, which includes walking, jogging, or running. Or, it can be non-weight bearing, which includes swimming. If you have any pain or discomfort while exercising, stop immediately. Call your doctor or physical therapist.
- Do not smoke.
- Limit your intake of alcohol.
- Make your home safe to prevent falls. Be aware of throw rugs and any other items that could cause a slip or a fall.
- Use good body mechanics. For example, bend at the knees, not at the waist.
- Change positions slowly.
- Use devices such as a cane or walker that can improve your balance. They may also decrease back pain and help prevent falls. They include:
 - Install safety rails on stairs.
 - Install grab bars in the shower or tub.
 - Apply nonskid tape or decals to the shower or tub floor.
 - Use bright lighting.
 - Wear solid sturdy shoes.
- Eat properly. Make sure you are getting between 1200–1500 mg of calcium each day. If you are having trouble getting the recommended dietary amount, we can arrange for you to meet with a dietitian.

- Try keeping track of your calcium intake if you are unsure of your calcium level. You can discuss your eating habits with your doctor or nurse.
- Take a multivitamin and make sure to consume the proper amount vitamin D (usually 600–800 units). Discuss the dosage with your doctor or nurse before taking any vitamin supplement.
- Follow your doctor’s instructions. Ask the nurse if you have any questions or concerns.

Selected Calcium-Rich Foods

Food	Calcium (mg)	Calories
Fortified, ready-to-eat cereals	236–1043	88-106
Plain yogurt, non-fat, 8-oz	452	127
Romano cheese, 1.5 oz	452	165
Pasteurized process Swiss cheese, 2 oz	438	190
Plain yogurt, low-fat, 8-oz	415	143
Soy beverage	368	98
Fruit yogurt, low-fat, 8-oz	345	237
Swiss cheese, 1.5 oz	336	162
Ricotta cheese, part skim, ½ cup	335	170
Sardines, Atlantic, in oil, drained, 3 oz	325	177
Pasteurized process American cheese food, 2 oz	323	188
Provolone cheese, 1.5 oz	321	150
Mozzarella cheese, part-skim, 1.5 oz	311	129
Cheddar cheese, 1.5 oz	307	171
Fat-free (skim) milk, 1 cup	306	83
Muenster cheese, 1.5 oz	305	156
1% low-fat milk, 1 cup	290	102
Low-fat chocolate milk (1%), 1 cup	288	158
2% reduced fat milk, 1 cup	285	122
Reduced fat chocolate milk	285	180
Buttermilk, low fat, 1 cup	284	98
Chocolate milk	280	208
Whole milk	276	146
Ricotta cheese, whole milk, ½ cup	255	214
Tofu, firm, prepared with nigam, ½ cup	253	88
Blue cheese, 1.5 oz	225	150
Mozzarella cheese, whole milk, 1.5 oz	215	128
Feta cheese, 1.5 oz	210	113
Pink salmon, canned, with bone, 3 oz	181	118
Collards, cooked from frozen, ½ cup	178	31
Molasses, blackstrap, 1 Tbsp	172	47
Spinach, cooked from frozen, ½ cup	146	30
Soybeans, green, cooked, ½ cup	130	127

Food	Calcium (mg)	Calories
Turnip greens, cooked from frozen, ½ cup	124	24
Ocean perch, Atlantic, cooked, 3 oz	116	103
Oatmeal, plain and flavored, instant, fortified, 1 packet prepared	99–110	97–157
Cowpeas, cooked, ½ cup	106	80
White beans, canned, ½ cup	96	153
Kale, cooked from frozen, ½ cup	88	26
Okra, cooked from frozen, ½ cup	88	149
Blue crab, canned, 3 oz	86	84
Beet greens, cooked from fresh, ½ cup	82	19
Pak-choi, Chinese cabbage, cooked from fresh, ½ cup	79	10
Clams, canned, 3 oz	78	126
Dandelion greens, cooked from fresh, ½ cup	74	17
Rainbow trout, farmed, cooked, 3 oz	73	144

Source: Dietary Guidelines for Americans, 2005

<http://www.health.gov/dietaryguidelines/dga2005/document/pdf/DGA2005.pdf>

Foods Containing Vitamin D

Food	Calcium (mg)	Calories
Cod liver oil, 1 tablespoon	1,360	340
Salmon (sockeye), cooked, 3 ounces	447	112
Mackerel, cooked, 3 ounces	388	97
Tuna fish, canned in water, drained, 3 ounces	154	39
Orange juice fortified with vitamin D, 1 cup (check product labels, as amount of added vitamin D varies)	137	34
Milk, nonfat, reduced fat, and whole, vitamin D-fortified, 1 cup	115–124	29–31
Yogurt, fortified with 20% of the DV for vitamin D, 6 ounces (more heavily fortified yogurts provide more of the DV)	88	22
Margarine, fortified, 1 tablespoon	60	15
Liver, beef, cooked, 3.5 ounces	49	12
Sardines, canned in oil, drained, 2 sardines	46	12
Egg, 1 large (vitamin D is found in yolk)	41	10
Ready-to-eat cereal, fortified with 10% of the DV for vitamin D, 0.75–1 cup (more heavily fortified cereals might provide more of the DV)	40	10
Cheese, Swiss, 1 ounce	6	2

* IUs = International Units.

** DV = Daily Value.

Source: NIH – Office of dietary Supplements



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B-111