

Healthy Bones: What You Need To Know



Allina Health

Healthy Bones

Having healthy bones is important to help prevent osteoporosis. This disease can cause bones to break easily. Getting enough calcium, exercising and preventing falls are ways to help keep your bones strong.

Osteoporosis

Osteoporosis is a disease that causes loss of bone density, or bone mass, leaving bones thin and weak. These bones may break easily. Half of all women and one-fourth of all men will have a fracture (or break) caused by osteoporosis, according to the National Osteoporosis Foundation.

Bone is growing, living tissue. Old bone cells break down and new cells replace them. More bone is added than removed during childhood and teen years, making bones dense and heavy.

After age 30, bone cells break down faster than they grow. This results in a loss of bone mass. Bones can become weak and brittle. Osteoporosis has no symptoms.

A woman's risk of osteoporosis increases once she reaches menopause. Women lose up to 20 percent of their bone mass during the first 5 to 7 years after menopause. The decrease in estrogen (a hormone) leads to slower bone growth. Bones absorb fewer minerals and calcium, causing them to become thinner.

(If you are going through menopause, talk with your health care provider to see if medicines are right for you to increase bone density.)

By age 65, men lose bone mass at the same rate as women.

Who is at risk

Risks you cannot change:

- being a woman
- getting older
- having a family history of fractures
- being Caucasian or Asian.

Risks you can change:

- using certain medicines, such as steroids and anti-seizure medicines, for a long time (**Important:** Do not stop taking any medicine without talking to your health care provider.)
- having low estrogen levels (women) or low testosterone levels (men)
- not getting regular exercise
- smoking cigarettes
- drinking too much alcohol
- not getting enough vitamin D or calcium.

Finding osteoporosis

The American College of Obstetricians and Gynecologists recommends that all women who have gone through menopause and who are older than age 65 have a bone density test.

All men who are 70 years and older should have bone density test.

Your health care provider may also determine that earlier screening is needed if you have certain risks.

Bone density test

A bone density test is an X-ray that can help your health care provider tell if you are losing bone mass. This will help them tell if you are at risk for a bone fracture and when.

This exam has two steps.

- You will be scheduled for a bone density test. This test measures the thickness of the bones (bone density) of your lower spine, hips and/or forearm.
- Your health care provider compares your test results to the average bone density of people your age, gender and ethnic background.

Before the test

- Please follow any instructions you received from your health care provider.
- You cannot have a barium study, oral contrast or a bone scan 2 to 3 days before this test.
- If you are taking a calcium supplement, stop taking it 24 hours before the test. If your health care provider gives you other directions, please follow them.
- Wear comfortable clothing without buttons, buckles or zippers.
- Tell your health care provider and the person doing the test if you are pregnant or think you may be pregnant.

During the test

- You will lie on your back on an exam table.
- An X-ray scanner will move back and forth above your lower spine and hips and/or forearm.
- You will need to lie still.

After the test

- Return to your normal activities, diet and medicines as instructed by your health care provider.
- Your health care provider will receive the results of your exam. They will either talk with you about the results or mail you the results.

If you have questions about the exam, please call your health care provider.

Treating osteoporosis

Your health care provider may suggest the following for treating osteoporosis or for helping to keep your bones healthy.

- Take any prescription medicine(s) as prescribed. Talk with your health care provider about each medicine and possible side effects.
- Do weight-bearing exercises (walking, lifting weights, aerobics, climbing stairs). These exercises help spur bone growth. Strive for at least 30 minutes of exercise most days.
- If you are not used to exercise, talk with your health care provider before starting an exercise program.
- Eat a healthful diet that focuses on fruits, vegetables, whole grains and fat-free or low-fat milk and milk products. It includes lean meats, poultry, fish, beans, eggs and nuts. A healthful diet is also one low in saturated fats, trans fats, cholesterol, salt and added sugars. For more information on a healthful diet, visit choosemyplate.gov.

- Men and women need to eat/drink 3 cups from the milk group every day. Use the chart below to see serving sizes. The best choices should be fat-free or low-fat. Choose:
 - low-fat cheese in a sandwich
 - yogurt dips with vegetables
 - low-fat shredded cheese on soups and salads
 - evaporated low-fat or fat-free milk in recipes that call for cream
 - instant oatmeal prepared with low-fat or fat-free milk in place of water. Top with dried cranberries and almonds.

One Calcium Serving Size
1 cup milk or yogurt
1 ½ ounces hard cheese (cheddar, mozzarella, Swiss, Parmesan)
⅓ cup shredded cheese
2 ounces processed cheese (American)
2 cups cottage cheese
1 cup pudding made with milk
1 cup frozen yogurt

- Get the right amount of vitamin D every day. Milk and other dairy products have vitamin D added to them. You should get 600 to 800 international units of vitamin D each day. Talk with your health care provider about taking a supplement if you do not get enough vitamin D in your diet.
- Do not smoke. Ask your health care provider if you need help quitting.
- Limit the amount of alcohol and caffeine you have. More than 2 or 3 ounces of alcohol or 3 cups of coffee a day keeps your body from absorbing calcium.

Your Calcium Needs and How to Get Enough Calcium

Why calcium is important

Calcium is a mineral that helps build and protect your bones throughout your life. Getting the right amount of calcium in your diet each day will help you achieve and maintain dense (thick) bone mass and reduce bone loss in later years.

How much calcium do you need

Calcium needs vary, depending on age*:

- Infants 0 to 6 months 200 mg a day
- Infants 6 to 12 months 260 mg a day
- 1 to 3 years old 700 mg a day
- 4 to 8 years old 1,000 mg a day
- 9 to 13 years old 1,300 mg a day
- 14 to 18 years old 1,300 mg a day
- 19 to 30 years old 1,000 mg a day
- 31 to 50 years old 1,000 mg a day
- 51- to 70-year-old males 1,000 mg a day
- 51- to 70-year-old females 1,200 mg a day
- more than 70 years old 1,200 mg a day
- 14 to 18 years old, pregnant/lactating 1,300 mg a day
- 19 to 50 years old, pregnant/lactating 1,000 mg a day

**Source: Food and Nutrition Board, Institute of Medicine, National Academy of Sciences, 2010.*

The best way to get calcium is to eat foods high in calcium. These foods include:

- dairy products (milk, cheeses, yogurt)
- canned salmon (with bones)
- tofu
- calcium-fortified juices, cereals and breads.

Eating a diet rich in milk products helps build and maintain bone mass. Calcium is needed for building bones and teeth.

Examples of foods high in calcium

Food	Serving Size	Calcium (mg)
broccoli, boiled	1 stalk	112
cereal, calcium fortified	1 cup	250 to 1,000
cheese, American	1 slice	100
cheese, cottage	½ cup	200
cheese, Swiss	1 ounce	250
ice cream	½ cup	60 to 150
juice, calcium fortified	1 cup	350
milk (buttermilk)	1 cup	300
milk (lactaid)	1 cup	300 to 500
milk (Soy, calcium fortified)	1 cup	200 to 300
milk (2 percent)	1 cup	300 to 500
salmon, canned with bones	2 ounces	100
spinach, boiled	1 cup	245
tomatoes, red, ripe, canned, stewed	1 cup	87
yogurt, frozen	½ cup	100 to 300
yogurt	1 cup	250 to 350

How to eat more milk and milk products

- Drink fat-free or low-fat milk at meals.
- Gradually switch to fat-free milk if you usually drink whole milk.
- Use fat-free milk in coffee.
- Make pudding with fat-free or low-fat milk.
- Make yogurt-based smoothies.
- Have fat-free or low-fat yogurt as a snack.
- Use a yogurt-based dip for fruits and vegetables.
- Top casseroles, soups, stews or vegetables with shredded low-fat cheese.
- Top a baked potato with fat-free or low-fat yogurt.

Vitamin D and Calcium

Your body needs vitamin D to absorb calcium. Your body makes vitamin D when you are exposed to sunlight. This can be difficult between late fall and early spring when sunlight isn't as strong as it is in the summer. You can spend some time in the sun each day, but be sure to wear an SPF 15 or higher sunscreen if you plan to be in the sun for more than 15 minutes.

As you get older, your skin is not as good at making vitamin D as it did when you were younger. The color of your skin also affects how much vitamin D your skin makes. The lighter your skin, the more vitamin D you make.

Adults need the following amounts of vitamin D each day*:

- ages 18 to 70: 600 IU
- ages 71 and older: 800 IU
- women who are pregnant or breastfeeding: 600 IU.

The safe upper limits of vitamin D a day for adults and pregnant or breastfeeding women is 4,000 IU a day.

**Source: National Academy of Sciences. Institute of Medicine. Food and Nutrition Board. November 2010*

You can get vitamin D from foods such as fortified milk and fortified cereals, egg yolks, saltwater fish and liver. If you are concerned about your vitamin D levels, talk with your health care provider or dietitian.

Calcium supplements

If your diet is low in calcium, you may need to take a supplement. You can buy calcium supplements at major grocery stores, discount stores, pharmacies and health food stores.

- A serving of food rich in calcium has 250 or more milligrams of calcium. Examples include 8 ounces of milk or fortified juice, 3 ½ ounces of canned salmon (with bones), 4 ounces tofu or 6 to 8 ounces yogurt. You may need a supplement if you get less than two servings of calcium-rich foods a day.
- Look for a supplement that has no more than 500 mg “elemental calcium” per dose. This is the maximum amount your body can absorb. If you need to take more than 500 mg a day, take one 500 mg pill in the morning and a second one in the evening.

- There can be side effects from getting too much calcium. If you take more than 2,500 mg of calcium a day, you may be at a greater risk for kidney stones or other problems. If you are not sure how much calcium is right for you, talk with your health care provider or registered dietitian.

Choosing a calcium supplement

There are several forms of calcium supplements on the market. The chart below and on the next page explains the differences between them.

Supplement/names	About this type
calcium citrate or calcium citrate malate ■ Citrical®	<ul style="list-style-type: none"> ■ This is the best absorbed form of calcium. ■ Take it with food or in between meals. ■ This is more expensive than calcium carbonate. You may need to take more to get the same amount as in a calcium carbonate. ■ This is best for people older than age 50 and for people who have gastric bypass surgery.

Supplement/names	About this type
<p>calcium carbonate</p> <ul style="list-style-type: none"> ■ Tums® ■ Caltrate® ■ Viactiv® Soft Calcium Chews ■ Os-Cal® ■ Nature Made® 	<ul style="list-style-type: none"> ■ This is absorbed well. Take it with meals. ■ This form is less expensive than calcium citrate. ■ This is the most common type of calcium supplement.
<p>calcium glutonate, calcium lactate, calcium phosphate, and bone meal (from tiny pieces of animal bones)</p> <ul style="list-style-type: none"> ■ Posture-D Calcium® ■ bone meal ■ calcium glutonate ■ Calcium Lactate Caps® 	<ul style="list-style-type: none"> ■ This is more expensive than calcium carbonate. You may need to take more to get the same amount as in a calcium carbonate. ■ This is not absorbed well. Take it with meals. ■ This is often not recommended over other types of calcium supplements.

Exercise

Exercise is important to living a longer, healthier and happier life. Along with strengthening your heart and muscles, it can also build and maintain bones and joints.

Weight-bearing activities

Doing weight-bearing exercise is one way to help strengthen your bones. Types of weight-bearing exercises include:

- walking
- hiking
- climbing stairs
- dancing
- low-impact aerobics.

You should be moderately active for at least 30 minutes a day, most days of the week. You can break up your 30 minutes of exercise into chunks of 10 minutes.

You can take a 10-minute walk in the morning, walk up and down stairs at work for 10 minutes, and do stretching for 10 minutes before bedtime.

Before you start or increase an exercise program, or if you have a health concern, please talk with your health care provider.

Strength training

Strength training will help increase your bone mineral density to help prevent osteoporosis. You can choose from several types of strength training: elastic bands, cuff and hang weights, free weights, wall pulleys or weight machines.

Strength training suggestions

- If possible, start a strength training program with a certified trainer. To get the most benefit out of weight training, it is important to do these exercises safely and correctly.

- You should exhale during the hard part of the exercise (when lifting or pushing), and inhale during the easy part. Holding your breath while strength training may cause dizziness or other complications (problems).
- Don't strain. Raise or move weights with slow, controlled movements.
- Always maintain a slight flexion (bend in your elbows or knees). Extending too far wears on your joints and strains your ligaments.
- Give your body at least 1 day of rest between strength workouts.

Before you start or increase an exercise program, or if you have a health concern, please talk with your health care provider.

When to stop your activity

Stop and rest if you have any of the following symptoms:

- pain, pressure, burning or tightness in your neck, jaw, teeth, and arm, or between your shoulder blades
- dizziness or lightheadedness
- nausea (upset stomach) and vomiting (throwing up)
- cold sweat or heavy sweating
- shortness of breath making talking difficult
- unusual fatigue or exhaustion
- feelings that your heart is pounding or racing, skipping beats or has become irregular
- fainting or black-out spells
- joint or muscle pain.

If symptoms do not go away after resting, or if they keep happening, call your health care provider.

Safety Tips for Healthy Bones

It is important to prevent falls, especially if you have osteoporosis. Falls can increase the chance you will fracture (break) a bone in your wrist, hip, spine or another bone in your body. Here are some tips to help prevent falls.

Home

- Keep all walkways free from clutter and obstacles.
- Remove all throw rugs or add skid-proof backing.
- Be sure that lighting is adequate in all areas of your home, including the hallways and the bathroom.
- Install hand rails on a stairway. Be sure that your hand rails are attached securely to the wall.

Bathroom

- Install hand rails (grab bars), rubber mats or non-slip treads in the bathtub or shower.
- Use a long-handled sponge to wash your feet and back. This will help you keep your balance.

Kitchen

- Cook at a counter that is at a comfortable height. This will help avoid straining your back.
- Store lightweight items on the top shelf and heavier items on the bottom shelf. You can then use an extended reacher to get over-head items without climbing on a step stool.
- Clean up spills right away to help prevent slips or falls.

Laundry room

- Carry small loads of laundry or use a cart with wheels.
- Buy smaller bottles or boxes of detergent or put larger amounts of detergent into smaller containers. This will make it easier to lift and use.

Outdoors

- Wear rubber-soled shoes for traction.
- Walk on the grass when sidewalks are slippery.
- Avoid uneven or icy areas.

Walking aids

- Use a walking aid (walker, crutches or a cane) to help keep your balance.
- Be sure your walking aid is at the correct height and weight for you. You will be much safer and the device will be easier to use. Talk to your health care provider if you have any questions.

Reaching

- Stand as close to the object as possible.
- Face the object squarely. Do not twist your body.
- Bend from the knees, keeping your back straight. Bend at your hip joint, not at your waist.
- Your shoulders should not round forward.
- If you can't reach the object without stretching, use an extended reacher or ask for help.

Lifting

- Stand as close to the object as possible.
- Face the object squarely. Do not twist your body.
- Bend from the knees, keeping your back straight. Bend at your hip joint, not at your waist.
- Try to spread the weight evenly between both hands.
- Ask for help lifting if the object is too heavy or if you are unsure how heavy the item is.

Carrying

- Hold packages close to your body.
- If you are carrying more than one package:
 - balance the weight of the packages on both sides of your body
 - make several trips, switching the between your left and right hands
- Ask for help carrying packages if they are too heavy.





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