

Osteoporosis Prevention Eating Plan

Osteoporosis [oss-tee-oh-puh-ROH-siss] is a common disease that weakens your bones and makes them brittle. Osteoporosis can cause pain and disability. It increases your risk of fractures (broken bones) that can cause serious health problems and even death.

An estimated 10 million people age 50 or older have osteoporosis. Another 43 million are at risk for this disease because of low bone density.

What causes osteoporosis?

Things that increase your risk for osteoporosis are:

- **Age.** Your risk increases as you get older.
- **Sex and ethnic background.** About 8 in 10 of those with osteoporosis are women. Caucasian (white) and Asian people have the highest risk.
- **Family and personal history.** Your risk increases if you have broken any bones in the past or if any family members have osteoporosis or a history of broken bones.
- **Nutrition.** A major risk factor is a diet low in calcium or vitamin D. Heavy alcohol use (more than 7 drinks per week) increases the risk.
- **Lifestyle.** Smoking and not exercising increase your risk.
- **Some medical procedures.** Your risk is higher if you've had a gastric bypass, removal of all or part of the stomach, or removal of part of the esophagus and stomach.

How can I prevent it?

There are treatments for osteoporosis, but no cure, but **most people can prevent osteoporosis through an active lifestyle and a healthy diet.** Eating foods that are rich in **calcium, vitamin D, and vitamin K** can help preserve your bones and make them stronger. Bones use calcium to build strength and structure. Vitamins D and K help your body absorb and store calcium.



How much calcium and vitamin D do I need?

The tables below show the amounts you need each day. Values are shown as a percentage of the daily value (DV) recommended by the Food and Drug Administration (FDA). Some people need less than 100% of the DV each day, while others need more. (Learn about reading food labels on page 2.)

Children and adolescents

Age	Calcium	Vitamin D
9 to 18	130% of DV (1300 mg)	150% of DV (15 mcg/600 IU)

Adults

Age	Calcium	Vitamin D
19 to 50	100% of DV (1000 mg)	150% of DV (15 mcg/600 IU)
51 to 70	120% of DV (1200 mg)	
Over 70	120% of DV (1200 mg)	250% of DV (20 mcg/800 IU)

Pregnant and breastfeeding women

Age	Calcium	Vitamin D
under 19	130% of DV (1300 mg)	150% of DV (15 mcg/600 IU)
19 to 50	100% of DV (1000 mg)	

mg = milligrams

IU = international units

mcg = micrograms

How do I get enough calcium and vitamin D?

Keep these basic principles in mind:

- **Food is the best calcium source.** Good choices include lowfat milk and dairy products along with other recommended foods listed on page 3.
- **You need calcium throughout the day.** Your body can use only 500 mg of calcium at a time. Eat calcium-rich foods or take supplements throughout the day, rather than all at once.
- **Don't forget fruits and veggies.** Dark green vegetables give you calcium and vitamin K. A diet rich in fruits and vegetables can also help you keep more bone mass.
- **Go easy on the salt and caffeine.** Too much salt or caffeine can make your body get rid of calcium. Take the salt shaker off the table and avoid processed foods, which are often high in salt. Aim for less than 400 mg of caffeine per day, or about 2.5 10-ounce cups of coffee.

- **Read nutrition labels.** Labels will help you keep track of the amount of the calcium and vitamin D you're getting each day. But reading labels can be tricky. See below for a few tips.
- **Use supplements wisely.** See page 4 for tips on choosing and taking calcium supplements.
- **Not all soy foods are a source of calcium.** Also, the calcium in soy milk is not absorbed as quickly as the calcium in cow's milk. To replace the calcium in 3 glasses of cow's milk, you would need to drink 4 glasses of soy milk.

Notice the label's serving size. Make sure it is the amount you will actually be eating or drinking. If you have more or less than the serving size, you'll need to multiply or divide the label amounts.

For calcium and vitamin D, look for the percent shown near the bottom of the label. This shows the percent of the daily value (DV).

- The DV for calcium is 1000 mg.
- The DV for Vitamin D is 400 IU (International Units).

This serving of lowfat milk has 25% of the DV for calcium.

Some people need more or less than the DV.

For example, women 19 to 50 need 100% of the DV of calcium, but women over 50 need 120%. See the tables on page 1 for the recommended percentage of DV for you.

Add up the percentages each day to make sure you get enough calcium. If you need 120% of the DV, you should consume calcium in food or supplements to add up to 120% each day.

Nutrition Facts	
About 4 servings per container	
Serving size	1 cup (240mL)
Amount per serving	
Calories	100
% Daily Value*	
Total Fat 2.5g	3%
Saturated Fat 1.5g	8%
Trans Fat 0g	
Cholesterol 10mg	3%
Sodium 115mg	5%
Total Carbohydrate 12g	4%
Dietary Fiber 0g	0%
Total Sugars 12g	
Includes 0g Added Sugars	0%
Protein 8g	16%
Vitamin D 2.5mcg	15%
Calcium 300mg	25%
Iron 0mg	0%
Potassium 370mg	8%
Vitamin A 180mcg	20%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Food group	Recommended foods	Serving size and % DV
Grains	Calcium fortified cereal	½ cup = 20% DV calcium (200 mg)
Vegetables (Along with calcium, dark green vegetables are also a good source of vitamin K.)	Broccoli	1 stalk = 6% DV calcium (6 mg)
	Collard greens	½ cup = 20% DV calcium (200 mg)
	Turnip greens	2/ 3 cup = 15% DV calcium (150 mg)
	Kale	2/ 3 cup = 10% DV calcium (100 mg)
	Bok choy	½ cup = 10% DV calcium (100 mg)
Fruit	Calcium-fortified orange juice	1 cup = 30% DV calcium (300 mg)
Protein (A diet too high in protein can increase your loss of calcium. Aim for no more than 3 servings per day.)	Tofu	3 ounces = 60% DV calcium (600 mg)
	Pink or sockeye salmon, canned with bones	3 ounces = 10% DV calcium (100 mg), 170% DV of vitamin D (17 mcg / 690 IU)
	Baked beans	½ cup = 8% DV calcium (8 mg)
	Pork & beans	½ cup = 6% DV calcium (6 mg)
	Shrimp, steamed or boiled, or albacore tuna, canned	3 ounces = 30% DV vitamin D (3 mcg / 120 IU)
	Eggs	1 egg = 6% DV vitamin D (.6 mcg / 25 IU)
Milk and dairy products (If you don't like cow's milk, consider choosing goat milk for similar nutritional benefits. If you can't drink cow or goat milk, consider choosing a fortified alternative milk, like soy, almond, cashew, pea, rice, or oat milk. Be sure to choose one that has at least 20% DV of calcium and vitamin D.)	Yogurt	8 ounces = 35% DV calcium (350 mg)
	Milk	1 cup = 30% DV calcium (300 mg), 25% DV of vitamin D (2.5 mcg / 100 IU)
	Powdered milk	1 Tbsp = 5% DV calcium (5 mg)
	Cheese	1 ounce = 20% DV calcium (200 mg)
	Pudding	½ cup = 10% DV calcium (100 mg)
	Frozen yogurt	½ cup = 10% DV calcium (100 mg)
	Ice cream	½ cup = 6% DV calcium (6 mg)
	Soy milk	1 cup = 30% DV calcium (300 mg), 25% DV of vitamin D (2.5 mcg / 100 IU)

What if I don't like milk?

Dairy is a primary source of calcium. If you don't like the taste of milk, try these tips:

- Use milk to make hot cocoa, hot cereals, and soups. Add powdered milk to foods such as casseroles, breads or muffins, puddings, or gravy.
- Use cottage cheese or plain yogurt on baked potatoes or in salad dressings. Use vanilla yogurt for fruit salad.
- If you drink coffee, add milk to it (remember, don't overdo the caffeine).
- Try flavored milk. Chocolate milk has only 60 more calories than regular milk.
- For dessert, choose pudding, frozen yogurt, and yogurt. For a snack, try 8 to 12 ounces of a smoothie made with milk.

What if I have lactose intolerance?

If you have mild lactose intolerance (problems digesting milk and milk products), try these tips:

- Start slowly. First eat small portions of dairy and then try to increase the amount.
- Eat dairy with other foods. Have dairy products with other foods in a meal or snack.
- Try non-milk dairy foods. Foods like Swiss cheese, Parmesan cheese, or cheddar cheese contain less lactose. Yogurt is another good choice.
- Try Lactaid supplements or low lactose dairy products.

What about calcium supplements?

If you can't get enough calcium in the foods you eat, a calcium supplement can help you reach your calcium goals. Try these tips:

- Check for the USP symbol. Check for the USP symbol. This symbol shows that the supplement meets the requirements of the United States Pharmacopeial Convention's voluntary Dietary Supplements Verification Program. This organization sets standards to help ensure the quality of dietary supplements.
- Use the vinegar test. A calcium pill won't help you if it doesn't break down in your stomach. If you don't see the USP symbol, put a pill in one cup of vinegar. Stir every 5 minutes for 30 minutes. If the pill doesn't dissolve in 30 minutes, it probably won't dissolve in your stomach. Chewable and liquid forms generally dissolve well, as they are already broken down.
- Increase your dose slowly. Start with a daily 500 mg calcium pill for one week, and then add more the next week. Calcium pills can cause gas or constipation for some people. To avoid this, drink plenty of water and eat foods with fiber.
- Check with your pharmacist. Tell your pharmacist what medications you are taking. Ask if any of them may be affected by taking calcium.



- Choose a calcium supplement that contains Vitamin D. Vitamin D helps the body absorb calcium. Be sure you do not take more than 2000 IU (50 mcg) of Vitamin D each day, including food and supplements.
- Use the nutrition facts label. Some brands show the total pill weight, instead of the actual amount of calcium. Check the servings and % DV on the nutrition facts label, just as you would with any food.
- Pay attention to the type of calcium. Most calcium supplements are either calcium carbonate or calcium citrate. Use these tips:
 - Take calcium carbonate with a meal. Calcium carbonate needs acid to be absorbed by the body.
 - If you take it with a meal, you'll have enough stomach acid to dissolve it.
 - Take calcium citrate anytime. Calcium citrate doesn't need stomach acid to be used.
- If you take one supplement pill a day, take it late in the day. Take a calcium carbonate pill with dinner or calcium citrate before bed.
- Remember, food is still your best source. High calcium foods have other nutrients your body needs. Don't try to get all of your calcium from supplements, juices, antacids, or calcium candies.

Who can answer questions about this eating plan?

Your dietitian can answer questions about your eating plan. Questions about your medication or symptoms should go to your doctor. To find a registered dietitian (RD) at Intermountain Healthcare, go to: [intermountainhealthcare.org/services/nutrition-services](https://www.intermountainhealthcare.org/services/nutrition-services)

Dietitian: _____ Phone: _____



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