Intermountain® Healthcare

Osteoporosis Prevention Eating Plan

Osteoporosis is a common disease that weakens your bones and makes them brittle. An estimated 10 million people have osteoporosis and another 34 million have low bone mass, placing them at risk for this disease. Osteoporosis can cause pain and disability. More importantly, it greatly increases your risk of fractures (broken bones) that can cause serious health problems and even death.

What causes osteoporosis?

Major risk factors for osteoporosis include:

- **Age.** Your risk increases as you get older.
- **Sex and ethnic background.** Almost 80% of osteoporosis patients are women, and Caucasian (white) and Asian people have the highest risk.
- **Family and personal history.** Your risk increases if any family members have osteoporosis or a history of broken bones, or if you have broken any bones in the past.
- **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 being inactive are risk factors.
- **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 there is no cure. **The good news is that for most people, osteoporosis can be prevented through an active lifestyle and a healthy diet.** A diet rich in **calcium, vitamin D,** and **vitamin K** can help preserve your bones and make them stronger. Bones use calcium for their 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 DV — the Daily Value recommended by the Food and Drug Administration (FDA). Some people need less than 100% of the Daily Value each day, while others need more. (For more information on reading food labels, see page 2.)

Children and adolescents

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

Adults

Age	Calcium	Vitamin D
19 to 50	100% of DV (1000 mg)	100% to 200% of DV (400 to 800 IU)
Over 50	120% of DV (1200 mg)	200% to 250% of DV (800 IU to 1000 IU)

Pregnant and breastfeeding women

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

How do I get enough calcium and vitamin D?

Keep these basic principles in mind:

- **Food is the best calcium source.** Good choices include milk and lowfat 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 — that's about 2 ½ 10-ounce cups of coffee.
- **Limit soft drinks.** Soft drinks contain high amounts of phosphorous, which can cause calcium to be taken out of your bones. And if you regularly have soft drinks instead of milk, this drastically reduces the calcium in your diet.
- **Use 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 soymilk 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 soymilk.

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).

A serving of this food has 4% 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 % 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

Serving Size ½ cup (114g)
Servings per container 4

Amount per Serving	
Calories 90	Calories from Fat 30
	% Daily Value *
Total Fat 3g	5%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 300mg	13%
Total Carbohydrate 13g	4%
Dietary Fiber 3g	12%
Sugars 3g	
Protein 3g	

Vitamin A 80% • Vitamin C 60%
Calcium 4% • Iron 4%

What foods are recommended?

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	⅔ cup = 15% DV calcium (150 mg)
	Kale	⅔ 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 (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 (120 IU)
	Eggs	1 egg = 6% DV vitamin D (25 IU)
Milk and dairy products	Yogurt	8 ounces = 35% DV calcium (350 mg)
	Milk	1 cup = 30% DV calcium (300 mg), 25% DV of vitamin D (100 IU)
	Powdered milk	I 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)
	Soymilk	1 cup = 30% DV calcium (300 mg), 25% DV of vitamin D (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 Lactaid-treated dairy products.

What about calcium supplements?

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

- **Check for the USP symbol.** This symbol shows that the supplement is certified by the United States Pharmacopeial Convention. This national organization sets standards to 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 supplement with Vitamin D.** Vitamin D helps the body absorb calcium. However, don't overdo the amount of Vitamin D. Be careful not to go over 2000 IU 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 a calcium citrate before bed.
- **Remember, food is still number one.** High calcium foods also have other nutrients you need. Don't try to get all of your calcium from 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, go to:

intermountainhealthcare.org/nutrition

Dietitian: _____ **Phone:** _____

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