

Eating Well to Prevent and Treat Osteoporosis

Good nutrition is important for strong bones and teeth. When we don't get enough calcium, vitamin D, or other nutrients, osteoporosis may develop. Osteoporosis (os-tee-oh-puh-roh-sis) is when bones become weak. Weak bones break (fracture) more easily. This handout is for adults at risk of or with osteoporosis.

Calcium

Getting enough calcium may help prevent broken bones. Make sure you get the right amount of calcium every day.

Age	Recommended calcium from food and supplements
19–50 years	1000 mg (milligrams) a day
Over 50 years	1200 mg a day

Osteoporosis Canada, 2010

Try to get as much calcium from food as you can

Food sources of calcium have other important nutrients not found in supplements, like protein, fibre, and antioxidants.

Food sources of calcium

Best sources (About 300 mg of calcium)

- Milk, lactose-reduced milk, buttermilk, or goat's milk, 1 cup (250 mL)
- Fortified soy, rice, or almond beverage, 1 cup (250 mL)
- Hard cheese (cheddar, Gouda, mozzarella, Swiss), 1 ½ oz (50 g)
- Milk, evaporated, undiluted, ½ cup (125 mL)
- Nutrition supplement drink such as Boost® or Ensure®, 1 cup (250 mL)
- Plain yogurt, ¾ cup (175 mL)
- Ricotta cheese, ½ cup (125 mL)
- Skim milk powder, ⅓ cup (75 mL)
- Tofu made with calcium, ¾ cup (150 g)



Good sources (About 200 mg of calcium)

- Flavoured yogurt, ¾ cup (175 mL)
- Camembert or feta cheese, 1 ½ oz (50 g)
- Kefir, ¾ cup (175 mL)
- Paneer, 1 ½ oz (50 g)
- Parmesan cheese, ½ oz (15 g)
- Pudding made with milk, ½ cup (125 mL)
- Salmon, canned with bones, 2 ½ oz (75 g)
- Sardines, canned with bones, 4
- Soup made with milk, 1 cup (250 mL)
- Blackstrap molasses, 1 Tbsp (15 mL)
- Dried smelt, ½ oz (15 g)



Sources (About 100 mg of calcium)

- Almonds, Brazil nuts, ¼ cup (60 mL)
- Almond butter, 2 Tbsp (30 mL)
- Bok choy, collard greens, or turnip greens, cooked, ½ cup (125 mL)
- Calcium-fortified orange juice, ½ cup (125 mL)
- Chia seeds, 2 Tbsp (30 mL)
- Cottage cheese, ¾ cup (175 mL)
- Frozen yogurt or ice cream, ½ cup (125 mL)
- Raita, ⅓ cup (75 mL)
- Seaweed, 1 cup (250 mL)
- Sesame butter (tahini), 2 Tbsp (30 mL)
- Skim milk powder, 1 Tbsp (15 mL)
- White beans, navy beans, or soybeans, cooked, ¾ cup (175 mL)



Nutrient amounts from Canadian Nutrient File, 2015

Tips to increase your calcium intake

- Drink milk, fortified soy beverage, kefir, or chai made with milk every day.
- Complement your meals with plain yogurt, raita, chutney (yogurt based), labneh, paneer, or tzatziki.
- Add skim milk powder to foods and drinks.
- Have cheese as a snack or in a meal. Firmer cheeses have the most calcium.
- Use canned salmon or sardines with the bones in sandwiches, soups, salads, or casseroles.
- Read labels. Choose foods with 15% or more Daily Value for calcium.

Do I need a calcium supplement?

You may need a calcium supplement if:

- you don't include any milk products in your diet
- you don't get enough calcium from food every day
- your healthcare provider recommends you take a calcium supplement



Add up your calcium intake

Fill in the blanks below to see how much calcium you get every day.

My calcium recommendation is _____ mg/day	
My calcium intake from Food Sources of Calcium on page 1	_____ mg/day
+ My calcium intake from supplements Use the label on the supplement bottle.	_____ mg/day
= My total calcium intake	_____ mg/day

Does your total calcium intake match your calcium recommendation?

If not, you may need to increase the amount of calcium you take in from food and/or supplements.

Calcium supplements

If you need to take a calcium supplement, look at the amount of **elemental** calcium in one dose. Elemental calcium is the calcium that your body is able to absorb and use. To absorb more calcium, don't take more than 500 mg of elemental calcium at one time.

Types of calcium supplements:

- Calcium carbonate:
Take this type of calcium with food so it is better absorbed by your body.
- Calcium citrate:
Take this type if you take medication to reduce stomach acid or prevent gastric reflux. It can be taken at any time. It's often suggested for older adults.
- Calcium with magnesium:
You only need a magnesium supplement if you don't get enough from food. Too much magnesium can cause diarrhea and leg cramps. Before you take a calcium supplement with magnesium, talk to your doctor, pharmacist, or dietitian.

Calcium affects how some medicine works. Your pharmacist can tell you the best times of the day to take your medicine and supplements.

Vitamin D

Vitamin D helps your body to:

- absorb and use calcium from your diet and/or calcium supplements
- increase bone strength (which reduces your risk of breaking a bone)
- increase muscle strength (which may reduce your risk of falling)

Take a Vitamin D supplement every day

Recommended vitamin D supplement
19–50 years at risk of osteoporosis: 400–1000 IU (10–25 µg) a day
19–50 years with osteoporosis: 800–2000 IU (20–50 µg) a day
Over 50 years: 1000–2000 IU (25–50 µg) a day
My healthcare provider suggests _____ IU vitamin D a day.

(IU = International Units, µg = micrograms)

Look for a supplement that has vitamin D₃.

Vitamin D₃ is the best choice for most people. The label on your supplement bottle will say what form of vitamin D it has. Choose vitamin D₂ if you're looking for a vegan form of vitamin D.

Types of vitamin D supplements:

- tablets, softgels, chewables, sprays, or drops in doses of 400–1000 IU (10–25 µg)
- multivitamin supplements usually have 400–800 IU (10–20 µg)
- combined calcium and vitamin D supplements usually have 200–1000 IU (5–25 µg)

Don't take more than 2000 IU (50 µg) of vitamin D a day from supplements unless your healthcare provider tells you to take more.

Other sources of Vitamin D

- Choose foods with Vitamin D such as milk, fortified soy beverage, halibut, salmon, sardines, trout, eggs, and margarine.
- Our skin makes some vitamin D from sunlight. However, Albertans make little or no vitamin D from October to March. It may not be safe to get all the vitamin D you need from the sun.

Other factors that affect bone health

Too much caffeine, alcohol, and salt can harm your bones

- Limit caffeine to 400 mg or less a day. One cup (250 mL/ 8 oz) of coffee contains about 100 mg of caffeine. Caffeine is also found in coffee-based drinks, colas, tea, and energy drinks.
- If you drink alcohol, limit it to 1–2 drinks a day. One drink is 12 oz (355 mL) of beer, 5 oz (150 mL) of wine, or 1 ½ oz (45 mL) of liquor.
- Limit salt (sodium) intake to less than 2300 mg a day. Eat less processed and packaged foods, and read labels to find foods lower in sodium. Choose fresh foods and foods with no salt added.

Protein helps build and repair bones

It also helps you maintain muscle mass and weight, which are important for bone health.

- Eat protein foods (like beans, cheese, eggs, fish, lentils, meat, milk, poultry, or tofu) at each meal.
- If you lose weight without trying or have a poor appetite, talk to your healthcare provider about ways to add calories and protein to your diet.

Eat a variety of healthy foods every day, including vegetables and fruit

Be active every day

The best activities for strong bones are:

- **strength** training such as weight lifting and exercises using resistance bands
- **posture** exercises such as standing and sitting with good posture, and yoga
- **balance** training such as Tai chi, dancing, and walking on your heels or toes
- **aerobic** exercises such as walking, dancing, and stair climbing

If you have osteoporosis, talk to your doctor before starting a physical activity program.

Quit smoking

Smoking is a risk factor for osteoporosis.

Visit these websites to learn more about bone health and nutrition:

- Dietitians of Canada: www.dietitians.ca
- Osteoporosis Canada: www.osteoporosis.ca
- International Osteoporosis Foundation: www.iofbonehealth.org
- Health Canada: www.healthycanadians.gc.ca

My action plan for bone health

There may be things that you already do to help your bone health.

Habits I will keep:

What are the habits that you want to start, stop, or change?

Habits I will start, stop, or change:

Use a lifestyle journal

People who use a journal succeed at making changes more often.

- For a few days write down:
 - what you eat and drink and how much
 - any problems or feelings about the changes you are making
- Review your progress:
 - What are you doing well?
 - What do you still need to work on?
 - Do you need help to meet your goals?

Plans to meet with my dietitian or other healthcare provider

Questions to ask my dietitian or other healthcare provider
