

Bone is constantly being broken down and rebuilt from every day wear and tear. By the time you reach your mid - 40's, you lose bone faster than you build new bone. Many things can speed up bone loss:

- family history
- smoking
- diet
- menopause
- chemotherapy
- certain medications
- some hormonal therapies that lower estrogen

Some people may be at risk of osteoporosis at the start of treatment. Your doctor may advise you to use medications such as bisphosphonates (e.g. alendronate (Fosamax®) which help reduce bone breakdown, as well as follow the guidelines below.

Calcium & Vitamin D:

Calcium and vitamin D are important for strong bones. Adults aged 19-50 years should take 1000g of calcium each day. Adults over 51 years, should take 1200mg. You should not have more than 2000mg of calcium from food and supplements per day.

Adults aged up to 70 years old should take 600 International Units (IU) (15mcg) each day. Adults over70 years should take 800 IU (20 mcg). You should not have more than 4000 IU of Vitamin D from food and supplements per day. Recent research shows that a daily supplement of 1000 IU of vitamin D may be better.

Food sources of Calcium	Portion Size	Calcium (mg)
Cheese (Swiss)	50 g (2 oz)	440
Cheese (Cheddar/Mozzarella)	50 g (2 oz)	390
Cottage cheese	250 mL (1 cup)	250-350
Ricotta cheese	125 mL (1/2 cup)	275-350
Paneer cheese	50 g (2 oz)	104
Milk (skim,1 or 2% MF or whole)	250 mL(1 cup)	300
Buttermilk, or Chocolate milk	250 mL(1 cup)	300
Yogurt, plain	175 mL (3/4 cup)	300

This information is not meant to replace the medical counsel of your doctor or individual consultation with a registered dietitian. This information may only be used in its entirety
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Revised by Nutrition Patient Education Committee Nov. 2022.

Greek Yogurt	175 mL (3/4 cup)	175
Milk powder, dry	24 g (4 tbsp)	300
Fortified Beverages (soy, rice, oat, almond, orange juice)	250 mL (1 cup)	300
Blackstrap Molasses	15 mL (1 Tbsp)	175
Parmesan Cheese	15 mL (1 Tbsp)	90
Sardines, canned with edible bones	75 g (3 oz)	275
Salmon, canned with edibles bones	75 g (3 oz)	175-200
Mackerel, Anchovies, canned with edible bones	75 g (3 oz)	175
Tofu-prepared with calcium sulfate	150 g (6 oz)	225-350
Tempeh	150 g (6 oz)	144
Beans (white, navy), canned or cooked	175 mL (3/4 cup)	100-140
Baked beans	175 mL (3/4 cup)	100
Tahini (sesame seed butter)	30 mL (2 tbsp)	130
Almonds, dry roasted	60 mL (1/4 cup)	100
Figs, dried (if info based on 3 figs, fresh or dry should not matter) – source of info?	3 figs	80
Orange, raw	1 medium	50
Broccoli, frozen, boiled, drained	250 mL (1 cup)	50
Spinach, frozen, cooked	125 mL (1/2 cup)	150
Kale, frozen, cooked	125 mL (1/2 cup)	100
Millet , cooked	100 g (4 oz)	364
Instant Oatmeal	1 packet (dry)	100
Bran cereal	125 mL (1/2 cup)	106
Fortified Cereals	125 mL (1/2 Cup)	40

Adapted from Unlock Food, 2022, *Food Sources of Calcium*, <https://www.unlockfood.ca/en/articles/bone-health/food-sources-of-calcium.aspx>

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Food sources of vitamin D	Portion size	Vitamin D (IU)
Fish, herring	100 g (3 oz)	900
Fish, mackerel or salmon	100 g (3 oz)	650
Fish, sardines or tuna	100 g (3 oz)	250
Fish, Swordfish	75g (2.5 oz)	761
Fish, Snapper	75g (2.5 oz)	392
Milk	250 mL (1 cup)	103-105
Kefir	250 ml (1 cup)	180
Fortified Plant Based Beverage (Silk, Earth's Own, So Nice)	250 mL (1 cup)	80-100
Margarine, Fortified	5 mL (1 tsp)	55
Egg (egg yolk)	1 large	25
Orange Juice, Fortified	125 mL (1/2 cup)	50
Mushrooms, white	125 mL (1/2 cup)	4
Margarine, Fortified	5 mL (1 tsp)	25-36

Adapted from Osteoporosis Canada, 2022, *vitamin D*, <https://osteoporosis.ca/vitamin-d/>

What if I can't get enough from food alone?

- Talk to a dietitian about a supplement.
- Calcium carbonate (40% elemental calcium) is the least expensive calcium supplement.
- Try to take 500 mg of calcium or less at a time.
- Some calcium supplements also have vitamin D in them (check the label for the exact amount).
- The best form of vitamin D supplement to purchase is vitamin D3 (cholecalciferol).

Other Things You Need for Bone Health

- **Protein**
Include one of the following protein rich foods at every meal: meat, fish, poultry, beans, lentils, tofu, nuts, eggs, milk, soy milk, yogurt or cheese.
- **Vitamin B12**
Aim for 2.4 mcg daily. The best food source for vitamin B12 comes from animal-based foods like meat, poultry, fish, dairy products, and eggs. Fortified plant based foods such as fortified plant based beverages, and nutritional yeast are good sources.

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- **Magnesium**
The recommended intake for adults is 420 mg for men and 320 mg for women. Eating a variety of foods including dark green vegetables, nuts, seeds, whole grains, milk and legumes will help most people get enough magnesium.
- **Vitamin K**
The recommended intake for adults over 19 years old is 90 mcg for women and 120 mcg for men. Vitamin K is found in foods such as kale, collard greens, broccoli, spinach, cabbage, and lettuce and pork liver.
Note: if you are on blood thinners, please tell your health care team.
- **Fruit and Vegetables**
Studies have found a link between fruit and vegetable intake and increased bone mineral density.
- **Physical Activity**
Being active improves bone mass and increases muscular strength to reduce falls. Weight bearing physical activity is best. For example walking, dancing, aerobics, skating and weight lifting.

Things to Limit

- **Caffeine and salt**
Too much caffeine and salt can make bones weaker. Caffeine is in coffee, tea, chocolate (cocoa) and some soft drinks. Limit coffee to less than 4 cups per day.

Foods high in salt (sodium) generally include processed foods such as pre-packaged or canned soups, snack foods, crackers, pastas and sauces. Check the nutrition label on processed foods and limit salt to 2300 mg per day.
- **Drinking and Smoking**
Smoking and drinking alcohol are related to poor bone and general health. If you smoke, ask your health care provider for help with quitting.

What About...

- **Sun exposure for vitamin D?**
In Canada, we do not get as much sun as we need to produce enough vitamin D. Things like seasons, the time of day, skin pigmentation, clothing, and age are all things that can change how much vitamin D your body makes.

Visit our website: www.bccancer.bc.ca/nutrition

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