

Patient Information

How to look after your bones

Osteoporosis is a disease where bones become thin and weak. It mainly affects people over the age of 50, as bones naturally lose their strength and density through ageing.

Calcium gives bones their strength, therefore a good calcium intake is important throughout life. If the body does not get the calcium it needs from food it uses up the calcium stored in the bones. Over time, this can lead to weak and brittle bones that are more likely to break.

Which foods and beverages are the best sources of calcium?

Milk and milk products such as cheese, yoghurt, and custard are the most readily available sources of calcium. They are also a good source of protein and other nutrients that are important for bone and general health.

How much calcium do you need each day?

The recommended dietary intake for adults is 1000 to 1300 mg calcium per day. You can get this by eating a varied diet and including at least three servings of milk and milk products each day.

One serving is equivalent to:

- One large glass of milk (250 ml)
- One tub of yoghurt (150 g)
- Two slices of cheese (40 g)
- One large glass of calcium-enriched soy milk (250 ml)

Which type of milk should you use?

There are many different types of milk available. Check the label for the type of milk. In general, lower fat milks have more calcium.

- Whole milk. Use if you need to gain weight.
- Reduced-fat or lite milk.
- Skim milk. Use if you need to lose or maintain weight or lower your cholesterol.
- Calcium-enriched milks. These are low in fat with a higher protein content and are enriched with extra calcium. Use if you need to lose or maintain weight and you have difficulty achieving your calcium requirements e.g., "Shape".

Tip: Make your own calcium-enriched milk by adding four tablespoons of skim milk powder to one litre of milk. Use this milk as normal.

Other good sources of calcium

- Some green vegetables, for example, broccoli or bok choy.
- Whole canned fish with soft edible bones, such as sardines and salmon.
- Nuts, especially almonds, brazil nuts, and tahini.
- Tofu set with calcium.
- Calcium enriched foods such as some orange juices and breakfast cereals.

Bones also need vitamin D

Vitamin D helps your body to absorb calcium and so is also required to maintain strong bones. The recommended vitamin D intake for adults ranges from 5 to 15 micrograms per day.

Food sources of vitamin D include eggs, oily fish (sardines, salmon, tuna), and a small amount of vitamin D enriched foods such as margarines, some types of milk, and yoghurt.

It is very difficult to get enough vitamin D from food alone and the best source of vitamin D is sunshine directly on your skin (not through glass or with sunscreen on). Aim to spend about 20 minutes each day outside in the sunlight. In the summer, this should be before 11.00 a.m. and after 4.00 p.m. to avoid sunburn.

Calcium and vitamin D counter

Type of food	Approximate serving size	Calcium (mg)	Vitamin D (micrograms)
Calcium-enriched milk	1 glass (200 ml)	400	1
Full cream milk	1 glass (200 ml)	236	-
Reduced fat milk	1 glass (200 ml)	256	-
Skim milk	1 glass (200 ml)	276	-
Calcium-enriched soy milk	1 glass (200 ml)	240	-
Calcium-enriched juice	1 glass (200 ml)	70	2
Skim milk powder	1 tablespoon	98	-
Cheese, Edam	2 slices (40 g)	376	-
Cottage cheese	½ cup	73	-
Yoghurt or dairy food	1 tub (150g)	210	-
Ice cream	2 scoops (140 g)	140	-
Salmon, canned	1 small can (85 g)	80	3.5
Sardines, canned	4 sardines	264	5.3
Calcium-enriched breakfast cereal	1 bowl (45 g)	200	-
Almonds	¼ cup	97	-
Broccoli, boiled	½ cup	30	-
Vitamin D enriched margarine	2 teaspoons (10 g)	-	1
Eggs	1	-	0.9

- nil or negligible amount

Source: Concise New Zealand Food Composition Tables, New Zealand Institute for Plant and Food Research, 8th edition 2009

What about calcium and vitamin D supplements?

If you are unable to get adequate calcium from your diet (for example, you don't or cannot have milk products), or you do not expose your skin to sunlight, you may need a calcium or vitamin D supplement. Discuss this with your doctor.

Additional tips to maintain bone strength:

- Be active and include 30 minutes of weight-bearing physical activity each day.
- Keep your weight within a healthy range.
- Be smokefree.
- Limit your intake of alcohol to two or fewer standard drinks a day.
- Limit the amount of salt you use in cooking and avoid adding salt to food.

Read the Ministry of Health's information and position statement on sun exposure and vitamin D.

Adapted from the Healthy Eating, Healthy Ageing Project, Older Person's Health Specialist Service, Canterbury District Health Board. Endorsed by HealthInfo clinical advisers. Reviewed May 2012.

Sources

Older Person's Health Service. *How to look after your bones*. Canterbury DHB. Nov 2011. Ref NUT0137