



Calcium-rich Diet

Authored by [Dr Mary Harding](#), Reviewed by [Dr Jacqueline Payne](#) | Last edited 29 Aug 2017 | Meets Patient's [editorial guidelines](#)

Calcium is an important nutrient with many functions. It's necessary for nerve function, to help muscles contract and to assist with normal blood clotting.

Calcium is more commonly known for its role in building and maintaining strong teeth and bones. It helps to prevent 'thinning' of the bones (osteoporosis). Making sure we have enough calcium will help to maintain bone strength and reduce the amount of bone that is lost as we age. It is the most abundant mineral in the body and because we can't make it, we need to consume a diet rich in calcium.

How much calcium do we need?

Adults over the age of 18 years need around 700 mg of calcium per day. There are other circumstances where more calcium is required. This may be if you:

- Are aged 9-18 years (1300 mg). Children aged 4-8 years need about 800 mg per day.
- Are [breastfeeding](#) (1250 mg).
- Have [coeliac disease](#) or [Crohn's disease](#) or [ulcerative colitis](#) (1000-1500 mg).
- Are a [postmenopausal](#) woman or man over 55 years old (1200 mg).
- Have 'thinning' of the bones ([osteoporosis](#)) (1000 mg).

You also need to make sure you are getting enough calcium if you have low calcium levels in the blood (hypocalcaemia) or are taking [steroids](#). One of the side-effects of taking

steroid tablets in the long term (for three months or more) is an increased risk of developing osteoporosis. This is known as [steroid-induced osteoporosis](#).

There is some evidence that [sodium](#) in the diet, generally in the form of salt, can increase calcium loss from the body. It is generally a good idea to reduce dietary sodium, and certainly if you are trying to make sure your body gets plenty of calcium, it would be sensible to cut down on salt.

If you are on additional treatment for osteoporosis, such as [alendronic acid](#) then it is particularly important that you are eating enough calcium, as these treatments will not work if your calcium intake is too low.

People who are taking high doses of calcium supplements may increase their risk of heart disease but there is no association of increased risk with a diet which is naturally high in calcium.

What foods contain calcium?

The most well-known sources of calcium are milk and dairy products. However, calcium is also found in many other foods. This includes fish with edible bones such as tinned salmon, green leafy vegetables, nuts, seeds and fruits.

Some food manufacturers also enrich food products with calcium by adding it to certain foods - for example, in soya milk, orange juice, cereals and breads. In the UK, all wheat flour except wholemeal must be fortified with calcium.

Milk and dairy sources of calcium

| Food | Portion size | Calcium |
|----------------------|------------------|---------|
| Milk (any type) | 200 ml | 240 mg |
| Yoghurt | 125 g | 200 mg |
| Cheddar cheese | 30 g | 216 mg |
| Soft cheese triangle | 15 g | 100 mg |
| Cottage cheese | 100 g | 73 mg |
| Rice pudding | 200 g | 180 mg |
| Ice cream | 60 g (one scoop) | 78 mg |
| Custard | 120 ml | 150 mg |

Non-dairy sources of calcium

| Food | Portion size | Calcium |
|-------------|---------------------------------|---------|
| Sardines | 100 g (four sardines) | 410 mg |
| Pilchards | 100 g (two pilchards) | 340 mg |
| Haddock | 150 g fillet | 150 mg |
| Baked beans | 220 g (one half of a large can) | 100 mg |
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|-------------------------|-------------------|--------|
| Enriched soya/rice milk | 200 ml | 240 mg |
| Enriched orange juice | 250 ml | 300 mg |
| Tofu | 100 g | 500 mg |
| Spring green | 100 g | 200 mg |
| Spinach | 100 g | 150 mg |
| Watercress | 50 g | 75 mg |
| Broccoli | 50 g | 30 mg |
| Okra | 50 g | 130 mg |
| Kale | 50 g | 65 mg |
| Chickpeas | 100 g | 45 mg |
| Almonds | 15 g | 35 mg |
| Brazil nuts | 15 g | 26 mg |
| Sesame seeds | one tablespoon | 160 mg |
| Dried figs | 60 g (three figs) | 150 mg |
| Calcium-enriched bread | Two slices (80 g) | 300 mg |
| Currants | 100 g | 93 mg |

How much calcium do I eat?

There are web pages and apps which will help you add up the calcium in your diet to make sure you are getting as much as you need. See one such [online calcium calculator here](#), and another [here](#).

If you find it difficult to get enough calcium from your diet - for example, if you are a vegan who is unable to tolerate soya - calcium supplement tablets are available at supermarkets and chemists.

Why is vitamin D important?

Vitamin D is needed for the body to absorb calcium effectively. Unlike other vitamins, we do not need to get vitamin D from food. Most of the vitamin D we have is made by our own bodies. It is made in the skin by the action of sunlight. This is a good thing because most foods contain no, or very little, vitamin D naturally.

Public Health England recommends that everyone should take a vitamin D supplement of 10 micrograms (mcg) daily during the winter. Some people are at greater risk of vitamin D deficiency; therefore, a routine vitamin D supplement all year round is recommended. This includes:

- All pregnant and breastfeeding women.
- All babies and young children aged 6 months to 5 years should take a daily supplement containing vitamin D in the form of vitamin drops. However, those infants who are fed infant formula will not need vitamin drops until they are receiving less than 500 ml of infant formula a day, as these products are fortified with vitamin D. Breast-fed infants may need to receive drops containing vitamin D from 1 month of age if their mother has not taken vitamin D supplements throughout pregnancy.
- People aged 65 years and over.
- People who are not exposed to much sun or who have darker skin.

See separate leaflet called [Vitamin D Deficiency](#) for further information.

FURTHER READING AND REFERENCES

- [Denosumab for the prevention of osteoporotic fractures in postmenopausal women](#); NICE Technology Appraisal Guidance, October 2010
- [Osteoporosis: assessing the risk of fragility fracture](#); NICE Clinical Guideline (August 2012, updated February 2017)
- [Avenell A, Mak JC, O'Connell D](#); Vitamin D and vitamin D analogues for preventing fractures in post-menopausal women and older men. Cochrane Database Syst Rev. 2014 Apr 144:CD000227. doi: 10.1002/14651858.CD000227.pub4.
- [Management of osteoporosis and the prevention of fragility fractures - A national clinical guideline](#); Scottish Intercollegiate Guidelines Network - SIGN, (March 2015)
- [Guideline for the diagnosis and management of osteoporosis in postmenopausal women and men from the age of 50 years in the UK](#); National Osteoporosis Guideline Group (updated 2014)
- [Clinical guideline for the prevention and treatment of osteoporosis](#); National Osteoporosis Guideline group (NOGG) 2017
- [Bisphosphonates for treating osteoporosis](#); NICE Technology Appraisal Guidance, August 2017
- [Black DM, Rosen CJ](#); Clinical Practice. Postmenopausal Osteoporosis. N Engl J Med. 2016 Jan 21374(3):254-62. doi: 10.1056/NEJMcp1513724.
- [Hip fracture: management](#); NICE Guideline (June 2011, updated May 2017)
- [Management of hip fracture in older people](#); Scottish Intercollegiate Guidelines Network - SIGN (June 2009)

- [Vitamin D and health](#); Scientific Advisory Committee on Nutrition (July 2016)
- [Sunlight exposure: risks and benefits](#); NICE Guidance (February 2016)
- [Santesso N, Carrasco-Labra A, Brignardello-Petersen R](#); Hip protectors for preventing hip fractures in older people. Cochrane Database Syst Rev. 2014 Mar 31(3):CD001255. doi: 10.1002/14651858.CD001255.pub5.

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| Author | Dr Mary Harding |
| Peer reviewer | Dr Jacqueline Payne |

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