

CALCIUM

A KEY NUTRIENT FOR STRONG BONES AT ALL AGES





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Calcium is a major building block of our skeleton and is vital for strong bones. The amount of calcium we need in our diet varies at different stages of life. Here are some facts:

99% of the 1 kg of calcium found in the average adult body resides in our bones. Bone acts as a reservoir for maintaining calcium levels in the blood, which is also essential for healthy nerve and muscle function.

If you don't supply your body with the calcium it needs, the body responds by taking calcium from your bones.

Certain disorders affect how much calcium is absorbed by the body – for e.g. Crohn's, coeliac disease, lactose maldigestion and intolerance.

Calcium and vitamin D go hand in hand: vitamin D helps the body absorb calcium from the intestines, and it ensures correct renewal and mineralization of bone.

For healthy individuals, the recommended daily calcium intake can be achieved through a healthy diet which contains enough calcium-rich foods.

For people who cannot get enough calcium through their diets, supplements may be beneficial. These should be limited to 500-600 mg per day (or more if advised by your doctor) and it is generally recommended that they be taken combined with vitamin D.

The two main forms of calcium in supplements are carbonate and citrate. Calcium carbonate is more commonly available and is absorbed most efficiently when taken with food, whereas calcium citrate is absorbed equally well when taken with or without food.

Daily calcium intake recommendations for populations vary between countries and studies have shown that **even in countries with lower recommended amounts, many people are not consuming enough.** Recommendations from the Institute of Medicine of the US are presented in the table in the next page.

DIETARY SOURCES OF CALCIUM

- **Dairy foods such as milk, yoghurt and cheeses, are very high in calcium,** which can be easily absorbed. They have the additional advantage of being good sources of phosphate and high-quality protein – which also benefit bone health.
- **Other food sources of calcium include green vegetables** (e.g., broccoli, curly kale, bok choy); **whole canned fish with soft, edible bones such as sardines or pilchards;** **nuts** (almonds in particular); **tofu products set with calcium,** and **certain mineral waters.**
- It is a challenge for people who have lactose sensitivities, and/or avoid dairy products, to get enough calcium through their daily diets. **Those with lactose sensitivities may find that they can still enjoy certain dairy foods, such as natural yoghurts or hard cheeses.** Through trial and error, they often discover which dairy foods they can tolerate (and in what quantities), or they take lactase tablets when required.

CALCIUM RECOMMENDATIONS

Recommended daily calcium allowances vary between countries. The IOM 2010 (Institute of Medicine of the US National Academy of Sciences) recommendations are as follows:

INFANCY TO ADOLESCENCE	CALCIUM (mg/DAY)
0-6 months	*
6-12 months	*
1-3 years	700
4-8 years	1000
9-13 years	1300
14-18 years	1300

WOMEN	CALCIUM (mg/DAY)
19-50 years	1000
Post-menopause (51+ years)	1200
During pregnancy/lactation 14-18 years old	1300
During pregnancy/lactation 19-50 years old	1000

MEN	CALCIUM (mg/DAY)
19-70 years	1000
70+ years	1200

The calcium allowance figures for children and adolescents also take account of skeletal growth (net calcium gain), and those for postmenopausal women and the elderly take account of a lower intestinal calcium absorption efficiency.

* For infants, adequate intake is 200 mg/day for 0 to 6 months and 260 mg/day for 6 to 12 months of age.

ARE YOU GETTING ENOUGH?

Find out whether you are eating enough calcium-rich foods.

Try the IOF Calcium Calculator at international.osteoporosis.foundation

IS LOW CALCIUM INTAKE COMMON IN YOUR COUNTRY?

A recent IOF study of dietary calcium intake in adults shows that low calcium intake is a major problem in many parts of the world, with negative effects on the populations' bone health. Take a look at the IOF Global Map of Dietary Calcium Intake to see whether your region is affected.

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