

Milk Matters

206 Reasons to Bone Up on Calcium

The 206 bones in your body are alive. These bones are always growing and changing. Calcium is an essential mineral needed to build strong bones and teeth. A small amount of calcium is needed for regulatory functions, such as maintenance of normal heart beat and reproduction. From birth to age 20, bones are in an active phase of growth. Everyone needs calcium. But how much depends on your age, sex, general health, and other circumstances.

Requirements for All Ages

The calcium content of an infant's body increases faster in relation to body size than at any other time. So it is vital for an infant to receive an adequate amount of calcium. Breast milk and infant formulas that are fortified with calcium are an excellent source of calcium for infants. During the first 10 years of growth, most of a child's dietary calcium goes directly toward the development of strong, dense bones and permanent teeth.

Amounts of calcium each day for healthy people are listed below in milligrams (mg) per day.

Age	Male	Female	Pregnant	Lactating
Birth to 6 months	210 mg	210 mg		
7-12 months	270 mg	270 mg		
1-3 years	500 mg	500 mg		
4-8 years	800 mg	800 mg		
9-13 years	1,300 mg	1,300 mg		
14-18 years	1,300 mg	1,300 mg	1,300 mg	1,300 mg
19-50 years	1,000 mg	1,000 mg	1,000 mg	1,000 mg
50+ years	1,200 mg	1,200 mg		

Source: National Institutes of Health (2009). Dietary Supplement Fact Sheet: Calcium. October 5, 2009.

An adequate intake of calcium up to around the age of 40 will help guard against osteoporosis, which causes brittle, fragile bones and usually occurs later in life. Osteoporosis is a serious disease and cannot be reversed. Children and adolescents should develop eating habits high in calcium to help avoid the risk of osteoporosis. For calcium to be properly absorbed into the body, vitamin D and phosphorus are critical. Vitamin D is available only in fortified milk, from exposure to sunlight, and in over-the-counter supplements. Phosphorus is found in many foods. Its widespread use in food processing and the tendency of teens to replace milk with soft drinks have encouraged research on how phosphorus may influence calcium absorption, but phosphorus consumption has not been linked to decreased bone mass at this time.

Regular exercise is also important to keep bones sound and strong.

Recommended Intakes

The Dietary Reference Intakes suggest to consumers the recommended amount of calcium. DRI is the general term for three values used for planning nutritious diets for healthy people. These values, which vary by age and gender, include the following:

- Recommended Dietary Allowance (RDA): average daily level of intake sufficient to meet the nutrient requirements of nearly all (97 percent to 98 percent) healthy individuals
- Adequate Intake: established when evidence is insufficient to develop an RDA and is set at a level assumed to ensure nutritional adequacy
- Tolerable Upper Intake Level: maximum daily intake unlikely to cause harmful effects

Source: National Institutes of Health (2009). Dietary Supplement Fact Sheet: Calcium. October 5, 2009.

Many Americans do not eat enough foods to supply the recommended amounts of calcium from food. Approximately 44 percent of boys and 58 percent of girls aged 6 to 11 fell short in 1994 to 1996, as did 64 percent of boys and 87 percent of girls aged 12 to 19 years and 55 percent of men and 78 percent of women aged 20 years or older, according to the nationwide Continuing Survey of Food Intakes of Individuals. The National Health and Nutrition Examination Survey (1999 to 2000) found that average calcium intakes were 1,081 and 793 mg/day for boys and girls 12 to 19 years, respectively; 1,025 and 797 mg/day for men and women 20 to 39 years; and 797 and 660 mg/day for men and women 60 years and older. Overall, women are less likely than men to get recommended intakes of calcium from food.

Calcium Sources

It's not easy to get enough calcium in the diet without including milk or dairy foods. Lower fat versions of dairy products are available that are low in calories but high in calcium. Some vegetables, such as greens and broccoli, contain small amounts of calcium. Also some juices and cereals are calcium-fortified.

Calcium Supplements

Foods are the best way to get the calcium needed by the body. However, some foods are calcium-fortified, such as calcium-fortified orange juice and calcium-fortified breakfast cereal. If the diet does not contain enough calcium, supplements may be an adequate alternative. If you choose a supplement, calcium carbonate is well-absorbed. Avoid supplements made with oyster shells, as they are not good calcium sources.



Cooking with Calcium

Milk, cheese and yogurt can add calcium to many foods.

- Use yogurt and milk to make salad dressings.
- Try non-fat dry milk in casseroles, meatloaf and baked goods.
- Use milk in cream soups (homemade or canned).
- Add tofu (calcium processed), cheese and cottage cheese to casseroles, lasagna and salads.

Look to the Pyramid Food Groups for the Best Sources of Calcium*	
Milk, Yogurt & Cheese Group	
Yogurt, plain, 1 cup	415 mg
Milk, 1-2%, 1 cup	300 mg
Milk, Chocolate (low-fat), 1 cup	284 mg
Cheese, Cheddar, 1 oz.	204 mg
Cheese, American, 1 oz.	174 mg
Vegetable & Fruit Group	
Bok Choy, cooked ½ cup	79 mg
Broccoli, cooked ½ cup	36 mg
Orange, 1 medium	60 mg
Raisins, ¼ cup	22 mg
Meat, Poultry, Fish, Beans, Eggs & Nuts Group	
Sardines (canned, w/bones), 3 oz.	372 mg
Salmon (pink, canned, w/bones), 3 oz.	165 mg
Tofu (processed, w/calcium), 4 oz.	145 mg
Bread, Cereal, Rice & Pasta Group	
Farina, enriched (instant, cooked) 1 cup	189 mg
Tortilla, corn, 1 medium	60 mg
Bread, whole wheat, 1 slice	25 mg
*Some foods are fortified with calcium; read the nutrition label.	

Source: Bowes and Church's Food Values of Portions Commonly Used, 1994.

A Note about Vitamin D

As noted previously, the body needs vitamin D to absorb calcium. Without enough vitamin D, one cannot form enough of the hormone calcitriol (known as the "active vitamin D"). When that happens, the body will have to take calcium from its stores in the skeleton, which weakens existing bone and prevents the formation of strong, new bone. Recent research also suggests that vitamin D may also be involved in reducing the risk of development of chronic disease.

Vitamin D is formed naturally by the body after exposure to sunlight. Fifteen minutes in the sun a few times a week without sunscreen is plenty for many people to manufacture and store all of the vitamin D they need. Experts recommend a daily intake of between 400 and 600 IU (International Units) of vitamin D, which also can be obtained from supplements, or vitamin D-rich foods such as egg yolks, saltwater fish, liver, and fortified milk.

References

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