

CALCIUM

FACTSHEET

Calcium is one of the most abundant minerals in body. About 99% of the calcium in the body is in the bones and teeth and 1% is in the blood, muscles, and other soft tissues (such as the nerves, organs, etc.) This 1% plays a major role in our health- it acts in normal muscle contraction and relaxation, nerve functioning, blood clotting, blood pressure and immune defenses.

Functions of Calcium

- Combines with phosphorus to form bones and teeth, making them hard and resistant to breaks and decay. Children need to get enough calcium for their bones and teeth to develop normally. Getting enough calcium early in life helps bones remain strong later in life.
- Helps muscles to contract normally. A deficiency can cause muscle spasms and cramps.
- Helps blood to clot normally, when you get a cut or wound.
- Is essential for nerve messages to be passed along the nervous system from the brain to other parts of the body and vice versa.
- Helps regulate blood pressure. Low calcium intake has been associated with high blood pressure. People with high blood pressure should make sure they consume the recommended amount of calcium (1000 to 1500 mg per day). African-Americans have a higher rate of high blood pressure than other groups and tend to have low calcium intakes.
- Calcium may help prevent colon cancer, one of the most common forms of cancer. Calcium may reduce cancer risk in two ways: (a) by binding fat and bile acids in the large intestine, keeping them from causing harm and (b) by preventing the excessive growth of cells in the intestines, which could otherwise lead to cancer.
- Increasing calcium intake from dairy products, not supplements, may increase weight reduction.

Recommended Intakes

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

Adequate Intakes (AIs) for Calcium

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		

Food Sources of Calcium

Milk, yogurt, and cheese are rich sources of calcium and are the major food contributors of this nutrient. Tofu, cottage cheese, orange juice, greens and legumes are also excellent sources of Calcium.

Health Risks from Excessive Calcium

Excessively high levels of calcium in the blood known as hypercalcemia impair kidney function. However, hypercalcemia rarely

results from dietary or supplemental calcium intake and is most commonly associated with hyperparathyroidism, advanced cases of cancer or excessive intakes of vitamin D from supplements at doses of 50,000 IU/day or higher . The Tolerable Upper Intake Levels (ULs) for calcium established by the Food and Nutrition Board are listed in Table 3.

Tolerable Upper Intake Levels (ULs) for Calcium

Age	Male	Female	Pregnant	Lactating
Birth to 12 months	None established	None established		
1-13 years	2,500 mg	2,500 mg		
14-50 years	2,500 mg	2,500 mg	2,500 mg	2,500 mg
51+ years	2,500 mg	2,500 mg		

References:

Sizer, Frances & Whitney, Eleanor (1997). Nutrition Concepts and Controversies (7th ed.). West/Wadsworth International Thomas Publishing Company.

National Institutes of Health, (2009, Oct. 7). In Dietary Supplement Fact Sheet: Calcium. Retrieved June 1, 2010, from <http://dietary-supplements.info.nih.gov/factsheets/calcium.asp>