

CALCIUM: AN ESSENTIAL MINERAL

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Calcium may be the most abundant mineral found in the human body. Although calcium is most commonly known for building strong bones, it also plays an important role in many biological processes. Just about every cell in the body, including those in the heart, nerves and muscles, relies on calcium to function properly. Unfortunately, the diets of many Canadian adults are calcium deficient. Learn more about the importance that calcium plays in everyday health, and how you can ensure that you are getting enough calcium in your diet.



Calcium is crucial to maintain life. The body has a carefully regulated system to ensure that a good supply is always available. The main goal of good calcium nutrition is to maintain an adequate supply so that our bodies do not have to dip into our only calcium reserves - our bones. Research has shown that adequate calcium intake and weight-bearing exercise have the ability to prevent or slow-down the bone-thinning disease osteoporosis. Osteoporosis can best be defined as a loss of bone mass associated with the deterioration of the stability and strength within bone tissue, making it more fragile and susceptible to fracture. Statistics found in the *Canadian Medical Association Journal* in November 2001 indicated that, of patients who have hip fractures, 50% of these people experience long-term disability, and up to 20% die within one year of fracture. The risk of death from osteoporosis-related fracture exceeds the mortality rates from breast and ovarian cancer combined. Osteoporosis is also a significant burden to the health care system in Canada, with an estimated \$1.3 billion per year to treat osteoporosis related fractures. The majority of bone density is achieved before the age of 35, and then starts to decline thereafter. According to the *Osteoporosis Society of Canada (OSOC)*, individuals between the ages of 19 and 49 should get 1000 mg of calcium each day. Daily calcium requirements of 1500 mg are recommended for all individuals over 50 years of age.



Calcium is also vital for many other functions in the body. It builds strong teeth and helps maintain healthy gums, a regular heartbeat, and the transmission of nerve impulses. Calcium may lower cholesterol levels, blood pressure, and help prevent cardiovascular disease. It is needed for muscular growth and contraction, and for the prevention of muscle cramps. This essential mineral also aids in neuromuscular activity and blood clotting, helps keep the skin healthy, provides energy, and is critical in activating several key enzymes. A deficiency in calcium status can lead to the following problems: aching joints, brittle nails and bones, eczema, elevated blood cholesterol, heart palpitations, hypertension, insomnia, muscle cramps, nervousness, and tooth decay. Deficiencies of calcium are also associated with cognitive impairment, convulsions, depression, and hyperactivity.

There are three ways an individual can ensure that their calcium status is optimal. The first is making dietary choices that yield high calcium levels. Dairy foods such as milk, yogurt, and cheese are good sources of calcium but may not be suitable for individuals sensitive to dairy products. Other healthy foods high in calcium include pinto, navy, red and white kidney beans, chick peas, dark leafy vegetables such as bok choy, spinach and kale, sesame seeds, flaxseed, broccoli, asparagus, turnip greens, cabbage, prunes, sardines and salmon. Making a conscious effort to include calcium rich foods in your everyday diet can meet a large portion of calcium requirements. For example, a cup of milk will yield 300 mg of calcium, half a cup of plain yogurt 200 mg, half a cup of baked or cooked beans 50 to 75 mg, and half a can of sardines with bones 200 mg. To review a reliable food chart that shows the calcium content of specific foods, visit www.osteoporosis.ca.

The second measure to ensure optimal calcium status includes avoiding foods and habits that deplete the body of calcium. A diet that is high in protein, fat, and/or sugar affects calcium absorption. A typical diet of red meats, refined grains, and soft drinks (which are high in phosphorus) leads to increased excretion of calcium from the body. Consuming alcoholic beverages, coffee, junk food, and excess salt also leads to loss of calcium by the body.

The third measure includes choosing the right calcium supplement and taking it correctly. The two most common types of calcium pill supplements are calcium carbonate and calcium citrate. Calcium carbonate is cheaper but is not absorbed as well as calcium citrate. A good calcium supplement will also contain Vitamin D, which will assist the body in absorbing a higher percentage of ingested calcium. Calcium supplements containing dolomite should be avoided as they may contain trace amounts of heavy metals, like lead and mercury. Calcium supplements are more effective when taken in smaller doses spread throughout the day. This mineral works less effectively when taken in a single megadose. No more than 500 mg should be taken at any one time, as this is the maximum amount the body can absorb in one dose. With calcium supplementation, those taking prescription medications should exercise special caution, as calcium can interfere with the effectiveness of certain medications.

Calcium is a mineral essential for life. Optimal calcium status ensures that our bodies stay strong and that everything functions as Mother Nature intended. Calcium does the body good!

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