

Calcium and Dairy

Role of Calcium In The Body

- Present in small amounts in the bloodstream
- Plays a critical role in blood clotting, muscle contraction, heartbeat maintenance, and proper nerve function
- About 99% of calcium (roughly three pounds total) is stored in our bones and teeth, which rely upon the mineral for their strength.
- When needed, calcium is released from our bones into the blood.

Calcium and Bone Health

- Researchers have found that nations with the greatest calcium intake have the highest rates of osteoporosis and hip fracture, and that there are relatively few fractures among populations where calcium levels are not so high
- Healthy bones require more than calcium-rich foods.
- Calcium intake is keenly important, particularly during childhood, early adulthood and up to the age of 30-35 when our bones achieve their peak mass and stop growing.
- Retaining the calcium we've stored up is more vital especially in our late 40s or so, when bones begin to break down faster than they can be rebuilt, alas, an inevitable part of aging.

It is not a problem of calcium consumption but calcium loss

- Research from hundreds of subjects indicates that preventing calcium loss is actually three to four times more important in determining calcium balance than is calcium intake.
- Mineral imbalances, stress and a faulty, highly acidic diet will promote calcium loss.
- Coffee, tea, table salt, meat, eggs, milk, cheese, pop, bread, and junk food all force the body to produce copious amounts of acid.
- This acid-forming Westernized diet creates a hole in the bucket scenario when it comes to calcium. It forces our body to consume massive amounts of calcium to maintain a pH balance in the blood.
- Within the body, calcium is used to maintain the correct acid balance of the blood, which can only function at a certain pH level. If the blood acid level moves up or down, the body goes into an alarmed state.
- Stomach acid (Hydrochloric acid or HCl) is needed to digest meat protein like poultry, cheese, meats, eggs and processed foods.
- Calcium is then secreted to alkalize this acidic digestive mixture when it enters the bloodstream and is then excreted with other metabolic wastes.
- On the way out, calcium compounds can lodge in the kidneys causing kidney stones, or in the gall bladder producing gallstones.

Protein and calcium loss

- One of the greatest instigators of calcium loss is a high-protein diet and many adults typically eat twice the recommended amount of protein.
- Researchers who reviewed 16 studies examining the protein-calcium relationship found that when protein intake was above 75 grams per day, more calcium is lost in the urine than is retained in the body. Researchers speculate that this level of protein intake alone could account for the bone loss commonly seen in postmenopausal women.
- Protein, especially from animal sources including milk, makes our urine acidic, a condition the body attempts to remedy by drawing calcium, an alkaline mineral, from the bones and then flushes from the body in the urine.
- Meat and/or dairy free diets produce less acid
- According to one recent study, by eliminating animal protein altogether from the diet, people can cut urinary calcium losses in half.

The bottom line: Less calcium is needed in the diet if less dairy, meat and junk food is consumed.

No Dairy? Then where will I get my calcium?

- Many green vegetables have absorption rates of more than 50 percent, compared with about 32 percent for milk. In 1994, the American Journal of Clinical Nutrition reported calcium absorption to be 52.6 percent for broccoli, 63.8 percent for Brussels sprouts, 57.8 percent for mustard greens, and 51.6 percent for turnip greens and 40 to 59 percent kale. This means that these foods are providing your body with more biologically available calcium than milk and milk products. Likewise, beans (e.g., pinto beans, black-eyed peas, and navy beans) and bean products, such as tofu, are rich in calcium.
- For an individual trying to improve calcium balance, fruit and vegetables are the best foods to add, as they are rich in potassium which reduces calcium losses.

Calcium in Foods (milligrams)

Food Source	Serving	Amount
<i>Cow's milk (for comparison only)</i>	1 cup	300 mg
Acorn squash, baked	1/2 cup	45 mg
Almond Butter	1 tbsp.	43mg
Almonds, dry roasted	1 oz.	80mg
Adzuki beans, boiled	1 cup	63 mg
Baked beans, canned	1 cup	128 mg
Beans, great northern or navy	1 cup	128mg
Beans, pinto, red or cranberry	1 cup	82mg
Beans, white	1 cup	161mg
Beet Greens	1/2 cup	82 mg
Black-eyed peas	1 cup	42 mg
Broccoli, boiled	1 cup	178mg
Brussels's sprouts, boiled	1 cup	56mg
Butter beans, canned	1 cup	40 mg
Cabbage Chinese, boiled	1/2 cup	79 mg
Cabbage green, raw	1/2 cup	25 mg
Cabbage, green, boiled	1 cup	50mg
Calcium-fortified orange juice	8 ounces	250 mg
Carrots, raw	1 medium	19 mg
Cauliflower, boiled	1 cup	34mg
Chick peas, canned	1 cup	77 mg
Collards, frozen, boiled	1/2 cup	179 mg
Dried figs	10 figs	269 mg
Figs, dried	5 medium	135mg
Kale, boiled	1 cup	90 mg
Kelp, raw	3.5 oz	168 mg
Kidney beans, canned	1 cup	69 mg
Kohlrabi, boiled	1 cup	40mg
Mustard greens, boiled	1 cup	104mg
Navel orange	1 medium	56 mg
Papaya, raw	1 medium	72 mg
Raisins, golden, seedless	2/3 cup	53 mg
Rhubarb, cooked	1 cup	348 mg
Rutabaga, boiled	1 cup	72mg

Sardines	3 oz.	371mg
Salmon (canned with bones)	3 oz.	172
Sesame seed butter (tahini)	1 tbsp.	64mg
Sesame seeds, hulled	1 oz.	37mg
Sesame seeds, unhulled	1 oz.	381mg
Soymilk, Edensoy	1 cup	95mg
Soymilk, Semblence	1 cup	200mg
Soymilk, Vitasoy	1 cup	76mg
Spinach, boiled	1 cup	244mg
Tofu, set with calcium, firm	1/2 cup	258mg
Tofu, set with calcium, med.	1/2 cup	130mg
Turnip greens, boiled	1 cup	198mg

Other health issues linked to dairy

- *Allergies:* Milk is the most common cause of food allergy. A recent study found that one way to reduce the number of allergies in infants is for the breastfeeding mother to avoid consuming, or make very limited use of cow's milk. Milk allergy in children has also been associated with chronic cough, excess mucous, recurring ear infection and bed-wetting.
- *Anemia:* Over-reliance on milk in children can lead to anemia, as milk is very low in iron, and drinking large quantities of it can crowd iron-rich foods from the diet. In young infants, protein from cow's milk can cause intestinal bleeding, another possible cause of anemia.
- *Colic:* Sensitivity to cow's milk can cause colic, a digestive ailment in infants. Colic can cause problems even in infants who aren't drinking cow's milk but whose mothers are.
- *Food safety concerns:* Washington Post columnist Colman McCarthy chides that milk is tainted with so many chemicals that it should be sold by prescription only. Dairy farmers regularly administer drugs and growth hormones to cows to boost milk production. Investigations have routinely found residues of these veterinary pharmaceuticals in milk and other milk products, some of which may raise cancer risks. One compound approved for use in 1993 and now widely employed by commercial dairies is the controversial genetically engineered Bovine Growth Hormone (BGH). Many feel that this compound-- which increases milk production in an era of serious milk surplus--poses grave potential health risks for consumers (including elevated antibiotic residue levels in milk) while favoring large-scale factory farms at the expense of small dairy producers. Unfortunately, producers who shun BGH are forbidden from labeling their products as such. Only organic dairy foods are certified to be free of antibiotic and BGH residues.
- *Heart disease:* Dairy products are major contributors of fat, saturated fat and cholesterol to the diet. According to cardiologist Dean Ornish, MD, "Milk rates second only to beef as the largest source of saturated fat in the American diet." Consider, for example, that one glass of 2% milk has as much saturated fat as three strips of bacon. Almost half the calories in whole milk come from fat.
- *Insulin-dependent diabetes:* Recent research indicates that consuming cow's milk throughout adolescence increases the risk of developing Type I diabetes.
- *Lactose intolerance:* Many people cannot stomach lactose, the sugar in milk, because they lack the necessary digestive enzyme. Some people are also sensitive to milk protein. An estimated 50 million Americans experience intestinal discomfort after consuming dairy products. Symptoms include bloating, stomach pain, cramps, gas or diarrhea.
- *Women's health concerns:* Studies indicate that osteoporosis, which afflicts 20 million American women, and ovarian cancer are most common in those countries with the highest consumption of dairy food and lowest in those countries with low dairy intake. According to gynecologist Christiane Northrup, MD, author of Women's Bodies Women's Wisdom, other health problems associated with the consumption of dairy foods include benign breast conditions, recurrent vaginitis, acne, menstrual cramps, fibroids, chronic intestinal upset and increased pain from endometriosis.

Information Sources:

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