

Milk

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Is Drinking Milk a Good Way to Build Strong Bones?

PRO (yes)

The National Institute of Child Health and Human Development (NICHD) stated in its Mar. 13, 2006 publication for the Milk Matters campaign titled "Building Strong Bones: Calcium Information for Health Care Providers":

"You can help children achieve lifelong bone health by talking to parents and young people about the importance of calcium consumption, especially during ages 11 to 15, a time of critical bone growth. Children and teenagers can get most of their daily calcium from 3 cups of low-fat or fat-free milk...

Although calcium is found in a variety of foods, the 1994 National Institutes of Health (NIH) Consensus Statement on Optimal Calcium Intake designated dairy products as the preferred source of calcium because of their high calcium content. The 2005 Dietary Guidelines for Americans also recommends milk and milk products as sources of dietary calcium based on studies that show a positive relationship between intake of milk and milk products and bone mineral content or bone mineral density in one or more skeletal sites...

Low-fat or fat-free milk [is] the best source of calcium because it has high calcium content without added fat, and because the calcium is easily absorbed by the body."

Mar. 13, 2006 - [National Institute of Child Health and Human Development \(NICHD\)](#) ★

Connie Weaver, PhD, Distinguished Professor of Food and Nutrition at Purdue University, reported in

CON (no)

The Physicians Committee for Responsible Medicine stated in its website publication "Parents' Guide to Building Better Bones" (accessed June 21, 2007):

"There is much debate over whether long-term consumption of dairy products helps bones at all. A good deal of evidence suggests that it does not. Several studies of teenagers have found that their adult bone health is related to their physical activity level earlier in life, but not to the amount of milk or calcium they consumed. Milk consumption is apparently no help later in life either. In a 12-year [Harvard study](#)  (1.49 MB) of 78,000 women, those who got the most calcium from dairy products received no benefit and actually broke more bones than the women who got little or no calcium from dairy. Similarly, a 1994 study of elderly men and women in Sydney, Australia, showed that those who consumed the most dairy products had double the hip fracture rate of those who consumed the least.

These findings indicate that despite the amount of calcium in dairy products, other dairy compounds accelerate calcium loss. Animal proteins and salt are two likely suspects."

June 21, 2007 - [Physicians Committee for Responsible Medicine \(PCRM\)](#) ★

Amy Joy Lanou, PhD, Senior Nutrition Scientist at the Physician's Committee for Responsible Medicine (PCRM) et al., explained in their Mar. 2005 *Pediatrics* article "Calcium, Dairy Products, and Bone Health in Children and Young Adults: A

her Jan. 2002 presentation at the Calcium Summit II conference titled "Bone Health Hazards: The Make-It-Or-Break-It Teenage Years":

"Adolescence is a critical time to optimize bone health, given that approximately 50% of skeletal mass is accrued during adolescent years. In girls, 95% of total body mineral mass is accumulated by age 17 and 99% by age 27. Optimizing bone health during adolescence not only reduces future risk of osteoporosis, but also helps to prevent forearm fractures during youth...

Findings from ongoing studies indicate that four to five servings/day of calcium-rich foods such as milk and other dairy products are needed to optimize peak bone mass during adolescence. Osteoporosis is a pediatric disease with geriatric consequences. With low calcium intake levels during important bone growth periods, today's youth faces a serious public health problem in the future."

Jan. 2002 - [Connie M. Weaver, PhD](#) ★★☆☆

Heidi Kalkwarf, PhD, RD, Associate Professor of Pediatrics at Cincinnati Children's Hospital Medical Center et al., wrote in their paper "Milk Intake During Childhood and Adolescence, Adult Bone Density, and Osteoporotic Fractures in U.S. Women," published Jan. 2003 in the *American Journal of the College of Nutrition*:

"We found that low milk intake during childhood and adolescence was associated with low[er] BMC [bone mineral content] or BMD [bone mineral density] of the hip in adulthood... in women who reported consuming <1 serving of milk/week than in women who consumed >1 serving/day during childhood and adolescence. This presumably represents a persistent negative effect of low milk intake during growth on bone mass and density of the hip that is not completely ameliorated by current calcium or milk intake. Furthermore, among women 50 years of age or older, those with low milk intake during childhood had a 2-fold greater risk of fracture than did

Reevaluation of the Evidence":

"Calcium intake, turnover, and absorption and excretion rates determine the availability of calcium for bone growth and development [referred to as the calcium balance]... Factors that affect calcium balance, including dietary calcium intake, likely play a role in bone development... Dairy products contain nutrients, including protein, sodium, and in some cases, supplemental vitamin D, all of which influence calcium balance and bone mineralization and alter or negate the effect of dairy calcium in the body's mineral economy. Animal protein and sodium, in particular, tend to increase calcium excretion...

Increases in dairy or total dietary calcium intake (>400-500 mg/day) are not correlated with or a predictor of BMD [bone mineral density] or fracture rate in children and adolescents. We found no evidence to support the notion that milk is a preferred source of calcium...

Available evidence does not support nutritional guidelines focused specifically on increasing milk or other dairy product intake for promoting child and adolescent bone mineralization."

Mar. 2005 - [Amy Joy Lanou, PhD](#) ★★☆☆

Stephen Walsh, Science Coordinator for the International Vegetarian Union, wrote in his Dec. 16, 2001 letter to the editor of BBC News titled "Milk 'Best Calcium Source' for Girls?":

"Bone health is influenced by many factors, including calcium, protein, potassium, phosphate, vitamin-D, vitamin-K and magnesium. Up to 10,000 years ago no humans consumed cow's milk yet the archaeological record shows that our ancestors, in common with our ape relatives, maintained excellent bone health without having to steal milk from the children of other mammals to do so. Our ancestral diet, and that of other apes, includes abundant levels of all the nutrients required for bone health,

women with high milk intake during childhood...

drawn overwhelmingly from plant sources."

We found that milk intake in childhood and adolescence is associated with increased bone mass and density in adulthood, and this effect is independent of current milk or calcium intake. These findings support efforts to promote a diet containing one or more servings of milk/d for girls during childhood and adolescence to increase bone mass and density in adulthood and reduce the risk of osteoporotic fracture."

Dec. 16, 2001 - [Stephen Walsh, PhD](#) ★★

Jan. 2003 - [Heidi Kalkwarf, PhD, RD](#) ★★

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