

DAIRY'S ROLE IN BONE HEALTH

Reducing the Risk of Osteoporosis

One of the most important reasons to consume three servings of dairy – milk, cheese, and yogurt – each day is to help build and maintain strong bones at all ages. Numerous studies have identified calcium intake and dairy foods as a key dietary strategy for attaining peak bone mass and for preventing and treating osteoporosis and reducing fracture risk. In addition to calcium, other nutrients found in dairy foods such as protein, phosphorus, magnesium, and vitamin D also support bone health.

In addition, the 2005 Dietary Guidelines for Americans identified seven key nutrients that fall short in adult diets, and five nutrients that fall short in children's diets. Dairy foods supply four of the seven nutrients of concern for adults: calcium, potassium, magnesium, vitamin A; and three of the five nutrients of concern for children: calcium, magnesium, potassium.

- Calcium is one of the nutrients most likely to be lacking in the American diet. According to government statistics nearly nine out of 10 women and seven out of 10 men fall short of calcium recommendations.
National Dairy Council, unpublished data based on the National Health and Nutrition Survey (NHANES), 1999-2002.
- Adequate calcium and vitamin D intake are crucial to develop optimal peak bone mass and to preserve bone mass throughout life.
NIH Consensus Development Program. Consensus Statements. *Osteoporosis Prevention, Diagnosis and Therapy*. March 27-29, 2000; 17(1):2.
- Osteoporosis is a major public health threat for an estimated 44 million Americans. In the United States today, 10 million individuals are estimated to already have the disease and almost 34 million more are estimated to have low bone mass, placing them at increased risk for osteoporosis.
National Osteoporosis Foundation, 2004. <http://216.247.61.108/osteoporosis/diseasefacts.htm>
- A research review of 138 studies exploring the relationship between bone health and calcium intake establishes that high calcium and more specifically, dairy food intake throughout life increases peak bone mass and slows age-related bone loss.
Heaney RP. Calcium, dairy products and osteoporosis. *Journal of the American College of Nutrition*. 2000; 19: 83S-99S.
- Dairy products provide a unique mix of nutrients including calcium, phosphorus and protein that contribute to maximizing bone density and slowing age-related bone loss.
Ilich JZ, et al. Nutrition in Bone Health Revisited: A Story Beyond Calcium. *Journal of the American College of Nutrition*. 2000;19(6):715-37.
- A multicenter, randomized, controlled trial found that by drinking three servings of fat-free or low-fat milk each day, older adults could significantly improve their skeletal health. Additionally, this dietary change - which increased daily calcium intake by about 750 milligrams - helped improve the overall quality of their diets.
Heaney RP, et al. Dietary changes favorably affect bone remodeling in older adults. *Journal of the American Dietetic Association*. 1999; 99: 1228-33.

- A recent study concluded that women with low milk intake during childhood and adolescence have less bone mass in adulthood and greater risk of fracture.
Kalkwarf HJ, et al. Dietary changes favorably affect bone remodeling in older adults. *American Journal of Nutrition*. 2003; 77: 257-265.
- The 2004 Surgeon General's Report on Osteoporosis and Bone Health recognizes that most Americans do not consume adequate levels of calcium and recommends lifestyle changes for all Americans through regular physical activity and consumption of calcium- and vitamin D-rich foods, such as milk, cheese or yogurt, each day.
U.S. Department of Health and Human Services. *Bone Health and Osteoporosis: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, 2004.

Additional resources are available at www.nationaldairycouncil.org.

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