

DAIRY'S ROLE IN WOMEN'S HEALTH

According to the USDA, nearly nine out of ten women (ages 20 and up) fail to meet calcium recommendations. Milk is an excellent source of calcium and provides eight additional essential nutrients, including protein, potassium, phosphorus, vitamins A, D and B12, riboflavin and niacin. Milk and milk products help build strong bones, teeth and muscles. Research shows that when cutting calories to lose weight, three servings of milk, cheese or yogurt each day helps people burn more fat and lose more weight than just cutting calories alone. Dairy foods can also reduce the risk of osteoporosis, kidney stones and PMS.

Bone Health & Osteoporosis

- 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 almost eight out of 10 men fall short of calcium recommendations (Adequate Intake or AI).
National Dairy Council, unpublished data based on the National Health and Nutrition Survey (NHANES), 1999-2002.
- Osteoporosis is a major public health threat for an estimated 44 million Americans. In the United States today, 10 million individuals over the age of 50 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>.
- The Surgeon General released a Report on Bone Health and Osteoporosis recommending lifestyle changes for all Americans – through regular physical activity and consumption of calcium- and vitamin D-rich foods, such as milk, cheese and yogurt, each day.
U.S Department of Health and Human Services. Bone Health and Osteoporosis: A Report of the Surgeon General. Rockville, MD: US Department of Health and Human Services, Office of the Surgeon General, 2004.
- Researchers at Purdue University found that, in active women using oral contraceptives, consuming dairy products containing at least 1000 mg per day of calcium prevented hip and spine bone loss associated with oral contraceptive use. Further, the authors note that women using oral contraceptives could reduce their risk of osteoporosis by approximately 3-10 percent over one year by consuming adequate dairy foods.
Teegarden D, et al. Dietary calcium intake protects women consuming oral contraceptives from spine and hip bone loss. *Journal of Clinical Endocrinology and Metabolism*. 2005.
- 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. Milk intake during childhood and adolescence, adult bone density, and osteoporotic fractures in US women. *American Journal of Clinical Nutrition*. 2003; 77: 257-265.
- Among postmenopausal women, a diet low in protein was associated with having a 30 percent increase in the risk of osteoporotic fractures and a diet low in calcium was associated with having a 29 percent increase in osteoporotic fractures.
Melton LJ, et al. Relative contributions of bone density, bone turnover, and clinical risk factors to long-term fracture prediction. *Journal of Bone and Mineral Research*. 2003; 18: 312-318.
- A prospective study of dietary protein intake and risk of hip fracture in postmenopausal women found that higher intake of dietary protein from animal sources was associated with a significantly reduced incidence of hip fractures.
Munger RG, et al. Prospective study of dietary protein intake and risk of hip fracture in postmenopausal women. *American Journal of Clinical Nutrition*. 1999; 69: 147-152.
- In a cross-sectional study of post-menopausal women, a high protein diet (72 grams per day or 20 percent of calories) was associated with higher bone mineral density in the spine, midradius and total body for women whose calcium intake was greater than 400 mg/day.
Rapuri PB. Protein Intake: effects on bone mineral density and the rate of bone loss in elderly women. *American Journal of Clinical Nutrition*. 2003; 77:1517-25.

Pre-Menstrual Syndrome

- Findings from a case-control study suggest that a high intake of vitamin D and calcium from foods may reduce the risk of PMS among women aged 27-44. Participants consuming four servings or more per day of milk had a decreased risk compared to those consuming one serving or less.
Bertone-Johnson ER, et al. Calcium and Vitamin D Intake and Risk of Incident Premenstrual Syndrome. *Archives of Internal Medicine*. 2005; 165: 1246-1252.
- Researchers found adolescent girls who consumed more milk, cheese and yogurt experienced fewer PMS symptoms, including decreased abdominal bloating and cramps, fewer food cravings and a smaller increase in appetite than those who consumed less milk, cheese and yogurt.
Derman O, et al. Premenstrual syndrome and associated symptoms in adolescent girls. *European Journal of Obstetrics & Gynecology*. 2004; 116: 201-206.
- A prospective, double-blind, randomized controlled trial of nearly 500 healthy premenopausal women between the ages of 18 and 45 demonstrated that 1200mg of calcium daily was a simple and effective treatment for reducing PMS symptoms by approximately 50 percent.
Thys-Jacobs S, et al. Calcium carbonate and the premenstrual syndrome: Effects on premenstrual and menstrual symptoms. *American Journal of Obstetrics & Gynecology*. 1998; 179(2): 444-452.

Healthy Weight

- Researchers looked at five clinical studies originally designed to evaluate bone health in women and found that a higher intake of calcium (primarily from dairy foods) was associated with a lower BMI and body weight. Results from this study indicate that women weighed an average of 18 pounds less for every 1,000 mg of calcium consumed.
Davies KM, et al. Calcium intake and body weight. *Journal of Clinical Endocrinology & Metabolism*. 2000; 85(12): 4635-4638.
- Data looking at the relationship between calcium intake and body weight were reevaluated to assess the effects of calcium on weight gain. While calcium is only one factor that potentially affects obesity, findings from this reanalysis of data suggest that increasing calcium intakes to recommended levels may reduce the incidence of overweight and obesity by 60-80 percent in a population.
Heaney RP, et al. Normalizing calcium intake: Projected population effects for body weight. *Journal of Nutrition*. 2003; 133:268S-270S.
- In young adult women (aged 18 to 31 years) enrolled in a two-year exercise program, higher calcium intake from dairy foods was associated with lower body weight and body fat in those consuming fewer than 1900 calories per day. The researchers concluded that the effect of calcium was specific to dairy calcium because total calcium and dairy, when adjusted for calories, predicted changes in body weight and body fat, whereas non-dairy calcium did not.
Lin YC, et al. Dairy calcium is related to changes in body composition during a two-year exercise intervention in young women. *Journal of the American College of Nutrition*. 2000; 19(6):754-760.

Protecting Good Health

Ovarian Cancer Prevention

- Results from a meta-analysis of 22 studies found no association between fat-free and low-fat dairy products and ovarian cancer risk.
Qin, L-Q, et al. Milk/dairy products consumption, galactose metabolism and ovarian cancer: meta-analysis of epidemiological studies. *European Journal of Cancer Prevention*. 2005; 14:13-19
- A population-based, case-control study of women showed no association between ovarian cancer risk and intake of dairy products.
Pan Sai, et al. A case-control study of diet and the risk of ovarian cancer. *Cancer Epidemiology Biomarkers & Prevention*. 2004; 13(9): 1521-1527.

Folate Benefits

- Researchers at Penn State University suggest that women who consume at least three servings of milk every day may increase the availability of folate contained in other foods. Folate may help prevent heart disease and stroke and is especially important for women of childbearing age to reduce the risk of birth defects.

Picciano M, et al. Effect of cow's milk on food folate bioavailability in young women. *American Journal of Clinical Nutrition*. 2004; 80:1565-1569.

Kidney Stone Prevention

- Findings from the Nurses' Health Study II showed women who reported consuming the most calcium-rich foods (the equivalent of 3 or more servings of dairy each day) had the lowest risk of forming kidney stones over eight years. Conversely, researchers found that taking supplemental calcium did not have an impact on kidney stone formation.

Curhan, G. et al. Dietary factors and the risk of incident kidney stones in younger women: Nurses' Health Study II. *Archives of Internal Medicine*. 2004; 164:885-891.

Urinary Tract Infection Prevention

- In a case-control study, women who ate fermented milk products, such as yogurt and certain types of cheeses, three or more times a week had a 79 percent lower incidence of urinary tract infections than those who ate such foods once a week or less.

Kontiokari, T. et al. Dietary factors protecting women from urinary tract infection. *American Journal of Clinical Nutrition*. 2003; 77: 600-604.

Additional resources are available at www.nationaldairycouncil.org.

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