DAIRY’S ROLE IN A HEALTHY LIFESTYLE

The National Dairy Council supports USDA’s efforts to reflect the latest nutrition science in the 2005 Dietary Guidelines for Americans. The Dietary Guidelines recommends 3 servings of low-fat and fat-free milk or equivalent milk products daily to support good health. Additionally, the National Medical Association, the Surgeon General and the American Academy of Pediatrics recommend 3 servings of low-fat and fat-free dairy foods per day.

Milk, cheese and yogurt provide a unique nutrient package. Studies show dairy foods improve overall diet quality and benefit bone health. Dairy as part of a healthy diet may help reduce the risk of hypertension and promote a healthy weight.

Three Servings of Dairy


- According to the National Medical Association’s (NMA) Consensus Report, African Americans should get 3-4 servings of dairy foods a day to reduce the risk of calcium-related chronic diseases for which they are at the greatest risk. Wooten WJ, and Price W. The role of dairy and dairy nutrients in the diet of African Americans. Journal National Medical Association. 2004, 96(12) Suppl: 1S-31S.

- Research indicates that 3-4 daily servings of dairy foods, such as milk, cheese or yogurt, for people ages nine and older, are needed to ensure adequate calcium intakes. The study evaluated government data and found that those people who met U.S. calcium recommendations were those who consumed 1 daily serving more than the 2-3 recommended in the 1992 USDA Food Guide Pyramid. Fulgoni VL III, et al. Determination of the optimal number of dairy servings to ensure a low prevalence of inadequate calcium intake in Americans. Journal of the American College of Nutrition. 2004; 23:651-659.

- The Surgeon General released a report on osteoporosis and bone health, which suggests that the rise in bone disease among men and women of all ages and ethnicities is linked to the decline in the nutritional quality of American’s diets. The report recommends lifestyle changes for all Americans – through regular physical activity and including 3 servings of calcium-rich foods, such as milk, cheese or yogurt, in their diet 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.

- A research review of over 90 studies suggests that increasing dairy intake to 3-4 servings each day as part of a healthy diet could lead to a significant reduction in chronic disease prevalence, including obesity,
hypertension, type 2 diabetes and osteoporosis, resulting in healthcare savings of more than $200 billion over five years.

**Dairy’s Unique Nutrient Package**
- The 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 such as milk, cheese, and yogurt 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.
- Milk and dairy foods provide essential nutrients including calcium, potassium, phosphorus, protein, vitamins A, D, B12, riboflavin and niacin. Milk, cheese and yogurt provide a unique combination of nutrients that as part of a healthy diet improves the overall nutritional quality of the diet and may reduce the risk of osteoporosis, hypertension, and obesity.
- Dairy foods are the best – and most abundant – natural source of dietary calcium available to Americans. In fact, dairy foods provide nearly 72 percent of the calcium in our nation’s food supply.

**The Health Benefits of Dairy**
Dairy’s role in bone health has long been established. Research indicates that dairy foods may also play a role in lowering blood pressure and reducing the risk of obesity.

**Bone Health:**
- The 2005 Dietary Guidelines states that “the intake of milk products is especially important to bone health during childhood and adolescence.” Studies show a positive relationship between the intake of milk, cheese, and yogurt and bone mineral content or bone mineral density in one or more skeletal sites.
- In 2004, the U.S. Surgeon General called for all Americans to take action to improve and maintain healthy bones. He urged people of all ages to meet daily requirements for calcium and vitamin D with three glasses of low-fat milk each day. The 2004 Report of the Surgeon General noted the role of several nutrients in dairy with potentially beneficial effects on bone including calcium, vitamin D, magnesium, phosphorus, potassium and protein.
- Several studies have shown that a combination of nutrients found in dairy foods, including calcium, vitamin D and phosphorus, are important for promoting bone health.
- A research review of 138 studies exploring the relationship between calcium, dairy foods and bone health, many of which used dairy products as the calcium source, found overwhelming evidence that high calcium or dairy food intake throughout life is one of the most important factors for reducing the risk of osteoporotic fracture.

Weight Management:
- A growing body of scientific research continues to strengthen the connection between dairy consumption and weight management. For a more complete list of studies published on dairy foods and weight, see the fact sheet Dairy and Weight Management: A Look at the Science. Studies are divided by type, including randomized clinical trials, observational studies, mechanistic support, and research reviews. Studies conducted in children and adolescents are listed separately. Dairy and Weight Management: A Look at the Science. http://www.nationaldairycouncil.org/NR/rdonlyres/56A28BE8-8989-4AB3-B264-5C51EF5F51D2/0/DairysRoleinWeightManagement022806.pdf
- In a clinical trial, obese people who consumed 3-4 servings a day of milk, cheese or yogurt while on a balanced, reduced calorie diet, lost significantly more weight and fat than those who consumed similar amounts of calcium through supplements, or who consumed one or fewer servings of milk, yogurt or cheese per day. People on the high dairy diet (1200-1300 mg calcium) lost 70 percent more body weight and 64 percent more body fat than those on the low calcium diet. Zemel MB, et al. Dietary calcium and dairy products accelerate weight and fat loss during energy restriction in obese adults. Obesity Research. 2004; 12(4):582-590.
- Researchers found that when exercising adults on a slightly reduced-calorie diet consumed 3-4 servings of dairy foods each day, their metabolism changed so that they burned more fat when compared to consuming one serving of dairy under the same conditions. Over the course of seven weeks, 19 overweight men and women participated in four one-week periods in which they consumed either a low-dairy diet or a diet including 3-4 servings of dairy foods each day. Several times during the study the participants’ rate of fat oxidation (burning) was measured over a 24-hour period in a room calorimeter. The researchers conclude that reducing calories and exercising while consuming adequate dairy foods can help improve the body’s ability to burn fat, which may lead to the loss of body fat. Melanson EL, et al., Effect of low- and high-calcium dairy-based diets on macronutrient oxidation in humans. Obesity Research. 2005; 13: 2102-2112.
- Data from more than 550 women 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 indicate that increasing calcium intakes to recommended levels may reduce the incidence of overweight and obesity by 60-80% in a population. This estimate and conclusion are based on data projection. Heaney RP. Normalizing calcium intake: projected population effects for body weight. Journal of Nutrition. 2003; 133:268S-270S.

Hypertension:
- The DASH (Dietary Approaches to Stop Hypertension) Eating Plan, rich in low-fat and fat-free dairy foods, grains, fruits and vegetables, has been shown to significantly lower blood pressure. The DASH diet is recommended in the 2005 Dietary Guidelines as a balanced eating pattern to follow in order to get an adequate amount of nutrients while staying within energy needs.

- Potassium, a key nutrient in lowering blood pressure, is one of nine essential nutrients found in dairy foods. In fact, each 8-ounce serving of fat-free milk provides 382 mg of potassium, or 11 percent of the Daily Value (DV) per serving.

- In 2006, the American Heart Association released a new scientific statement supporting the consumption by all Americans of the dairy-rich DASH diet (2-3 servings/day), to both reduce and prevent elevated blood pressure. The report highlights potassium intake as having a beneficial effect on blood pressure, and recommends dietary sources of potassium over supplements.

- Based on CSFII and NHANES data, fluid milk is the number one source of potassium in the U.S. diet, providing 10.9 percent of the national intake. In total, dairy foods provide 18 percent compared to the 11.5 percent provided by all fruits and fruit juices. Increasing dairy intake to 3-4 servings could more than double the percentage of Americans meeting potassium recommendations.

- A longitudinal study in children published in the journal *Epidemiology* suggests that a diet rich in dairy foods such as milk, cheese and yogurt, as well as fruits and vegetables eaten during the preschool years, can have a beneficial effect on blood pressure throughout childhood.

**Best Value: Cost, Variety, Absorption**

- Milk is among the least expensive food sources of calcium, and unlike single-nutrient calcium supplements, milk and milk products naturally provide many other essential nutrients that work synergistically with calcium to promote health.

- Dairy products are available in many varieties – including lactose-free, fat-free, low-fat and flavored – and in convenient packaging, to suit many individual tastes and nutritional needs.
  Calcium may be poorly absorbed from foods rich in oxalic acid (spinach, sweet potatoes, rhubarb, and beans) or phytic acid (unleavened bread, seeds, nuts and grains, and soy isolates). In comparison to a single 8-ounce glass of milk, an average of eight half-cup servings of pinto beans or 16 half-cup servings of spinach would need to be consumed to get the same amount of absorbable calcium.

- A recent study found milk a more reliable calcium source than four popular soy and rice brands.

*Additional resources are available at www.nationaldairycouncil.org.*

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