

**Vol. 8 No. 2**  
**(April/May/June 2004)**

**For more information, please contact:**  
Karen Giles-Smith, M.S., R.D.  
United Dairy Industry of Michigan  
517-349-8480 x227; kgs@udim.org

## **What's News in this Issue**

*Special Bone Health Issue:*  
*May is National Osteoporosis Awareness & Prevention Month*

- ✓ **More Evidence That Milk Makes Bones Stronger**
- ✓ **Drink Milk: Your Kids Are Watching!**
- ✓ **Weight Bearing Exercise Builds Stronger Bones**
- ✓ **Dairy's Nutrient Package Better for Bones than Calcium Alone**

➤ *Also in this issue: American Heart Association recommends dairy foods, fruits and vegetables to reduce obesity in teens and Bone-Building Treats for Teens*

### **More Evidence That Milk Makes Bones Stronger**

Two new studies have found that the years from toddler to teen are a critical time for preventing childhood fractures and reaching optimal bone growth potential. While investigating the fracture history of 50 children who avoided drinking milk, researchers in New Zealand found that children who avoided milk tripled their chances of breaking a bone compared to children of similar ages who drank milk.

A separate study investigating bone mineral content and growth patterns of 220 male and female adolescents in Canada found that drinking soft drinks instead of milk appeared to decrease bone development in girls. The results of both studies indicate that if children and adolescents consume fruit drinks and soft drinks instead of milk, there may be a rise in fracture rates before puberty, and it may hinder bone development in later years.

Goulding A, et al. Children who avoid drinking cow's milk are at increased risk for prepubertal bone fractures. *Journal of the American Dietetic Association*, 2004; 104 (2):250-253.

Whiting S, et al. Factors that affect bone mineral accrual in the adolescent growth spurt. *Journal of Nutrition*, 2004; 134 (3S):696S-700S.

-- more--

### **Drink Milk: Your Kids are Watching!**

Research from The Pennsylvania State University found that girls ages 5-9 who met calcium recommendations by drinking milk had mothers who drank milk too. The study measured the girls' and their moms' intakes of energy, calcium, milk, sweetened beverages, fruit juices, and calorie-free beverages over five years. Girls who met the calcium recommendation at age 9 had higher bone mineral density than those who did not. They also had mothers who drank more milk and served milk to their daughters more frequently than those who did not meet the calcium recommendation. Researchers conclude that what mothers choose to drink has a significant impact on their daughters' calcium intake and bone health.

A separate study using a similar population of girls at ages 5, 7, and 9 investigated the quality of children's diets and how it changes over time. Results showed that at age 5, 69% of the girls were meeting the recommended number of servings from dairy foods, however this decreased significantly over time; by age 9 only 36% of the girls were meeting the recommendation. Results also showed that girls with high dairy food intakes at age 5 continued to have high dairy intakes over time. {Editor's note to parents: Enjoying dairy foods together when children are very young can have immediate and lasting positive effects on bone health and overall health.}

Fisher J, et al. Calcium status during middle childhood reflects mother-daughter beverage choices and predicts bone mineral status. *American Journal of Clinical Nutrition*, 2004; 79 (4):698.

Mannino M, et al. The quality of girls' diets declines and tracks across middle childhood. *The International Journal of Behavioral Nutrition and Physical Activity*, 2004; 1:5.

### **Weight Bearing Exercise Builds Stronger Bones**

Researchers in the UK found that young female gymnasts have a lasting increase in bone quality and quantity. The researchers studied female gymnasts and a comparison group over three years and found that although the gymnasts were smaller and lighter than the comparison group, the gymnasts had up to 51% higher bone mineral content and 28% higher bone mineral density that was probably not entirely due to heredity. This study supports the benefit of high impact, weight bearing exercise for building strong bones throughout all stages of adolescent development and highlights the importance of including activities such as jumping, running or organized sports in children's daily routines. {Editor's note: Weight-bearing physical activity and a well-balanced diet with adequate calcium and vitamin D go hand-in-hand to help build strong bones. To get the calcium and other bone-building nutrients that dairy foods provide, kids need 3-4 servings of dairy foods like milk, cheese, and yogurt each day.}

Nurmi-Lawton J, et al. Evidence of sustained skeletal benefits from impact-loading exercise in young females: A 3-year longitudinal study. *Journal of Bone and Mineral Research*, 2004; 19:314-322.

-- more--

### **Dairy's Nutrient Package Better for Bones than Calcium Alone**

Research recently published in the *Journal of Nutrition* indicates that consuming dairy products may improve bone mass more than simply taking a calcium supplement. This study followed two groups of teen girls for seven years. One group received calcium supplements while the other group's main source of calcium was milk. The findings indicate that bone mineral density at the hip and forearm improved in both groups. However, intake of dairy products was also associated with a higher bone mineral density of the spine, while calcium supplements had no effect. The authors conclude that the unique combination of minerals and protein in dairy foods may play an even more critical role in overall bone health than calcium alone.

Matkovic V, et al. Nutrition influences skeletal development from childhood to adulthood: A study of hip, spine, and forearm in adolescent females. *Journal of Nutrition* (supplement), 2004; 134:701S-705S.

### **\*\*\*Fast Fact\*\*\***

### **The Research is Growing: Dairy Foods May Help Keep Kids Trim**

Dr. Lynn Moore from Boston University's School of Medicine and her colleagues found that children with the lowest intakes of dairy products gained much more body fat. Children with a low dairy and low or high fat diet gained more weight over an eight-year period compared to children with a moderate fat diet. Findings were presented at the American Heart Association's (AHA) 44<sup>th</sup> annual conference on epidemiology. The AHA recommends a moderate fat diet that includes dairy foods, fruits and vegetables to reduce obesity in adolescents.

### **Bone-Building Treats for Teens**

*Sports Smoothie:* Re-energize the crew after a game or event. In a blender, mix vanilla yogurt, frozen fruit, and a favorite flavor of milk.

*Cheese, Please:* Invite friends over for a "fondue fiesta". Experiment with different cheeses. Dip mushrooms or other veggies, cooked chicken breast chunks, and whole-grain bread into the melted cheese.

*Pizza Party:* Everyone's a chef! Provide English muffins or pre-made pizza dough and a wide variety of toppings (peppers, onions, tomatoes, chicken, Canadian bacon, pineapple, broccoli, spinach, mozzarella, Parmesan, and feta cheese) so each friend can make their own mini pizza. Challenge your friends to create the craziest concoction!

###

United Dairy Industry of Michigan is a local affiliate of the National Dairy Council. The National Dairy Council® was founded in 1915 and conducts nutrition education and nutrition research programs through national, state and regional Dairy Council organizations, on behalf of America's dairy farmers.

For more information about cheese check out [ilovecheese.com](http://ilovecheese.com) or for marvelous milk recipes, check out [www.whymilk.com](http://www.whymilk.com). For delicious dairy recipes visit [www.nutritionexplorations.com](http://www.nutritionexplorations.com) or [www.3aday.org](http://www.3aday.org) and for information on nutrition research, go to [www.nationaldairycouncil.org](http://www.nationaldairycouncil.org).

To schedule an interview, contact Karen Giles-Smith, registered dietitian, United Dairy Industry of Michigan, 517-349-8480 x227.