



Nutrition for Family Living

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October, 2001 Topics

Update on osteoporosis

Dietary variety and intake of rural elderly

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Resources on the web: child nutrition and BRFSS data

Update on osteoporosis

The past few years have brought some new developments in the treatment and prevention of osteoporosis. While people can't change some risk factors, such as gender and genetic makeup, there is much they can do to keep bones healthy. It's never too late to take action:

Calcium. Eat 2-3 servings of milk, yogurt or cheese every day to get calcium and other bone-friendly nutrients from foods. If you can't get enough calcium from foods, and most people don't, add supplements. For best absorption, spread them throughout the day so you're getting no more than 500 mg at a time. The differences in absorption between the different forms are really quite small; if your supplement contains calcium carbonate, take it with meals. If it contains calcium citrate, take it any time. If you have low levels of stomach acid, as some older adults do, calcium citrate is a better choice because it dissolves faster.

Vitamin D. Don't overlook this important nutrient that is essential for calcium absorption. Many adults and most older adults don't get enough from sunlight alone. Choose a calcium supplement that includes vitamin D, but don't get more than 2,000 IU of Vitamin D a day. Calcium supplements like Tums are affordable and easy to take but many don't include Vitamin D.

Other vitamins and minerals. Researchers believe vitamins C and K, and the minerals potassium and magnesium, may also have a role in bone health. A balanced diet with plenty of fruits, vegetables, nuts and grains will provide these vitamins and minerals.

Protein. In a recent Harvard study of older adults, those who ate the least protein lost the most bone. Aim to get at least the RDA (63 g for men, 50 g for women). Most people can easily accomplish this without special powders or supplements.

Soy. There is no FDA-approved health claim at this time for soy and bone health, but some researchers believe that 2-3 servings of soy food (25 grams/day of soy protein) may be beneficial. This is the amount recommended for heart disease prevention, so it may be smart to make soy protein foods a part of your diet.

Caffeine and sodium. Large quantities of coffee, soft drinks and alcohol have been shown to be bad for bone health, but it's hard to say if that's because they take the place of milk in the diet. Sodium in large quantities can pull calcium out of bones, but extra calcium in the diet makes up for that effect.

Exercise. Strength training and weight-bearing exercise stimulate new bone formation and can help prevent falls by improving balance and flexibility.



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Medications. Most medications work by minimizing the rate at which bone dissolves. A new generation of drugs will trigger the formation of new bone. People taking osteoporosis drugs can't ignore diet and exercise; some of these medications are less effective if you don't get enough calcium and other nutrients.

Men and osteoporosis. A man over age 50 has a greater chance of a fracture as a result of osteoporosis than of prostate cancer. Almost one in five men will have a hip fracture before age 90, with a third of them dying from complications. However, osteoporosis is still viewed as more of a concern for women, even among health professionals. Men should be aware of the red flags for osteoporosis: loss of height, changes in posture, and sudden back pain.

The bottom line: To protect your bones, get regular weight-bearing exercise and eat a balanced diet that includes low-fat dairy products, fruits and vegetables, soy and adequate protein. Discuss bone density testing and medication options with your doctor.

Antinoro, L. How to build better bones: Overview of all the new osteoporosis options. *Environmental Nutrition*, September 2001.

Men and osteoporosis: Red flags that are often overlooked. *Tufts University Health & Nutrition Letter*. September, 2001.

Extension publications about calcium:

Getting Enough Calcium: Preventing Osteoporosis (B3707-2)

Getting Enough Calcium: Bone Up on Calcium! (B3703-1)



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Dietary variety and intake of rural elderly

A study of rural, community-living elderly in Iowa showed that many are not getting enough of some important nutrients. Participants, whose mean age was 85, were interviewed (n=420) in their homes and completed a 3-day diet record (n=261).

Eighty percent of these elderly adults were deficient in four or more nutrients. More than 60% did not meet their needs for folate, vitamin D, vitamin E, calcium or magnesium. More than 25% did not meet their needs for vitamin B6, vitamin C or zinc. Intakes of calcium, vitamin D and folate, which are related to bone and heart health, were low in this sample despite public health messages to encourage their intake. Participants who ate a more varied diet got more of the nutrients they needed.

What does this mean? The Dietary Guidelines and Food Guide Pyramid, which emphasize eating a variety of foods, have appropriate messages and are good tools to use to encourage older adults to improve their nutrient intake by eating a variety of foods.

Marshall, T et al. Inadequate nutrient intakes are common and are associated with low diet variety in rural, community-dwelling elderly. *J Nutr.* 131:2192-2196.



More on obesity and diabetes risk

A Finnish study looked at the relationships among social class, Body Mass Index (level of fatness, or BMI) at various ages, mother's BMI before pregnancy, and age at menarche. Participants were born in 1966 and data was collected at birth, one year, age 14, and age 31.

The main finding was that the family's social class during the subject's childhood had a long-term influence on BMI. BMI at birth was higher in children from the highest social classes, but by one year of age BMI was higher in children from lower social classes and remained higher at age 14 and 31. BMI was also higher in mothers in lower social classes. The authors comment that social context teaches children and adolescents about health behavior and acceptable body type. Social pressure for thinness is higher among higher social classes and health risk behavior is more common in lower social classes in Finland. Children appear to be influenced both by society and genetics in their potential to become overweight.

This study also noted that the heavier the mother, the heavier the child from birth to age 31. The risk of being obese as an adult was greater among those who were obese as children. Girls who reached menarche at younger ages were more likely to be overweight as adults.

What does this mean? Obesity has a complex set of genetic and environmental causes that vary from individual to individual. Early maturation and some combination of attitudes and eating behaviors related to social class appear to be part of this array of causal factors.

Laitinen J, Power C, Jarvelin MR. Family social class, maternal body mass index, childhood body mass index, and age at menarche as predictors of adult obesity. *Am J Clin Nutr* 2001;74:287-294.

Diet, Lifestyle and Type 2 Diabetes Risk

This article analyzed data from the Nurses' Health Study, which followed approximately 85,000 women from 1980-1996. During 16 years of follow-up, the researchers documented 3300 new cases of type 2 diabetes. Overweight or obesity was the single most important predictor of diabetes. Lack of exercise, a poor diet, current smoking, and abstinence from alcohol were all associated with a significantly increased risk of diabetes, even after adjusting for BMI. Ninety-one percent of the cases of diabetes in this sample could be attributed to high-risk behaviors.

What does this mean? The majority of cases of type 2 diabetes could be prevented by maintaining a healthy weight, regular exercise, eating a healthy diet, not smoking, and consuming limited amounts of alcohol. Weight control appears to offer the greatest benefit. Helping our learners plan and adopt lifestyle changes they can maintain over time will benefit their individual health and the overall health of our communities.

Hu FB et al. Diet, lifestyle, and the risk of type 2 diabetes mellitus in women. *N Engl J Med* 2001;345:790-7.

Extension publication about type 2 diabetes:

Diabetes and Your Diet -- NCR576



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Resources on the web

The National Center for Education in Maternal and Child Health (NCEMCH) has updated their **knowledge path on childhood nutrition**. This electronic document offers a guide to the Center's web site and selected electronic and print resources found elsewhere. Go to:
<http://www.ncemch.org/RefDes/kpchildnutr.html>

This is a site you'll definitely want to bookmark, and spend some time browsing. It also has a great reference list at the end.

If you are interested in the **2000 Behavioral Risk Factor Surveillance System data** documenting the continued increase in the prevalence of obesity and diabetes, check out:

<http://jama.ama-assn.org/> go to Sept 12 issue

Mokdad AH et al. The continuing epidemics of obesity and diabetes in the United States. JAMA 2001;286:1195-2000.

<http://www.cdc.gov/nccdphp/brfss> The CDC's Division of Nutrition and Physical Activity web site has been updated with the new state prevalence maps and other obesity information.