

## Health Talk & You: Building bones at young age key to preventing Osteoporosis

Written by Catherine Niewoehner, M.D., U of M News Wire  
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The bone loss associated with osteoporosis usually begins after menopause, but the key to preventing osteoporosis is to build bone mass during childhood and teenage years.

Genes and sex hormones (estrogen and testosterone) are the major determinants of maximum bone mass. But exercise and daily intake of calcium and vitamin D help young women build their bone mass to its full potential.

Strong bones are important for boys and girls, but women are more vulnerable to osteoporosis because their bones usually are smaller and because of the drop in estrogen levels at menopause.

Think of bone mass as a bank account that needs to be filled with the help of calcium and exercise to ensure strong bones later. Twenty-five percent of bone mass is added during the growth spurt at puberty, and 90 percent of bone density develops by age 18. Bone mass peaks between the ages of 25 to 30. After 30, women should try to maintain their bone mass as close to that peak as possible.

Adequate calcium, and vitamin D, which helps the body absorb the calcium, are key for girls' full bone development. Youth tend to drink more soda pop and juice and much less milk compared to 20 years ago. As a result, most girls won't meet the recommended daily requirement of 1,000 mg of calcium equivalent to four-eight ounce glasses of milk or three to eight ounce containers of yogurt, even though these requirements can be met with low- and non-fat dairy products, and other calcium-fortified foods such as orange juice and cereals.

Sunlight on the skin is another source of vitamin D. In Minnesota, we are at higher risk of low vitamin D levels because we are too far away from the sun from October through March. In summer, the use of sun block also may prevent us from getting enough vitamin D. Ten minutes of sun exposure to the arms and face during summer helps ensure that young people have sufficient vitamin D levels. Those with darker skin tones may need longer sun exposure.

Weight bearing exercise helps to increase bone mass during adolescence and maintain bone later. Many types of exercise provide the varied movement and impact needed to maintain bone health. A total of 30 minutes of exercise at least three days per week is recommended.

To help girls get the calcium they need, work with them to find high-calcium foods that they like. It is important for parents and girls to read food labels and track the amount of calcium they are consuming. If your daughter does not like dairy products, try calcium-supplemented soy products and other calcium supplemented foods. A multivitamin or a vitamin D supplement is recommended if girls are not eating well, although a balanced diet is the best strategy for filling up girls' calcium bank.

*Catherine Niewoehner, M.D. is professor of medicine at the University of Minnesota Medical School and also works with the Women's Health Center of Excellence. This column is an educational service of the University of Minnesota. Advice presented should not take the place of an examination by a health-care professional. For more health-related information, go to <http://www.healthtalk.umn.edu>*

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