

Prevention of osteoporosis: Skeletal health across the lifespan

An information sheet for the public

Most people think osteoporosis is a disease of the elderly. It is true that people lose bone mass as they age. Yet, achieving optimal bone growth during childhood and adolescence is important in preventing osteoporosis later in life. The goal of maintaining skeletal health throughout life was emphasized in the US Surgeon General's Report on Skeletal Health, 2004.

Bones grow in size and strength during childhood. The bone mass you reach while young helps determine your skeletal health for the rest of your life. The more bone mass you have after adolescence, the more protection you have against losing bone density later.

Childhood is critical for developing lifestyle habits that support good bone health. Cigarette smoking could start in childhood. It has a harmful effect on reaching peak bone mass.

Good nutrition is vital for normal growth. Like all tissues, bone needs a balanced diet, enough calories, and appropriate nutrients. But not everyone follows a diet that is best for bone health. For example, the Institute of Medicine recommends calcium intake for children ages 9 to 17 of 1,300 mg/day (800 mg/day for children ages 3 to 8). Only about 25 percent of boys and 10 percent of girls ages 9 to 17 have a diet that meets these recommendations.

Calcium is the most important nutrient for reaching peak bone mass. It prevents and treats osteoporosis. The body requires vitamin D to absorb calcium effectively. Most infants and young children get enough vitamin D from fortified milk. But many adolescents don't consume as many dairy products. They may not get adequate levels of vitamin D. Dieting and fasting to be thin may harm nutrition and bone health. Teens who diet may need to take calcium and vitamin D supplements.

Several groups of children and adolescents may be at risk for poor bone health, including:

- Premature and low birth weight infants who have lower-than-expected bone mass in the first few months of life
- Children who take medications such as systemic or inhaled steroids to treat chronic inflammatory or respiratory diseases such as asthma
- Children who have cystic fibrosis, celiac disease, and inflammatory bowel disease because these conditions make it difficult for the body to absorb nutrients appropriately
- Adolescent girls who have minimal, delayed or irregular menstrual cycles because of strenuous athletic training, emotional stress, or low body weight
- Children with cerebral palsy and other conditions causing limited weight bearing, especially when children are taking chronic medications for seizure control

Many more studies are needed on ways to maximize peak bone mass in girls and boys. However, parents and children alike can benefit from following these suggestions:

- Make sure you get enough calcium and vitamin D throughout your life
- Exercise regularly, using resistance and high-impact activities
- Eat a healthy diet and follow a healthy lifestyle

