

# Calcium, Vitamin D, and exercise – helping your child build strong, healthy bones!

by Dr. Brenda Foley

Think getting enough calcium, vitamin D, and exercise is only important for older adults at risk for osteoporosis? Not so! Most of our bone mass is attained during childhood and adolescence with approximately 40% total lifetime bone mass occurring around 12 to 16 years in girls and 14 to 17 years in boys. Although osteoporosis – “thinning” of bones in the body – is more commonly seen in women after age 50 and men after age 70 and often related to drops in hormones (estrogen in women, testosterone in men), other factors play a role including total bone mass, exercise, smoking, alcohol consumption, caffeine consumption, and certain medications. And, healthy bones in children can mean less risk for broken bones – fractures – as they run, jump and play!

It is important for children to optimize their calcium and vitamin D intake to allow for adequate bone mass development. Calcium and Vitamin D requirements vary based on age (see chart). Food sources are best but supplements (such as vitamins) may be needed in some children. Foods rich in calcium include dairy products (milk, yogurt, cheese), dark green leafy vegetables (kale, turnip greens), broccoli, tofu, chickpeas and canned salmon, and calcium fortified foods such as cereal bars, some cereals, and some juices.

Foods rich in vitamin D are fewer and include fortified dairy

products (milk, yogurt), salmon, sardines, or tuna, some fortified cereals and juices. We can also make Vitamin D being out in the sun for 15min each day. Some foods can actually work against our bodies’ retention of calcium. These include caffeinated drinks and cola drinks as well as some medications, use of tobacco and alcohol.

Physical activities that make our bodies work against gravity, such as running and jumping, strengthen our bones by making our bodies form new bone tissue. It also helps make our muscles stronger and this, too, can help make our bones stronger. Activities such as riding our bike or swimming, although good for our heart and muscles, do not help make new bone tissue as these activities lessen the pull of gravity on our bones.

Information obtained from <http://ods.od.nih.gov/factsheets>. To find more information on foods containing Calcium and/or vitamin D one can check out the following websites: <http://ods.od.nih.gov/factsheets/calcium>; <http://www.bestbonesforever.gov>; and <http://ods.od.nih.gov/factsheets/vitaminD>



AGE	CALCIUM NEED (mg/day)	VITAMIN D NEED (IU/day)
Birth to 1 yr	200-300	400
1-3 yr	700	600
4-8 yr	1000	600
9-18 yr	1300	600



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