Activity & Bones

Muscles get stronger when we use them. The same applies to bones!

What kind of activity?

Any kind of physical activity is great for your kids—but the best for their bones are weight-bearing activities like running, jumping, skipping, hopping and stop-start sports like soccer and basketball.

When it comes to bones, the benefits of exercise are site-specific. That means the bones involved in the activity benefit most (e.g. tennis players have stronger bones in their dominant hand, while bones in runners' upper legs gain the most benefit from their activity). It's important to involve the whole body in exercise.

How much is enough?

Aim for **60 minutes of daily activity; include activities that strengthen bone at least 3 days per week.** It doesn't have to be continuous… accumulate 10-minute chunks of activity throughout the day.

And—if you don't use it you lose it! Activity must be continued to maintain bone mass built with exercise.

Most important for your kids...spend less time sitting and more time on their feet moving!

Did You Know?

- Active adolescents can increase bone mass 7–8% compared to sedentary teens.
- Consuming enough calcium appears to increase the bone-benefits of physical activity.
- Without enough vitamin D, we absorb very little of the calcium we consume.
- Adequate calcium intake in adolescents can increase bone mass 5–10% compared to low intake.
- Limiting intake of caffeine (coffee, cola) helps preserve body calcium stores. Energy drinks are not recommended for children and teens because of the high levels of caffeine and other ingredients.
- A healthy body weight is important for strong bones. The body will not build its best bones if a person is too thin.
- Don't smoke! Smoking causes bones to lose calcium.

Reviewed by Dr. Bill Leslie,
Osteoporosis Canada, Manitoba Chapter

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Dairy Farmers of Manitoba

You think about their **safety** and **education,** but...

Do you think about their bones?

During childhood and teen years we build bones to last the rest of our lives.

Lifestyle makes a difference!

Help your children build their best bones now!

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Kids & Bones

Childhood and adolescence are critical times for bone-building—**about 90% of our lifetime bone mass will be built by age 20.**

From about age 8, during **the 3 or 4 years around puberty** bone building cells are very active. In this short period, the body can lay down about 40% of our *total* adult bone mass.

Building strong bones during the first two decades of life appears to be one of the best ways to **decrease the risk of osteoporosis** and fractures later in life.

Factors that affect growing bones:

- Genetic *factors* are the main influence on how much bone individuals are able to build.
- Lifestyle decisions like *physical activity* and *food choices* affect the body's ability to maximize bone building.

Unfortunately, reduced physical activity and poor food choices in the teen years mean young bodies often cannot build their best bones. **We don't get a second chance as these years are a once-in-a-lifetime opportunity to build strong bones to last for the rest of our lives.**

Read on to see how you can help your child maximize *their* ability to lay down strong bones.

Food & Bones

To build great bones children and teens need to eat a variety of healthy foods.

Calcium, vitamin D and protein, are particularly important for strong bones:

- Calcium hardens bone tissue
- Vitamin D allows us to absorb calcium from food
- Bone structure is built on a protein framework

Calcium and vitamin D, how much does my child need?

	Calcium Needs	Vit D Needs
1-3 years	500 mg	200 IU
4-8 years	800 mg	600IU
9-18 years	1300 mg	600 IU

Source: National Academy of Sciences, 2010

For more information see: www.osteoporosis.ca
Click on **Calcium Calculator™** to assess your calcium intake.

The best source of calcium is *food.* All food groups* provide some calcium, with Milk and Alternatives providing the highest levels—as well as being a great source of protein. Milk is also a good source of vitamin D. If choosing a calcium-fortified beverage be sure it also contains protein and Vitamin D.

Calcium intake declines for teens.
Most children over age 8 do not consume the recommended amount of calcium; and girls from age 11 on get less than 75% of their recommended calcium intake. During the teen years milk drinking decreases as pop intake goes up.

Calcium & vitamin D in food

Food	Calcium (mg)	Vit D (IU)
Hard cheese (50 g)	350 mg	
Cheese Strings (check pkg wt, compare to 50 g)	350 mg	
Milk, white/chocolate (250 mL)	300 mg	100 IU
Milkshake (with 250 mL milk)	300 mg	100 IU
Yogurt (175 g)	300 mg	check label
Calcium fortified beverages (250 mL)	300 mg	check label
Canned salmon, with bones (75 g)	200 mg	400–600 IU
Baked beans, canned (175 mL)	100 mg	
Broccoli, cooked (125 mL)	50 mg	
Margarine (1 tsp)		25 IU
Egg (1 large)		25 IU

Source: Canadian Nutrient File 2007

Vitamin D increases the calcium we absorb from food up to 80%.

Most of the vitamin D we consume comes from **foods fortified with vitamin D**; it occurs naturally in very few foods (mainly fatty fish like salmon). The body produces vitamin D with sun exposure, but in Canada the sun is not strong enough to do that *between September and April*. Most children's multivitamins contain 400 IU's of vitamin D.

Protein: Meat, fish, poultry eggs, legumes and milk products are the best protein sources.*

* Following **Canada's Food Guide** (including 2–4 servings of Milk & Alternatives daily and 2–3 servings of Meat & Alternatives every day) offers lots of calcium and protein to build bone.