What is Osteoporosis?

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As a child your body grows rapidly, going through many changes and spurts of growth. Along with the rest of the body, the body's structure, its skeleton is growing too as bones become more dense and stronger. Late in the teens, bone growth slows and by the time we hit our late 20s, the process actually starts to reverse. Too fast or too much, and we develop osteoporosis.

Osteoporosis is a medical condition in which bones lose density; they become more porous and compressible. Think of porous like a sponge instead of dense like a brick. As bones become weaker and more brittle, breaks become more likely, and more dangerous.

After the age of 30 there is a rise in the rate at which bone dissolves and is absorbed into the body. On average, we lose about 0.4% of bone per year. For men, thinning bones develops gradually when production of testosterone slows, usually around 45-50 years of age. Women, who have smaller and lighter bones than men, osteoporosis is about four times more likely. Their rate of loss increases dramatically after menopause.

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Some of the factors that increase the likelihood of developing osteoporosis include family history (genetics), smoking (smokers lose bone thickness faster), heavy alcohol use, lack of exercise, diets low in calcium, phosphorus and vitamin D, and being of European or Asian ancestry.

Whether a person develops osteoporosis depends on the thickness of their bones in early life, in combination with their health, diet and physical activity in later life. That means that getting a good start in life with good diet and exercise can help reduce the risk that you will develop osteoporosis later.

It might be a bit late for us to do that, but we can encourage our kids to be active. Good activities for children's bone development are high impact and weight-bearing. For example, kids who dance, run, jump, play soccer, volleyball and field hockey are building stronger, denser bones.

Fortunately, all is not lost for the older person concerned about developing weak bones. (You knew there would be a section about exercise… here it is.) Just as for children, weight bearing exercise and activity is good for adult bones, too. Building strong bones works when we push them to work harder. Research has shown that high weight/low repetition exercise is better for bone health than low weight/high rep workouts. That means doing 8-10 reps of a workout for two or three cycles until the weight is easy to do, then slowly building up the weight while maintaining low reps. This is called PRT, or Progressive Resistance Training, and it's good for bones.

The kinds of activities that help are the same as for children: power walking, hiking, jogging/running, stair climbing all good examples. While cycling and swimming are also great exercises, they do much less for your bones.

A caution amidst all this exercise: if you are already experiencing osteoporosis, it is best to avoid high impact exercises. Avoid those exercises that increase forward bending or rounding the spine—sit-ups are out, as are toe-touches! In any case, it is usually a good idea to discuss your fitness activities with your physician or trained fitness specialist first.

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