

Keep Bones Healthy and Strong

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Bones are amazing structures. Bones may appear to be hard, dead structures, but they are living and working organs just like our heart, lungs and brain. They are made of a combination of flexible cartilage – which forms the framework for bone and allows it to flex and bend – and the hard calcium mixture that makes bones rigid enough to support the weight of our bodies. Like all tissues in our body, our bones change as we age because of living cells that reside inside the bone.

As a bone's life begins, it is made only of cartilage. The cartilage lengthens our bones which are then filled in with a hard calcium mixture. Even as we reach our late teens and stop growing in height, our bones don't stop growing. Every day, old bone is literally eaten away by special cells called osteoclasts and new bone is produced by osteoblasts. Our bones reach their strongest when we are in our 20s and 30s.

As we age into our 40s, there is less cell activity inside our bones. The amount of calcium inside of the bones steadily declines and the flexibility and strength of the cartilage lessens. The result of all this is bones that are weaker, more brittle and prone to fracture. Also, the cells made originally in the bone that then circulate through the body, are made more slowly. The flow of blood through our bone lessens and the center of our bone, called the marrow, changes from red-colored and full of blood cells to yellow and full of fat.

However, as we grow, there are many ways to keep our bones strong and active. Because bone is a living tissue and adapts to the stresses of our bodies, strenuous exercise can keep our bones strong, even as we get old. The most important thing that we can do to maintain healthy bones is to ingest a lot of calcium in our diet. Because many cells in our body use calcium to help run their machinery, bone must constantly compete to ensure it has enough calcium to remain strong. Eating a balanced diet that includes dairy products like milk and cheese, and green vegetables like broccoli and spinach, help supply the bones with the calcium they need to remain strong throughout life. Calcium is so important, even products that don't normally have a lot of calcium, like orange juice, are sometimes fortified with extra calcium to ensure that we get enough in our diet. Young children (4-8 years old) need about 800mg of calcium per day, which is about three glasses of milk. Older children and teenagers who are growing faster, need about 1300mg of calcium per day. Check the labels on your foods to make sure you are getting enough calcium.

So remember kids, plenty of exercise and calcium now will ensure strong bones in the future!