



TakeCharge

WELCOA'S ONLINE SELF-CARE BULLETIN

Exercise Brings Bone Benefits That Last

Building bone as a young adult can have benefits that last a lifetime, a new study showed. The research also confirmed that remaining physically active as we get older can help us maintain bone strength.

Bone is a living tissue. It responds to physical activity by becoming heavier, bigger, and stronger. It does this best when we're young. Bone mass usually peaks when we're in our 20s. After that, we often begin to lose bone.

Studies of animals have shown that exercise during periods of rapid growth can lead to lifelong benefits in bone size and strength.

To see if the same holds true for humans, a team of National Institutes of Health (NIH)-funded scientists studied more than 100 professional baseball players at different stages of their careers. Baseball players were ideal subjects, because their throwing arms get a lot more action than their non-throwing arms. Baseball players also tend to retire from stressful throwing activities once they stop professional play. This allowed the scientists to look at the effects of physical activity long after intense throwing had ended.

The researchers found that the upper bones in the throwing arms of players were nearly twice as strong as the bones in non-throwing arms. Throwing arm bones had about 50% greater mass, size (total cross-sectional area), and thickness.

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As players got older, the bone mass benefits from throwing were gradually lost. But about half the bone size benefits and one-third of the bone strength benefits were maintained lifelong. Players who continued throwing during aging lost less bone and kept even more of the strength benefits.

“Exercise during youth adds extra layers to the outer surface of a bone to essentially make the bone bigger,” says study leader Dr. Stuart J. Warden of Indiana University. “The bigger bone generated by physical activity when young has a means of sticking around long term to keep the skeleton stronger.”

Why Does Bone Health Matter?

Our bones support us and allow us to move. They protect our brain, heart, and other organs from injury. Our bones also store minerals such as calcium and phosphorous, which help keep our bones strong, and release them into the body when we need them for other uses.

There are many things we can do to keep our bones healthy and strong. Eating foods rich in calcium and vitamin D, getting plenty of exercise, and having good health habits help keep our bones healthy.

But if we don't eat right and don't get enough of the right kinds of exercise, our bones can become weak and even break. Broken bones (called fractures) can be painful and sometimes need surgery to heal. They can also cause long-lasting health problems.

But the good news is that it is never too late to take care of your bones.

There are many things that can increase your chances of getting osteoporosis. These things are called “risk factors.” Some risk factors are things you can control, and some things are outside of your control.

Risk Factors You Can Control

- **Diet.** Getting too little calcium can increase your chances of getting osteoporosis. Not getting enough vitamin D can also increase your risk for the disease. Vitamin D is important because it helps the body use the calcium in your diet.
- **Physical activity.** Not exercising and not being active for long periods of time can increase your chances of getting osteoporosis. Like muscles, bones become stronger—and stay stronger—with regular exercise.
- **Body weight.** Being too thin makes you more likely to get osteoporosis.
- **Smoking.** Smoking cigarettes can keep your body from using the calcium in your diet. Also, women who smoke go through menopause earlier than those who don't smoke. These things can increase your risk for osteoporosis.
- **Alcohol.** People who drink a lot are more likely to get osteoporosis.
- **Medicines.** Certain medicines can cause bone loss. These include a type of medicine called glucocorticoids (gloo-ko-KOR-ti-koids). Glucocorticoids are given to people who have arthritis, asthma, and many other diseases. Some other medicines that prevent seizures and that treat endometriosis (en-do-me-tree-0-sis), a disease of the uterus, and cancer can cause bone loss, too.

Risk Factors You Cannot Control

- **Age.** Your chances of getting osteoporosis increase as you get older.
- **Gender.** You have a greater chance of getting osteoporosis if you are a woman. Women have smaller bones than men and lose bone faster than men do because of hormone changes that happen after menopause.
- **Ethnicity.** White women and Asian women are most likely to get osteoporosis. Hispanic women and African American women are also at risk, but less so.
- **Family history.** Having a close family member who has osteoporosis or has broken a bone may also increase your risk.