



Bones Need Exercise

The message is simple. To remain healthy bones need to be kept moving no matter what the person's age.

Bones are living dynamic tissues that respond to activity and become stronger with more activity and exercise.

Bones cannot be healthy without physical activity.

In children and adolescents exercise can positively affect peak bone mass.

In adulthood exercise can maintain or possibly modestly increase bone density.

In older adults exercise can assist in minimizing age related osteoporosis.

Just as muscles become stronger and increase in size the more they are used the bone can become stronger and more dense when exercised.

A lack of exercise and physical activity as you age makes matters even worse and contributes to lower bone mass or density exacerbating age related bone loss.

An older adult requires a program of moderate regular exercise 3 - 4 times a week that includes weight-bearing exercises in which bones and muscles work against gravity. This would include walking, hiking, stair climbing, dancing, jogging, and treadmill exercises.

Swimming and bicycling are very good exercises, but they are not weight-bearing exercises and are somewhat of a non-exercise as far as bones are concerned.

Strength training or resistance exercises with weights or weight machines are very helpful to bone health.

We should all aim for moderate activity in the weight-bearing and resistance exercise areas.

Use it or lose it is very applicable to the health of a person bones.

The American Academy of Orthopaedic Surgeons and the National Osteoporosis Foundation have often asked the question "Will your bones last as long as you do?"

Of course, in addition to weight-bearing exercise there are other things that can be done to insure healthy bones.

The National Osteoporosis Foundation lists 4 steps to bone health:

1. Eat a diet rich in calcium and vitamin D



2. Perform weight-bearing exercises (any activity that works your bones and muscles against gravity)
3. Refrain from smoking and excessive alcohol use
4. Have a bone density test performed and take preventive medications, when appropriate

Addendum

Exercise is More Critical Than Calcium for Adolescent Bones

Exercise is more influential than calcium intake in determining bone strength in young women. Although calcium intake is often cited as the most important factor for healthy bones, a recent study suggests that exercise is really the predominant lifestyle determinant of bone strength in young women.

There was only a small relationship between calcium intake and bone variables, but a significant association between sports exercises and young adult bone mass and strength. The study was done at Penn State University Medical School, Hershey, Pennsylvania.

The researchers tracked body composition and hip bone measurements with DEXA bone densitometry annually. The research team used software to calculate specific measures of bone strength and geometric properties from the DEXA data. Diet records for calcium intake were studied over several years and demonstrated an intake between 718 mg per day and 1498 mg per day.

Physical activity was determined using a sports exercise questionnaire and a cumulative exercise score was calculated from the ten years of data.

The study showed no significant relationship between average daily calcium intake and total bone gain from ages 12 to 22.

The statistical analysis of sport exercise in adolescents showed that exercise is responsible for between 16 and 22% in the gain of bone mineral density and bending strength.

It appears from the study that exercise activity is much more critical in building bone mass in young women than the amount of calcium intake, as long as that calcium intake is more than 500 mg/day.



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