

Osteoporosis and Exercise

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"Use it or lose it" applies to bone as well as muscle. When bones are stimulated by physical activity they respond by becoming stronger. Commonly bones are perceived as rigid, lifeless structures. The reality is that bones are similar to muscles in many ways. A bone consists of a living tissue that is continually changing to adapt to the demands placed upon it.

With aging, the mineral content of a bone decreases. This process is called "osteoporosis" which means "porous bones". As minerals are lost from the bone, the bone weakens and is predisposed to fractures.

Bone mineral loss generally begins in the mid 30s, but osteoporosis is usually not diagnosed until so much bone has been lost that a bone fracture occurs.

The mineral content of bone decreases much more rapidly in women than in men, such that, after menopause, up to 8% percent of bone mass may be lost per decade.

Although this has been regarded as an inevitable effect of aging and hormonal changes, it is clearly accelerated by inactivity or disuse.

Controlled studies have demonstrated that exercise may retard or even reverse the normal loss of mineral bone content. Proper and regular physical activity, combined with an adequate consumption of calcium, can maximize your bone density, and decrease the vulnerability to bone loss later in life.

Other risk factors for osteoporosis are important as well. Smokers tend to have lower levels of estrogen, and reach menopause at an earlier age. Frequent dieting increases risk of osteoporosis, probably because the body draws calcium from the bones to compensate for the calcium missing from their diet.

Good sources of calcium are: low fat dairy products, dark green vegetables, sardines, canned salmon (with bones).

Tofu and soy milk are often fortified with calcium for people who avoid dairy products.

Women are advised to consume about 1000 mg of calcium per day. Here are the calcium values for some of the high-calcium foods:

1c	skim milk	302 mg
1c	plain lowfat yogurt	415 mg
1/2c	lowfat cottage cheese	70 mg
2/3c	cooked broccoli	88 mg
1/2c	cooked spinach	83 mg
3oz	sardines	372 mg
4oz	tofu processed with calcium sulfate	145 mg

If you don't like any of these foods, check with your physician about available calcium supplements.

Osteoporosis has long been thought of as a woman's disease, but that perception may be changing. *New studies are bringing attention to the fact that osteoporosis in men is often unrecognized and undiagnosed-sometimes with tragic consequences, even disability or*

death. One in eight men over 50 will suffer a hip fracture related to osteoporosis in his lifetime, according to Sandra C. Raymond, executive director of the National Osteoporosis Foundation.

The most effective forms of exercise for osteoporosis prevention are the ones that require the bones to bear weight: walking, cross country skiing, stair climbing, jogging and running.

Weight lifting exerts stress on bones as well as muscles. In order to strengthen the upper body bones, aerobic activities should be complemented by resistance training, such as calisthenics and/or weight training.

MYTH OF THE WEEK: Eating more protein helps build more muscle.

Protein is important in building and protecting muscles, but high-protein diets or supplements have not been proven to increase muscle mass. Excessive protein intake may also strain kidney functions.

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