

## Healthy bones are important for senior citizens

ONE OF THE GREATEST health challenges for those who live a long life is to maintain healthy, strong bones. The U.S. surgeon general reported in 2004 that 10 million Americans over the age of 50 had osteoporosis (serious bone loss), and about 1.5 million of them experienced a broken bone each year. This leads to a great deal of pain and misery - and even death - within a year in one out of five older Americans who experience a hip fracture.

Unfortunately, there isn't one simple pill that will prevent osteoporosis. Even the best osteoporosis drugs depend on good nutrition and physical activity for the best results. Whether you have serious bone loss or not, there are some key things you can do for your bones.

**Calcium and phosphorus:** A balance of these minerals is needed for bone health. Too much of either one can interfere with the other. Food sources of calcium, like milk products and calcium-fortified soy products, usually provide a good balance of both nutrients.

**Vitamin D:** It is becoming more and more apparent that even people in sunny Hawaii have low levels of vitamin D in their body. Also, as skin ages, it loses some of its ability to utilize sun exposure to produce active vitamin D. Vitamin D supplements

providing 600 to 2,000 international units per day are considered to be safe and beneficial for bone health.

**Vitamin K:** The formation of an important bone protein requires vitamin K, and researchers report that vitamin K supplements can benefit bones. The key source of vitamin K in the diet is dark green leafy vegetables. Those who take anticoagulant-type (blood thinner) drugs must carefully coordinate any changes in vitamin K intake (from diet or supplements) with their doctor to adjust their blood thinner dosage.

**Protein:** Bones need adequate protein. When calorie needs drop with age, reduced food intake in some older people can make it difficult to eat enough protein for bone health. Some research even indicates that protein needs increase with age. Maintaining a moderate intake of good-quality proteins found in foods like milk, eggs, fish and other lean meats can provide adequate protein.

**Other required nutrients:** Vitamin C, magnesium, copper, manganese, zinc, iron and boron are all known to be important for bone health. A varied and balanced diet along with a multivitamin/mineral supplement can provide adequate amounts of these nutrients.

Fluoride also contributes to the formation of bone. Main sources are

fluoridated water, tea and canned marine fish that include the bones. Speaking of fish, even omega-3 fatty acids found in fish are beneficial to bones.

**Another mineral:** Although not typically considered to be a nutrient, the mineral strontium benefits bones. The typical diet only contains about 2 milligrams per day. However, a popular European osteoporosis treatment provides about 700 milligrams of strontium per day in the form of strontium ranelate, a patented drug sold under the brand name Protelos.

Two large human trials found that relatively small doses of strontium ranelate reduced fracture risk and increased bone mineral density in postmenopausal women with osteoporosis. The first study was published in 2004 in the prestigious *New England Journal of Medicine*, and both studies reported few or no side effects.

Strontium ranelate is not available in the United States, but dietary-supplement companies are selling the non-patentable strontium citrate.

Based on a variety of strontium studies on animals and humans and the known chemistry of strontium citrate, it is likely to be as safe and effective as strontium ranelate. Since strontium citrate is not patentable, it is unlikely to be studied as extensively as strontium ranelate.

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