



John Neustadt, ND ■ Montana Integrative Medicine

## FRACTURE-PROOF YOUR BONES

### The Most Important Nutrient Isn't Calcium

**M**ore than 10 million Americans have the bone-weakening disease *osteoporosis*—approximately 15% of women and 4% of men over the age of 50. Another 34 million or so have *osteopenia*—bone density that is below normal and may lead to osteoporosis. And every year, two million people with osteoporosis have a so-called “osteoporotic fracture,” usually of the hip, spine or wrist.

**New finding:** Experts know that an osteoporotic hip fracture is disastrous—12% to 40% of victims die within six months (partly because they tend to become depressed and more sedentary). But when Australian researchers studied more than 4,000 people age 60 and older for 18 years, they found that almost any kind of osteoporotic fracture increased the risk for death. Focusing on people over age 75, they found that breaking a wrist increased mortality risk by 40% in women and 80% in men...a spinal fracture doubled mortality risk in both sexes...and a hip fracture more than doubled mortality risk in women and tripled it in men.

**Another recent finding:** Bone mineral density (BMD) does not accurately reflect fracture risk. A *dual energy X-ray absorptiometry* (DEXA) test measures the BMD in your hip, spine and wrist. A score of -1 to -2.5 indicates osteopenia...a score under

-2.5 signals osteoporosis. But in one study, 82% of women who reported fractures of the wrist, forearm, hip, rib or spine in the year after a BMD test did not have scores indicating osteoporosis (scores of -2.5 or lower).

Overall, BMD predicts only 44% of fractures in elderly women and 21% of fractures in elderly men.

**New thinking:** The BMD test indicates the hardness of bone, imparted by the minerals calcium and magnesium. But *flexibility* is what helps bones resist fracture—the bone's ability to bend a bit and not break.

Flexibility is created by the bone's collagen, the protein-rich infrastructure. To build bone collagen, you need vitamin K.

#### THE SECRET BONE-SAVER

**Vitamin K** (*phylloquinone*) is a fat-soluble nutrient (like vitamins A and D) found abundantly in leafy green vegetables. Vitamin K helps the liver manufacture proteins that control blood clotting. Vitamin K-2 (*menaquinone*) is formed in the body from vitamin K. Vitamin K-2 has many functions, including building collagen in bone—and preventing fractures.

**New finding:** Scientists at Harvard Medical School analyzed 10 years of health data on vitamin K intake and bone health in more than 70,000 women in the Nurses' Health Study. Those with the highest intake of

vitamin K had a 30% lower risk for hip fracture, compared with women who had the lowest intake. They also found that women who ate the most lettuce—the biggest source of vitamin K in most diets—had a 45% lower risk for hip fracture than those who ate the least.

**What to do:** The government's recommendation for daily vitamin K intake is 90 micrograms (mcg) to 120 mcg. How do you maximize your intake? Eat your vegetables!

Top vegetables include kale (1,062 mcg per cup), spinach (889 mcg), turnip greens (851 mcg), collard greens (836 mcg), Swiss chard (299 mcg), broccoli (220 mcg), brussels sprouts (219 mcg), butterhead lettuce (167 mcg), cabbage (163 mcg) and asparagus (144 mcg). Among vegetable oils, soybean oil (3.4 mcg per tablespoon) and olive oil (8.1 mcg) score highest.

Don't worry about cooking—it doesn't destroy the vitamin.

If you want the greatest peace of mind about getting sufficient vitamin K to prevent bone fractures, you may want to take a daily supplement of the nutrient.

#### THE POWER OF MK4

Doctors from England analyzed the data from 13 studies on osteoporosis and a form of vitamin K called MK4. They found vitamin MK4 decreased hip fractures by 73%, spinal fractures by 60% and nonspinal fractures by 81%. Compare those results to the average

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19% decrease in fracture risk from taking supplements of calcium and vitamin D (which aids in the absorption of calcium).

To help my patients, I developed a supplement that contains the same amount and type of the nutrient (45 mg of MK4) used in the clinical trials. The supplement, called Osteo-K, also contains calcium, vitamin D, magnesium and boron (available at [www.nbibealth.com](http://www.nbibealth.com)).

**If you're taking corticosteroids:** Medications called *corticosteroids* (*cortisone*, *prednisone*, *hydrocortisone*) are powerful anti-inflammatory agents. They are synthetic versions of *cortisol*, an adrenal hormone. They often are prescribed to help control the symptoms of chronic diseases with an inflammatory component, such as rheumatoid arthritis, inflammatory bowel disease, lupus and severe asthma. Taken regularly for six months or more, corticosteroids can cause osteoporosis. Additionally, taking these medicines for more than six months increases the risk for vertebral fracture by up to 200%. Clinical trials have shown that taking 45 mg daily of MK4 decreases bone loss and fractures caused by corticosteroids.

**Caution:** If you are taking the anticoagulant *warfarin* (Coumadin), talk to your doctor before taking any type of supplemental vitamin K, which can block the action of the drug.

#### DO DRUGS WORK?

You might think that a vitamin K supplement would be a lightweight compared to the widely prescribed bisphosphonate drugs, such as *alendronate* (Fosamax), *risedronate* (Actonel), *raloxifene* (Evista) and *zoledronic acid* (Zometa).

But drugs are less effective at decreasing fracture risk than vitamin K.

**Example:** Fosamax decreases vertebral fracture risk by 47%, compared with a reduction of up to 60% for vitamin K.

And the latest research shows that these bone-building drugs can hurt your health...

■ **Esophageal cancer.** In December 2008, the FDA said Fosamax and other bisphosphonates might increase the risk for esophageal cancer—and that no one with *Barrett's esophagus* (an esophageal problem common among people with heartburn) should take these drugs.

■ **Heart problems.** People taking bisphosphonates are twice as likely

to experience life-threatening heart irregularities called *arrhythmias*.

■ **Increased fracture risk.** New evidence shows that people who take bisphosphonates for several years may have an increased risk for sudden fractures during normal activity, such as standing or walking. Bisphosphonates improve bone quantity, not bone quality—and may affect bone growth in such a way as to eventually create weaker bones.

■ **Osteonecrosis of the jaw.** In this disease—also called “dead jaw”—sections of the tissue of the jawbone die after a major dental procedure, such as a tooth implant or extraction. People taking a bisphosphonate have a 4% risk for this side effect after a dental procedure—and top dental experts are warning that anyone about to have such a procedure should stop taking the drug at least one month before the procedure.

**Bottom line:** Talk to your doctor about whether a bisphosphonate is right for you. You could take another type of bone-building medication, such as *parathyroid hormone*, which decreases fracture risk by 65%. Or you could add vitamin K to your regimen. ■ ■