February – Women's Health Focus

Bone up on Osteoporosis

Each year, osteoporosis contributes to more than 1.5 million bone fractures, with most of these breaks occurring in the hips, spine, and wrist.

The cornerstones of a good prevention or treatment program for osteoporosis are the same: Get enough calcium and vitamin D, perform weight-bearing exercises regularly, and avoid bone-strength-sapping habits such as smoking or excessive alcohol use. Simple measures such as fall-proofing your home and doing exercises to improve your balance and bone strength can go a long way in helping you avoid a break.

Get tested

As women age, they need to become aware of the need to be tested and treated for osteoporosis and its warning sign, osteopenia. You should get a bone mineral-density test if:

1. You are postmenopausal and over the age of 65.
2. You are postmenopausal and under the age of 65 with any of these additional risk factors:
    a. Being Caucasian or Asian
    b. Being thin
    c. Taking prednisone
    d. Entered menopause younger than the age of 50
    e. Family history of osteoporosis
    f. Excessive alcohol use
    g. Tobacco use
    h. An overactive thyroid (hyperthyroidism)
    i. Primary hyperparathyroidism
    j. An intestinal problem that prevents calcium and vitamin D absorption
3. You have had a fracture of the wrist, spine, or hip from a simple fall.

Decide on the best test

Ideally, for both prevention and monitoring, the best tests are the DEXA scans of the spine and hip. Women are most concerned about painful spine fractures and potential life-changing and life-threatening hip fractures. But because of the high demand for hip and spine DEXA scans, other scans have become available including for the arm, fingers, and heel. If these are the only scans available to you, they can reliably diagnose osteopenia or osteoporosis. The disadvantage of these other scans is that they are not as accurate when retesting in the next year or two for the effectiveness of treatment. If you are diagnosed with osteopenia or osteoporosis by a scan of the arm, fingers, or heel, you should ask for a spine DEXA to check the effectiveness of your treatment in a year or two.

If you have evidence of osteoporosis by a bone mineral-density test, you should also have blood tests to measure calcium, phosphate, vitamin D, and parathyroid hormone levels, as well as tests to measure protein electrophoresis, thyroid function, and urine free cortisol. These tests rule out other conditions that can lead to osteoporosis. If another condition is found, treating it will help to restore and maintain your bone strength. Vitamin D deficiency is common in the United States, and an important cause of osteoporosis that shouldn't be missed because it is so easy to treat.

Treatment

The most common treatments for osteoporosis are the bisphosphonates (alendronate, ibandronate and risedronate) and selective estrogen receptor modulators (SERMS, such as raloxifene).

Bisphosphonates have been shown to increase bone strength and reduce the incidence of fractures. Alendronate and risedronate can be taken once a week instead of daily. The evidence suggests that bisphosphonates work better than SERMS. However, SERMS have some other potential advantages. While raloxifene acts on estrogen receptors, it reduces the risk of breast cancer and heart disease, and it lowers cholesterol levels.

A newer treatment is also available, a form of parathyroid hormone, teriparatide (Forteo). This is the only treatment that actually builds bone. The downside is that it must be given through an injection every day. Right now, it is only being used for people with severe cases of osteoporosis or for people who have not responded to other treatments. But in the future, you may be hearing more about this new drug.

The importance of vitamin D

As women get older, surprisingly, estrogen deficiency becomes less important than vitamin D deficiency. Vitamin D not only helps the body absorb calcium but must be present to block hormones that break down bone. Taking vitamin D and calcium together has been shown in studies to improve bone density more significantly after the age of 60. This is likely because many people over the age of 60 are vitamin D deficient. Getting less sun exposure due to being less active is the likely explanation, along with dietary changes.

Take-home messages

Don't wait until menopause to start taking calcium and make sure you get enough vitamin D. Everything you do now can help you increase your stores and bone strength to protect you later on in life. And for your daughters, for the same reasons, make sure they get the calcium and vitamin D they need.