

Health Matters

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Sticks and Stones...

Why is it that one elderly person will have a mild fall resulting in a fracture of the wrist or even hip while another gets up and walks away? Such an unexpected broken bone often is a warning sign of the condition called osteoporosis which can have severe health consequences down the road if not taken seriously or detected. It is estimated that one out of 5 American women over age 50 has osteoporosis and half of them will have a fracture of the hip, wrist, spine or pelvis. This condition actually starts after age 30 and slowly reduces the strength of the skeleton; in women within 5 years after menopause there can be a very rapid and severe loss of calcium and weakened bone density. Men are also affected but later in life. Besides the normal aging process other factors that cause osteoporosis are lack of vitamin D, family history of brittle bones, smoking, insufficient weight-bearing exercise, low body weight, diabetes or more than 2 alcohol drinks per day. These fractures can be prevented by risk factor modification and/or medication thereby avoiding possible future chronic pain and loss of independence. When I was medical director of our local nursing homes one of the more common conditions I had to deal with was hip fracture which can in an instant change the status of an elderly individual from independently living at home to requiring facility care, often for the rest of ones life.

In my male patients over 65 and women over 50 when I suspect osteoporosis I order a test called DEXA scan which measures the strength of bones specifically in the hip and lower spine. When the test shows osteoporosis further deterioration can be prevented with appropriate medication given to actually strengthen the bones over time and avoid future fractures. The lower the measured bone density the higher is the future fracture risk. Measurement of bone density in the hip is a better predictor of future hip fracture than measuring other parts of the skeleton and the DEXA scan of the hip and spine is the most accurate way to determine benefit of treatment. Repeat testing one or 2 years later can determine if treatment with medication to strengthen the bones has been effective.

Several medications can be used to increase bone strength although a class of drugs called bisphosphonates is preferable in most patients. This along with calcium and vitamin D should be taken for at least 5 years and, in severe cases, forever. Bisphosphonates are effective either for prevention of osteoporosis or treatment with a 30-50% reduction in fracture rate. These medications are effective even after age 75 and usually have very few side effects with dosing convenience once a week or even once a month. All patients over the age of 65 should be tested including men, and even earlier if risk

factors for osteoporosis are present. These include loss of height, history of fracture with minimal trauma or if a routine x-ray is suspicious for low bone density.

Osteoporosis is caused either by failure to form new bone or too much reabsorption of existing bone. Lack of calcium in the diet is a key factor and as many as half of all individuals may be low in levels of vitamin D. By the time a fracture happens the problem is far advanced therefore effective treatment depends on early detection. Reducing levels of testosterone in males and estrogen in females seem to play a role. Other hormonal conditions such as diabetes or thyroid disease can be a factor. Since there are no symptoms in the early stages I watch my patients for loss of height, bone pain particularly in the spine or a history of breaking a bone too easily. The mineral bone density by DEXA scan is the gold standard and can predict the future fracture risk. Treatment should be directed both to strengthen bones but also to lower the risk of falls in the elderly. Estrogen hormone replacement after menopause can have benefits but also carries significant risk of increasing stroke or heart attack and even breast cancer and should be avoided if other treatment is available for menopause symptoms. The most commonly used drug category for osteoporosis is the bisphosphonates such as Fosamax or Actonel. When bisphosphonates are not tolerated or show insufficient benefit after repeat testing another effective treatment is daily injection by the patient of parathyroid hormone (Forteo) for a period of no more than 2 years. Foods high in calcium include all dairy products, leafy green vegetables, tofu and fish such as salmon or sardines. Calcium citrate (Caltrate) twice a day provides supplemental calcium and vitamin D.

In the case of osteoporosis the old saying “an ounce of prevention is worth a pound of cure” certainly applies.

Dr. Schwartzberg practices in Lake Placid, Willsboro and Burlington and can be reached at www.docjosh.com or at home 518-963-4355.