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BONE MINERAL DENSITY

You may call 214-378-9663 for an appointment at the Margot Perot Women and Children's Center, Suite #104.

American women who are postmenopausal face some unique health care challenges, which include an increased risk of osteoporosis. Peak bone masses are achieved by the age of 35 but, frequently, bone loss rapidly accelerates after menopause. Normal bone is dense and strong. Osteoporosis causes the bone to become porous and break easily and, thus, places the individual at an increased risk of bone fractures. The loss of estrogen, which is associated with menopause, is the single most important contributor to bone loss in women. Osteoporosis affects more than 25 million Americans, 80% of whom are women.

The risk of bone fractures increases in proportion to the amount of time a woman has been menopausal, or hypoestrogenic (having low estrogen levels). More than 40% of women over the age of 50 will experience a fracture related to osteoporosis. By the time a woman turns sixty and is approximately ten years into her hypoestrogenic state, the risks of osteoporosis and hip fracture begin to increase rapidly. The consequences of these fractures can be devastating. Up to 20 % of women who experience hip fractures will die within the year after the fracture. Women who survive hip fractures have a 25% risk of being confined to a long-term facility and a 50% risk of long-term loss of mobility. Spinal fractures can result in the stooped posture known as "dowagers' hump."

To greatly lessen the risk of osteoporosis, a combination of hormone replacement therapy, calcium supplementation, and exercise is essential. The avoidance of smoking and excessive alcohol consumption is also an important factor in keeping healthy bones.

Identifying the individual at risk for osteoporosis and subsequent bone fracture is now made easier with the introduction of BMD, or bone mineral density. This non-invasive test is readily available. Bone mass density tests are fast, safe, simple and painless. Normally, one will not have to undress. The test takes approximately ten minutes.

The preferred method of bone density measurement is the DXA (dual x-ray absorptiometry). The precision of measurement by this technique is excellent (1%), and the radiation dose is very low. This method is best for women who are perimenopausal (just becoming menopausal) and those who are newly menopausal. The results of these tests are compared with the results of same sex, healthy, young adults at the peak of their bone mass. As a woman ages, vertebral calcifications decrease the accuracy of vertebral DXA measurements. For a woman who has been menopausal for many years, the measurement of the hip bone density is more accurate and important due to the strong relationship of hip fractures.

Repeating the bone density measurement in one to two years can give valuable information about the rate of calcium loss for an individual. Therefore, the second bone density measurement is even more informative than the first. For example, if one were in the high normal range one year ago but are in the low normal range now, a prediction might be made that soon one would have osteoporosis. On the other hand, if one were low normal on both readings then one might be doing well.

Recently, ultrasound bone mass measurements of the ankle have also become available. This method is less expensive than the DXA measurements and avoids exposure to any radiation, but it is not as accurate a predictor of hip and spinal fracture risks.

Knowing if you are at risk for, or actually have, osteoporosis enables you to work with your physician to make decisions about the proper treatment for your specific needs. The advancement of pharmacology allows physicians a broad range of estrogenic and non-estrogenic medications for treating osteoporosis.

Reasons for obtaining bone density measurements may include the following:

1. Confirmation of low bone density prior to a fracture
2. Determination of the rate of bone loss, if tested with interval testing
3. Monitoring effects of treatment, if tests are repeated at intervals
4. Monitoring individuals who have a family history of osteoporosis
5. Monitoring individuals who are on chronic steroid medications
6. Monitoring individuals with fractures which make one suspect osteoporosis
7. Monitoring individuals who have undergone early menopause (Prior to age 51)

When the results are received in our office, they will be considered in relation to your past medical and surgical history. You will be notified of the results by phone or mail. Based on the test results, a decision will be made regarding the health of your bones, your risk of fracture, and any treatment deemed necessary. The most important information gained will be the comparison of your bone density to that of individuals with healthy bones. Treatment will be aimed at maintaining your bone density, preventing further bone loss, or replacing bone loss if possible.