

## **Best Tests To Predict Likelihood of a Fracture**

Osteoporosis (or thin bones) is a major problem for older women, especially those who are on the thinner side. The problem with osteoporosis is it can lead to fractures, especially hip fractures, which are associated with high morbidity and mortality. A classic test to predict the risk of fractures is a bone density test called a DXA scan. This is often done at 2 or 3 regions, most likely in the hip and the lumbosacral area of the back and often it is done in the forearm as well. The patients' bone density is reported as both a Z score, which is how the bone density compares to a person who is the same age and gender as the patient, as well as a T score, which compares to a young person of the same gender. Most doctors use the T score, as they do not want people to have worsening bone density as they age. However, Dr. Friedman does not necessarily think this is correct, as you want to know what your bone density is for your chronological age, just like you want to know what your hormone levels are for a given age. The bone density test measures how thin your bones are, and this could reflect having thin bones many years ago or thin bones more recently.

Another test that is underutilized but gives very important complementary information to the DXA scan is called a urine N-telopeptide test. It is done on the second void in the morning. The values reported are the urine N-telopeptide concentration in nmol BCE (bone collagen equivalents) over the concentration of creatinine in mg/dL and the range at LabCorp is 5 to 65. The higher the urine N-telopeptide, the more active bone turnover is occurring. If the value is about 55 or higher, it means the bones are being broken down frequently and a person is more likely to get a fracture. Lower values indicate a decreased rate of bone turnover and a lower risk for fractures. The urine N-telopeptide tells about how much bone is being broken down at the time the test was taken, so a person could have had good bones when they were younger and now are having a lot of bone turnover and the bone density would be normal but the urine N-telopeptide would be high, indicating active bone turnover. Therefore, these tests can be done together to give the risk for osteoporosis.

Dr. Friedman especially likes to use this test when he is trying to treat patients with thyroid medicine. One of the main side effects of giving too much thyroid medicine is increased breakdown of bone which would be manifested with a high urine N-telopeptide level. If the urine N-telopeptide level is not that high, Dr. Friedman feels more comfortable increasing the dose of the thyroid medicine until it is possibly in the upper range of normal with the TSH in the lower range of normal. However, if the urine N-telopeptide is high, Dr. Friedman would be more cautious about increasing the thyroid hormone dose.

If you have any questions about Dr. Friedman's practice or want to make an appointment, please to go his website [www.goodhormonehealth.com](http://www.goodhormonehealth.com).