

GE Lunar Bone Densitometer

Goshen Health System has a state-of-the-art GE Lunar Bone Densitometer for axial measurement of bone density. This highly sensitive densitometer identifies bone loss at the major fracture sites (femur and spine) in just minutes. The densitometer at The Retreat also offers DualFemur measurement to assess the average density of both femurs and total body to measure bone density.

The bone densitometer uses small amounts of X-ray to produce images of the spine, hip, or even the whole body. The X-ray is composed of two energy levels which are absorbed differently by the bones in the body. The technical term for the method is “dual energy X-ray absorptiometry,” or DEXA. A computer is able to determine from these differences how much bone mineral is present. The spine and hip are measured because that is where osteoporotic fractures occur most.

The bone densitometry test is also useful in tracking bone changes. The bone densitometer can monitor the effects of age, diet, or treatments on your bone status. Your doctor may suggest follow-up tests to monitor change over time.

Even though X-rays are used, the amount absorbed by the patient is only about 1/10th of that received from a chest X-ray. The X-ray dose from the bone densitometry test is comparable to the naturally occurring radiation you are exposed to in one week.

What To Expect During the Exam

The bone densitometer is like a large examination table. It is padded and comfortable. Your name, age, height, weight and ethnicity will be entered into the computer before your test. This information is used to compare your results to a normal reference group. You will be asked to lie on your back, remaining in your normal clothing in most cases. Belt buckles, metal or thick plastic buttons, and metal jewelry will need to be removed from the region being examined. The operator will position your arms and legs for the test, which is painless and typically takes one to ten minutes. You just need to lie still and breathe normally.

Caution: Even though the X-ray dose from the bone densitometry test is very low, please inform the operator if you are pregnant or might be pregnant before your test!

What Will This Test Tell My Doctor?

A bone densitometry test is an aid in the diagnosis of osteoporosis. The test compares your bone mineral density (BMD) to that of a “young adult” at peak bone strength. It also compares your results to people of your same age, called “age-matched.” This information, along with other factors, helps doctors gauge your risk of osteoporotic fracture. The difference between your result and that of a “young adult” is given as a T-score. The World Health Organization (WHO) has developed categories that define the amount of bone loss:

Normal: a T-score that is above –1

Osteopenic (Low bone density): a T-score between –1 and –2.5

Osteoporosis: a T-score below –2.5

What is fracture risk?

The bone densitometry test provides information about your own risk of bone fracture in the same way a cholesterol test indicates risk of a heart attack. A diagnosis of osteoporosis cannot predict a bone fracture, but your test results combined with other factors can show if you are at a higher risk for fracture. Knowing your risk of fracture is important because there are a number of ways to prevent osteoporosis and to reduce your risk of fractures such as exercise, changes in diet, hormone therapy, or other medicines known to build bone strength.

Risk Factors for Developing Osteoporosis

- **Age** - Loss of bone mass begins gradually, generally after 35 years of age as a normal part of the aging process.
- **Race** - Caucasian (white) and Asian women are at higher risk for developing osteoporosis.
- **Heredity** - If you have a family history of broken bones in older relatives, you might be more at risk.
- **Gender** - Women are at higher risk than men.
- **Body Build** - Small, petite women are at greater risk than those with larger frames.
- **Early Menopause** - During menopause, estrogen levels fall dramatically and bones begin to lose calcium more rapidly. Early menopause, before age 45, results in an increased risk for osteoporosis.
- **A Low Calcium Diet**
- **Lack of Exercise**
- **Eating Disorders**
- **Some Medicines** such as steroids or anti-convulsants
- **Use of Alcohol and Tobacco**

What is Osteoporosis?

Like other organs in the body, bones are constantly changing. Throughout childhood and as young adults, bones grow in strength and in size. Around the age of 30, bones reach their peak strength and then naturally become weaker with age. Osteoporosis is a condition where bones become weak to the point of breaking which can result in a crippling and painful fracture, occurring most often in the hip, back or wrist.

Warning Signs of Osteoporosis

Some warning signs of osteoporosis are loss of height, sharp back pain, fractures of the wrist, spine and/or hip, and curvature of the upper back. In addition, dental problems caused by a shrinking jawbone can provide warning signals of bone loss. However, most warning signs do not occur until a lot of bone has been lost.

Can Osteoporosis Be Diagnosed?

Osteoporosis is often called the “silent disease” since there are rarely signs until a lot of bone has been lost. A medical test that measures the amount of bone is the best way to detect osteoporosis. A bone densitometer is one such test. The bone densitometer use small amounts of X-ray to measure the amount of bone mineral. The amount of bone mineral relates directly to bone strength.

Patient Name: _____

Your appointment has been scheduled for:

Monday Tuesday Wednesday

Thursday Friday Saturday

Date: _____

Time: _____

at

The Retreat Women's Health Center
1135 Professional Drive
Goshen, IN 46526

At Goshen Health System, we provide the highest level of service and quality with the best technology available. We hope this information will answer any questions you might have before you visit our facility. Thank you for giving us this opportunity to serve you.

A Guide to Bone Densitometry



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For more information contact:



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The Retreat
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574.537.5000



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