My Achilles™ EXPII Test

Like other organs in the body, bones are constantly changing. Throughout childhood and young adulthood, 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. This weakening may be due to aging, or caused by other factors that combine with age. Symptoms of osteoporosis do not occur until a lot of bone strength is lost. The most visible symptoms may include loss of height, along with curvature of the upper back. Osteoporosis also can result in a crippling and painful fracture, occurring most often in the hip, back, or wrist.

Who is at Risk?

Age is an important risk factor. Everyone, both men and women, loses bone strength as they grow older. Women have higher risk for osteoporosis than men do as women often have smaller, thinner frames. Women also are affected by the change-of-life, known as menopause. After menopause, women produce less of a hormone called estrogen. Estrogen helps protect women against bone loss.

What is fracture risk?

The Achilles EXPII provides information about your own risk of bone fracture in the same way as a cholesterol test indicates risk of a heart attack. A diagnosis of osteoporosis cannot predict a bone fracture, just as high cholesterol cannot predict a heart attack. Instead, it means that the risk of having a fracture is higher than that for normal bones. Achilles EXPII results combined with other factors give your overall risk of fracture. Knowing your risk of fracture is important. There are a number of ways to prevent osteoporosis, and to reduce your risk of fracture. Your doctor may suggest a number of steps including exercise, changes in diet, hormone therapy, or other medicines known to build bone strength.

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What is a T-score?

Your T-score is a comparison between your bone density to that of a “young adult” reference population at peak bone density.

A T-score of -1 represents a roughly 16% decrease in bone density from the “young adult” reference population.

Your Z-score is a comparison between your bone density to that of other people your age and gender.

A Z-score of -1 represents a roughly 16% decrease in bone density from other people your age and gender.

Important risk factors for osteoporosis include:

- female
- advanced age
- history of bone fracture
- a small thin frame
- a family history of osteoporosis
- removal of the ovaries
- early menopause
- a low calcium diet
- lack of exercise
- eating disorders
- certain medicines (such as steroids or anticonvulsants)
- alcohol and tobacco use

How does the Achilles EXPII work?

The Achilles EXPII passes ultrasound through the heel. The heel is measured because its bone is similar to that found in the spine and hip, where osteoporotic fractures occur most. Ultrasound does not travel well through air. Therefore, during an Achilles test, warm water fills membranes that contact your heel to provide a path for the ultrasound energy to follow. Isopropyl alcohol is used to provide coupling between your heel and the membranes.

What can I expect during my Achilles EXPII test?

The Achilles EXPII test is simple and fully automated and only takes about 10 seconds. Results are automatically generated and a printed result with an equivalent T-Score is provided in about 1 minute.

Is the Achilles EXPII test safe?

Yes. The Achilles EXPII is approved by regulatory agencies.

Caution: Avoid Achilles tests if you have a sore on your heel or sole. Please tell the health care professional operating the Achilles of any such problems to help prevent transmission of an infection.

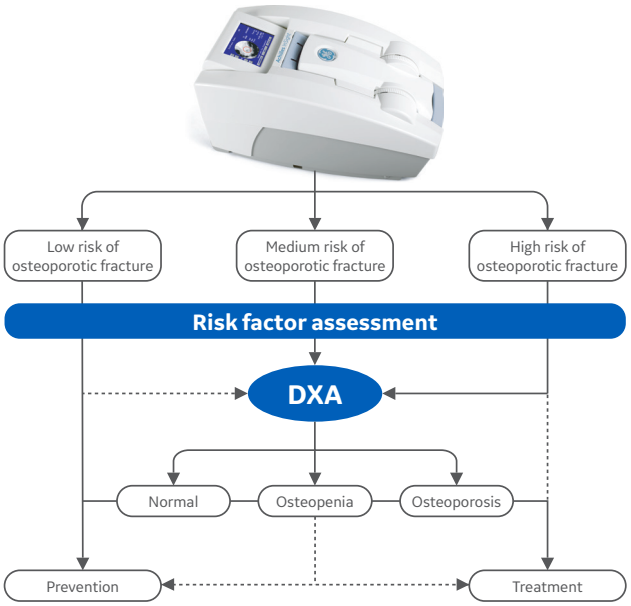
What information will Achilles EXPII give my doctor?

The Achilles is an aid to doctors in the diagnosis of osteoporosis. The Achilles test compares your bone density to that of a "young adult" at peak bone strength (T-score). It also compares your results to people of your same age, called "age-matched" (Z-score). The risk of osteoporotic fracture falls into three categories:*

Relative Fracture Risk	T-score
Low	above –1
Medium	–1 to –2.5
High	below –2.5

This information, along with other factors, will help your doctor to gauge your risk of osteoporotic fracture and what course of action should be taken.

Achilles EXPII protocol:



What is the next step if I am found to be at risk?

Based upon your Achilles EXPII results and other factors, your doctor may suggest a follow-up DXA scan. A DXA scan is a painless test performed on an x-ray densitometer that takes only minutes, and measures your bone mineral density and body fat distribution. Information from a DXA scan can provide your doctor with valuable information to aid in the diagnosis of osteoporosis.

GE Healthcare, Lunar densitometer

Where can I get more information about bone measurements and osteoporosis?

The National Osteoporosis Foundation (NOF) is one of the leading sources of information about osteoporosis and bone measurements.

Contact the NOF:
National Osteoporosis Foundation
1232 22nd Street N.W., Washington, D.C. 20037-1202
(202) 223-2226 • (800) 231-4222
www.nof.org

*The World Health Organization has developed categories that define the amount of bone loss such as Normal: a T-score above -1; Low bone mass: a T-score between -1 and -2.5; Osteoporotic: a T score less than -2.5.

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