Ultrasound (sonography)

Diagnostic ultrasound is an imaging method that uses high-frequency sound waves to produce relatively precise images of structures within your body. The images produced during an ultrasound examination often provide valuable information for diagnosing and treating a variety of diseases and conditions without using radiation.

Numerous ultrasound services are offered in the areas of abdominal, gynecologic, vascular and small-parts imaging.

During an ultrasound

During an ultrasound exam, you usually lie on an examination table. A small amount of gel is applied to your skin. The gel helps eliminate the formation of air pockets between the ultrasound and your body. During the exam, a sonographer, who is a technician trained in ultrasound imaging, presses a small hand-held device about the size of a bar of soap, called a transducer, against your skin over the area of your body being examined, moving from one area to another, as necessary.

Based on the same principles as sonar, a technology used to detect underwater objects, the transducer generates and receives high-frequency sound waves that can't be heard by the human ear.

As the sonographer places the transducer on your skin, crystals inside it emit pulses of sound waves that travel into your body. Your tissues, bones and bodily fluids reflect the sound waves and bounce them back to the transducer. The transducer then sends this information to a computer, which composes detailed images based on the patterns created by the sound waves.

Most ultrasound exams are performed with a transducer on your skin. However, some ultrasounds are performed inside your body, called invasive ultrasounds. For these exams, a specialized transducer is attached to a probe that's inserted into a natural opening in the body.

Ultrasound usually is a painless procedure. However, you may experience some mild discomfort as the sonographer guides the transducer over your body, especially if you're required to have a full bladder. A typical ultrasound exam takes about 30 minutes to an hour. However, some exams can take longer.

After an ultrasound

When the exam is completed, you may return to normal activities, unless your provider tells you otherwise.

A radiologist will interpret the ultrasound results and report the findings to your provider.