

What is an Ultrasound?

An ultrasound (or sonogram) is a noninvasive (from the outside of the body) imaging procedure used to examine organs and other structures in the body. It may also be used to evaluate major vessels. Ultrasound uses high frequency sound waves that reflect off of a body structure to form an image. The echoes from the sound waves provide information regarding size, location, and uniformity of the structure and are recorded and displayed on a monitor screen. These pictures are recorded in “real-time” which means that the screen is displaying what is actually happening during the exam. This enables the radiologist to see movement of the organs and blood flow. In turn, this helps them to diagnose a variety of conditions. There is no x-ray exposure with ultrasound.

Doppler Ultrasound:

A Doppler ultrasound is a special type of ultrasound study that examines major blood vessels. Doppler ultrasound can help evaluate the aorta for a possible aneurysm (bulge or stretched area). Doppler is also used to evaluate blockages to blood flow such as clots, plaque build up inside vessels,

and any type of malformation. The most common sites where Doppler ultrasound is used are the neck, heart, abdomen, and legs. With knowledge about the speed and volume of blood flow that is gained from a Doppler ultrasound image, physicians can often determine what type of further testing or procedures are appropriate for the patient.

Patient Preparation:

Your healthcare provider will give you specific instructions on how to prepare for your exam. You may be asked to maintain a special diet the day prior to your exam. It is also possible that no preparation is needed, so be sure you check with your healthcare provider.

Having an Ultrasound:

You should wear comfortable, loose fitting clothing for your ultrasound exam, or you may be asked to change into a gown. If so, this is done primarily to protect your clothes from the gel. Next, you will lie on the exam table next to the scanner. Take comfort in the fact that the technologist (sonographer) that performs your exam is specially trained in your procedure. He or she will apply

a lubricating gel on to the area being examined. This will feel wet and maybe slightly cool, but will not harm your skin or clothes. During the exam, a hand held device called a “transducer” is placed on the area being examined and moved around. This transducer generates ultrasound and sends it through the body, taking images of all of the organs as needed. You may be asked to move into different positions or hold your breath for short periods of time during the exam. The procedure is painless and generally only takes 30 - 45 minutes.

After the Test:

You may be asked to wait in the exam room while the technologist checks the images. After that you may resume your normal activities or diet.

Limitations of Ultrasound:

Ultrasound waves are reflected by air or gas; therefore it is not an ideal imaging technique for the bowel, stomach, or intestines. Because of intestinal gas, there can also be limited visibility of deeper abdominal structures such as the aorta and pancreas. Extreme obesity also

limits the usefulness of ultrasound because the increased tissue weakens the sound waves as they pass deeper into the body. Ultrasound has difficulty penetrating bone because of its dense nature, therefore, it is not ideal for evaluating bone.

Risks:

Ultrasound testing has been in use for nearly 30 years without any known risks. As earlier stated, there is no x-ray exposure with ultrasound.

Report/Results:

A Radiologist, a physician experienced in ultrasound and other radiology exams, will interpret the images. A report will be available to physicians within 24 hours on routine exams. A signed report with the interpretation will also be sent to the healthcare provider that ordered the test. You may check with your ordering physician for the report.



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Ultrasound

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