

What is a Vascular Ultrasound?

Ultrasound is a safe and painless procedure that produces images of the inside of the body using sound waves. Ultrasound scanners consist of a console containing a computer and electronics, a video display screen and a transducer that is used to do the scanning. The transducer is a small hand-held device that resembles a microphone, attached to the scanner by a cord. Ultrasound imaging, also called sonography, involves the use of a small transducer (probe) and ultrasound gel placed directly on the skin. High frequency sound waves are transmitted from the probe through the gel into the body. The transducer collects the sounds that bounce back and a computer then uses those sound waves to create an image. Ultrasound exams do not involve radiation exposure.

Vascular ultrasound provides pictures of the body's veins and arteries.

A Doppler ultrasound study is usually part of a vascular ultrasound examination. Doppler ultrasound is a special ultrasound technique that evaluates blood flow through a blood vessel, including the body's major arteries and veins in the abdomen, arms, legs, neck and head (in infants and children). The movement of blood cells causes a change in pitch of the reflected sound waves (called the Doppler effect). A computer collects and processes the sounds and creates graphs or color pictures that represent the blood flow through the blood vessels.

What are some common uses of the procedure?

Vascular ultrasound is performed to:

- help monitor the blood flow to organs and tissues throughout the body.
- locate and identify blockages (stenosis) and abnormalities like plaque and emboli and help plan for their effective treatment.
- detect blood clots (deep venous thrombosis (DVT) in the major veins of the legs or arms.
- determine whether a patient is a good candidate for a procedure such as angioplasty.
- evaluate the success of procedures that graft or bypass blood vessels.
- determine if there is an enlarged artery (aneurysm).
- determine the source and severity of varicose veins.

Doppler ultrasound images can help the physician to see and evaluate:

- blockages to blood flow (such as clots).
- narrowing of vessels.
- tumors and congenital vascular malformations

How should I prepare for a Vascular Ultrasound?

Please wear comfortable, loose -fitting clothing for your ultrasound exam. You may need to remove all clothing and jewelry in the area to be examined.

You may be asked to change into a hospital gown for the procedure.

If your abdominal vessels are being examined, unless the examination is performed on an urgent basis, it is best to fast before the procedure.

How is the procedure performed?

For most ultrasound exams, you will be positioned lying on your back on an examination table that can be tilted or moved.

After you are positioned on the examination table, the radiologist or sonographer will apply a warm water-based gel to the area of the body being studied. The gel will help the transducer make secure contact with the body and eliminate air pockets between the transducer and the skin that can block the sound waves from passing into your body. The transducer is placed on the body and moved back and forth over the area of interest until the desired images are captured.

What will I experience during and after the procedure?

There is usually no discomfort from pressure as the transducer is pressed against the area being examined. However, if scanning is performed over an area of tenderness, you may feel pressure or minor pain from the transducer.

Once the imaging is complete, the clear ultrasound gel will be wiped off your skin. The ultrasound gel does not stain or discolor clothing.

Abdominal ultrasound is usually completed within 30 to 45 minutes.

If a Doppler ultrasound study is performed, you may actually hear pulse-like sounds that change in pitch as the blood flow is monitored and measured.

When your ultrasound exam is complete, you will be asked to dress and wait while the ultrasound images are reviewed.

After an ultrasound examination, you should be able to resume your normal activities immediately.

Our radiologist will interpret your exam, analyze the images and send a report to your ordering healthcare provider within 24 hours.