Duplex Ultrasound

A Detailed Look at Your Blood Vessels
What Is Duplex Ultrasound?

Ultrasound is a test that uses sound waves to create detailed pictures of the inside of your body. Duplex ultrasound is a type of ultrasound that makes two kinds of images. First, it creates pictures of your blood vessels. Second, it makes graphs that show the speed of blood flow in the vessels. These images are viewed on a computer screen. No radiation or contrast fluid is used during this test.

What Is Duplex Ultrasound Used For?

Duplex ultrasound can help your doctor find problems in your blood vessels, including:

- **Narrowing or blockage**, which can lead to problems such as leg pain or stroke.
- **Aneurysm**, a ballooning out of a blood vessel wall.
- **Dissection**, a tear in the layers of a blood vessel wall.
- **Deep vein thrombosis (DVT)**, a blood clot in the deep veins of the legs.
- **Varicose veins**, swollen, twisted veins visible under the skin’s surface.

Duplex ultrasound can help your doctor decide whether further testing is needed. It can also help determine the best treatment plan. In addition, it may be used to get more information about your blood vessels before surgery is done. Unlike x-rays and MRI (magnetic resonance imaging), ultrasound tests are safe to use during all stages of pregnancy.
Duplex ultrasound is used to look at vessels that carry blood to and from major organs of the body.
Before Your Test

• Follow instructions you are given for how to prepare for the test. If you are told to not eat or drink before the test, follow these directions carefully. If you do not, your test may need to be rescheduled.

• Tell your doctor what medications you currently take. Ask if you should stop taking any of them before the test. Also, bring a list of your medications to show the technologist.

• Allow time to check in.

What to Tell the Technologist

Tell the technologist if you’ve had:

• A previous procedure such as a bypass, balloon angioplasty, or stent placement.

• Stroke symptoms, such as sudden short-term loss of strength, speech, or vision.

You may be asked other questions about your health. Your answers will help the technologist tailor the test to your health needs.
Duplex ultrasound can be used to view blood vessels in many parts of the body, including the neck.
During Your Test

Your duplex ultrasound is done in an ultrasound lab. The lab may be in your doctor’s office, a hospital, or an outpatient imaging center. The test is typically performed by a vascular technologist. It can take from 15 minutes to 2 hours, depending on what is being tested. During your test:

- You may be asked to change into a hospital gown or to remove clothing from the area being examined.
- You will likely lie on an exam table.
- A nongreasy gel is applied to the area being tested. This helps sound waves move through your skin.
- The technologist slides the ultrasound probe (transducer) over the gel.
- You may hear a “whooshing” sound. This is the sound of your blood flowing. You may also see tracings of your blood flow on a screen.
- A blood pressure cuff may be put on your arm or leg and inflated during the test. Also, you may be asked to stand up or even exercise during the test.

Be Aware That:
- The gel will feel wet. It won’t harm your skin or clothing, but it’s a good idea to wear washable clothes.
- The pressure from the probe may feel slightly uncomfortable. If you have any pain, tell the technologist.
This duplex ultrasound scan provides (1) a picture of a blood vessel, and (2) a graph that shows the speed of blood flow in the vessel.
After Your Test

• Before leaving, you may need to wait briefly while your images are being reviewed.
• You can return to normal activities right away.
• Your doctor will let you know when the test results are ready.

The Next Step

Your doctor will discuss the results of your test with you. He or she will talk to you about any further testing or treatment that may be needed.