

How do I prepare for the test?

You will be asked to remove any jewelry that might interfere with the test, such as earrings. If you use contact lenses, you will need to remove them before the test.

What happens during the test?

You will lie down on an examination table or sit in a chair. A clear gel will be applied to the areas of your head where the device will be placed—usually on your temple, in front of the ear, on the back of the neck, and over your closed eyelids. These are the best areas for the sound waves to pass through to your brain because the bone is thinner.

You will need to keep your head still. The doctor or technician will press the device against your skin and move it back and forth several times to get many different views of the blood vessels. Rarely, a compression test may be done in which the carotid artery in your neck is pressed briefly to detect changes in blood flow inside the brain.

You may hear a whooshing sound or a sound like a heartbeat as the machine monitors and measures the blood flow through the artery. The test usually takes from 30 to 45 minutes.

What happens after the test?

You may go back to your normal activities after the test. The gel can be washed off with soap and water. The technician will record the test so that it can be reviewed by a radiologist, who will contact your doctor with the results.

What do the results mean?

A transcranial Doppler ultrasound test performed after you have had a stroke will show the amount and direction of blood flowing through the blood vessels inside your brain. By looking for irregular or disrupted blood flow your doctor will be able to pinpoint which area of the brain is getting little or no blood supply. The amount of blood that is flowing will help determine the amount of narrowing and your risk for another stroke. The more severe the narrowing, the more you may benefit from procedures to open the vessels and prevent a stroke, such as [carotid endarterectomy](#).

When it is used during surgical or catheter procedures, the test monitors the flow of blood. Any irregularity in blood flow will alert the doctor in time to make changes to the procedure to ensure the flow of oxygen to your brain is not interrupted and to avoid complications such as blood clots.

If you are being monitored after sudden bleeding in the brain, changes in the speed of blood flow can mean vessels are contracting (vasospasm). This is a major risk for stroke and death, and early detection means treatment can be started in time to avoid any serious problems.

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