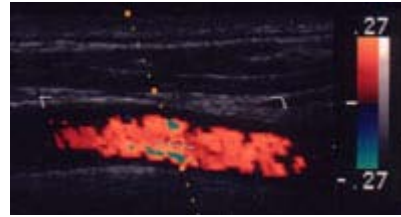


## Carotid Ultrasound (Carotid Doppler, Carotid Duplex)

**C**arotid ultrasound is a test that shows the carotid arteries (vessels in the neck that provide blood flow to the brain), as well as how much blood flows and how fast it travels through them. Ultrasound waves -- the same ones used in imaging the fetus in a pregnant woman -- are used to make an image of the arteries. This image can be used to find out if there is an abnormality or blockage of the carotid arteries that could lead to stroke. This test can be used to investigate the carotid arteries for several reasons, but the information here applies only to stroke evaluation.



### Why do doctors use carotid ultrasound?

Doctors often use carotid ultrasound on patients who have had a stroke or who might be at high risk for a stroke. Narrowing of the carotid arteries -- often caused by cholesterol deposits -- and blood clots can be detected using this procedure. These conditions can cause problems with the blood flow to the brain and lead to a stroke. The actual blood flow through the carotid arteries can also be imaged by this test.

### What happens during carotid ultrasound?

You will be asked to lie down on an examination table. The technician (or physician) will place a clear gel on the area of the neck where the carotid artery is located. The gel is simply a lubricant that allows the *transducer* (a device that both puts out and detects ultrasound signals) to slide around easily on your skin.



When the transducer is placed against the skin, an image of the artery is shown on a video screen. To view the arteries from many different angles, your doctor will re-position the transducer several times. Because blood is flowing through the artery, a sound similar to your heartbeat will be heard.

The procedure is repeated for the carotid artery on the other side of the neck. A carotid ultrasound usually only takes 15 to 30 minutes to complete and the results are immediately known by your doctor.

### What are the risks of carotid ultrasound?

Since the procedure is done without entering the body and does not use dyes or x-rays, there is no risk or pain involved in having a carotid ultrasound.

### How does carotid ultrasound work?

The transducer emits high-frequency, ultrasound waves that pass into the body and bounce off the carotid arteries and the red blood cells moving through them. The sound waves are reflected differently by different parts of the body. The transducer detects the different reflections of the sound waves, which are then measured and converted by a computer into live pictures of the arteries and the blood flow.