



### Overview

A stroke results from the disruption of adequate blood flow to the brain. The most common source of disruption is a significant narrowing or blockage of the carotid arteries caused by excessive accumulation of fatty plaque buildup along the artery walls. The carotid arteries are the main blood supply to the brain, and plaque buildup in these arteries is the leading cause of stroke.

Heart Screen uses painless, non-invasive Doppler ultrasound [high-frequency sound waves to image a particular region or organ in the body or to monitor blood flow] technology to provide images of the carotid arteries on both sides of your neck and measure the velocity of the blood flow through these vessels.

### Preparation

No special preparation is needed for carotid ultrasound. Wear a loose-fitting, open necked shirt or blouse for the exam. You will be asked to remove any jewelry or other objects from around your neck.

### Procedure

You will be asked to lie flat on your back on a bed that can tilt and move. It may be necessary to tilt or rotate your head for the best exposure. It also helps to keep your arm and shoulder down. Your head will be supported to keep it still. The technologist applies an acoustic gel on your neck over your carotid arteries. For the exam, a painless instrument, the transducer, is pressed against the skin on both sides of the neck from the collarbone to the angle of the jaw to visualize the inside of the carotid artery. An ultrasound monitor visually depicts the inside of the carotid artery and the rate of blood flow.

The signals are measured and displayed on the computer screen, providing a real-time picture of arterial structure and blood flow. The transducer, in effect, acts as a loudspeaker to create sound vibrations and also as a microphone to record them. The images are recorded on videotape, and individual will be provided with a black and white freeze-frame photo.

The individual should not experience pain or discomfort during a carotid ultrasound examination. He/she may hear some pulse-like sounds depending on the type of ultrasound being performed. A carotid ultrasound screening is usually completed within a few minutes. The technologist will remove the gel from your skin, and you may leave and immediately resume your normal activities.

### Interpretation

Our technician experienced in ultrasound will review the images and provide you with a report for your primary care physician. Your physician will discuss the findings with you.

### Benefits

- No radiation exposure.
- Painless and totally noninvasive, and there are no known complications or side effects.

### Risks

- carotid ultrasound has proved to be a risk-free procedure

### Limitations

- An individual who is difficult to examine because of the size or contour of the neck.
- Calcium deposits in the wall of the carotid artery may make it difficult to evaluate the vessel.
- A small amount of soft plaque that produces low-level echoes may go undetected.
- Ultrasound may not clearly depict the end segment of the carotid artery, but this is very seldom a site of disease