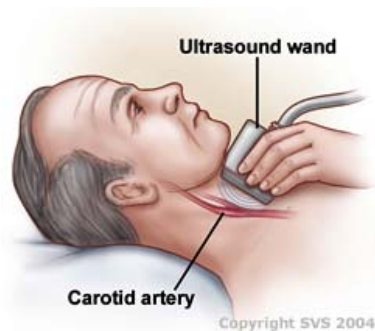


Who Should be Screened for Carotid Disease?

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The duplex ultrasound scan that is used to screen patients for carotid stenosis is a pain-free outpatient test that is easy to perform and reliable in most non-invasive laboratories especially if the laboratory is ICAVL approved. The test is performed in under an hour and consists of placing gel on your neck and having the technician image your carotid arteries and measure their flow as well as taking pictures of the arteries themselves. The degree of narrowing of the artery is related to the velocity. The tighter the stenosis the faster the flow of the blood will go through that area and those numbers will reliably predict the narrowing present in that artery.

There are two arteries in the neck- one is the external carotid artery and that supplies the skin of the face and narrowing of that artery does not result in stroke. The other artery going to the brain, the internal carotid artery, is the one that narrowing can result in stroke. The stroke can either be a mini-stroke called a TIA, or transient ischemic attack called a major stroke.

The areas of the brain that are affected by the internal carotid artery are the speech center, both speaking and understanding words that are spoken. This speech area is usually on the side of the brain opposite a person's handedness. People who are right-handed usually have the speech center on the left. The part of the brain that controls the movement and sensation of the arm and leg can be affected by the internal carotid artery. The left internal carotid artery controls the right side of the body and vice versa.

As the internal carotid artery becomes narrower, pieces of atherosclerotic plaque,(which causes the narrowing) can break off into the brain causing blockage of the smaller blood vessels to those areas of the brain. If the plaque stays lodged a stroke occurs. If it dissolves, a mini-stroke or TIA occurs and the patient goes back to having no symptoms. These pieces of plaque can break off and go into the eye blood vessel on the same side causing transient or permanent blindness. The transient blindness is called amaurosis fugax or fleeting blindness in Latin. Once a mini-stroke or stroke occurs, it is common to have

it happen again in the ensuing weeks to months. Aspirin or blood thinners do not seem to prevent this.

Those who should be screened using a duplex ultrasound scan for carotid artery disease are those with atherosclerotic risk factors such as high cholesterol, smoking, diabetes and hypertension. Some patients will have a noise heard with a stethoscope in the neck when the carotid artery narrowing becomes significant. This is called a bruit. About 50 percent of these patients will have a significant stenosis that will be found prior to having any symptoms. Additionally, those with any mini-strokes or strokes as described above need a carotid duplex ultrasound scan. Once the carotid duplex scan is performed, those patients without symptoms, with an 80 percent or greater stenosis, should see a vascular surgeon along with those patients with symptoms with any degree of stenosis. The vascular surgeon can determine if an operation, carotid endarterectomy or carotid stenting, should be performed.

To learn more about your vascular health and find a vascular surgeon visit VascularWeb.org.