

## What is Carotid Artery Disease?

Carotid artery disease is a condition in which the carotid arteries become narrowed or blocked. When the arteries become narrowed, the condition is called carotid stenosis.

The carotid arteries provide the main blood supply to the brain. They are located on each side of your neck. You can feel their pulse under the jawline.

### Causes

Carotid artery disease occurs when sticky, fatty substances called plaque build up in the inner lining of the arteries. See also: Atherosclerosis (hardening of the arteries)

The plaque may slowly block or narrow the carotid artery or cause a clot (thrombus) to form more suddenly. Clots can lead to stroke.

Risk factors for blockage or narrowing of the arteries include:

- Cocaine use
- Diabetes
- Family history of stroke
- High blood pressure
- High cholesterol
- Increasing age
- Smoking (people who smoke one pack a day double their risk of a stroke)

Two uncommon conditions called Marfan syndrome and fibromuscular dysplasia (abnormal growth or development of the cells in the walls of carotid arteries) may also cause narrowing of the carotid arteries.

### Symptoms

You may not have any symptoms of carotid artery disease.

You may have symptoms of a stroke or a transient ischemic attack (TIA). Some of these symptoms include:

- Blurred vision
- Confusion
- Loss of memory
- Loss of sensation
- Problems with speech and language
- Vision loss

- Weakness in one part of your body

### Exams and Tests

The following tests may be done:

- Blood cholesterol and triglycerides test
- Blood sugar (glucose) test
- Ultrasound of the carotid arteries (carotid duplex Doppler study) to see how well blood is flowing through the carotid artery

The following imaging tests may be used to examine the blood vessels in the neck and brain:

- Carotid or cerebral angiography
- Computerized tomographic angiography (CTA)
- Magnetic resonance angiography (MRA)

### Treatment

Treatment options include:

- Blood-thinning medicines such as aspirin or clopidogrel (Plavix)
- Medicine and diet to lower your cholesterol
- Medicine and diet to control your blood pressure
- No treatment, other than checking your carotid artery with tests every year

There are two invasive ways to treat a carotid artery that is narrowed or blocked. These procedures are done to prevent new strokes in people with large blockages.

- Surgery, called carotid endarterectomy, is done to remove the buildup in your carotid arteries.
- Carotid angioplasty and stenting (CAS) is done through a much smaller surgical cut, by pushing instruments into your arteries and placing a wire mesh inside the artery through a tube in the groin.

### Outlook (Prognosis)

Stroke is a leading cause of death in the United States. Some people who have a stroke recover most or all of their functions. Others die from the stroke itself or from complications. About half of those who have a stroke have long-term problems.

### Possible Complications

The major complications with carotid artery disease are:

- Transient ischemic attack (TIA). This is an episode in which a person has stroke-like symptoms for less than 24 hours, usually less than 1-2 hours. A TIA is often considered a warning sign that a stroke may happen in the future if something is not done to prevent it.
- Stroke. A stroke can happen when a blood vessel in any part of the brain is blocked. The blood flow through the narrowed carotid artery may slow so much that a clot forms. A stroke may also occur if a small piece of a blood clot breaks off and travels to a smaller artery in the brain.

#### When to Contact a Medical Professional

Go to the emergency room or call the local emergency number (such as 911) as soon as symptoms occur. When having a stroke, every second of delay can result in more brain injury.

#### Prevention

The following can help prevent a stroke:

- Adults should have their cholesterol checked every 5 years and treated, if needed. If you have been treated for high cholesterol, you will need to have it checked more often.
- Avoid fatty foods. Follow a healthy, low-fat diet.
- Do not drink more than 1 - 2 alcoholic drinks a day.
- Exercise regularly: 30 minutes a day if you are not overweight; 60 - 90 minutes a day if you are overweight.
- Get your blood pressure checked every 1 - 2 years, especially if high blood pressure runs in your family. If you have high blood pressure, heart disease, diabetes, or you have had a stroke, you need to have it checked more often. Ask your doctor.
- Quit smoking.

Follow your doctor's treatment recommendations if you have high blood pressure, diabetes, high cholesterol, or heart disease.