



Carotid arteries are the two main arteries that carry blood from the heart, up through the neck, to the brain. Healthy carotid arteries are smooth and unobstructed, allowing blood to flow freely to the brain and provide oxygen, glucose, and other nutrients that brain cells need.

Typically, with age, the carotid arteries build up plaque, mostly made up of fat and cholesterol. Plaque narrows the insides of the arteries and makes them stiff. This process is commonly referred to as “hardening of the arteries,” or atherosclerosis. Carotid artery disease results from the carotid arteries becoming narrow or obstructed. This can lead to strokes or “mini-strokes.”

## Symptoms

There may be no symptoms in the early stages of carotid artery disease; therefore, stroke could be the first sign of the condition. Stroke, however, typically has warning signs — mini-strokes, also called transient ischemic attacks (TIAs). TIA symptoms are usually temporary, lasting a few minutes to a few hours. TIAs should be treated as serious medical emergencies, and they require immediate treatment.

Some symptoms of TIA and stroke include:

- Weakness, numbness, or tingling on one side of the body
- Inability to control movement of a body part
- Loss of vision or blurred vision in one or both eyes
- Inability to speak clearly
- Difficulty talking or comprehending what others are saying

## Stroke Warning Signs



**F**  
Face  
Drooping



**A**  
Arm  
Weakness



**S**  
Speech  
Difficulty



**T**  
Time to  
call 911

## Talk to a Doctor

Patients who suspect they are having a stroke or TIA should immediately seek emergency medical treatment. **Learn the stroke warning signs: F.A.S.T.**

- **F**ace Drooping
- **A**rm Weakness
- **S**peech Difficulty
- **T**ime to call 911

## Causes and Risks

Causes and risk factors of carotid artery disease:

- Age
- Obesity
- High blood pressure
- Lack of exercise
- Diabetes
- Family history
- Smoking
- High cholesterol

## Diagnosis

If a doctor suspects carotid artery disease, they will recommend undergoing a noninvasive duplex ultrasound examination. The ultrasound results will confirm if the disease is present and its severity.

## Role of a Vascular Surgeon

If carotid artery disease is confirmed or suspected, the patient may be referred to a vascular surgeon. Vascular surgeons are educated and trained in the diagnosis, medical management and all of the procedural options (surgery, stents) to treat carotid artery stenosis.

## Treatment

Depending on the severity of the condition, treatment options may include lifestyle changes, medications, or procedures. Carotid endarterectomy is one type of surgery, which includes cleaning out the carotid artery plaque. In select cases, doctors might recommend carotid artery stenting. Some patients benefit from surgery even if they do not have symptoms.

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