



**Medical
Blueprints**

WAYS TO PREVENT STROKE YOU MIGHT NOT KNOW REPORT #2781

BACKGROUND: There are some strokes caused by an abrupt blockage of arteries leading to the brain, known as ischemic stroke. Other strokes are caused by bleeding into brain tissue when a blood vessel bursts, known as hemorrhagic stroke. A stroke is also called a brain attack because it occurs rapidly and requires immediate treatment. When the symptoms last only a short time (less than an hour), it is called a transient ischemic attack (TIA) or mini stroke. The effects of a stroke depend on which part of the brain is injured, and the severity of the injury. In the U.S., there are more than 795,000 people who have a stroke, and about 610,000 of these are first or new strokes. About 87% of all strokes are ischemic strokes. Strokes kill about 140,000 Americans each year. (Source: <http://www.strokecenter.org/patients/about-stroke/what-is-a-stroke/> and <https://www.cdc.gov/stroke/facts.htm>)

DIAGNOSING A STROKE: In diagnosing a stroke, doctors will also need to rule out other possible causes of your symptoms, such as a brain tumor or a drug reaction. During a physical exam, your doctor will listen to your heart, check your blood pressure, and give you a neurological exam to see how a potential stroke is affecting your nervous system. You may also have blood tests to check how fast your blood clots, whether your blood sugar is too high or low, and whether you have an infection. A CT scan can show bleeding in the brain, an ischemic stroke, a tumor or other conditions. An MRI can detect brain tissue damaged by an ischemic stroke and brain hemorrhages. A carotid ultrasound will show buildup of fatty deposits, or plaques, and blood flow in your carotid arteries. In a cerebral angiogram, your doctor inserts a thin catheter through a small incision in your groin and guides it through major arteries into your carotid or vertebral artery. This procedure gives a detailed view of arteries in your brain and neck. And finally, an echocardiogram can find a source of clots in your heart that may have traveled from your heart to your brain and caused your stroke. (Source: <https://www.mayoclinic.org/diseases-conditions/stroke/diagnosis-treatment/drc-20350119>)

A THERAPY WITH PROMISE: A trial out of Nashville, Tennessee has shown the benefit of catheter-based clot removal to restore blood flow in brain arteries in patients with the most severe strokes. This breakthrough, known as acute stroke therapy, mimics the treatment of heart attacks, where catheter-based treatments to open the blocked coronary artery have proven less deaths. The procedure of using a catheter to physically penetrate and then dissolve, or remove large clots, in brain arteries can now be considered beneficial. Two major advances have led to recent successes. First, the field moved from injecting thrombolytic agents that dissolved clots over time to deploying stents that could capture the clot and remove it from the artery when the device is removed from the vessel. The second advance was the use of imaging techniques to select patients for the study who have both large clots and incomplete brain injury. By injecting a common contrast agent intravenously with the brain CT scan or MRI, large artery blockages can easily be identified. (Source: <https://www.ninds.nih.gov/News-Events/Directors-Messages/All-Directors-Messages/New-Breakthrough-Acute-Stroke-Therapy>)

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