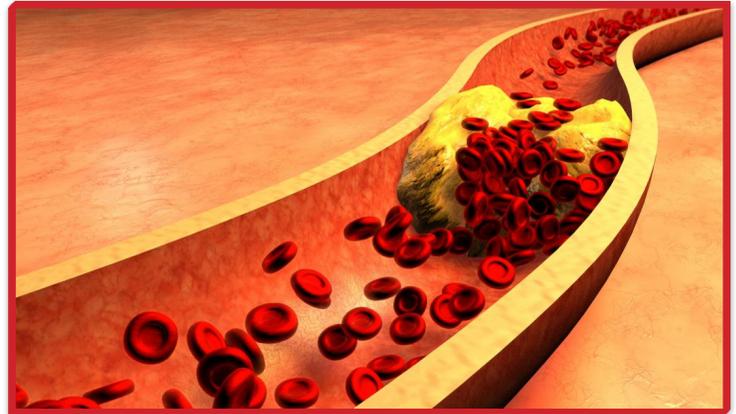


## Types of Strokes

According to the American Stroke Association, there are three types of major strokes

### **Ischemic Strokes (Clots)**

Ischemic stroke occurs when an artery (blood vessel) carrying blood to the brain is blocked. The underlying condition for this type of obstruction is the development of fatty deposits or blood clots lining the vessel walls, narrowing the arteries in the neck or head. This condition is called Atherosclerosis. These blood clots can cause two types of obstruction:



**Cerebral thrombosis refers to a thrombus (blood clot) that develops at the clogged part of the vessel.**

**Cerebral embolism** refers generally to a blood clot that forms at another location in the circulatory system, usually the heart and large arteries of the upper chest and neck. A portion of the blood clot breaks loose, enters the bloodstream and travels through the brains' blood vessels until it reaches vessels too small to let it pass. A second important use of embolism is an irregular heartbeat known as atrial fibrillation. It creates conditions where clots can form in the heart, dislodge and travel to the brain. Silent cerebral infarction (SCI), or "silent stroke," is a brain injury likely caused by a blood clot interrupting blood flow in the brain. It's a risk factor for future strokes which could lead to progressive brain damage due to these strokes.

## Hemorrhagic Stroke

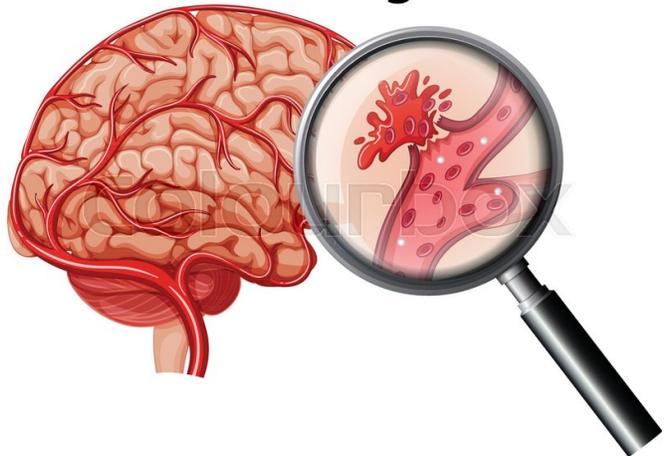
Hemorrhagic Stroke occurs when a weakened blood vessel (artery) ruptures or leaks. Hemorrhagic strokes are less common, but they are responsible for about 40 percent of all stroke deaths. There are two types of hemorrhagic stroke called Intracerebral (A blood vessel inside the brain bursts and leaks blood into surrounding brain tissue) and subarachnoid (involves bleeding in the area between the brain and the tissue covering the brain). Two types of weakened blood vessels usually cause hemorrhagic stroke: Aneurysms and Arteriovenous Malformations (AVMs).

### Hemorrhagic Strokes (Bleeds)

An **aneurysm** is a ballooning of a weakened region of blood vessel. If left untreated, the aneurysm continues to weaken until it ruptures and bleeds into the brain.

People usually aren't born with aneurysms. Most develop after age 40. Aneurysms usually develop at branching points of arteries and are caused by constant pressure from blood flow. They often enlarge slowly and become weaker as they grow, just as a balloon becomes weaker as it stretches. Aneurysms may be associated with other types of blood vessel disorders, such as fibromuscular dysplasia, cerebral arteritis or arterial dissection, but these are very unusual.

### Hemorrhagic Stroke

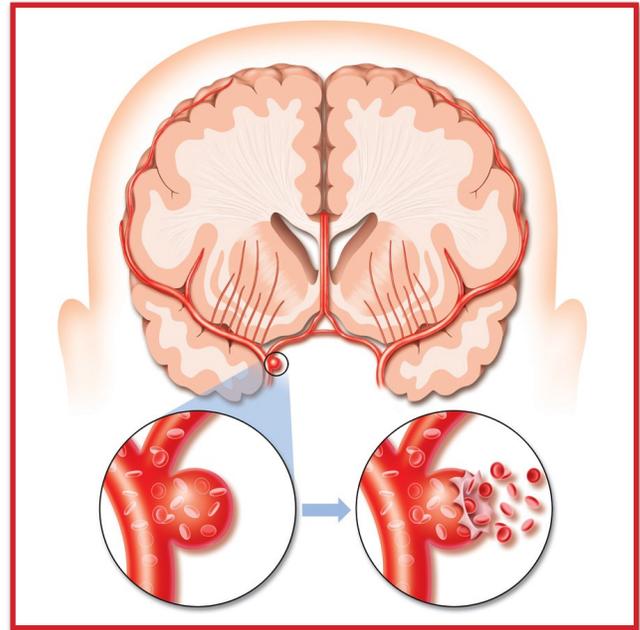


## **Transient Ischemic Attacks**

TIA's are often labeled "mini-strokes," because they can be relatively benign in terms of immediate consequences. But the term "warning stroke" is more appropriate for these temporary episodes, because they can indicate the likelihood of a coming stroke.

Like most strokes, TIAs are caused by a clot or blockage in the brain. TIAs should be taken very seriously. If you suspect a TIA or stroke of kind, be sure to call 9-1-1. Know the warning signs. Blockage is short-

term or temporary during a TIA or warning stroke. The clot may dissolve on its own or get dislodged so that it stops causing the symptoms.



**Temporary symptoms may occur.** A third of U.S. adults have had symptoms consistent with a TIA. The symptoms are similar to an ischemic stroke, but TIA symptoms usually last less than five minutes with an average of about a minute. When a TIA is over, that particular blockage usually causes no permanent injury to the brain.

**The body resolves the blockage.** The blockage causing the TIA may get pushed "downstream" or may be broken up by natural clot-dissolvers (called anticoagulants) in the blood, so the blockage is not in place long enough to cause any lasting damage to the brain.

All stroke survivors should pay particular attention to the signs of TIA. Survivors who experience a TIA after they have had a stroke should go to the emergency room immediately, because something in their

treatment plan has not worked. Having a first stroke increases the likelihood of having another one, so take the warning seriously

Anyone can experience a TIA, but the risk increases with age.

Even though a TIA may seem to be resolved within minutes, with no noticeable or lasting effects, anyone who has symptoms should be rushed to the emergency room.