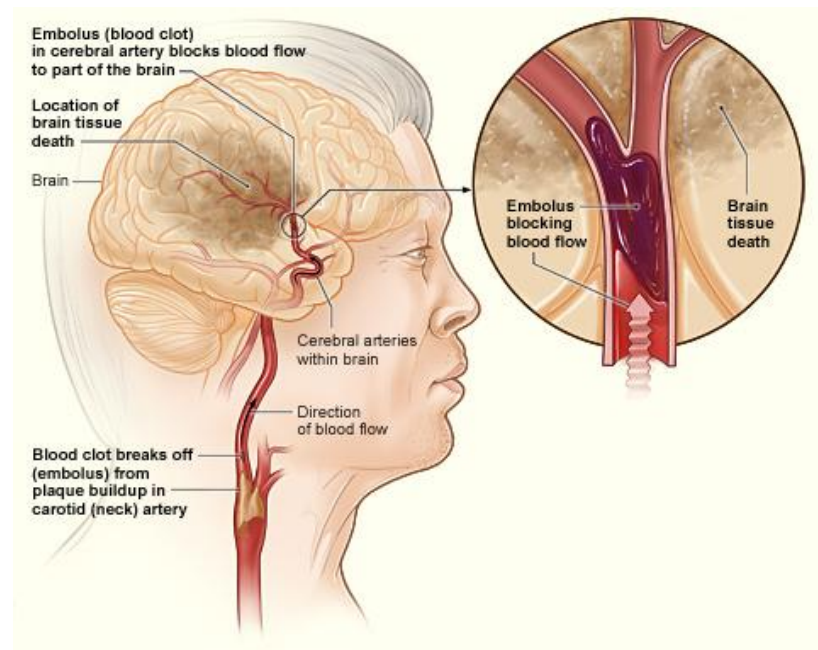


Stroke is the 5th leading cause of death in the United States and is a major cause of disability (CDC, 2022). The good news is strokes are highly preventable.

There are 3 types of strokes: ischemic, hemorrhagic, and transient (CDC, 2022), but I'm also going to add the silent stroke. We will discuss each stroke type in detail below.

Ischemic Stroke

This is the most prevalent type of stroke (87%). An ischemic stroke happens when blood flow through an artery to the brain is blocked. Often the blockage is from a blood clot, but a build of plaque (atherosclerosis/ carotid artery disease) or high blood pressure may also contribute. This blockage means that that section of the brain is no longer receiving oxygen and has become *ischemic*.



You may hear your doctor referring to a thrombosis or an embolism, either of which can cause an ischemic stroke. A thrombosis is a blood clot that forms at the site of ischemia/oxygen deprivation. An embolism is a blood clot that forms somewhere else in the body and travels to the brain.

Since ischemic strokes are caused/contributed to by; smoking, high blood pressure, and/or atherosclerosis they are highly preventable. Prevention can be by avoiding plaque buildup in the arteries, by controlling high blood pressure, and through smoking cessation.

Hemorrhagic Stroke

A hemorrhagic stroke occurs when an artery in the brain ruptures. The blood leaking into the surrounding tissues causes damage to the cells in the area. The blood that manages to remain circulating is less oxygenated and thus the damage from a hemorrhagic stroke can be more widespread.

There are 2 types of hemorrhagic stroke: intracerebral and subarachnoid. An intracerebral hemorrhagic stroke is the most common type of hemorrhagic stroke and occurs when an artery IN the brain ruptures. A subarachnoid hemorrhagic stroke occurs when blood vessels rupture between the meninges that surround the brain. The meninges have 3 layers: pia, arachnoid, and dura. In a subarachnoid hemorrhagic stroke the bleeding occurs between the pia mater and the arachnoid layer, thus sub (lower/under) arachnoid.

A hemorrhagic stroke occurs due to weakened blood vessel walls leading to thin walls of the blood vessel. The thinning of the blood vessel wall may be a genetic predisposition, from high blood pressure, or from head injury/trauma.

You can reduce your risk of having a hemorrhagic stroke by:

- Avoid head trauma - use helmets and safety equipment.
- Lower your blood pressure.
- Genetics - You can't change your genes, but you can support healthy blood vessel wall formation through diet and/or supplementation.

Transient Ischemic Attack (TIA); aka mini-stroke

A TIA occurs when the blood flow to the brain is blocked for a short time. The blockage could be in place for seconds or minutes, but typically no longer than 5 minutes. As the thrombus/emboli travels it may block more than one artery for a short time as it travels and becomes lodged and released repeatedly. This is important, because this may mean symptoms come and go suddenly and may change/evolve as the blood clot travels.

TIA's are a known risk factor for stroke, so patients who experience a TIA should be watchful of any signs/symptoms, especially within the first 90 days after a TIA. The stroke risk is increased for up to a year following a TIA.

Silent Stroke

The official term is a Silent Cerebral Infarction (SCI); this is basically a TIA that happens so quickly that you don't know anything has happened. Unfortunately, SCIs do cause tissue damage/death even if you don't know it has happened. In rare instances, SCIs may be happening multiple times and the person is unaware until enough damage has been done that they begin to have symptoms.

The most common risk factor for SCIs is Atrial fibrillation, especially if you are 65 or older. Other risk factors for SCIs include; high systolic blood pressure and/or elevated levels of homocysteine.

Risk Factors for Stroke: Change or stop these behaviors to reduce your risk of having a stroke.

- Overweight/obese
- Hypertension/high blood pressure
- Diabetes
- Smoking
- Diet high in saturated fat, trans fat, sodium, and/or sugar/refined carbohydrates
- AFib
- High cholesterol
- Sickle cell disease
- Use of oral contraceptives
- Sedentary lifestyle
- Age (your risk increases with age)
- Genetics (not changeable, but you can support deficiencies)
- **Pharmaceutical medications**, unfortunately, stroke is a serious side effect of MANY pharmaceutical medications, even over-the-counter drugs, such as Naproxen and Ibuprofen, increase your risk of stroke. Not all medications can be avoided, but Naturopathic medicine offers many modalities/therapies that may (will!) reduce your risk of stroke either by delaying your need for medication or by reducing the amount of medication you require. (Never stop or change a prescription without talking to your medical doctor first.)

Your Doctor Can Help You Reduce Your Risk of Having a Stroke:

Naturopathic Doctor

Your Naturopathic doctor can help you prevent stroke by:

- Treating high blood pressure, there are lots of botanical medicines that act as ACE-inhibitors, such as *Euphorbia hirta*.
- Treat arteriosclerosis, dietary changes, and plant sterols that are concentrated in botanical medicines can help prevent and/or decrease arteriosclerosis.
- Anticoagulants, such as high-dose fish oil as an additional therapy.
- Your Naturopathic doctor may advise you to lose weight, exercise, change your diet, focus on the determinants of health, or recommend an anti-inflammatory diet.
- Constitutional hydrotherapy - increased circulation through vasodilation, plus many other health benefits.
- Infrared sauna - increased circulation through vasodilation, plus many other health benefits.
- Acupuncture - may decrease high blood pressure
- Massage - increased circulation and decreased blood pressure.
- Supplements - such as antioxidants or cortisol management that help to supplement a healthy diet and balanced determinants of health.
- Stress management - Vitamin R is a powerful and necessary determinant of health, through stress management you may lower your blood pressure and increase circulation.

Medical Doctor

Your medical doctor can help you prevent stroke by:

- Treating high blood pressure, usually by prescribing an ACE-inhibitor.
- Treat arteriosclerosis, usually by prescribing a statin.
- Additional treatment may be aspirin or anticoagulant therapy, these thin the blood making a clot less likely.
- Your doctor may advise you to lose weight, exercise, and/or change your diet, usually by recommending the DASH diet.

Signs of a stroke

You may have heard or seen the “Act FAST” (Face, arms, speech, time) campaign that was developed in the UK in 1998. The campaign helps you remember the key signs of

a stroke, however, I like to use “Act FASTER” which was developed by the Beaumont Stroke Center. “Act FASTER” covers a wider range of symptoms, which is important because the signs of a stroke may be different based on which artery to the brain is blocked.

Act F.A.S.T.E.R.

Face - the person’s face may look strange or one side will be droopy.

Arms - the person can not even lift their arms and/or one arm feels numb.

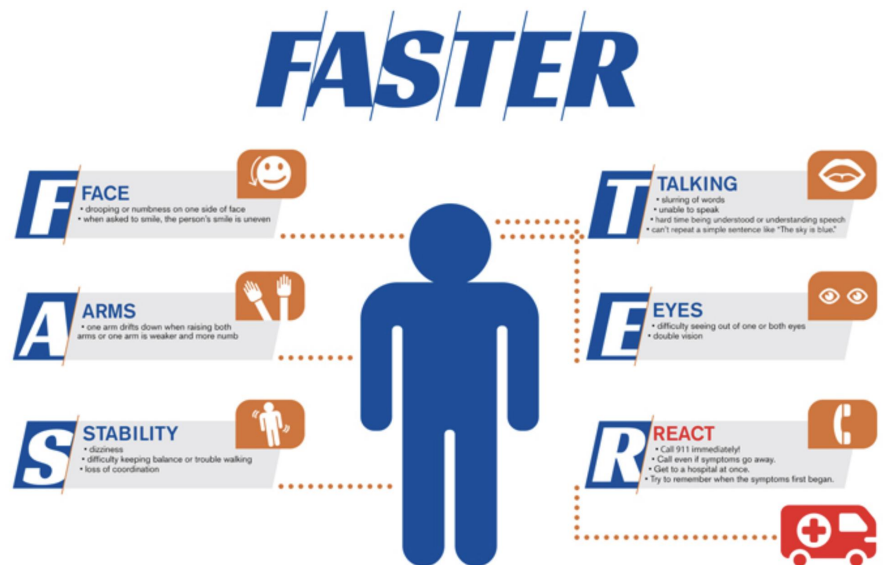
Stability - they are unstable, have a loss of coordination, or are dizzy.

Talking - the person is slurring words, unable to speak, or can’t form a sentence.

Eyes - the person has difficulty seeing out of one eye, or both eyes, and/ or has double vision.

React - call 911 immediately, **even if symptoms go away**. The damage from a stroke can be minimized and survival rates are drastically increased the faster the person gets help.

It is important to remember that any ONE of these signs/symptoms is an emergency, some exceptions could be the eyes. However, the vision problems that occur during stroke are usually sudden and severe. For instance, when I had a Transient Ischemic Attack I went completely blind for a few seconds and then was suddenly fine again. A good note to remember is any symptom that comes on suddenly and severely is never a good sign and should not be ignored.



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References are available upon request.