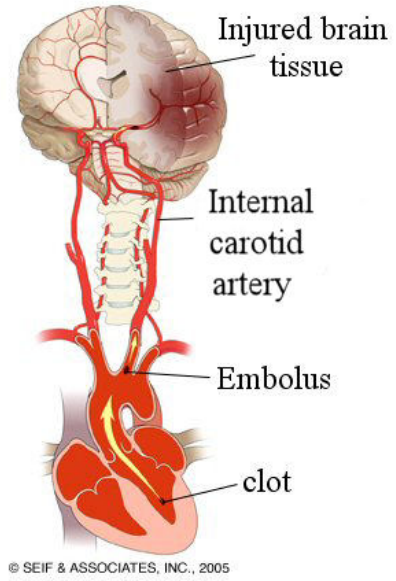
Diabetes & Cerebrovascular Disease (Strokes)

Cerebrovascular disease is when there are problems with the blood vessels of the brain, which can often result in a stroke. There are two types of strokes:

- Ischemic stroke. This type occurs when a blood vessel supplying blood to the brain is blocked (*obstructed*).
- Hemorrhagic stroke. This type occurs when a blood vessel breaks open (*ruptures*).



The majority of strokes are ischemic strokes. They are usually caused when fatty deposits lining the wall of the blood vessel (*atherosclerosis*) cause an obstruction and then blood can not flow properly.

Hemorrhagic stokes account for a smaller amount of all strokes. This occurs when the blood vessel becomes weak and ruptures. This sometimes is caused by the rupture of a bulging or weak spot on a blood vessel (*aneurysm*) or blood vessels that are not normally formed (*arteriovenous malformations*). Both of these, when they happen, cause bleeding into the brain.

STROKE WARNING:

Often people will have warning signs before they actually have a stroke. A trans ischemic attack (TIA) is a warning sign that there is a decrease in oxygen and blood supply to an area of your brain. TIA symptoms may last for a few minutes and usually resolve within an hour. Symptoms can persist for up to twenty-four hours. If this does not get better or has not gone away within that time period, it is then, by definition, a stroke. Usually, there is no permanent damage with a TIA.

CAUSES

Diabetes is a risk factor for stroke because of an increase in plaque or fatty deposits (*atherosclerosis*) of the blood vessels. Because of these plaques and fatty deposits in the blood vessels, there is less room for blood and oxygen to flow to the brain, which can cause a stroke.

SYMPTOMS

These symptoms usually develop suddenly (or may be newly present upon awakening from sleep):

- Loss of vision.
- Double vision.
- Confusion.
- Numbness or weakness on one side of the face or body.
- Inability to speak (*aphasia*).

RISK FACTORS

- Diabetes.
- High blood pressure (*hypertension*).
- High cholesterol.
- An abnormal heart rhythm (*atrial fibrillation*).
- Age over 40.
- Family history of stroke or heart attack.
- Personal history of blood clots.
- Smoking.
- Use of illegal drugs, especially cocaine and methamphetamine.
- Oral contraceptives, especially in combination with smoking.

EARLY STROKE TREATMENT

- Treatment of *ischemic stroke* may use "clot buster" medicine. This must be done within 4.5 hours of stroke symptoms. Clot buster medicine can help break up a clot that is blocking the blood supply to the brain.
- Treatment for *hemorrhagic stroke* is often surgical. This may be done by placing a metal clip at the base of the bulging or weak spot on a blood vessel (*aneurysm*). Strokes caused by blood vessels that are not

normally formed (*arteriovenous malformations*) may be treated by removing the abnormal vessels.

TIME IS OF THE ESSENCE! Medications to dissolve a blood clot can only be used within 4.5 hours of the onset of symptoms. After the 4.5 hour window has passed, treatment may include rest, oxygen, intravenous fluids, and medications to thin the blood (to prevent another stroke). Treatment of stroke depends on duration of symptoms, severity, and cause. Medications and diet may be used to address diabetes, high blood pressure, and other risk factors. Physical therapy, speech therapy, and occupational therapy specialists will assess you and work to improve any functions impaired by the stroke. Measures will be taken to prevent short and long-term complications, including aspiration pneumonia, blood clots in the legs, bedsores, and falls.

SEEK IMMEDIATE MEDICAL CARE IF:

You experience any of the four major symptoms that may suggest a transient ischemic attack (TIA) or stroke These are:

- A temporary loss of vision.
- Temporary numbness on one side.
- Temporary inability to speak (*aphasia*).
- Isolated areas of weakness, which are temporary.

GO IMMEDIATELY TO THE NEAREST HEALTH CARE FACILITY or call 911. It is important to be evaluated for TIA or stroke. Since stroke treatment is best within 4.5 hours, you should always seek medical care.

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