

Stroke

- **A stroke is a medical emergency in which the blood supply to any portion of the brain is interrupted or reduced.**
- **Alternative names: Cerebrovascular accident/ disease (CVA), Cerebral infarction, Cerebral hemorrhage.**

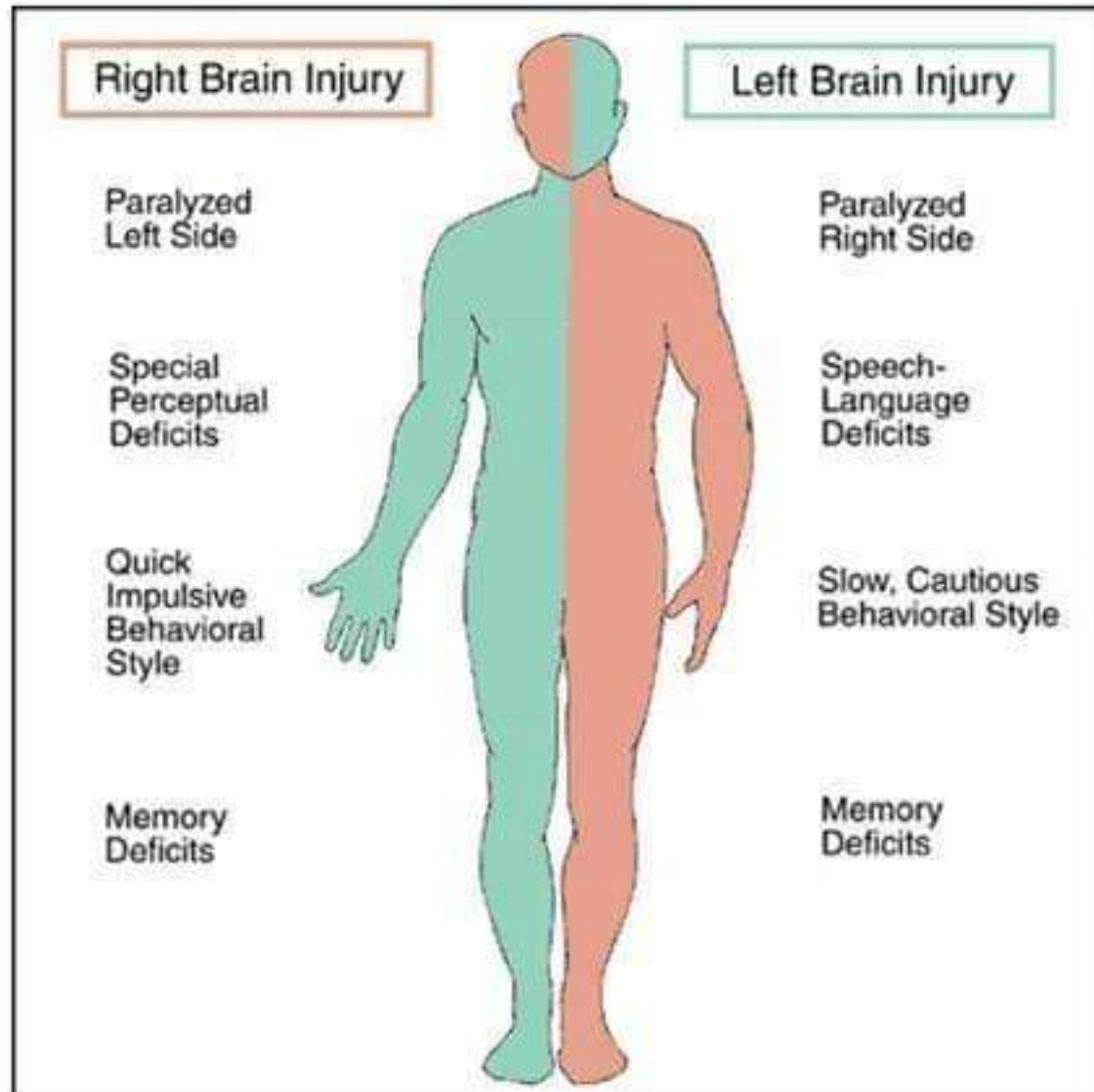
Epidemiology

Stroke is the third leading cause of death in the United States.

Every year 600,000 people will suffer a new or recurrent stroke, and of those, 160,000 will die.



The symptoms of a stroke are dependant on what portion of the brain is damage.



SYMPTOMS

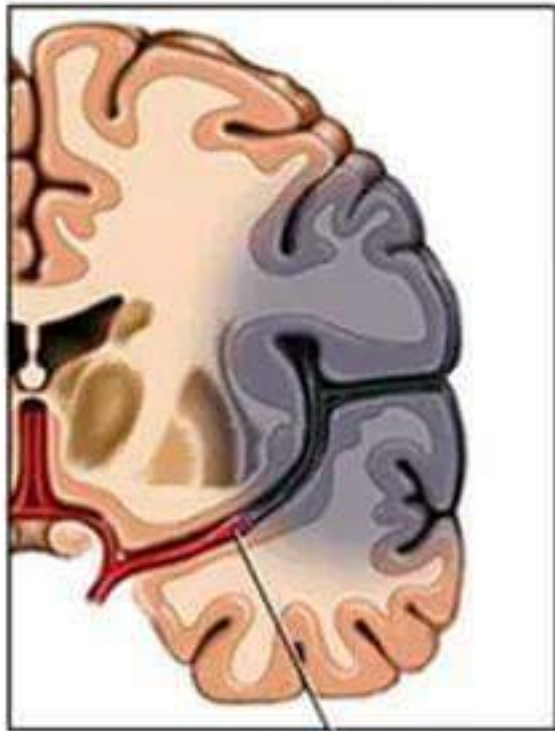
A sudden development of one or more of the following symptoms usually indicates a stroke.

- **Paralysis or weakness in the face, arms and/or legs.**
- **Confusion.**
- **Personality changes.**
- **Sudden change in eyesight.**
- **Decreased motor skills.**
- **Severe headaches**



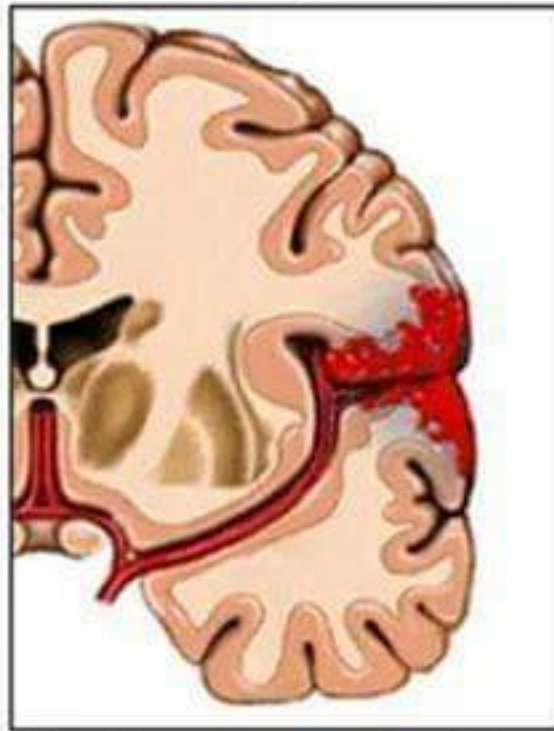
Types of stroke:

Ischemic stroke



A clot blocks blood flow to an area of the brain

Hemorrhagic stroke



Bleeding occurs inside or around brain tissue

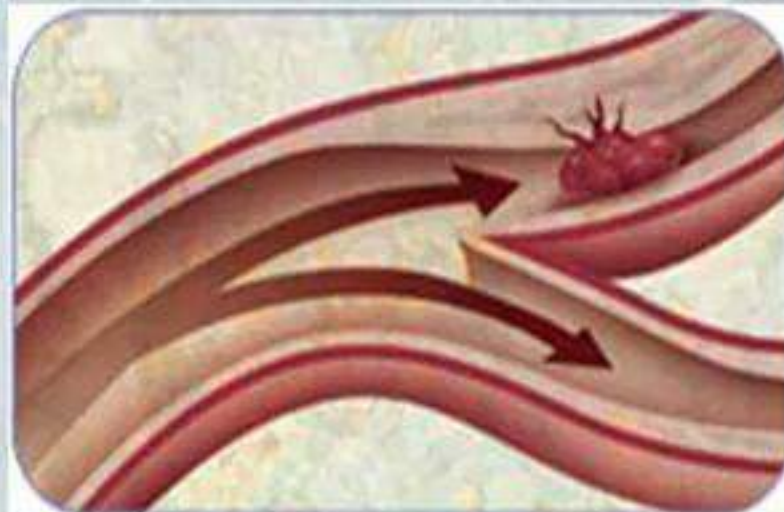
Tests

- **Computed Tomography (CT)**
- **Magnetic Resonance Imaging (MRI)**
- **Cerebral Angiography:** identify responsible blood vessel
- **Electrocardiogram (ECG):** underlying heart conditions
- **Echocardiogram:** blood clot from heart
- **Carotid Duplex:** carotid artery stenosis
- **Heart monitors, blood work and many more tests!!**



Ischemic Stroke:

- A blood vessel becomes blocked and the blood supply to that part of your brain is blocked.
- Types of Ischemic strokes:
 - Thrombotic Stroke
 - Embolic Stroke



<http://www.strokeassociation.org/presenter.jhtml?identifier=1014>

Treatments

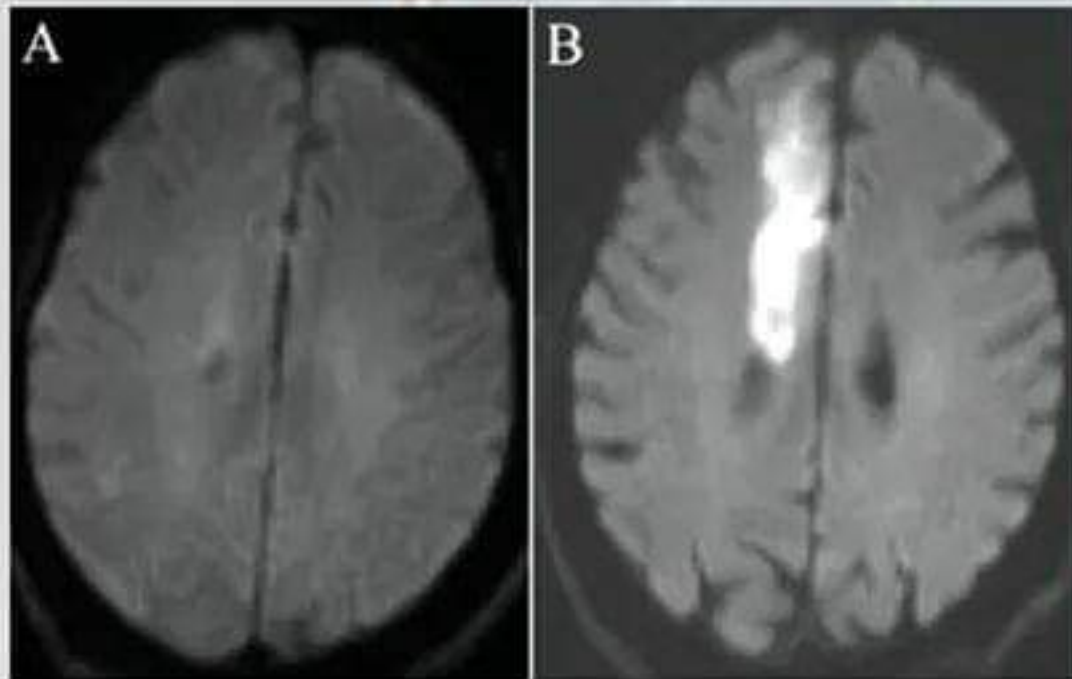
- Tissue plasminogen activator (tPA) can be given within three hours from the onset of symptoms.

In addition to being used to treat strokes, the following can also be used as preventative measures.

- Anticoagulants/Antiplatelets
- Carotid Endarterectomy
- Angioplasty/Stents



Ischemic Stroke

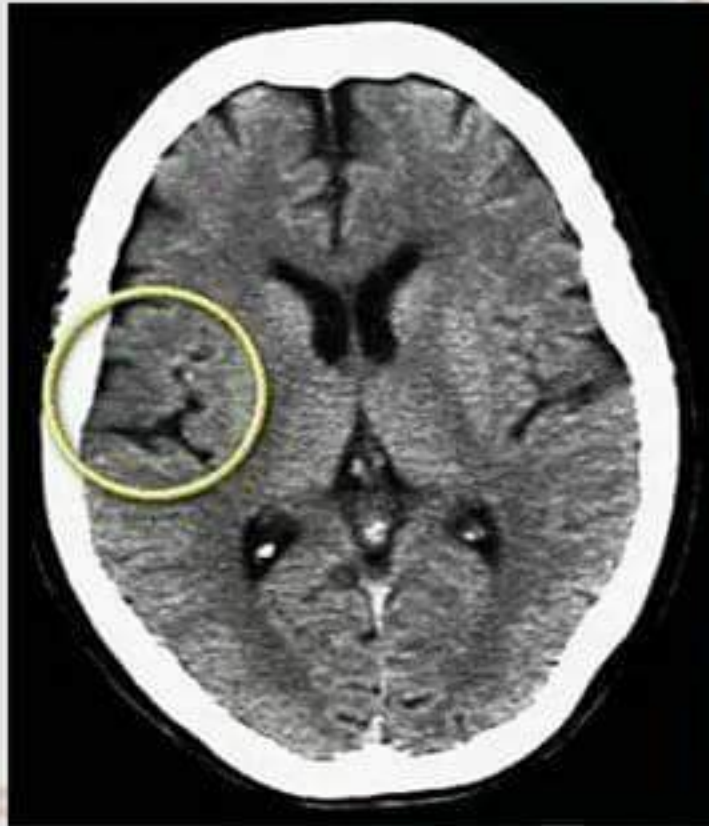


MRI Scan of a normal brain (fig. A) vs. one with an acute ischemic stroke (fig. B).

<http://www.ucihs.uci.edu/stroke/images/tumor.png>



CT



MRI

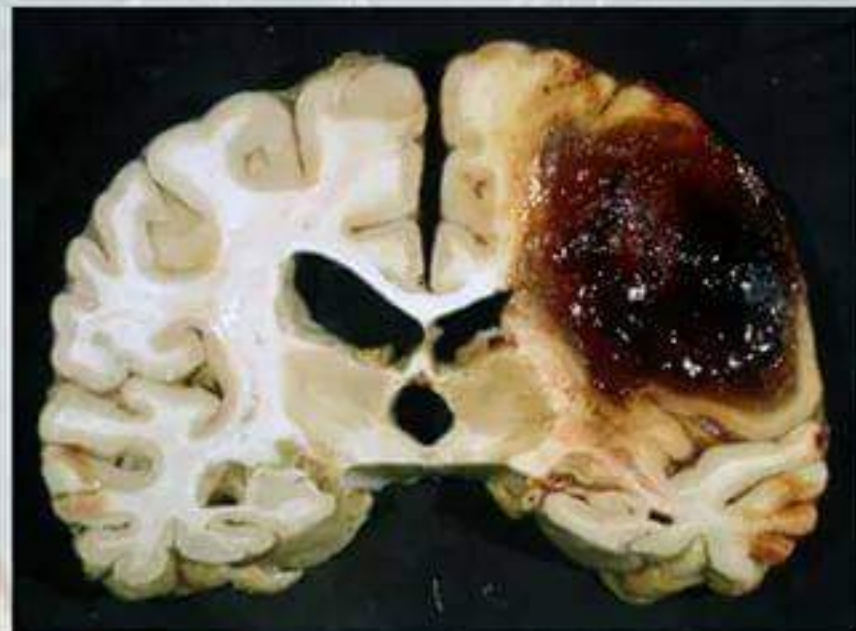


http://www.strokecenter.org/education/ais_ct_tool/index.htm Love to



Hemorrhagic Stroke:

- A small blood vessel in the brain becomes weak and ruptures.
- Types of hemorrhagic stroke:
 - Intracerebral hemorrhage (ICH)
 - Subarachnoid hemorrhage



<http://www.neuropathologyweb.org/chapter2/images2/2-23l.jpg>

Treatment

- Surgery is often required to remove pooled blood from the brain and to repair damaged blood vessels.

Prevention:

- An obstruction is introduced to prevent rupture and bleeding of aneurysms and arteriovenous malformations (AVM).
 - Surgical Intervention
 - Endovascular Procedures



Hemorrhagic Stroke



http://www.strokecenter.org/education/ais_ct_tool/index.htm

Transient Ischemic Attack (TIA)

- **Blood supply to the brain is only briefly interrupted**
- **Symptoms do not last long**
- **Warning Stroke- steps should be taken to prevent future stroke.**

RISKS

- TIA
- CAD
- High Blood Pressure
- High Cholesterol
- Smoking
- Heart Disease
- Diabetes
- Excessive alcohol consumption
- Family History
- Age
- Sex
- Race
- Obesity

Prevention

- **Control high Blood Pressure**
- **Lower cholesterol**
- **Quit smoking**
- **Control diabetes**
- **Maintain healthy weight**
- **Exercise**
- **Manage stress**
- **Eat a healthy diet**