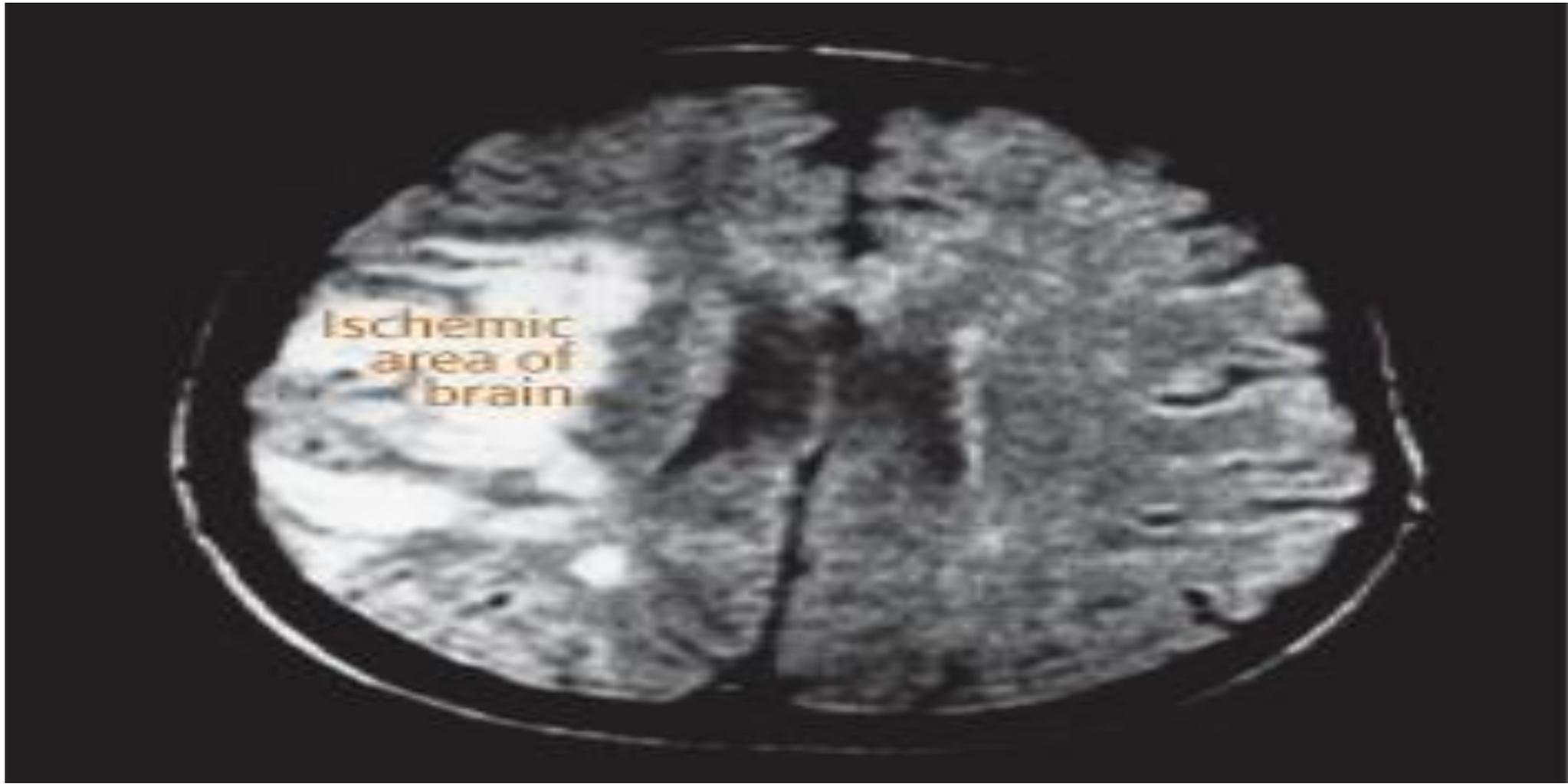


# Cerebrovascular Accident

by

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# Cerebrovascular Accident

**CVA : is a decrease in blood flow and oxygen to brain cells with the subsequent loss of neurological functioning.**

Causes of stroke are classified as **ischemic** (disruption of blood flow to part of the brain due to a thrombus or embolus), accounts 80% of strokes

**hemorrhagic** (loss of blood flow due to rupture of cerebral vessels), accounts 20%

# Cerebrovascular Accident

- also referred to as **Stroke, cerebral vascular accident (CVA), or brain attack,**
- **Approximately 750,000 in USA** Third most common cause of death
  - **#1 leading cause of disability**
  - 25% with initial stroke die within 1 year
  - 50-75% will be functionally independent
  - 25% will live with permanent disability

# Cerebrovascular Accident Classifications

- **Ischemic Stroke**

- Thrombotic
- Embolic

- **Hemorrhagic Stroke**

- Intracerebral Hemorrhage
- Subarachnoid Hemorrhage
  - Aneurysm

# Types of Cerebrovascular Accident (Stroke)

- **Ischemic Stroke (Most Common - 87%)**
  - Caused by a **blood clot** or **blockage** in a blood vessel supplying the brain.
  - Can be due to:
    - **Thrombotic stroke:** A clot forms in a narrowed artery.
    - **Embolic stroke:** A clot travels from another part of the body (e.g., heart).

- **Hemorrhagic Stroke (Less Common but More Severe)**

- Caused by a **ruptured blood vessel**, leading to bleeding in the brain.
- Can be due to:
  - **Intracerebral hemorrhage:** Bleeding directly into the brain.
  - **Subarachnoid hemorrhage:** Bleeding into the space around the brain, often from an aneurysm.

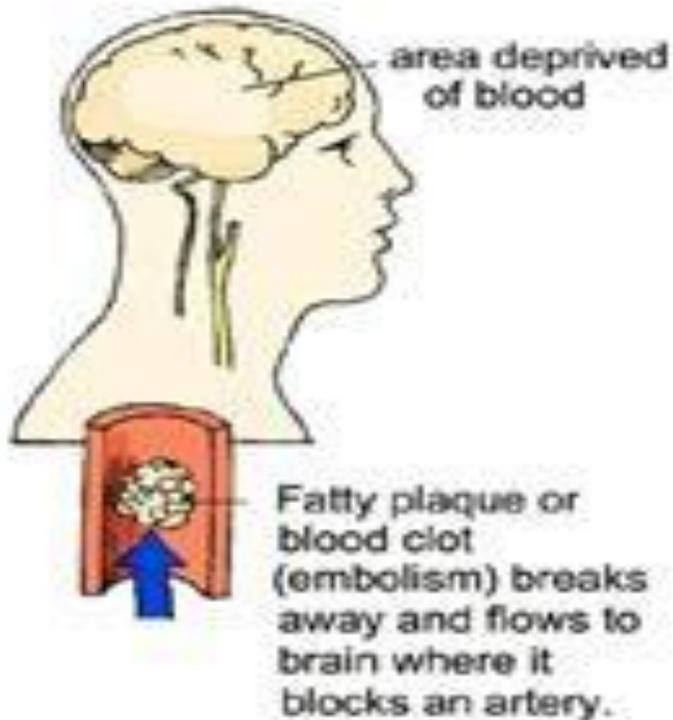
- **Transient Ischemic Attack (TIA) - "Mini-Stroke"**
  - A temporary **blockage of blood flow** to the brain.
  - **Symptoms last less than 24 hours** and resolve completely.
  - A **warning sign** for a future stroke.

# Stroke

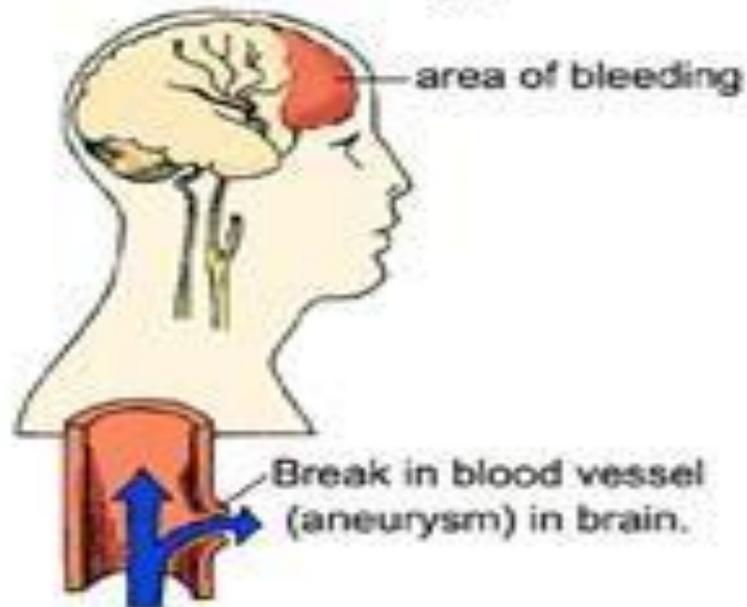
## Major Types of Stroke

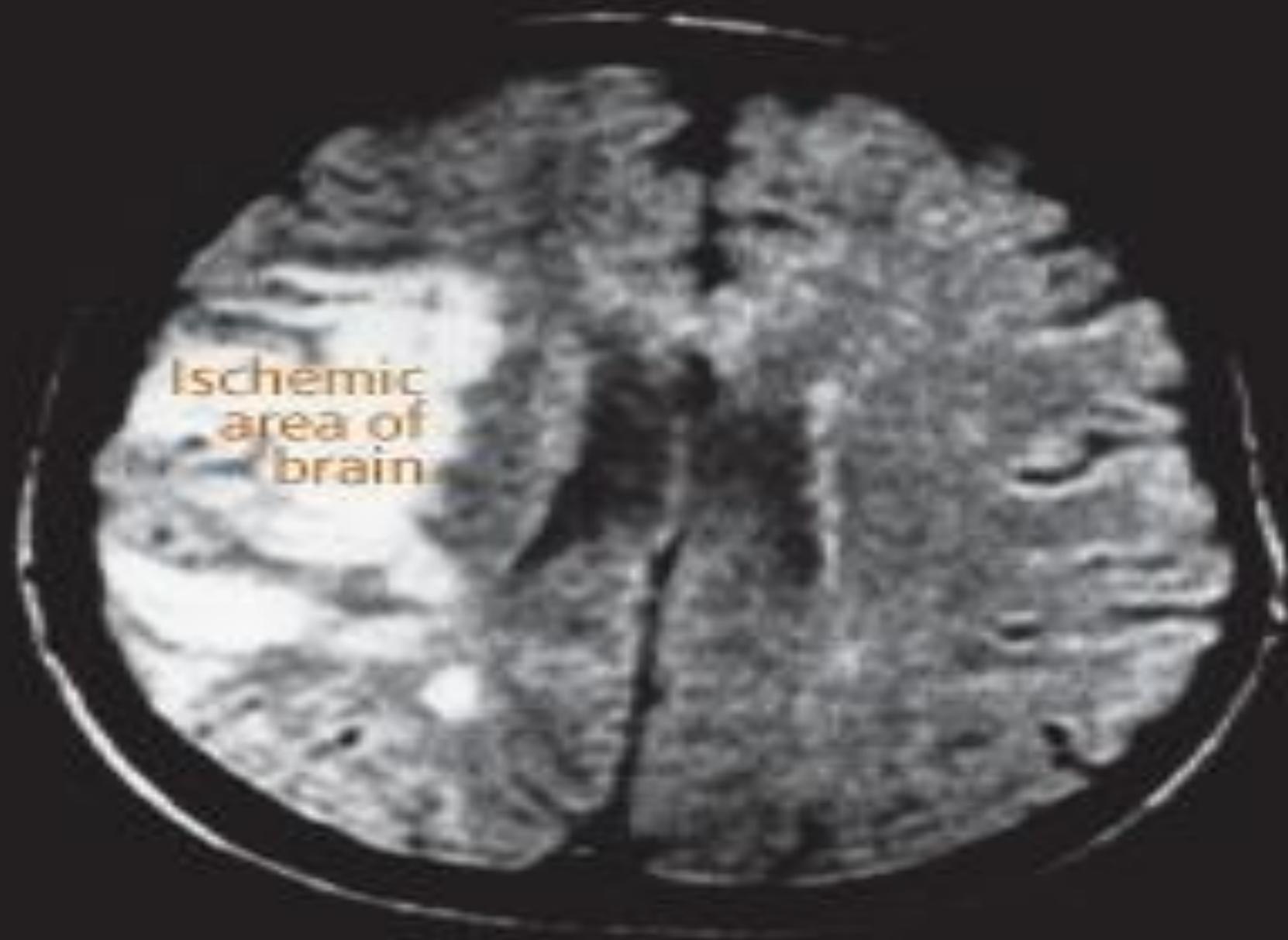
- Major Types of stroke

### Embolic Stroke



### Cerebral Hemorrhage





Ischemic  
area of  
brain

## **Risk Factors**

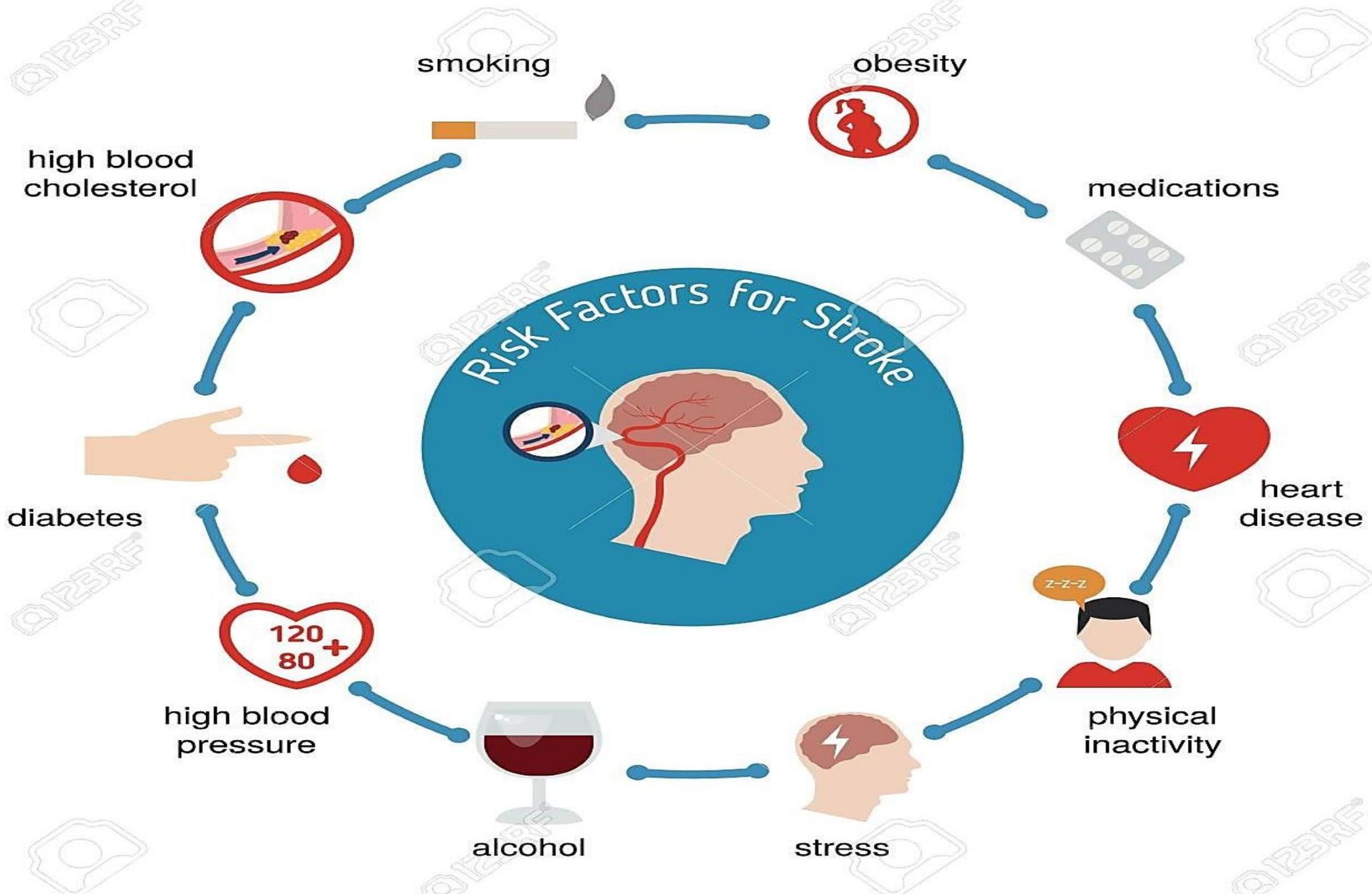
### **No modifiable:**

**Age** – Occurrence doubles each >55 years

**Gender** – Equal for men & women; women die more frequently than men

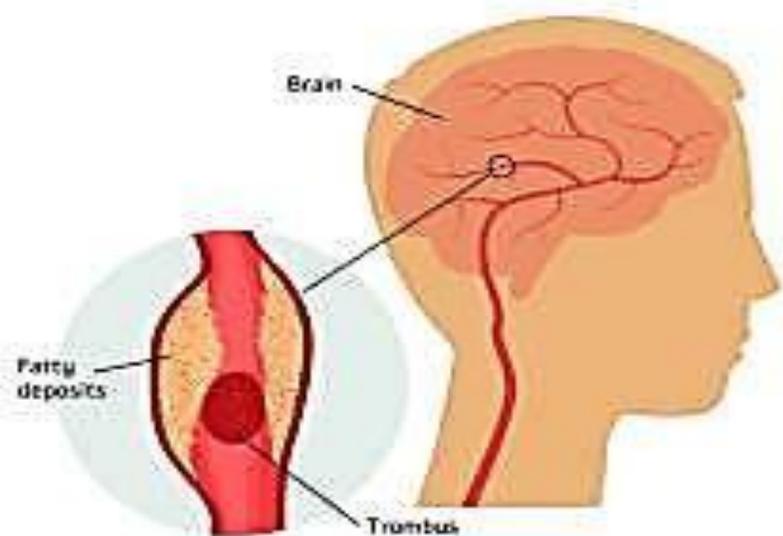
**Race** – African Americans, Native Americans, Asian Americans -- higher incidence

**Heredity** – family history, prior stroke increases risk



# CVA symptoms

- **numbness or weakness of face, arm, or leg, especially on one side of the body**
- **confusion or trouble speaking or understanding speech.**
- **trouble seeing in one or both eyes.**
- **trouble walking, dizziness, or loss of balance or coordination**
- **severe headache with out cause.**
- <https://www.youtube.com/watch?v=A18NEvXEYIM>



## ISCHEMIC STROKE signs and symptoms

**B**



**Balance:**  
Loss of Balance

**E**



**Eyes:**  
Trouble Seeing

**F**



**Face:**  
Face Drooping

**A**



**Arm:**  
Arm or Leg Weakness

**S**



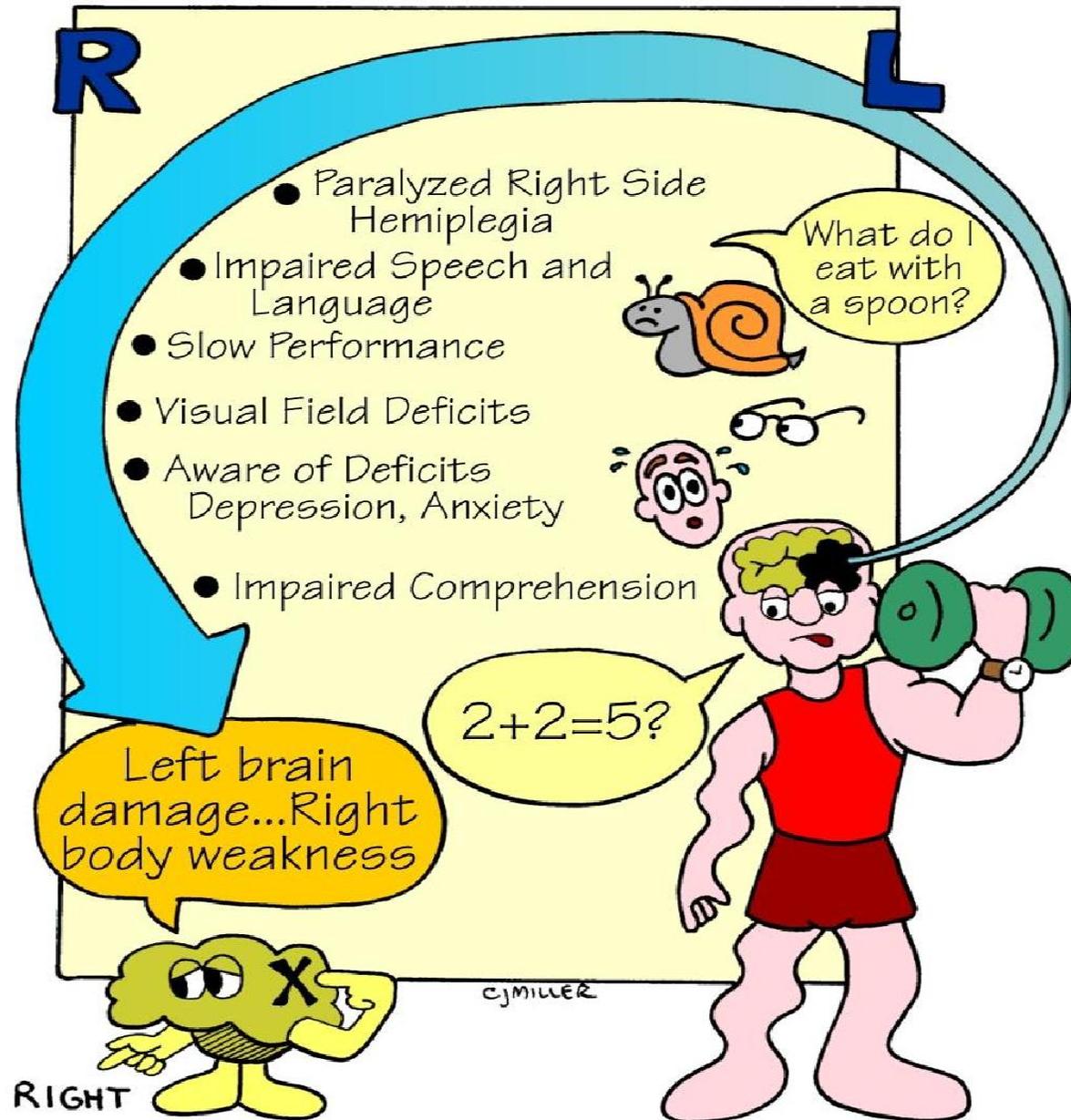
**Speech:**  
Slurred Speech

**T**

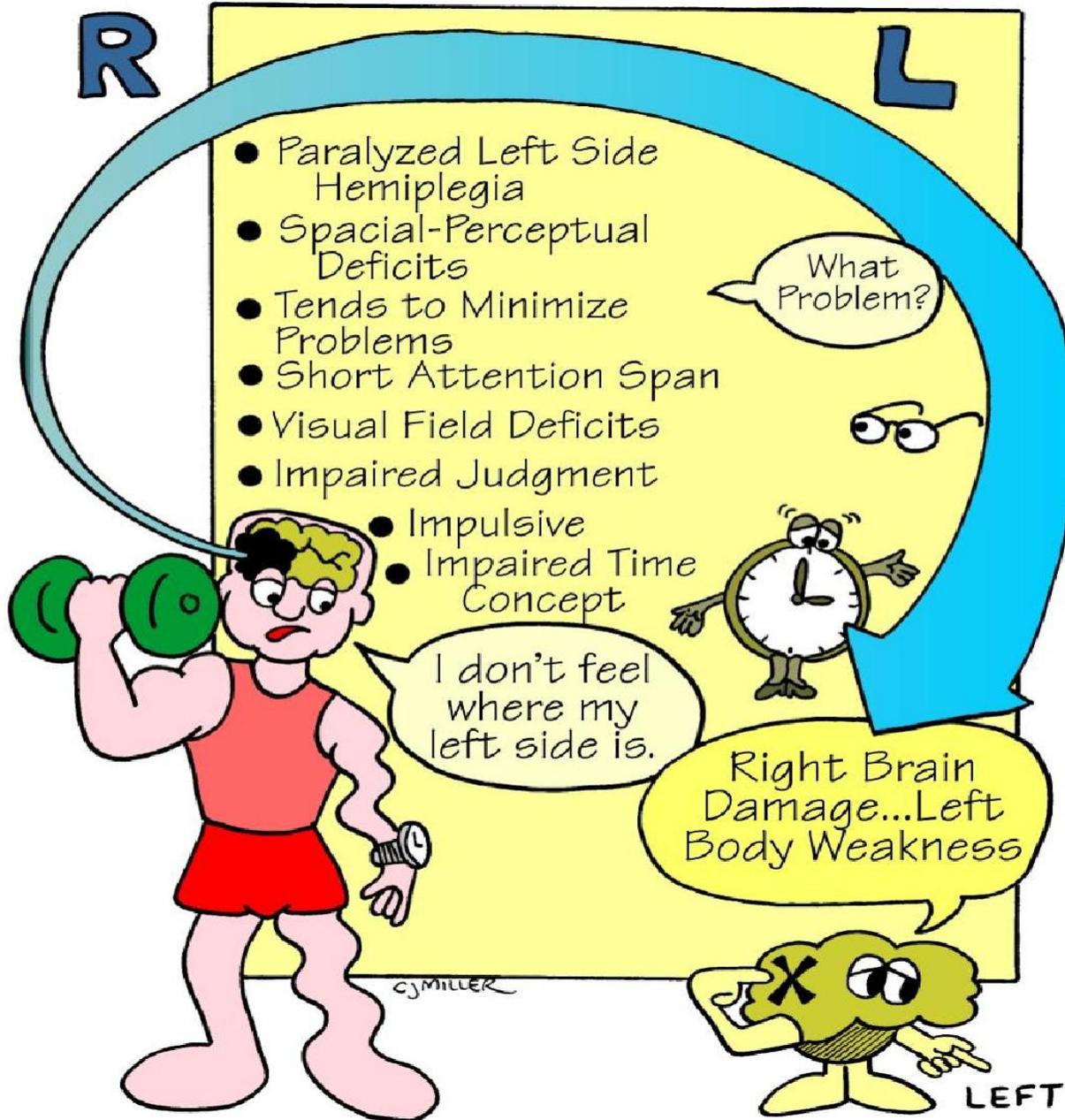


**Time:**  
Time to call 9-11

# LEFT CVA



# RIGHT CVA



# Cerebrovascular Accident Diagnostic Studies

- Done to confirm CVA and identify cause
  - CT – primary – identifies size, location, differentiates between ischemic and hemorrhagic
  - CTA – CT Angiography –
  - MRI – greater specificity than CT

# Cerebrovascular Accident Treatment Goals

- **Prevention CVA – Health Maintenance Focus:**

- Healthy diet
- Weight control
- Regular exercise
- No smoking
- Limit alcohol consumption
- Routine health assessment
- Control of risk factors

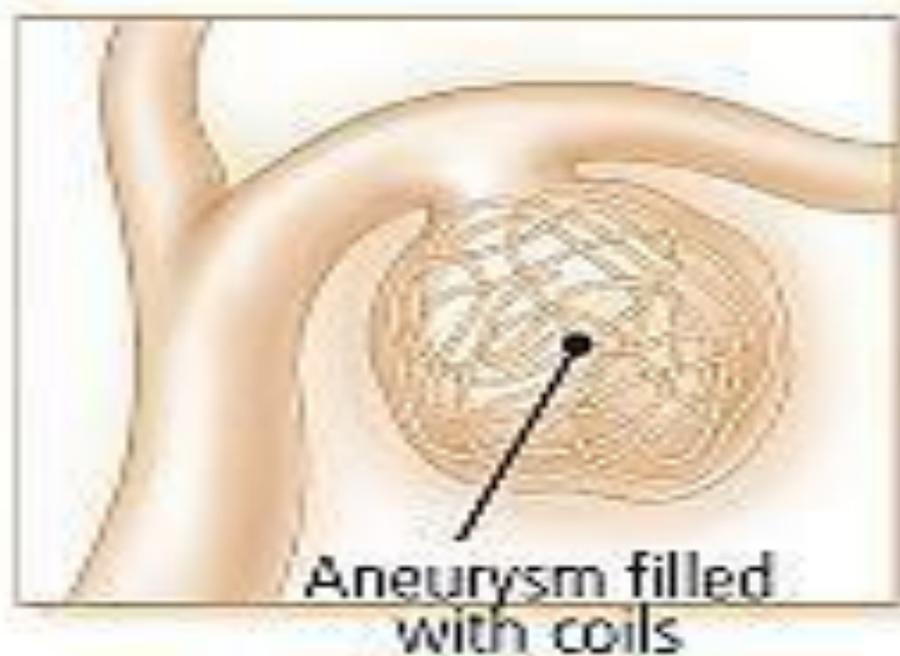
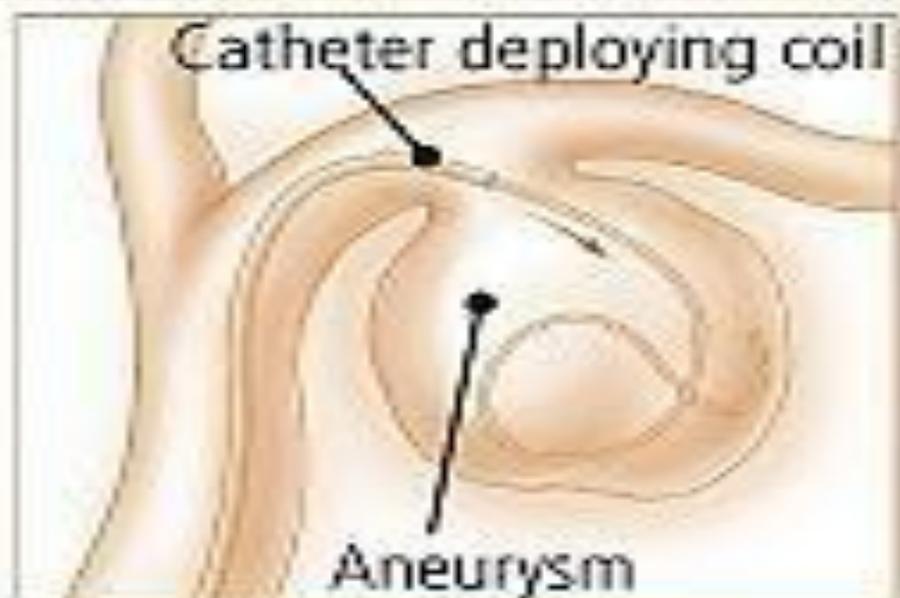
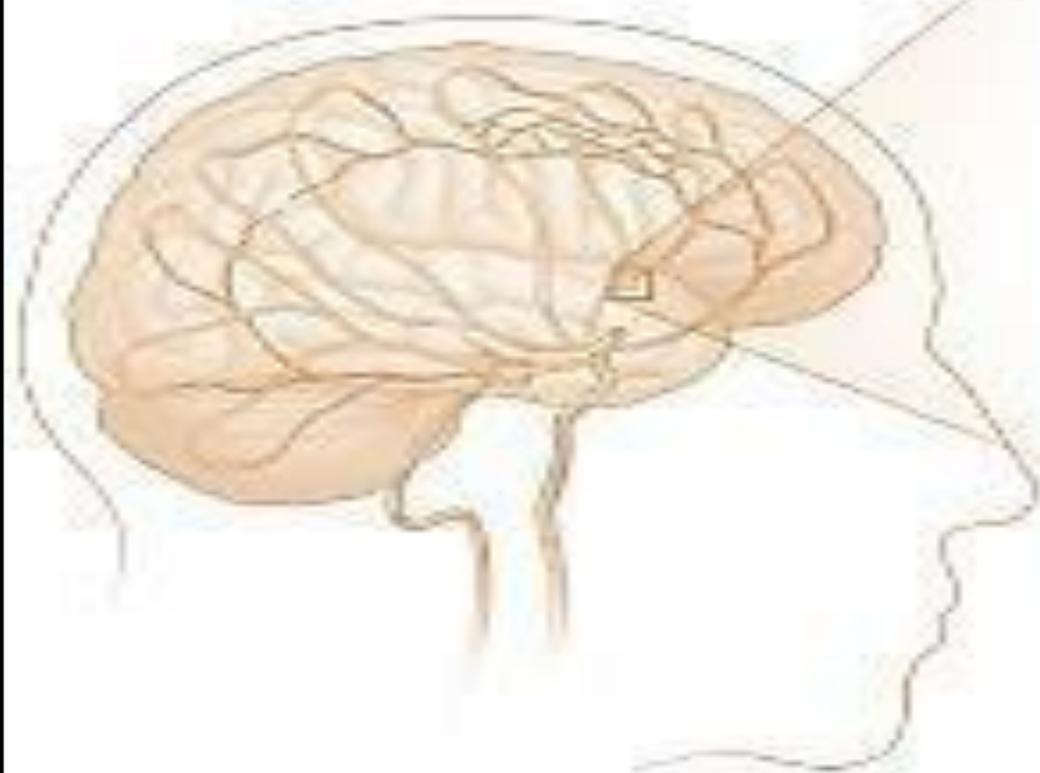
# Treatment Goals

- Medical management of stroke commonly includes physical rehabilitation, dietary and drug to reduce risk factors, surgery, and care measures to help the patient adapt to deficits, such as motor impairment and paralysis

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# Treatment Goals

- **Prevention**
- **Drug Therapy**
  - Medications that prevent platelet aggregation
    - Plavix , Oral anticoagulants
- **Surgical Therapy**
- **Nursing care & Rehabilitation**



# Nursing care or intervention

- Secure and maintain the patient's airway and anticipate the need for ET intubation and mechanical ventilation.
- Monitor oxygen saturation levels via pulse oximetry and ABG levels as ordered. Administer supplemental oxygen as ordered to maintain oxygen saturation greater than 90%.
- Place the patient on a cardiac monitor, and monitor for cardiac arrhythmias.
- Assess the patient's neurologic status frequently, at least every 15 to 30 minutes, initially, then hourly as indicated. Observe for signs of increased ICP.
- If cerebral edema is suspected, maintain ICP sufficient

# Nursing care

- If cerebral edema is suspected, maintain ICP sufficient for adequate cerebral perfusion but low enough to avoid brain herniation.
- Elevate the head of the bed 25 to 30 degrees
- Assess hemodynamic status frequently.
- Give fluids as ordered and monitor I.V. infusions to avoid overhydration, which may increase ICP.
- For a patient receiving thrombolytic therapy, assess the patient for signs and symptoms of bleeding every 15 to 30 minutes and Establish bleeding precautions.
- Monitor the patient for seizures and administer anticonvulsants as ordered.

