

### Stroke

**Definition:** Sudden death of brain cells in a localised brain region due to inadequate blood flow

**Risk factors/causes:**

- Age (above 55), race/ethnicity (African Americans, Hispanics), sex (male over females), hormones (birth control use/hormone therapies)
- Lifestyle: overweight, physical inactivity, alcohol/drug abuse
- Medical: hypertension, smoking, high cholesterol, diabetes, obstructive sleep apnea, cardiovascular disease (heart failure, defects, infection or arrhythmia [atrial fibrillation]), family Hx (stroke, heart attack, transient ischemic attack), covid-19

**Pathophysiology & mechanism:** Acute ischemia / intracerebral haemorrhage / subarachnoid haemorrhage / venous sinus thrombosis → impaired blood supply to affected area → loss of function, with symptoms related to the function of the affected brain tissue → stroke

**Signs & symptoms:**

- Trouble speaking & understanding what others are saying
- Paralysis or numbness of the face, arm or leg
- Problems seeing in one or both eyes
- Headache
- Trouble walking

**Complications:**

- Paralysis or loss of muscle movement
- Difficulty talking or swallowing
- Memory loss or thinking difficulties
- Emotional problems
- Pain
- Changes in behaviour & self-care ability

**Treatment:** Medication & surgery

### Acute ischemia

**Definition:** Local/distant cause - blood clot (embolus) blocks/narrows an artery leading to the brain causing cell death

**Risk factors/causes:**

- Hypertension, diabetes, heart conditions, smoking, males over 55, Hx of stroke or TIA
- Fatty deposits that build up in blood vessels or by blood clots or other debris that travel through the bloodstream, most often from the heart, & lodge in the blood vessels in the brain

**Pathophysiology & mechanism:** Small artery occlusion / large artery atherosclerosis / cardiac embolism / other → cerebral blood flow is impaired → damage is the lack of blood flow (ischemia) → ↑ cell death / inflammation of brain tissue → signs/symptoms

**Signs & symptoms:**

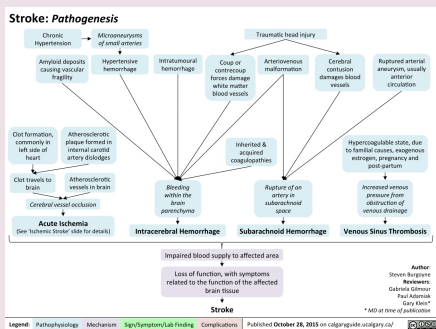
- Severe headache without known cause
- Numbness or weakness of face, arms, legs (especially one side)
- Confusion
- Trouble seeing in or both eyes
- Trouble walking, dizziness, loss of balance or coordination

**Complications:**

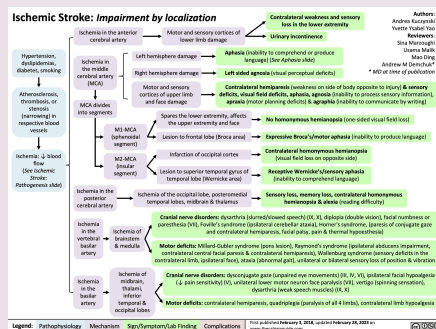
- Blood clots
- UTIs
- Bowel & bladder problems
- Pneumonia risk
- Muscle weakness
- Bed sores
- Mobility problems & falls

**Treatment:** Clot-busting medications & using a guided wire to retrieve blood clots in the blood vessels (aka. focus on restoring blood flow to the brain)

### Stroke

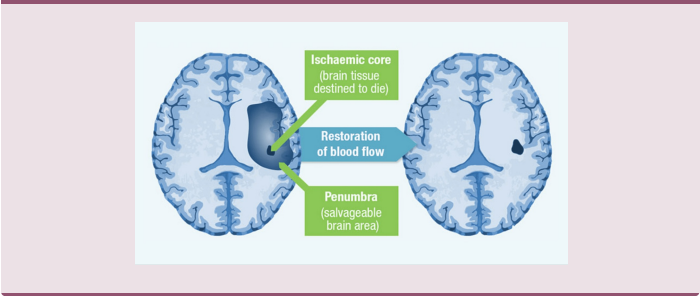
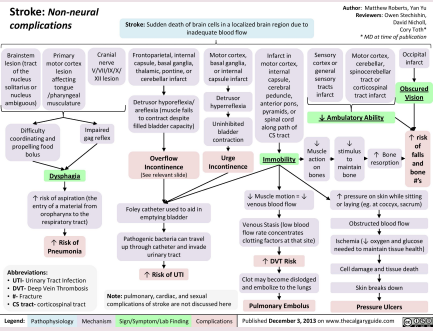


### Acute Ischemia



### Stroke (contnd)

### Acute Ischemia



By [bee.f](https://bee.f) ([bee.f](https://bee.f))  
[cheatography.com/bee-f/](https://cheatography.com/bee-f/)

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