

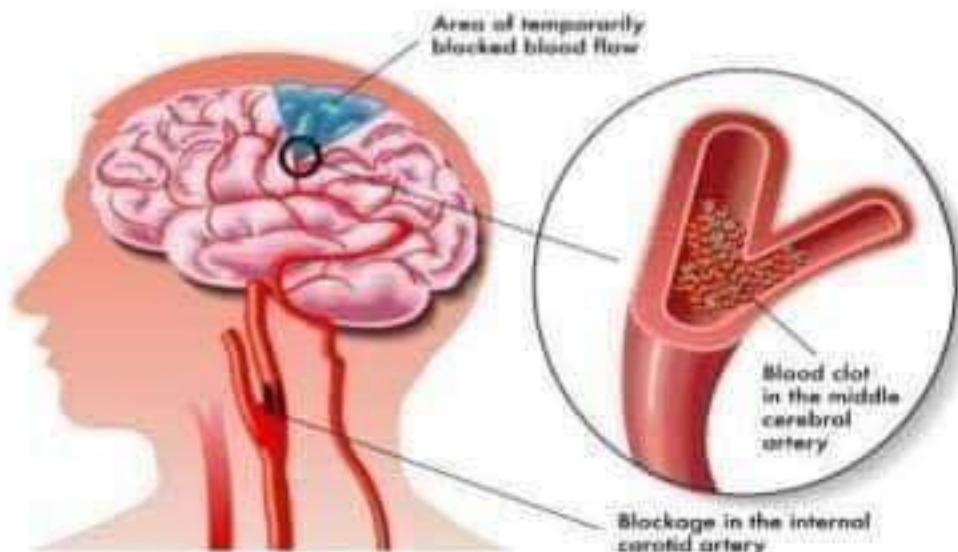
# Know Stroke: Save a Life



# Stroke is

A focus episode of neurological deficit and brain tissue damage, results in episode of brain dysfunction due to focal ischemia and hemorrhage

Davidson's principle and practice of medicine medicine  
22<sup>nd</sup> edition, p-1237



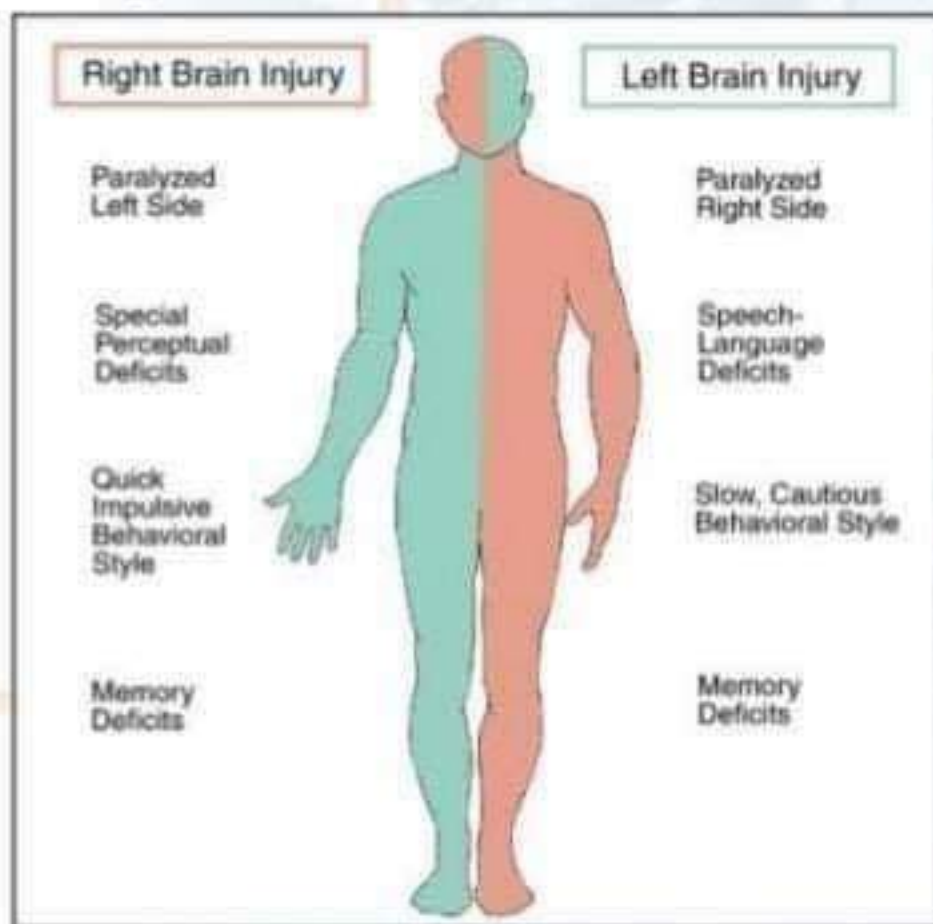
# Symptoms

*A sudden development of one or more following symptoms usually indicate a stroke*

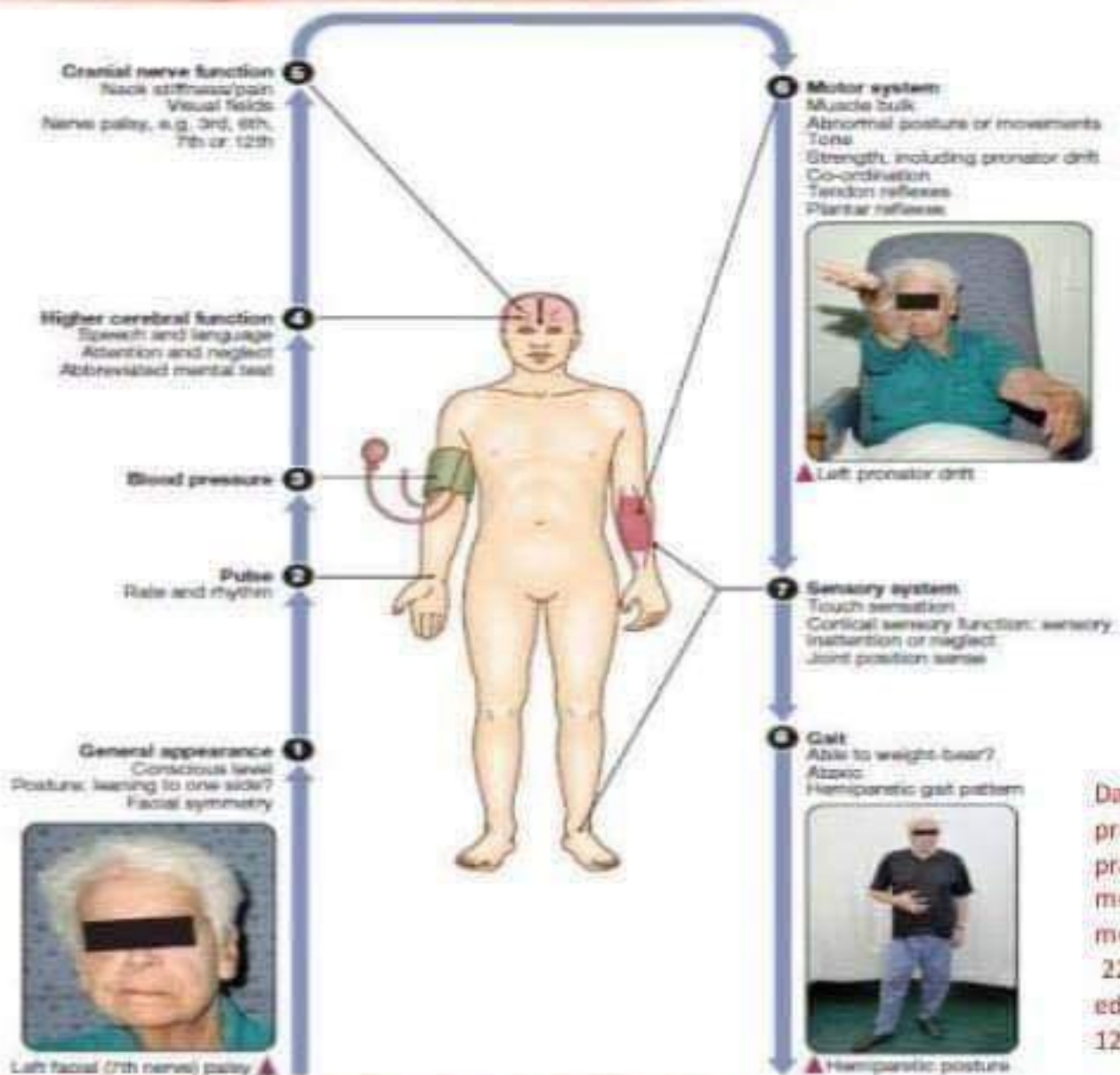
- Paralysis or weakness in the face, arm and/or legs
- Confusion
- Personality change
- Sudden trouble in talking or difficulty in understanding speech
- Sudden trouble in walking, dizziness, loss of balance, or lack of coordination
- Sudden change in eye-sight
- Decreased motor skills
- Severe headaches

• American heart association, American stroke association

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







Davidson's  
principle and  
practice of  
medicine  
22<sup>nd</sup>  
edition, p:  
1232.

# Risk factors of Stroke

## Fixed risk factors:

- Age
- Gender (Male > female; except the extreme of the age)
- Race (Afro- Carrebean > Asian > European)
- Previous vascular event
  - Myocardial Infarction
  - Stroke
  - Peripheral vascular disease
- Heredity
- High-fibrinogen
- Davidson's principle and practice of medicine medicine 22<sup>nd</sup> edition, p-1237
- Bangladesh medical journal 2013 Jan; 42 (1)

## **Risk factors (cont.)**

### **Modifiable risk factors:**

- High blood pressure
- Diabetes mellitus
- Cigarette smoking
- Hyperlipidemia
- Excessive alcohol intake
- Heart disease
  - Atrial fibrillation
  - Congestive cardiac failure
  - Infective endocarditis
- Oestrogen-containing drugs
  - Oral contraceptive pill
  - Hormone replacement therapy
  - Polycythaemia

# Types of Stroke

- Ischemic (Blockage) 85%
  - Caused by a blockage in the blood vessels to the brain
- Hemorrhagic (Bleeding) 15%
  - Caused by burst or leaking blood vessels in the brain

Bangladesh medical journal 2013 Jan; 42 (1)



# Causes for an Ischemic Stroke

## Fatty deposits line the blood vessel wall

- Thrombus: A blood clot forms at the fatty deposit
- Embolus: A traveling particle gets stuck in a small vessel



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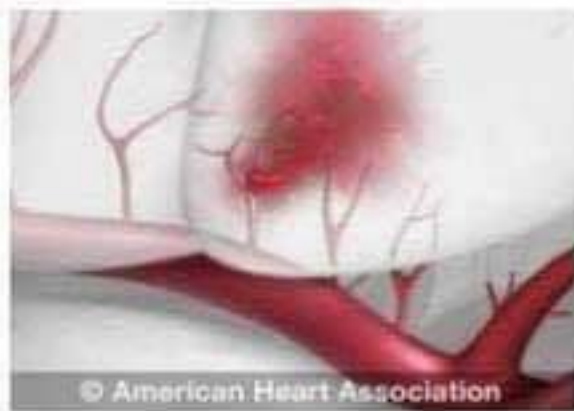


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# Causes for a Hemorrhagic Stroke

## A weakened blood vessel ruptures

- Aneurysms: Ballooning of a weakened spot of a blood vessel
- Arteriovenous Malformations (AVMs): Cluster of abnormal blood vessels



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# Transient Ischemic Attacks (TIAs)

- TIAs are “warning strokes” that can happen before a major stroke
- They occur when blood flow through a brain artery is briefly blocked or reduced
- TIA symptoms are temporary but similar to those of a full-fledged stroke
- A person who has a TIA is 9.5 times more likely to have a stroke
- A TIA is a medical emergency



# Complication

- Chest infection
- Dehydration
- Hyponatremia
- Hypoxaemia
- Seizures
- Hypoglycaemia
- Deep venous thrombosis
- Frozen shoulder
- Pressure sores
- UTI
- Constipation
- Depression and anxiety



# Stroke is Preventable, Beatable and Treatable!

- 80% of all strokes can be prevented with healthy behaviors
- Long-term effects of a stroke may be minimized with immediate treatment
- More people are surviving and beating stroke



# TREATMENT

- Stroke is always medical emergency
- 50% of the patient may need to treat in the hospital
- Treatment guidelines differs according to type of stroke

# Treatment of Ischemic stroke

## General treatment

- ✓ Care of nutrition-by ryles tube if needed
- ✓ Care of bladder by self retaining catheter
- ✓ Care of skin, limb by frequent posture change
- ✓ Care of mouth by frequent mouth wash

• Bangladesh medical journal 2013 Jan; 42 (1)



## Symptomatic treatment

- ✓ Treatment of co-existing disease like hypertension, diabetes mellitus, cardiac disease, renal disease etc
- ✓ Intravenous fluid in all cases in normal saline if not contraindicated

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## Treatment (cont.)

- ✓ **If hypertension:** drugs are preferred are ACE inhibitors, ARB, Calcium- channel blocker, diuretics, alpha-blockers, beta-blockers etc
- ✓ **If diabetes** in acute stage of stroke is always by insulin, preferably by soluble insulin, target blood sugar is 7-8 mmol (post prandial)
- ✓ **For cardiac disease**, it is better to consult with appropriate physician and to avoid excess load on heart side by side

## Specific treatment

- ✓ Antiplatelet, Aspirin 300mg stat and then 75-150mg daily for life long. If aspirin is contraindicated then clopidogrel 75mg daily for life long.
- ✓ Low molecular heparin or oral anticoagulation for cardioembolic stroke
- ✓ Lipid lowering agent for dyslipidaemia
- ✓ Physiotherapy

# Treatment of hemorrhagic stroke



## Treatment (cont.)

- ✓ General and symptomatic treatment are like ischemic stroke
- ✓ The difference is in specific treatment

## Specific treatment

- ✓ Antiplatelet and anticoagulant in any form is contraindicated in hemorrhagic stroke
- ✓ Supportive treatment should be continued
- ✓ Surgical treatment is needed in some case of Intra-cranial hemorrhage (ICH) and sub arachnoid hemorrhage (SAH)
- ✓ NSAIDs are contraindicated in headache
- ✓ Paracetamol and tramadol is used for headache in SAH
- ✓ In SAH oral Nimodipine 60mg 4/5 times daily for 2-3 weeks are given to prevent vasospasm

## **Surgery in stroke**

- Occasionally surgery has role in ischemic stroke. E.g. in hemispheric stroke- craniotomy can be done to decompress brain
- But in ICH if patient is gradually becoming unconscious and if the hematoma size is  $>60\text{ml}$ ; in approachable area, surgery is done for life saving purpose
- In case of SAH particularly aneurysmal bleeding- clipping or coiling is done