IT'S ALL IN THE STROKE

DR. NOELLA C. WEST DNP, APRN, AGNP-C, CNL, SCRN, ENLS

OBJECTIVES

- Stroke pathology, process
- Stroke prevention, treatment and risk factors
- Nursing process and interventions
- Stroke populations
- Community and Care roles in stroke

IMPACT OF STROKE

- About 750,000 new stroke cases are reported each year in the United States.
- Stroke is the third leading cause of death in the United States.
- 150,000 stroke deaths per year
- 3,000,000 stroke survivors
- On average, someone suffers a stroke every 45 seconds
- Stroke is the leading cause of disability.

Stroke is a disease that affects the arteries leading to and within the brain. It is the No. 3 cause of death in the United States, behind diseases of the heart and cancer.

A stroke occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or bursts.

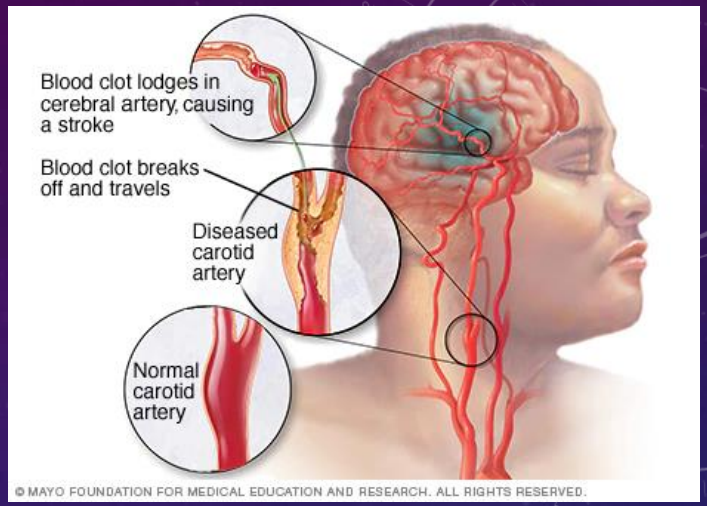
Evidence based care for acute stroke emphasizes quick response and prevention of secondary complications.

There are obvious patterns of deficit for right, left, or cerebellar strokes. Rehabilitation nurses recognize these patterns and anticipate patient needs.

A comprehensive approach to dysphagia management reduces risk, maintains nutrition and hydration , and provides appropriate stimulation for improvement in swallowing function.

Community reentry strategies require care of the caregiver as well as a thorough assessment of patient safety issues.

WHAT IS STROKE



- Stroke is referred to as “brain attack.”
- Stroke is a sudden neurological deficit caused by interruption of blood flow to the brain.
- Stroke may be caused by
  - Thrombosis- development of fatty deposits lining the blood vessel walls
  - Embolism – traveling particle to brain
  - Hemorrhage- weakened blood vessels bursts (aneurysms, AVM)

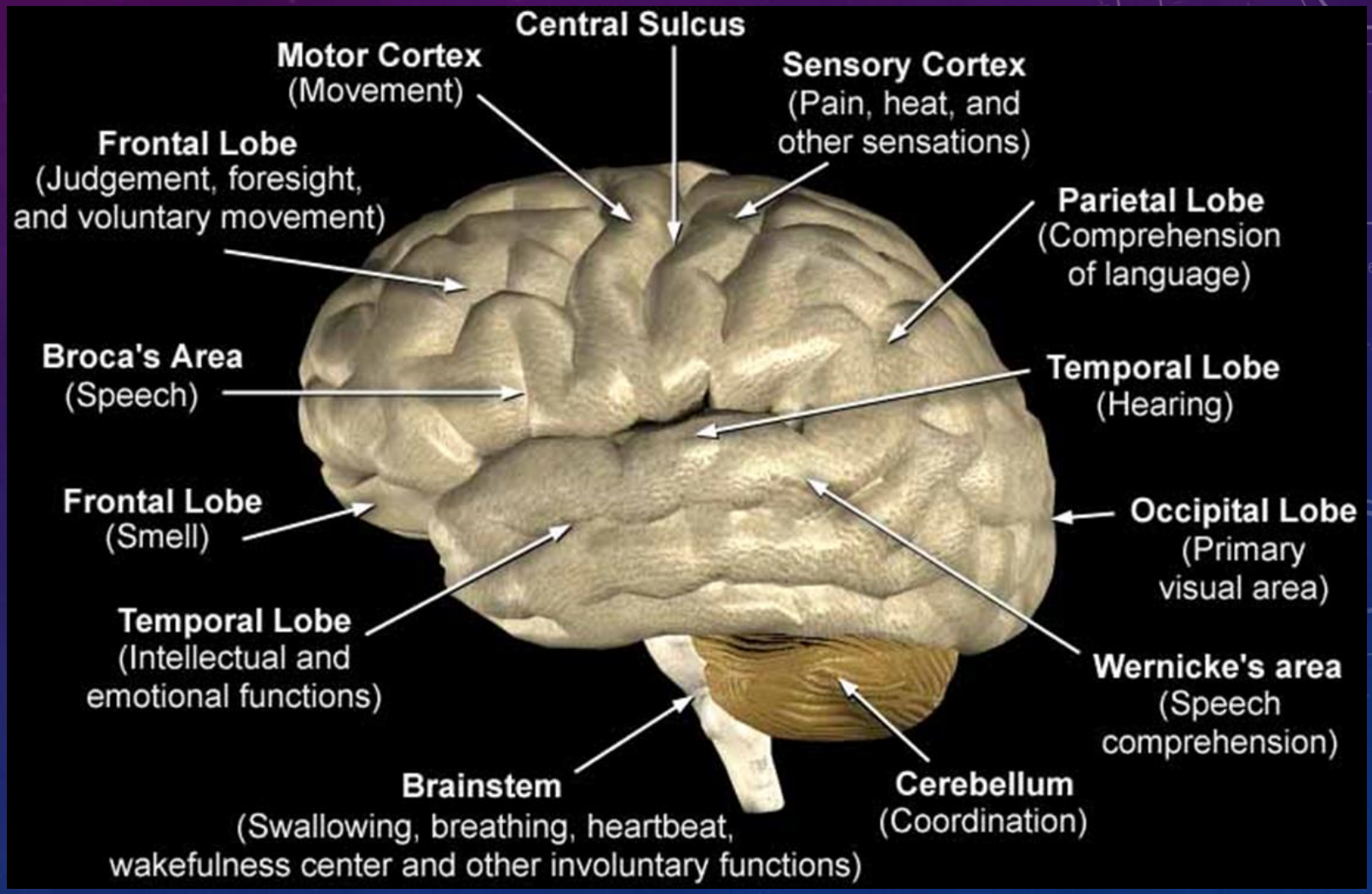
SIGNS & SYMPTOMS – SUDDEN!

- Numbness or weakness of face, arm, leg
- Confusion, trouble speaking, understanding
- Trouble seeing one or both eyes
- Ataxia, dizziness, loss of balance or coordination
- Severe headache

TIA- TRANSIENT ISCHEMIC ATTACK

- Acute, neurological event that reduces blood flow to a portion of the brain
- Temporary weakness/numbness or visual changes caused by vascular disease that resolve within 24 hours
- A person who's had a TIA is 9.5 more likely to have a stroke

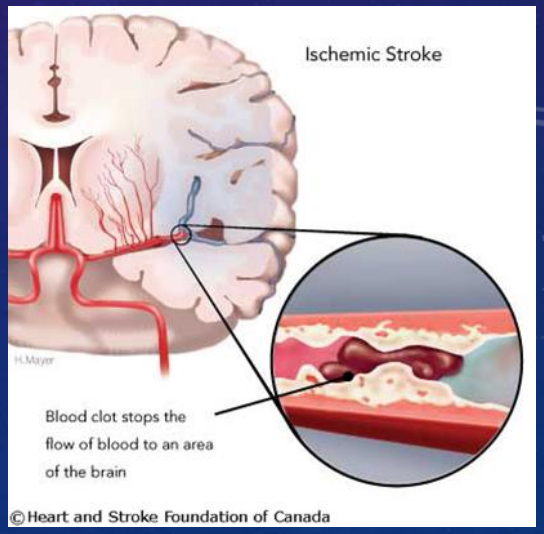
FUNCTIONAL ANATOMY



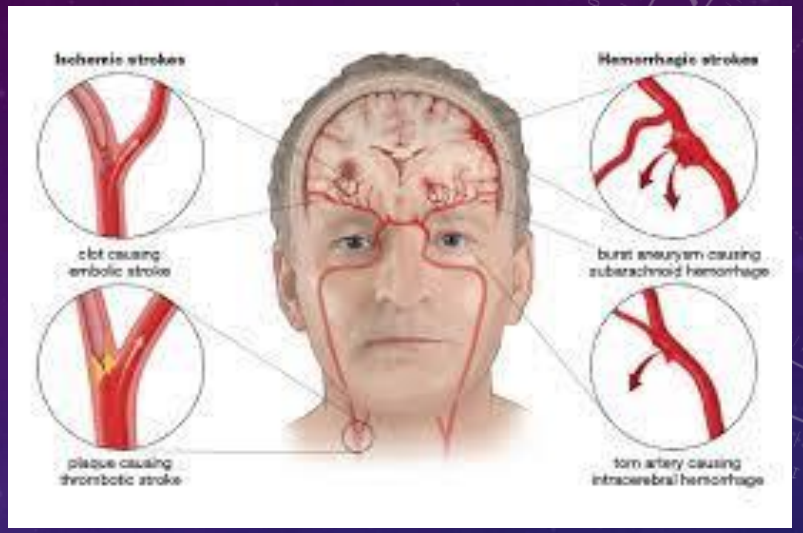
PATHOPHYSIOLOGY

Mechanisms of **ischemic stroke**

- Thrombus formation
  - Atherosclerosis, causing damage to the inner layer in the vessel
  - Plaque forms
  - Platelets adhere to the area
  - Vessel narrows
  - Flow diminishes to distal vessels



ISCHEMIC STROKE

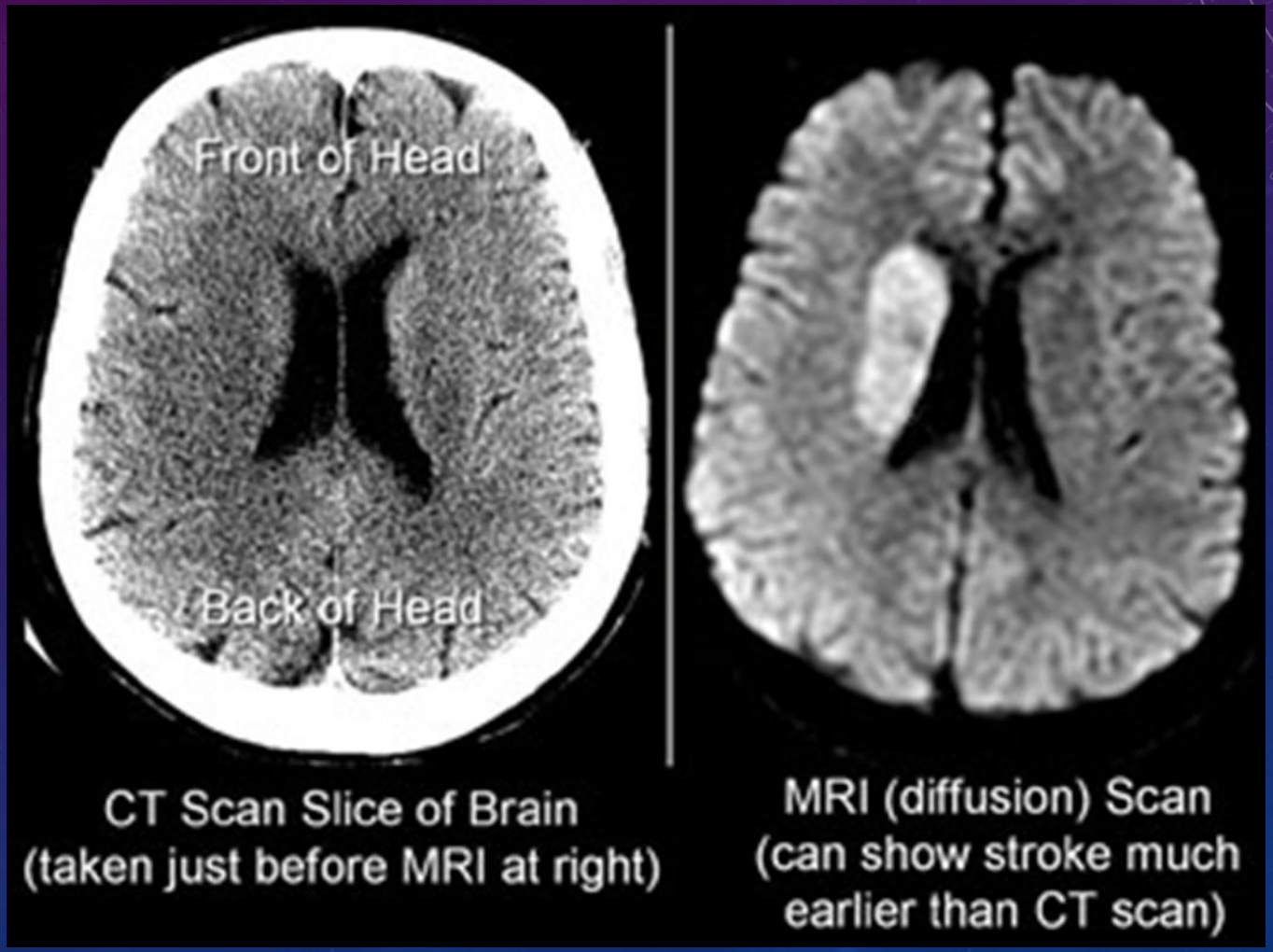


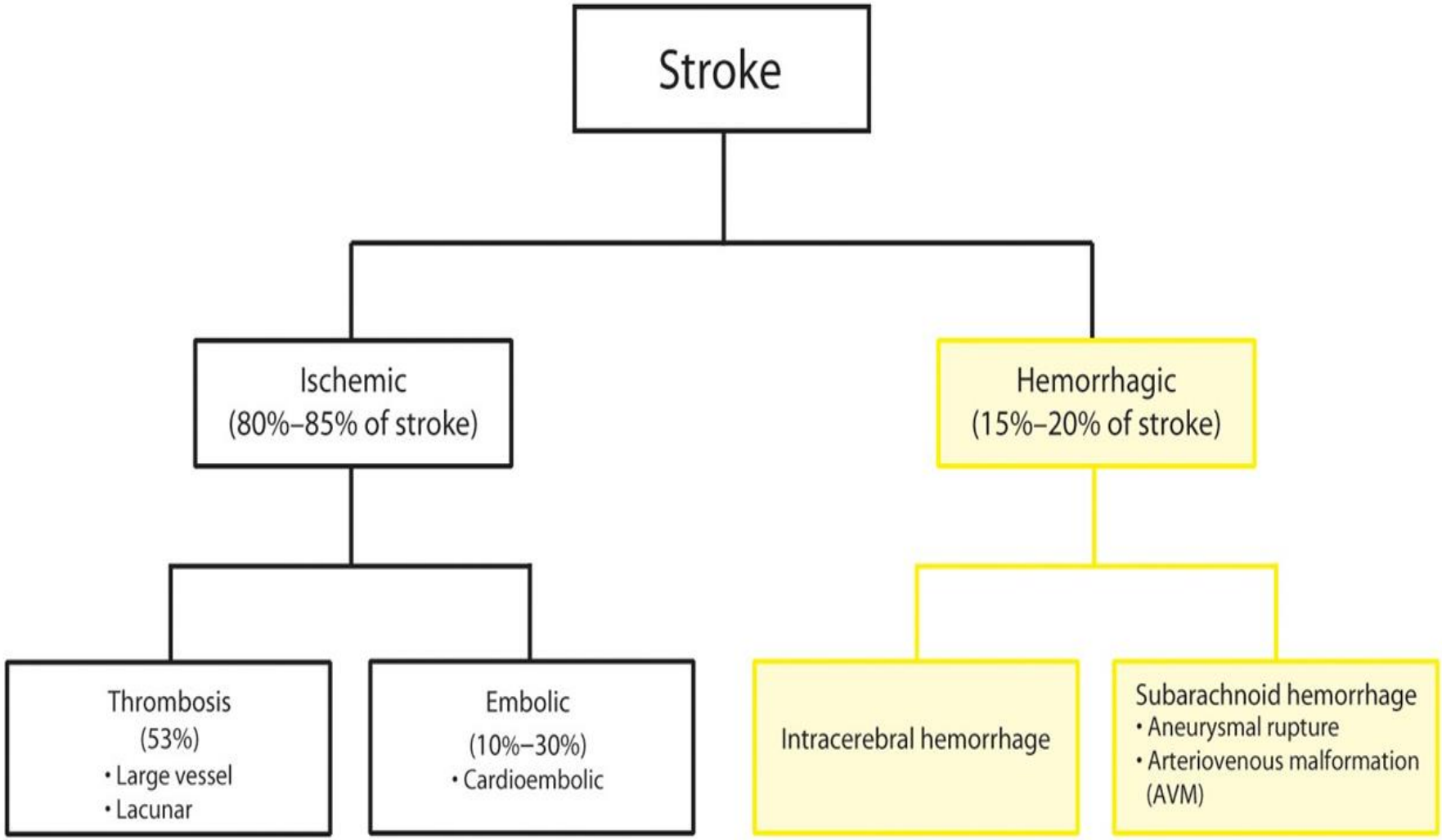
- Most prevalent (80%)
- Occlusive
- Cerebral embolism or thrombosis (more common)
- Lacunar – subcortical white matter
- Systemic hypoperfusion/Watershed stroke caused by inadequate cardiac output
- Categorized by vascular distribution/ location

ISCHEMIC STROKE RISK FACTORS

- Advanced age
- Oral contraceptives
- Hyperhomocystinemia
  - High level homocysteine
  - Non-proteingenic amino acid
  - Deficiency of vitamin B6, B12, folic acid

Stroke Types—Ischemic




Stroke
Ischemic
(80%–85% of stroke)
Hemorrhagic
(15%–20% of stroke)
Thrombosis
(53%)
• Large vessel
• Lacunar
Embolic
(10%–30%)
• Cardioembolic
Intracerebral hemorrhage
Subarachnoid hemorrhage
• Aneurysmal rupture
• Arteriovenous malformation
(AVM)

PATHOPHYSIOLOGY

Mechanisms of **hemorrhagic stroke**

- HTN
- Tumor
- Trauma
- Medications (Coumadin, NOAC, etc.)
- Aneurysm

HEMORRHAGIC STROKE

Risk Factors	
Male gender	Strenuous physical exertion
Advanced age	Amyloid angiopathy
Preexisting hypertension	Brain tumors
Consumption of more than 3 alcoholic beverages per day	Use of anticoagulating medications
Abrupt increases in cerebral blood flow	Infections of central nervous system
Previous trauma	Abuse of sympathomimetic drugs

SUBARACHNOID

- Severe sudden headache
- Nausea and vomiting
- Stiff neck, low back or BLE pain (meningeal irritation)
- Elevated ICP
- Vasospasms
- Ischemia

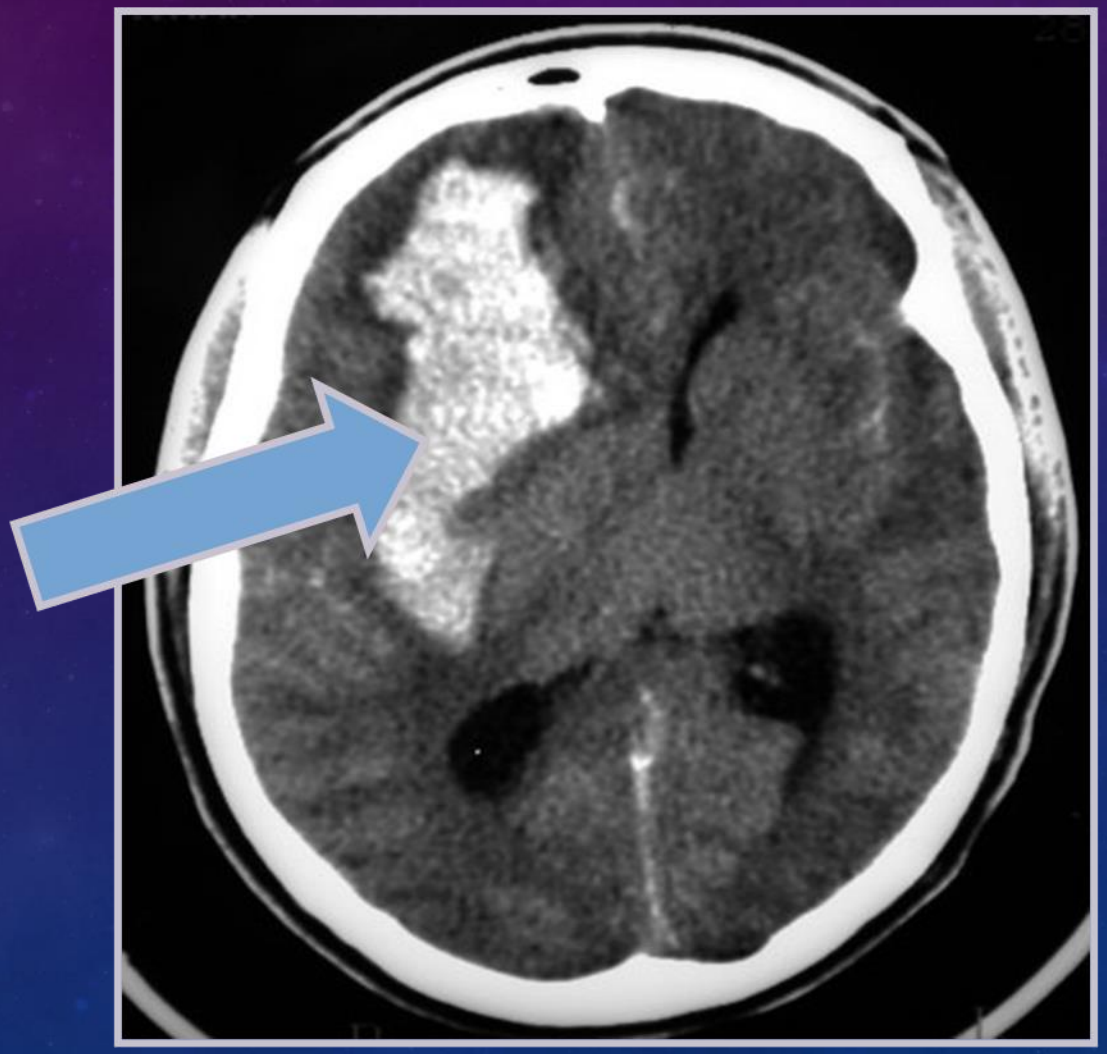
INTRACEREBRAL (INTRAPARENCHYMAL)

- Sudden headache
- Unilateral neurological deficits
- Coma to death several hours after symptom onset

PRESENTATION OF PATIENT

- Sudden focal neurological deficit
- Headache
- Nausea and vomiting
- Decreased level of consciousness
- Elevated blood pressure
- Seizures

Stroke Types—Hemorrhagic



DO YOU KNOW THE RISK FACTORS

RISK FACTORS – CONTROLLABLE

- Obesity
- Smoking
- ETOH
- Sedentary
- Substance abuse (cocaine, amphetamines, other illegals)
- Public education efforts are underway to encourage recognition of risk factors for stroke. Controlling modifiable risk factors with diet, exercise, and healthy choices can reduce the incidence of stroke. Control of hypertension and diabetes is paramount. Research continues to identify other risk factors, such as depression in those under the age of 65 and menopause before age 42 in women.

RISK FACTORS – CONTROLLABLE, TREATABLE

- Hypertension
- Sleep apnea
- Hypercoagulation
- Cardiac disorders (A Fib)
- Diabetes
- Hypercholesteremia, hyperlipidemia
- Blood disorders
- Carotid artery disease

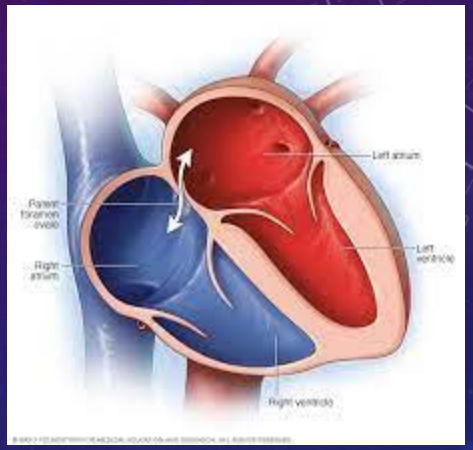
RISK FACTORS - UNCONTROLLABLE

- Family history
- Previous TIA, stroke, heart attack
- Age – 55 yrs or older

  Men at younger age

  Women has higher mortality

RISK FACTORS - UNCONTROLLABLE



- Gender – males
- Fibromuscular dysplasia
- PFO- Patent Foramen Ovale
- Race – African Americans, Hispanics, Pacific Islanders

STROKES AFFECTS ANY AGE

Remember: Be an advocate for your patients!

MAY NOT BE ALWAYS FOLLOW PROTOCOL OR COMPLIANCE!

PHYSICAL AND PSYCHOLOGICAL SUPPORT IS VITAL !

Remember: Small Steps = Big Steps!

Community Education

LET'S GO SAVE SOME BRAINS!

www.noellacwest.com

noellacwest@gmail.com

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