



American Heart Association.
Mission:Lifeline®



ALL THE THINGS: STROKE 101

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Objectives:

- ▣ Summarize types of stroke, stroke centers, and the possible acute and post-acute interventions for stroke patients

UPH Trinity: Locations



Rock Island, IL

298 licensed beds
9,792 admissions
33,508 ER visits



Bettendorf, IA

139 licensed beds
3,860 admissions
22,380 ER visits



Muscatine, IA

80 licensed beds
900 admissions
16,868 ER visits



Moline, IL

38 licensed beds
1,272 admissions
22,112 ER visits

My UPH Team

“We Are Stronger Together”



Quad City Rehabilitation Institute

Moline IL, Opened 2022

Stroke Support Group



Let's Talk About Stroke



Statistics

- ▣ Stroke is the 3rd leading cause of death in U.S. and one of the major causes of long-term disability
- ▣ Major changes in last 20 years
- ▣ 1996 I.V. r-tPA
- ▣ Shift to an emergency, changes over time
- ▣ Brain Attack Coalition (BAC) and best practices for stroke care in 2000
- ▣ Core Measures developed and a need for stroke coordinators to oversee stroke standards
- ▣ Primary and Comprehensive Stroke Centers
- ▣ American Heart Association (AHA) has best practice standards for stroke care in the emergency setting

Stroke Mimics

- Hypoglycemia/hyperglycemia
- Hyponatremia
- Ingestions; drugs & alcohol
- Sepsis
- Seizures
- Migraine headache (Complex migraine)
- Neoplasms/tumors
- Conversion Disorder
- Myasthenia Gravis
- Bell's Palsy
- Transient global amnesia



Stroke Strikes FAST

SPOT A STROKE
LEARN THE WARNING SIGNS AND ACT FAST



B E F A S T



BALANCE
LOSS OF BALANCE,
HEADACHE
OR DIZZINESS

EYES
BLURRED VISION

FACE
ONE SIDE OF THE
FACE IS DROOPING

ARMS
ARM OR LEG
WEAKNESS

SPEECH
SPEECH DIFFICULTY

TIME
TIME TO CALL
FOR AMBULANCE
IMMEDIATELY

 **CALL 911 IMMEDIATELY**

Other Symptoms

Headache

Confusion

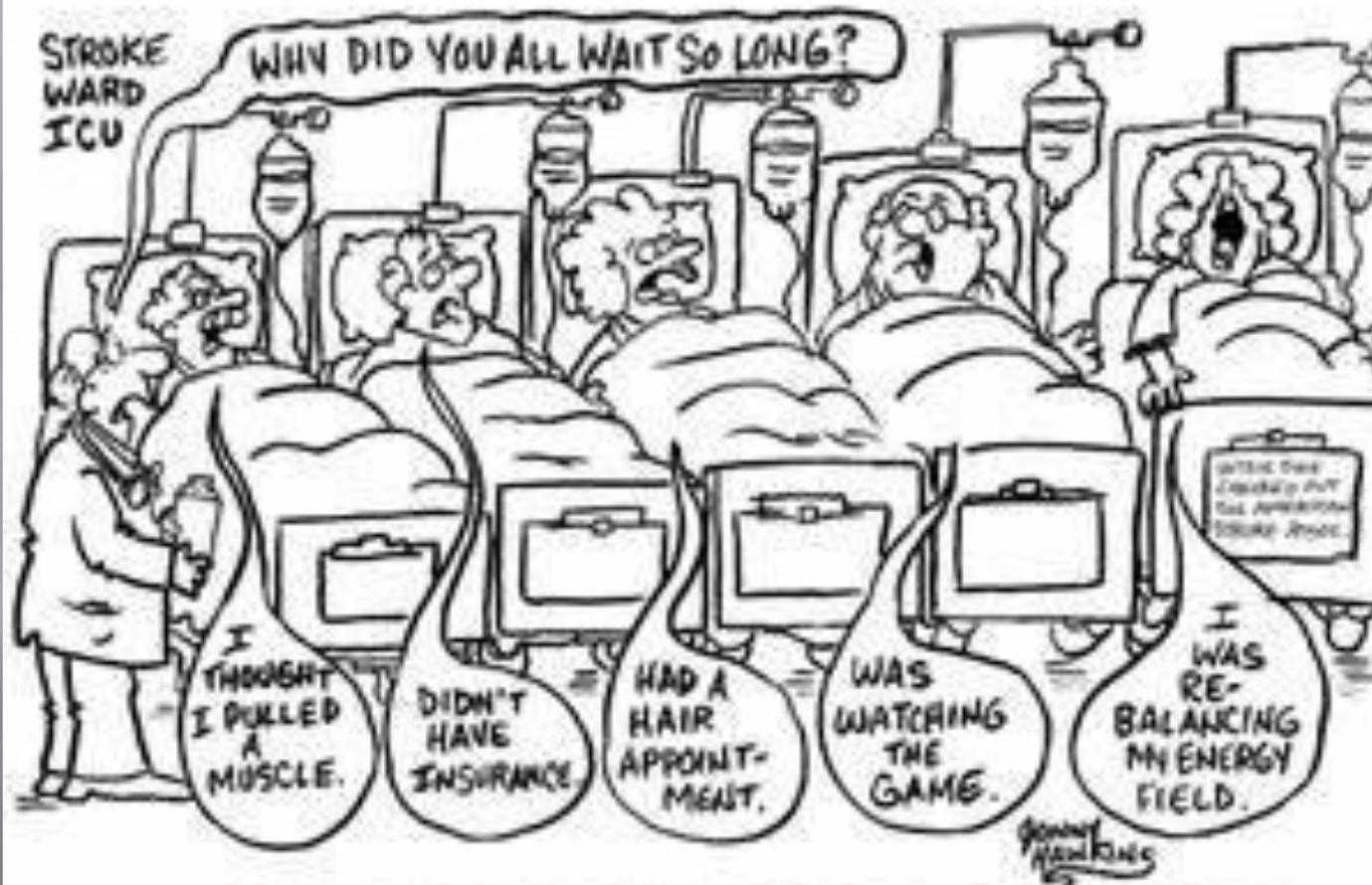
Blurred vision, double vision

Dizziness, loss of balance

Seizure

**BE SURE TO CHECK BLOOD
SUGAR FIRST**

Hearty Humor by Jonny Hawkins for AHA News



DIFFERENT STROKES FOR INDIFFERENT FOLKS!

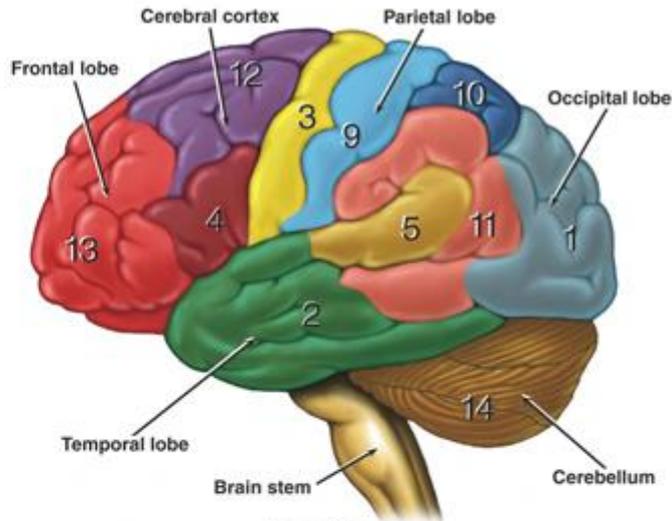
Anatomy-(there will be a quiz)

Functional Areas of the Cerebral Cortex

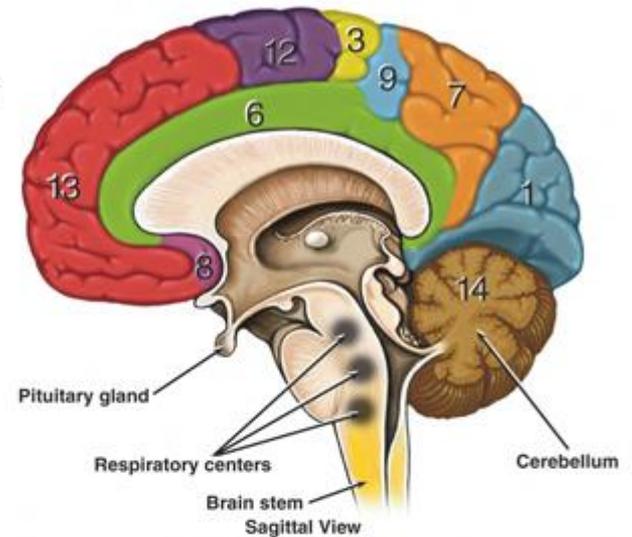
- 1 **Visual Area:**
Sight
Image recognition
Image perception
- 2 **Association Area**
Short-term memory
Equilibrium
Emotion
- 3 **Motor Function Area**
Initiation of voluntary muscles
- 4 **Broca's Area**
Muscles of speech
- 5 **Auditory Area**
Hearing
- 6 **Emotional Area**
Pain
Hunger
"Fight or flight" response
- 7 **Sensory Association Area**
- 8 **Olfactory Area**
Smelling
- 9 **Sensory Area**
Sensation from muscles and skin
- 10 **Somatosensory Association Area**
Evaluation of weight, texture, temperature, etc. for object recognition
- 11 **Wernicke's Area**
Written and spoken language comprehension
- 12 **Motor Function Area**
Eye movement and orientation
- 13 **Higher Mental Functions**
Concentration
Planning
Judgment
Emotional expression
Creativity
Inhibition

Functional Areas of the Cerebellum

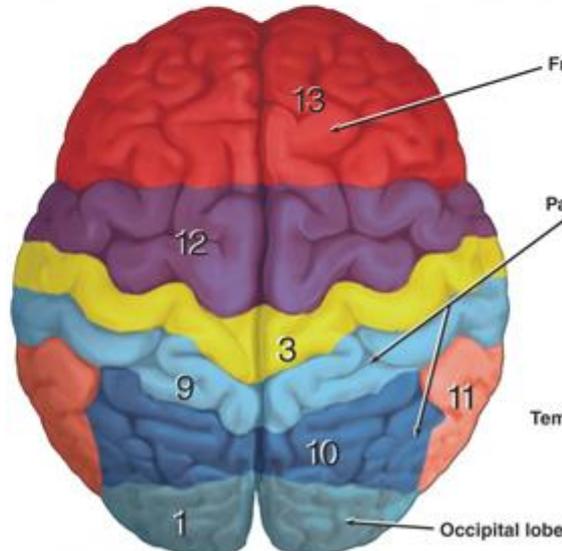
- 14 **Motor Functions**
Coordination of movement
Balance and equilibrium
Posture



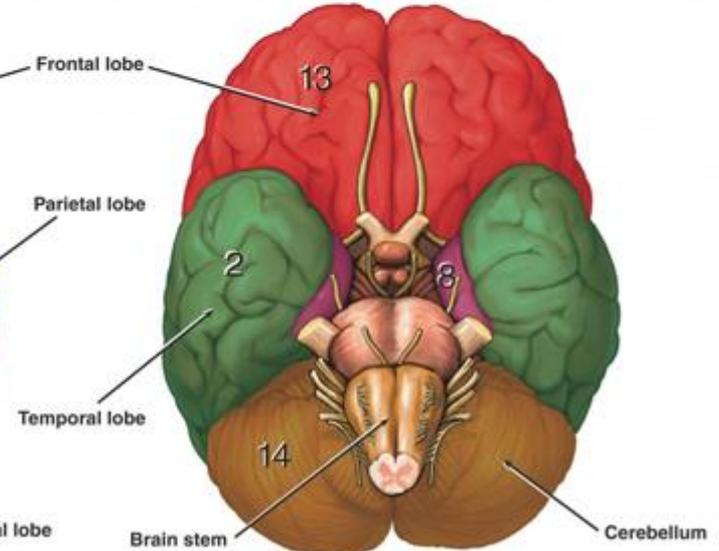
Lateral View



Sagittal View



Superior View

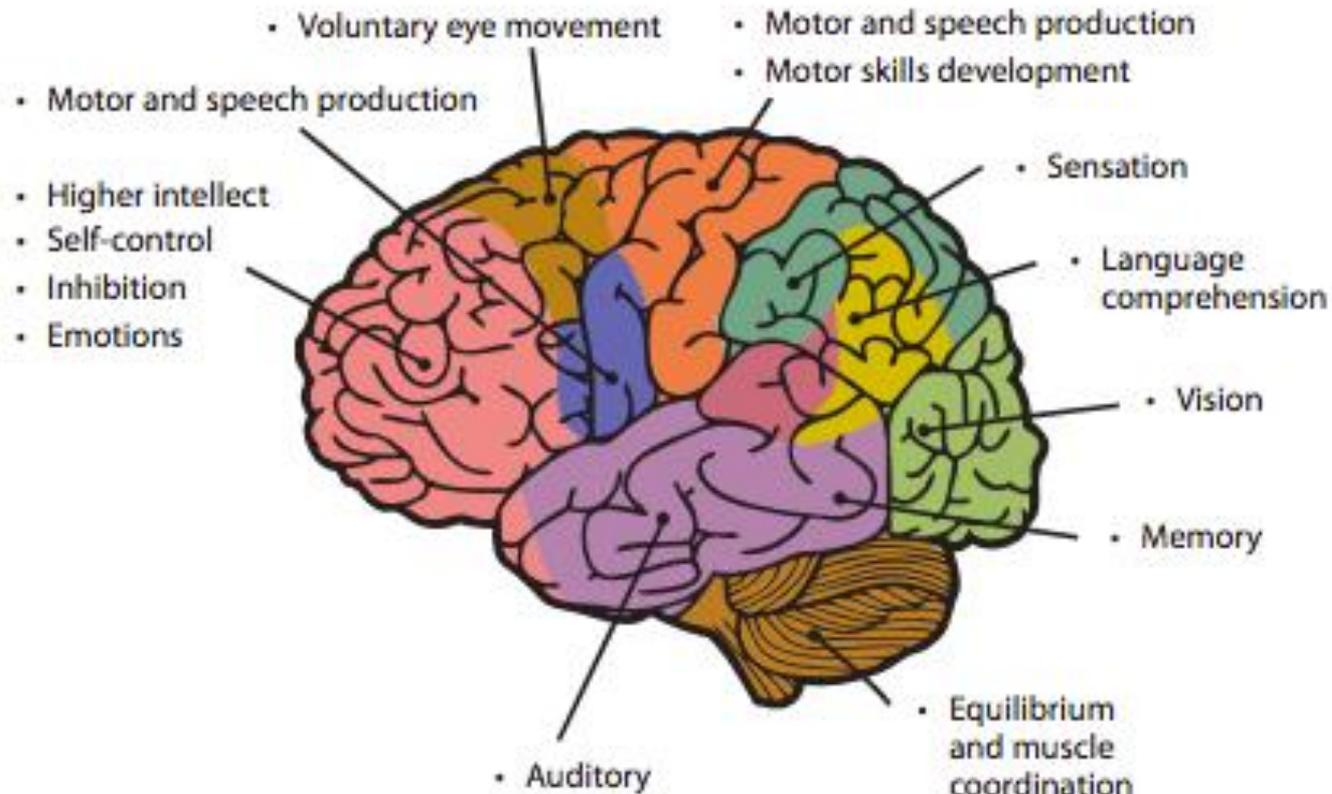


Inferior View

Where Would YOU Like Your Stroke?

Functional areas of the brain

This illustration shows the brain's functional areas. After a stroke, deficits in function depend on which cerebral artery is affected.



Stroke Risk Factors

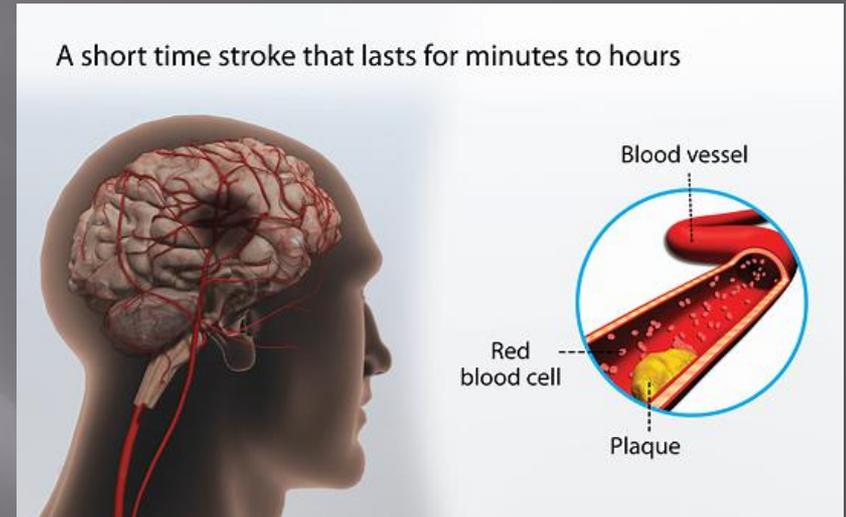
Modifiable	Non-Modifiable
Blood pressure	Age
Atrial fibrillation	Sex
Smoking	Race
Cholesterol	Genetics
Diabetes	
Exercise	
Diet	
Take medications	

Types of Strokes

- ▣ **Transient ischemic attack (TIA)** (NOT a “mini-stroke,” TIA is caused by a temporary blood clot)
- ▣ **Ischemic stroke** (caused by blockage)
- ▣ **Hemorrhagic stroke** (caused by ruptured blood vessels that cause brain bleeding)

Transient Ischemic Attack (TIA)

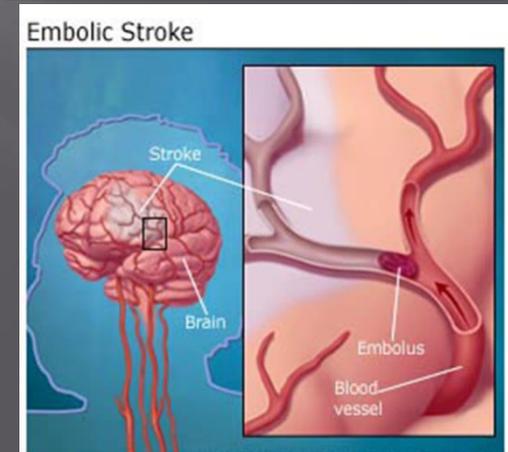
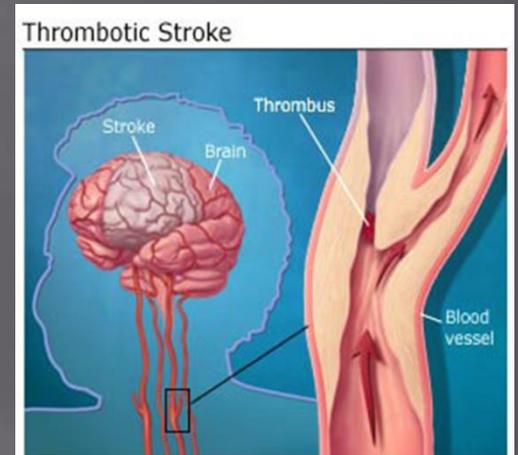
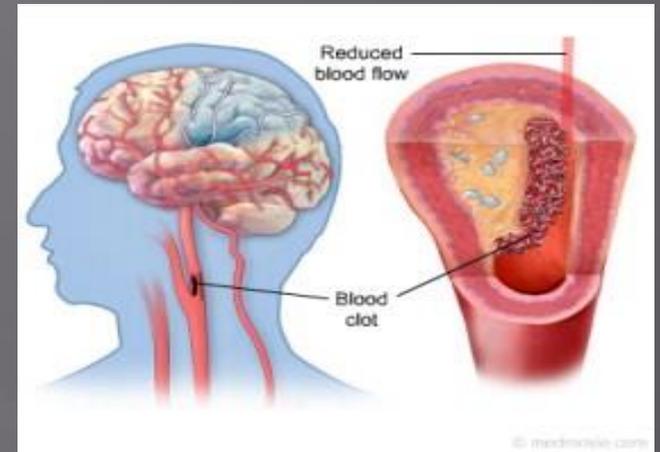
- Transient ischemic attack (TIA) is a warning sign of a future stroke – up to 40 percent of TIA patients will have a future stroke
- Symptoms of TIAs are the same as stroke
- TIA symptoms can resolve within minutes or hours
- Treatment includes diagnosis, medication, prevention



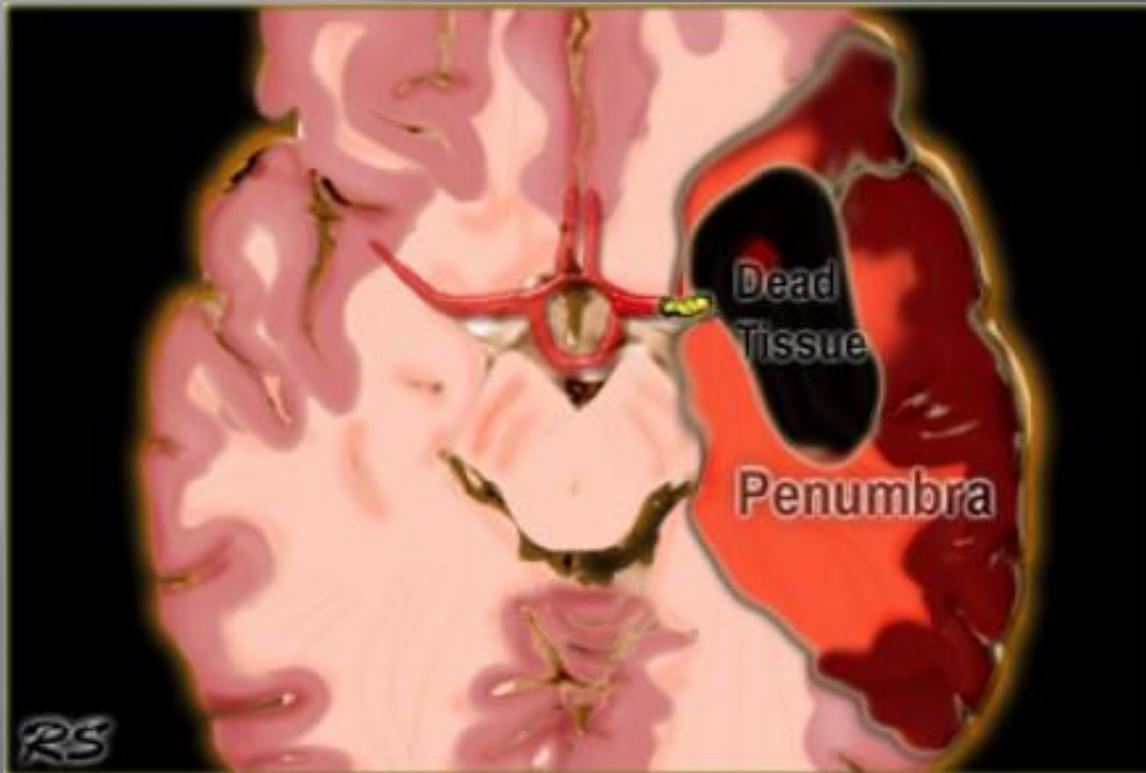
Ischemic Stroke

- ▣ 80% of all strokes
- ▣ Types of Ischemic Strokes:
 - Thrombotic stroke-stationary
 - Embolic Stroke-traveling

Damage to the inside of the blood vessels, atherosclerosis, atrial fibrillation, and clot formation



Ischemic Stroke Treatment “Saving the Penumbra”



“Ischemic Penumbra”



- ▣ Defined as the area surrounding the infarcted tissue of the brain.
- ▣ The area is still viable supported by collateral circulation, at risk for infarction just like the core of the stroke.
- ▣ The tissue is swollen, has decreased function- may see somnolence and increased intracranial pressures
- ▣ Resolution of the acute edema occurs within 72 hours, some patients may improve as swelling subsides

Medications

Alteplase (tPA)

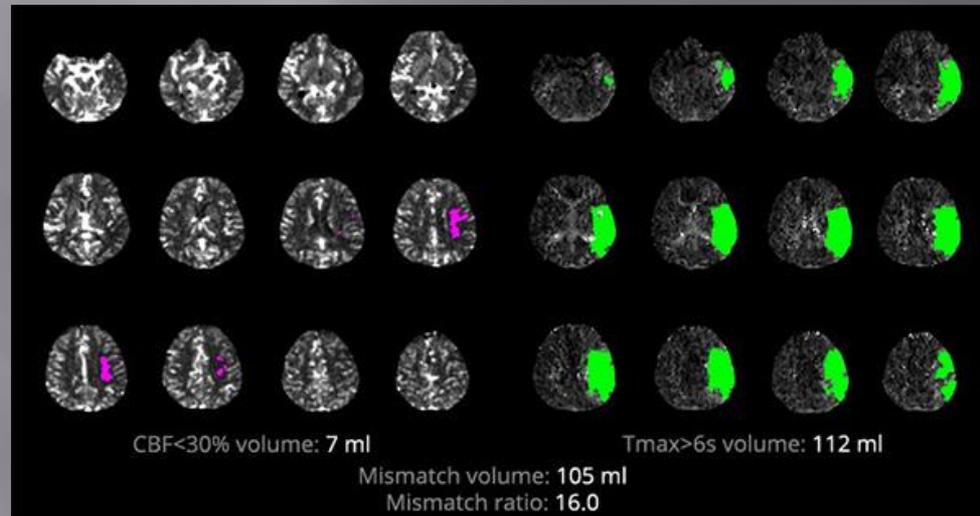
Tenecteplase (TNK)

- ▣ Thrombolytic
- ▣ Enzymes that helps dissolve clots
- ▣ Can only be given within 4.5 hours of the onset of stroke symptoms
- ▣ Inclusion and exclusion criteria
 - Goal door to order 40 min
 - Goal order to hung 15 min
 - Goal door to hung 60 min



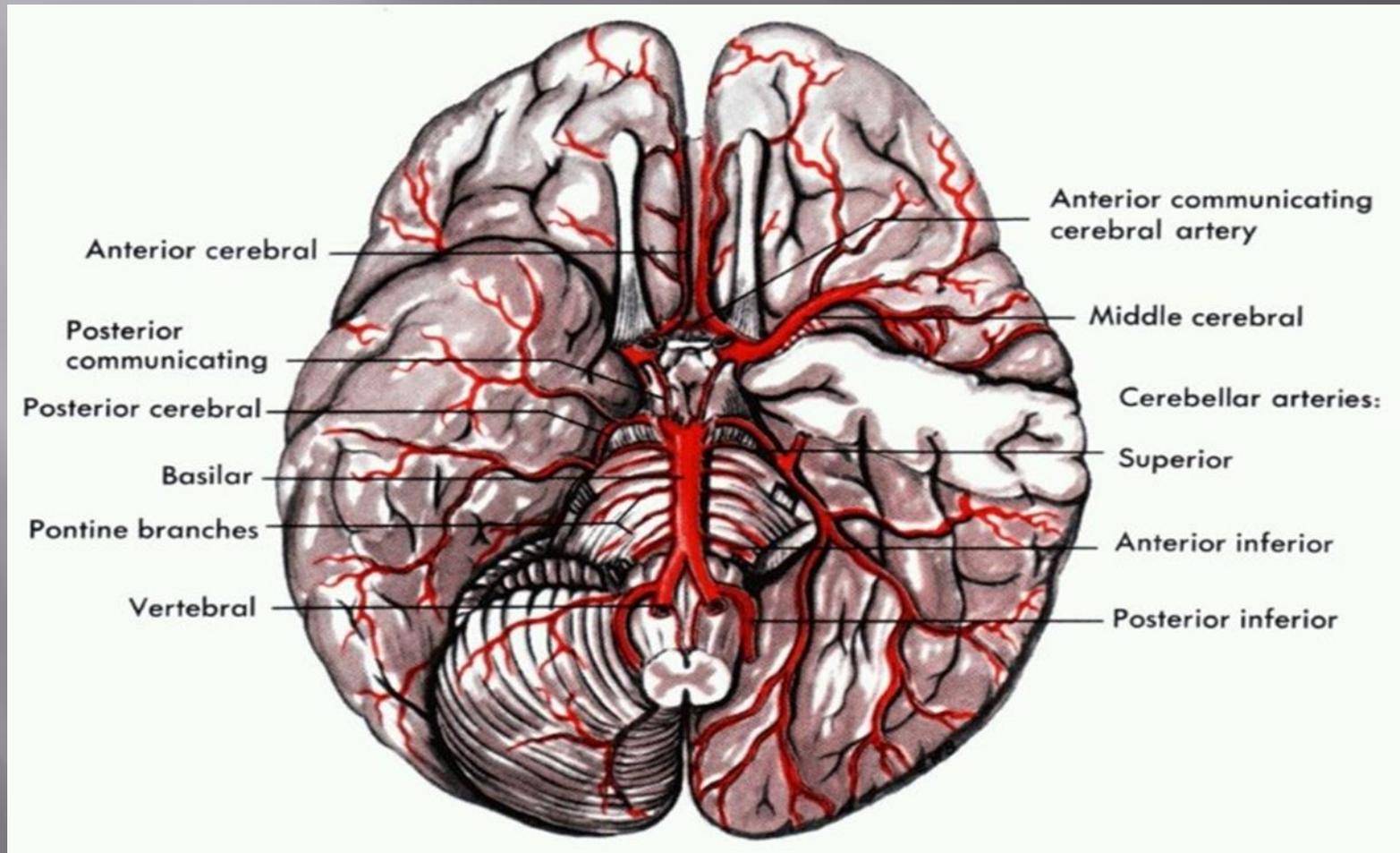
Large Vessel Occlusion (LVO)

- CT Angiogram Perfusion
 - I Rapid Software

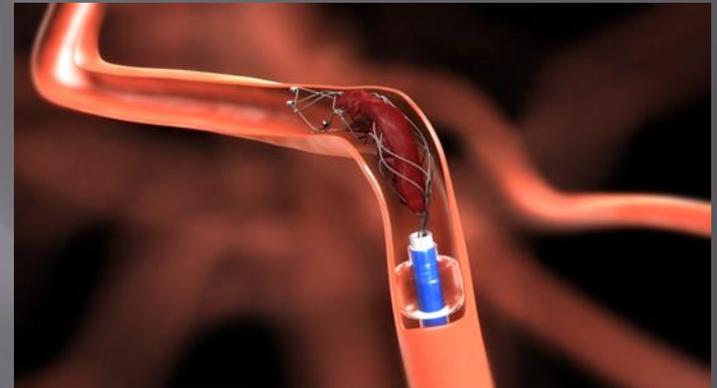
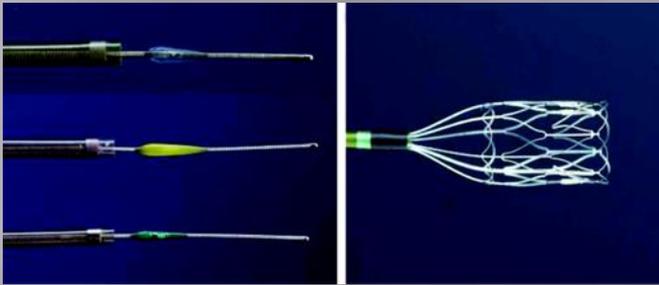


- Endovascular Treatment
- Thrombectomy

Brain Arterial Circulation

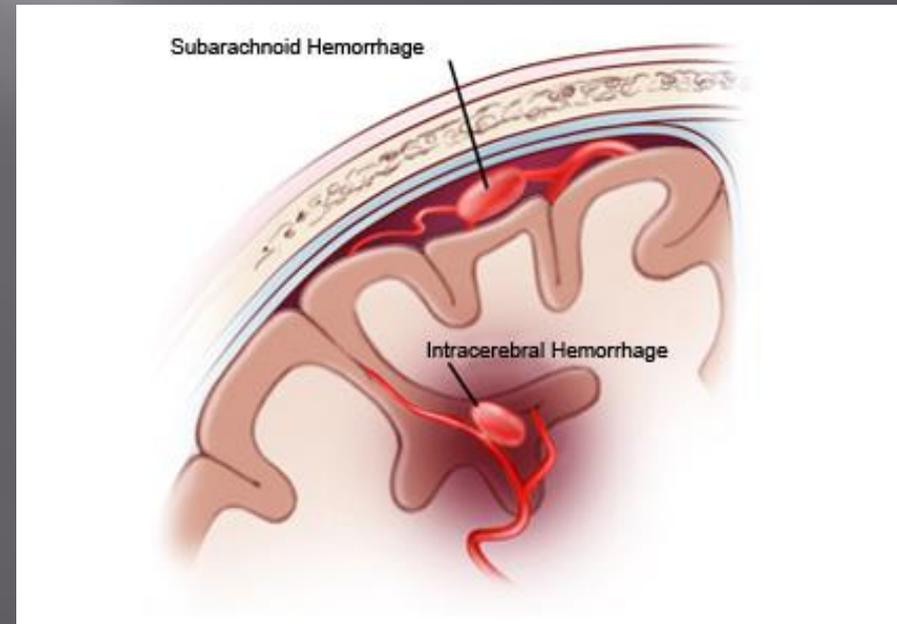


Endovascular Thrombectomy Devices (up to 24 hours)



Hemorrhagic Strokes

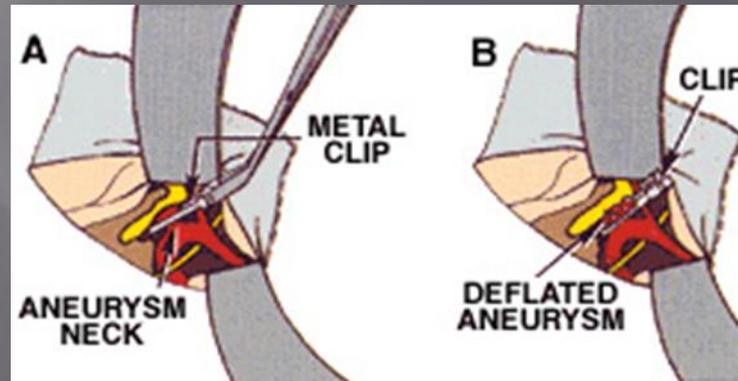
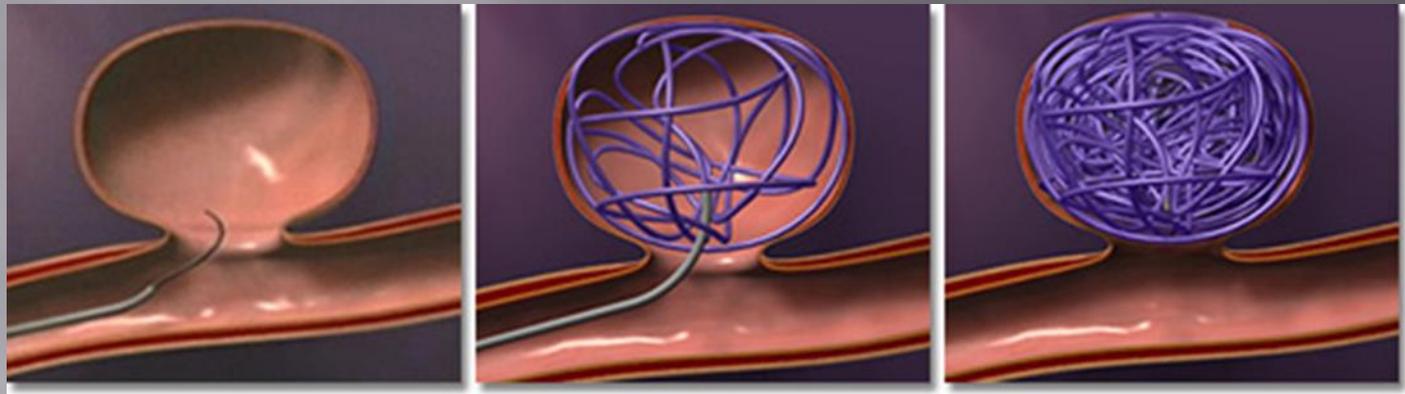
- ▣ 20% of all strokes are hemorrhagic
- ▣ “Worst headache of my life”
- ▣ Blood vessel ruptures in or near the brain, disrupts blood flow to the brain.
- ▣ 2 Types:
 - Subarachnoid hemorrhage
 - Intracerebral hemorrhage



Hemorrhagic Stroke Treatment

Observation

Coiling, Clipping



Care of the Stroke Patient



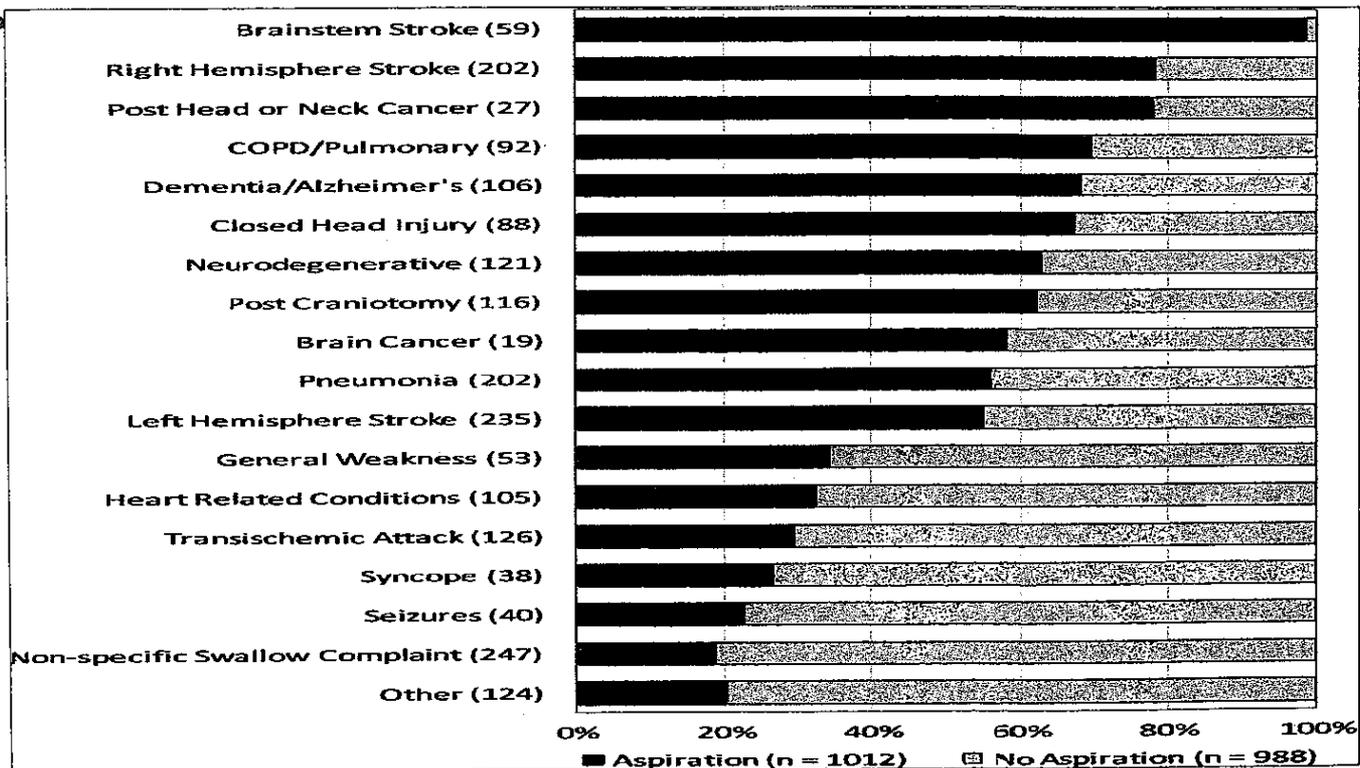
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Nursing/PT/OT/SLP Case Managers

- ▣ Basics
 - Eat, drink
 - Aspiration precautions
 - Void, eliminate
 - Skin
 - Activity, HOB
 - Hygiene
- ▣ VS, neuro checks at least Q 4
- ▣ SCD's
- ▣ Meds
- ▣ Labs, MRI, CT, Echo
- ▣ Therapy
- ▣ Care Plan, EDUCATION, discharge planning, EDUCATION
- ▣ Supportive care, support groups

Can My Patient Swallow?

Patients Prone to Aspiration



Stroke Core Measures

IV thrombolytic administered-ED/ICU

Early Antithrombotics-ASA before day 2

DVT Prophylaxis-lovenox, SCD's

DC on Antithrombotics-ASA on DC

Anticoagulant for Atrial fib/Flutter

Smoking Cessation

DC on Statin

Dysphagia Screen-aspiration pneumonia

Stroke Education

Rehab Considered-PT, OT, SLP, Rehab

Blood Pressure Education

Blood Pressure Categories



BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

Stroke Recovery



- ▣ 10 percent of stroke survivors recover almost completely
- ▣ 25 percent recover with minor impairments
- ▣ 40 percent experience moderate to severe impairments requiring special care
- ▣ 10 percent require care within either a skilled-care or other long-term care facility
- ▣ 15 percent die shortly after the stroke

Lifestyle Changes to Consider It's a Family Issue

- ▣ Daily living skills
- ▣ Dressing and grooming
- ▣ Diet, nutrition and eating difficulties
- ▣ Skin care problems
- ▣ Pain
- ▣ Sexuality/Intimacy
- ▣ Behavior
- ▣ Depression & Anger
- ▣ Emotional Liability
- ▣ One-sided Neglect
- ▣ Memory Loss
- ▣ Communication Problems



My NO-STROKE Reasons



Thank you!!!!