

# Stroke Syndromes and Diagnosis

Wade Smith, MD, PhD  
Professor of Neurology, UCSF  
Director, Neuro ICU

# Disclosure Statement of Financial Interest

Within the past 12 months, I or my spouse/partner have had a financial interest/arrangement or affiliation with the organization(s) listed below.

## Affiliation/Financial Relationship

- Grant/Research Support
- Consulting Fees/Honoraria
- Major Stock Shareholder/Equity
- Royalty Income
- Ownership/Founder
- Intellectual Property Rights
- Other Financial Benefit

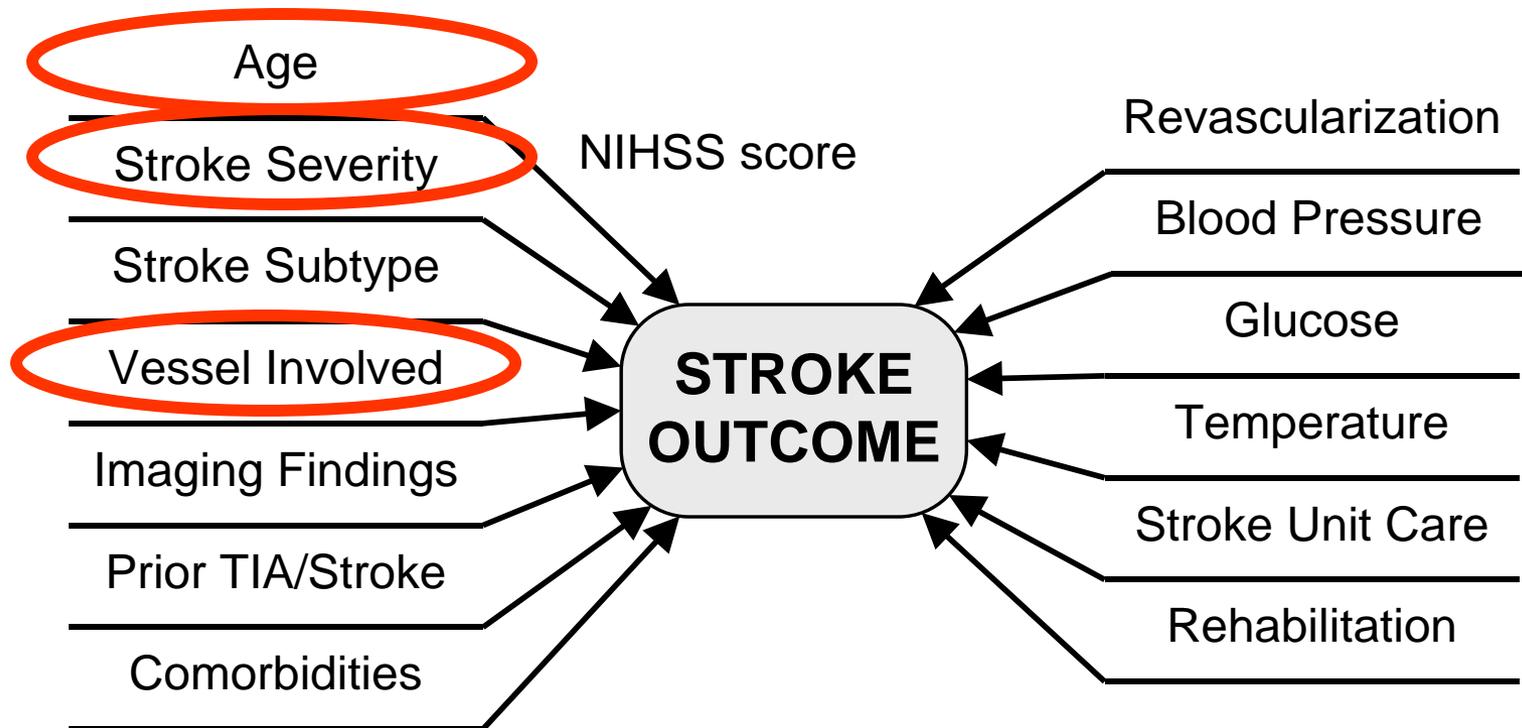
## Company

- Jan Medical
- Covidien, Stryker- DSMB for both
- None
- None
- None
- None
- I wish

# INDEPENDENT

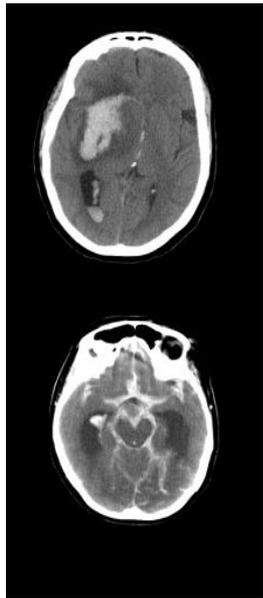
Non-modifiable Factors

Modifiable Factors



# STROKE

## HEMORRHAGIC

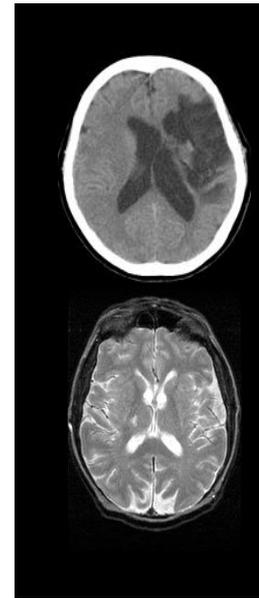


PARENCHYMAL

SUBARACHNOID

OTHER

## ISCHEMIC

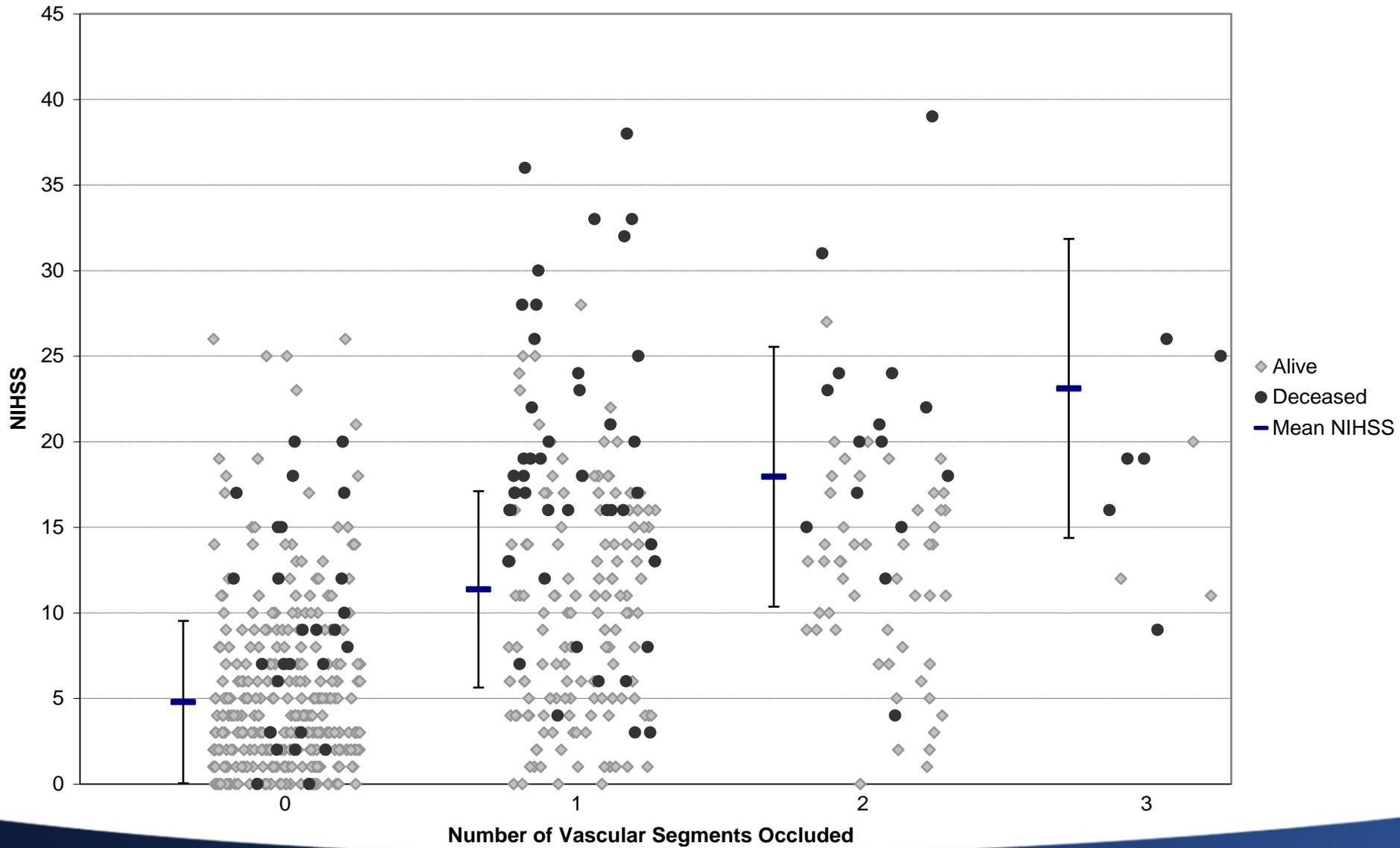


LARGE  
VESSEL

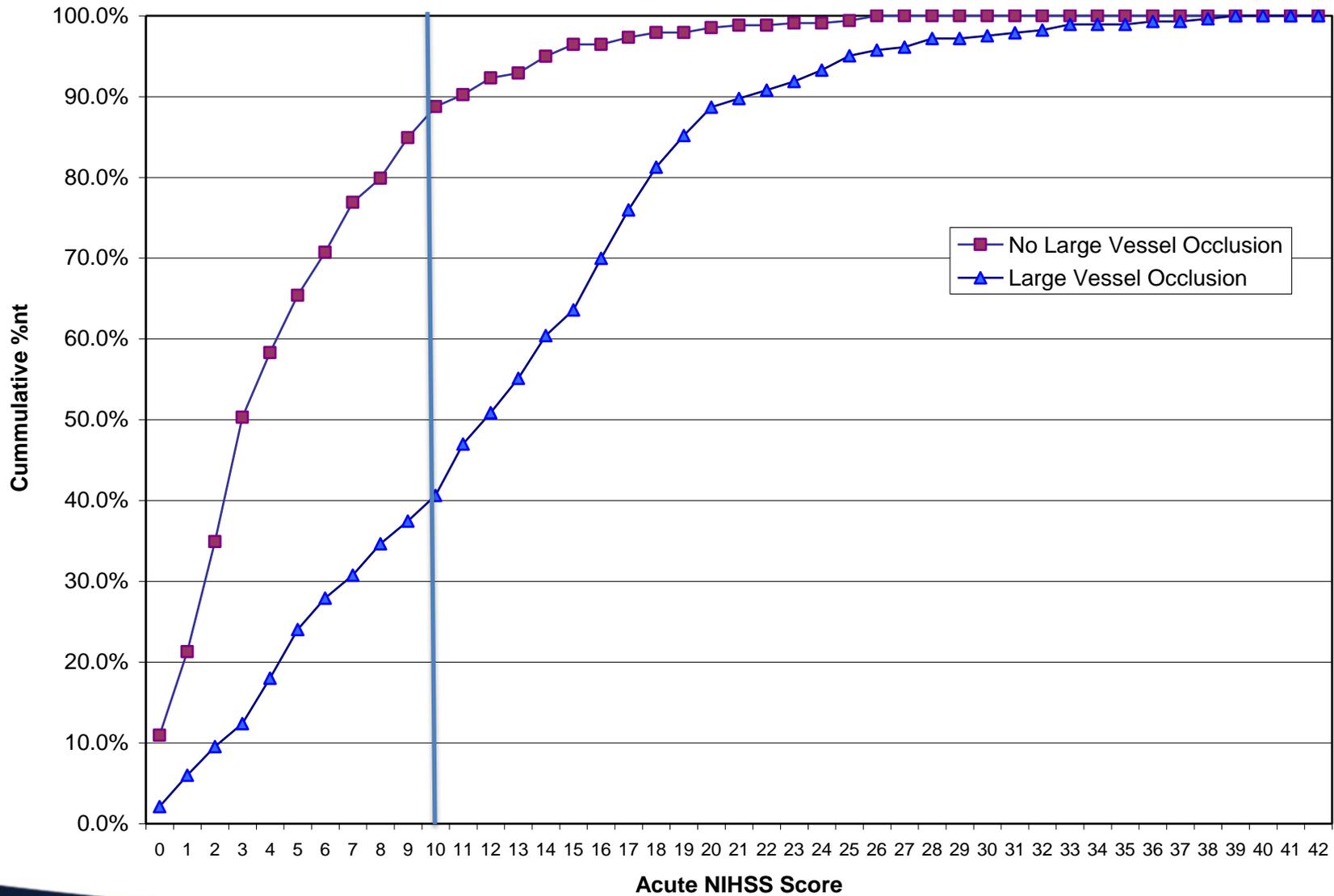
SMALL  
VESSEL

OTHER

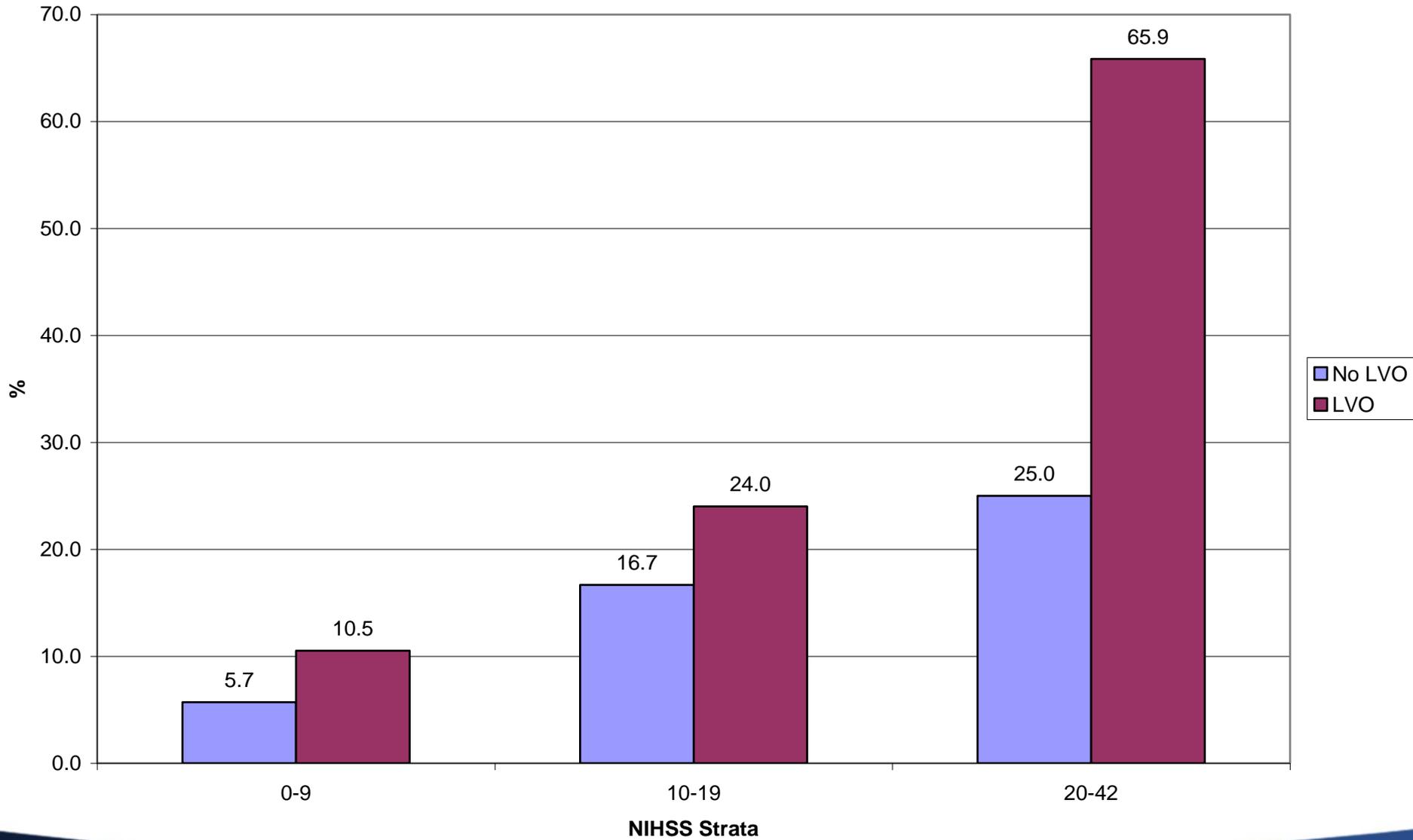
# Baseline NIHSS and Vascular Segment Occlusion



# Stop Stroke NIHSS and LVO

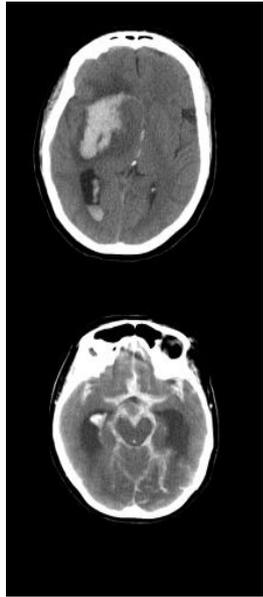


# Mortality



# STROKE

## HEMORRHAGIC

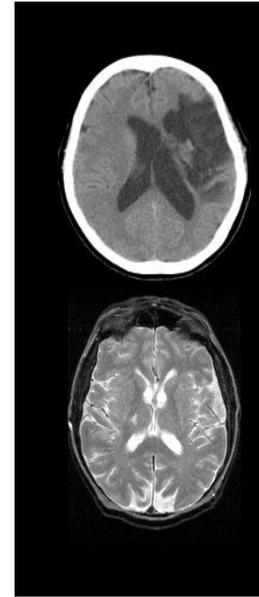


PARENCHYMAL

SUBARACHNOID

OTHER

## ISCHEMIC



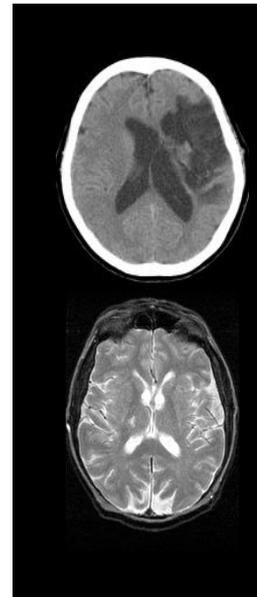
LARGE  
VESSEL

SMALL  
VESSEL

OTHER

STROKE

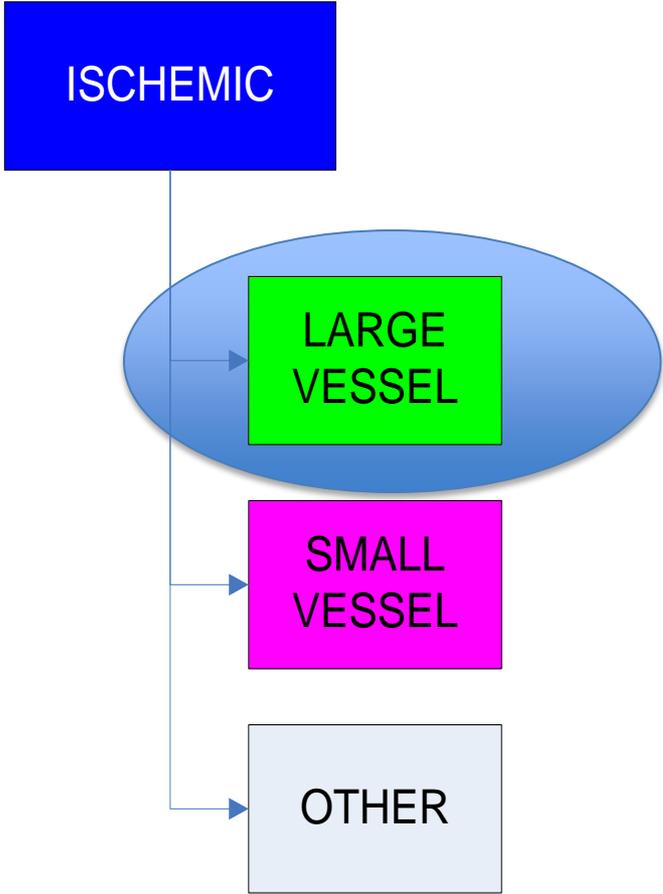
ISCHEMIC



LARGE  
VESSEL

SMALL  
VESSEL

OTHER



## Embolic Stroke

Cardioembolic

Atrial Fibrillation

Acute Myocardial Infarction

Mechanical Heart Valve

Atrial Septal Defect /  
Aneurysm

Bacterial Endocarditis

Marantic Endocarditis

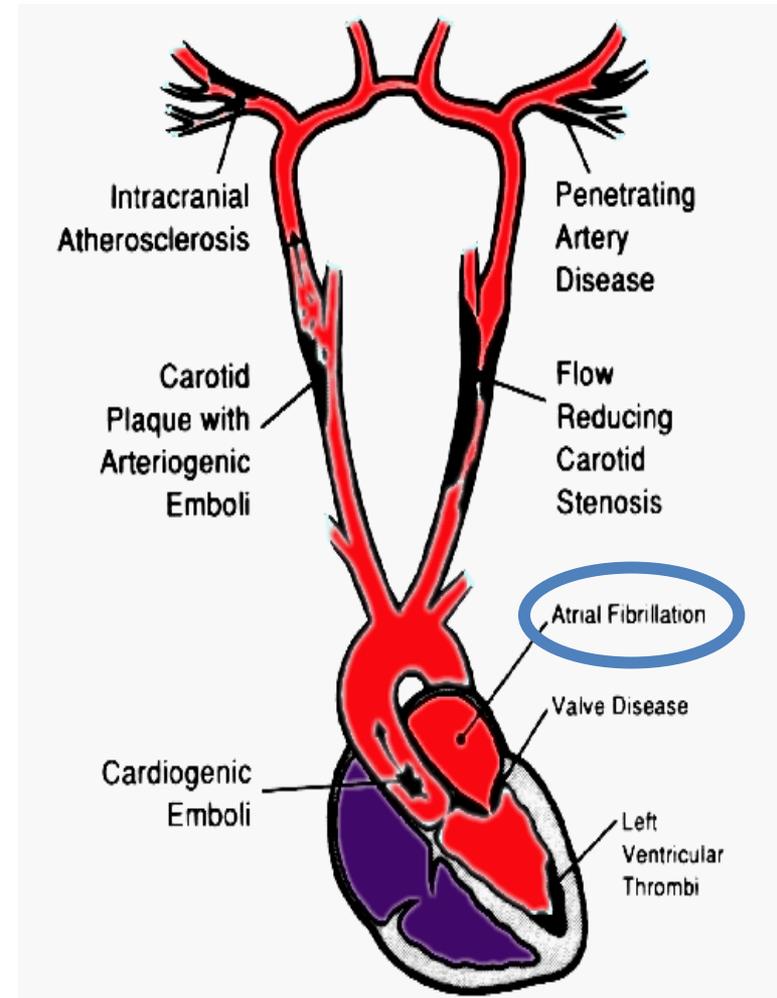
Artery-Artery Embolic

Carotid Bifurcation Disease

Arterial Dissection

Aortic Arch Disease

Intracranial Atherosclerosis



# Embolitic Stroke

## Cardioembolic

Atrial Fibrillation

Acute Myocardial Infarction

Mechanical Heart Valve

Atrial Septal Defect /  
Aneurysm

Bacterial Endocarditis

Marantic Endocarditis

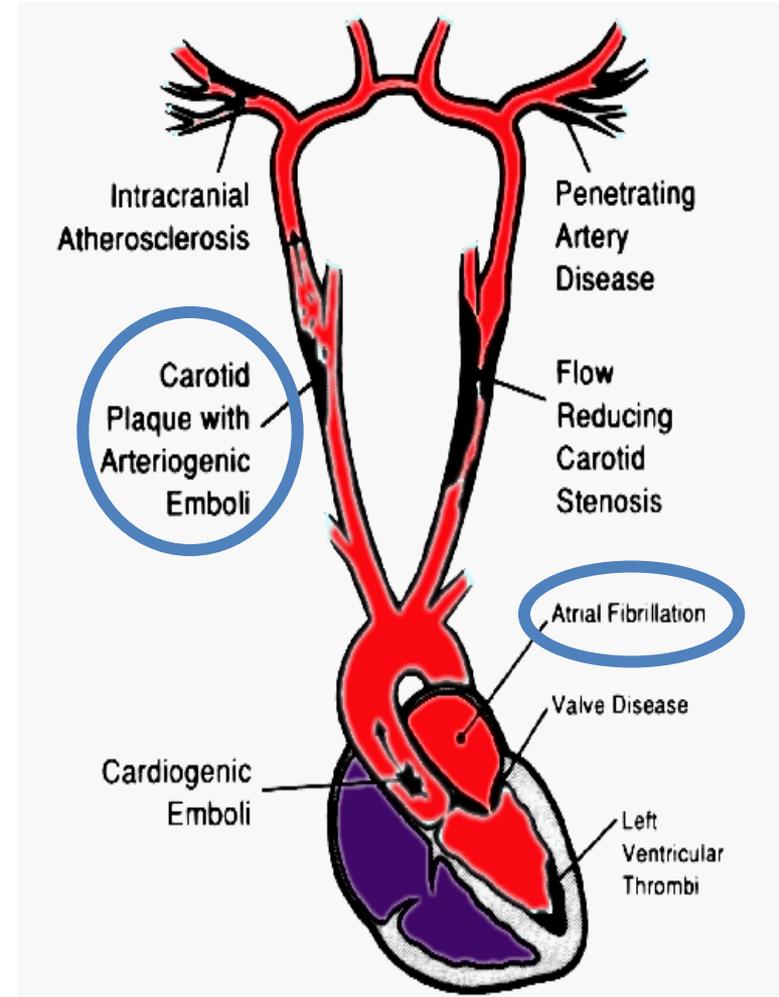
## Artery-Artery Embolic

Carotid Bifurcation Disease

Arterial Dissection

Aortic Arch Disease

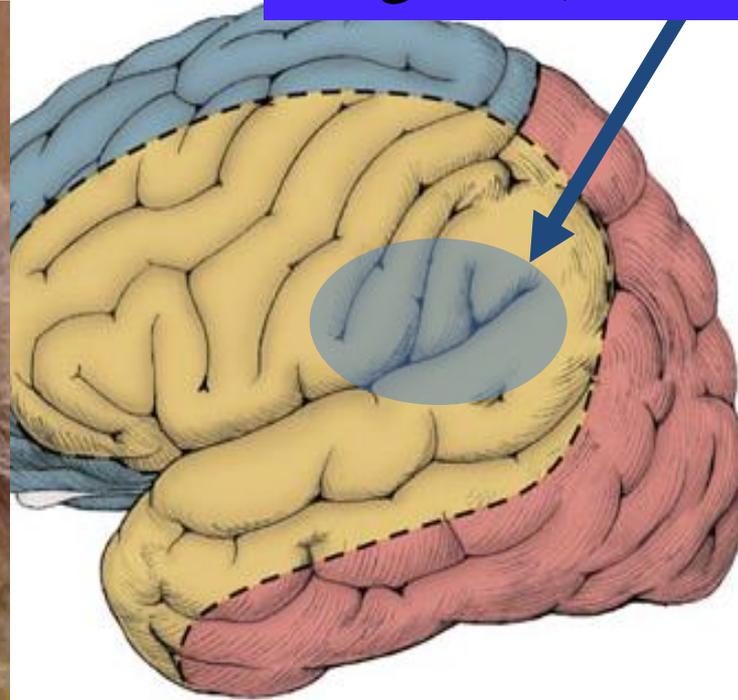
Intracranial Atherosclerosis



# MCA Stroke

Aphasia (dominant) or

Neglect (dominant)

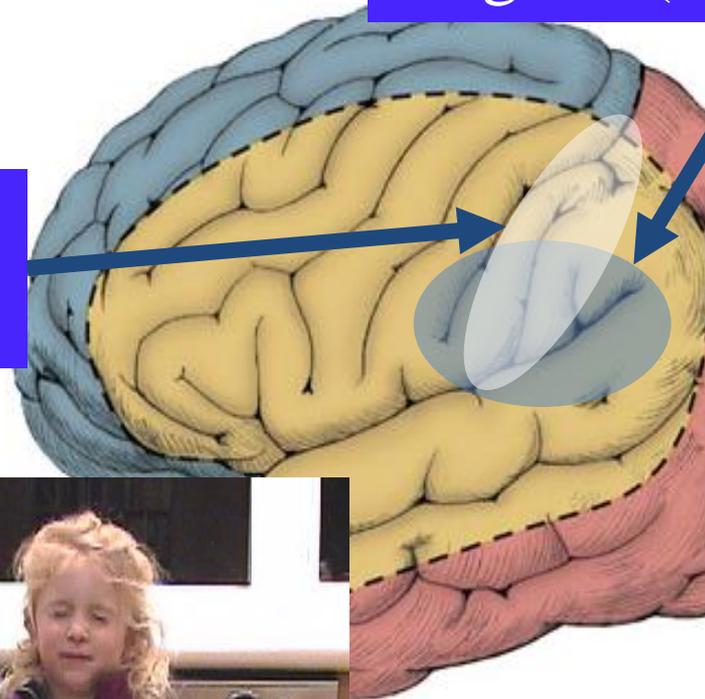


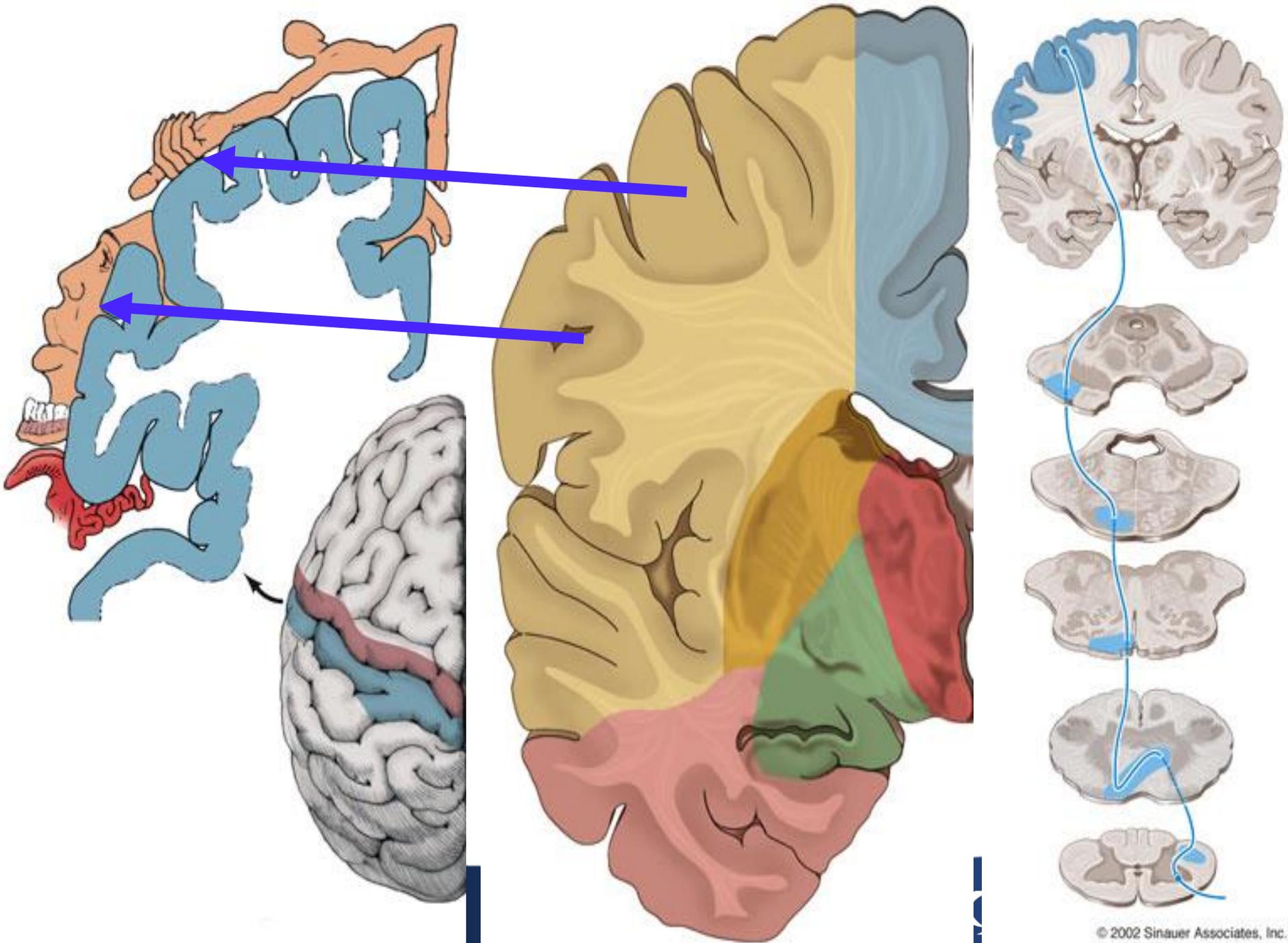
# MCA Stroke

Aphasia (dominant) or

Neglect (dominant)

Hemiparesis  
 $F=A > L$





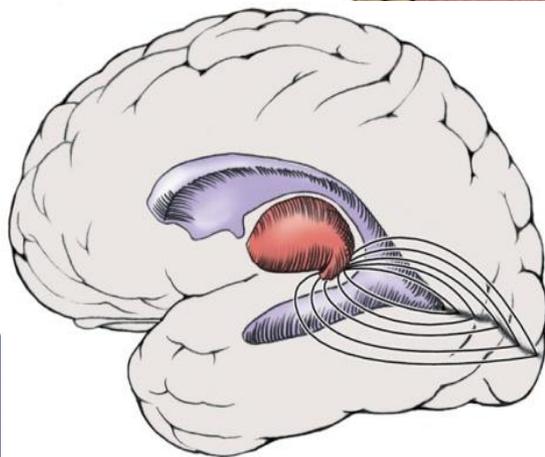
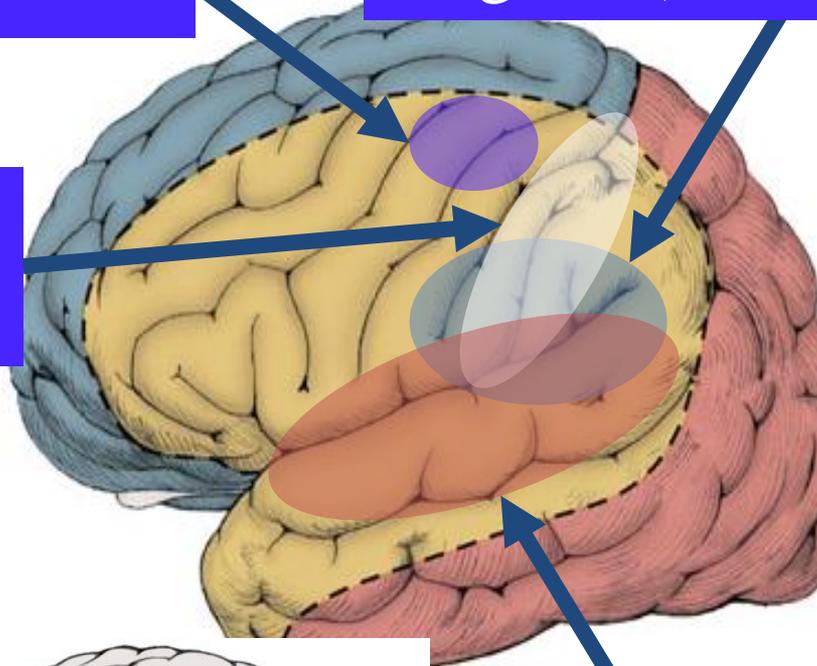
# MCA Stroke

Aphasia (dominant) or

Gaze Deviation

Neglect (dominant)

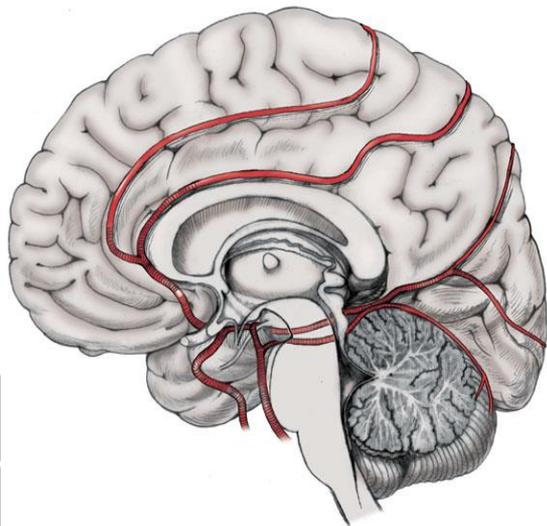
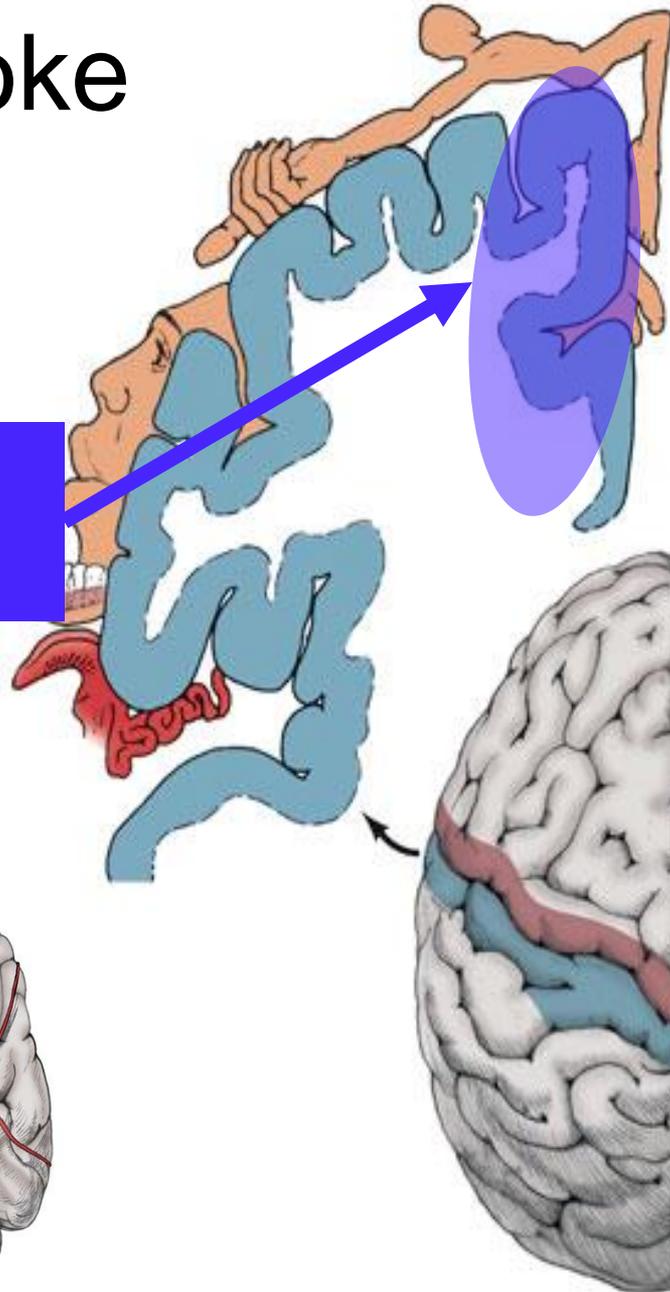
Hemiparesis  
F=A > L



He

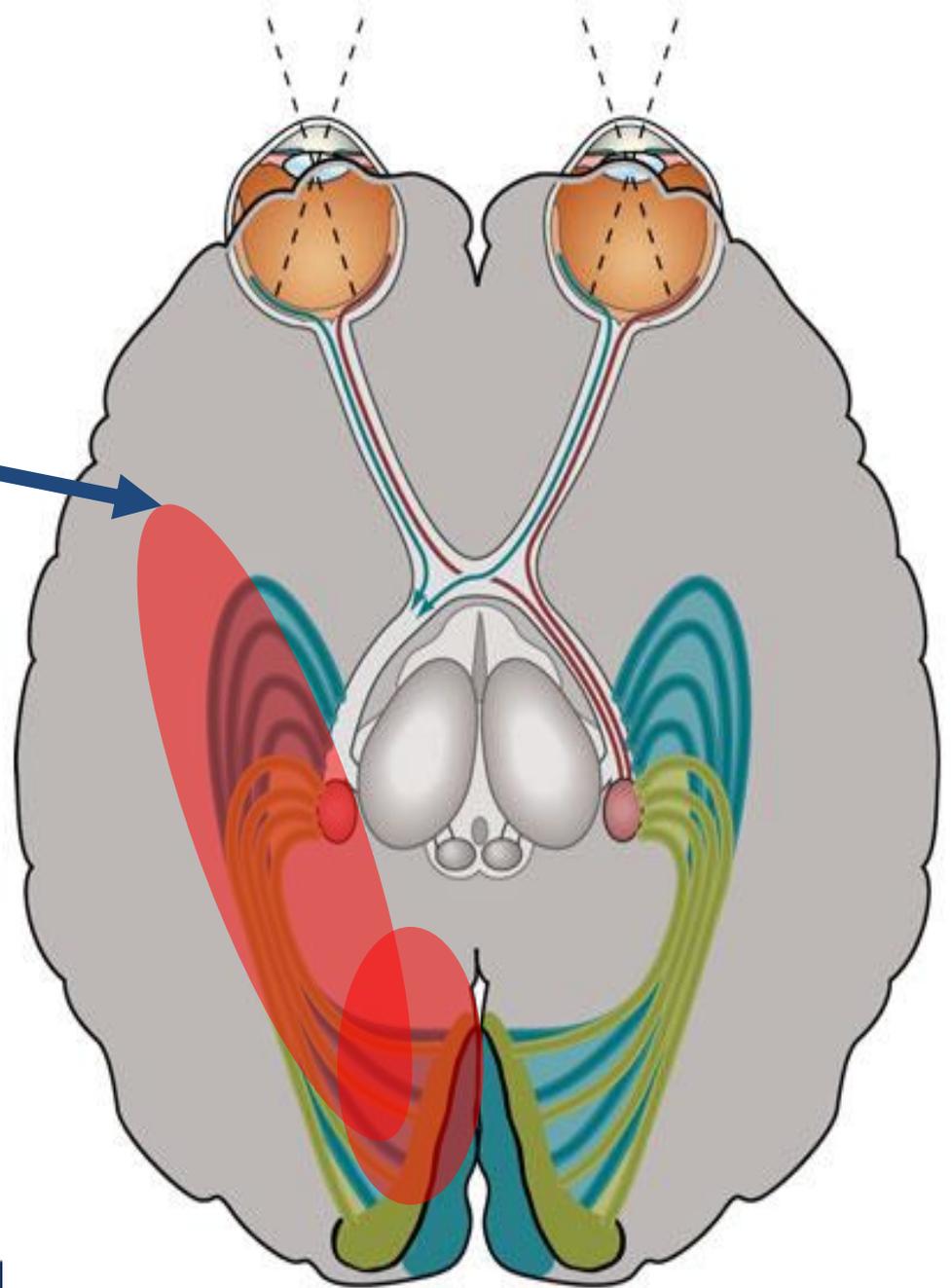
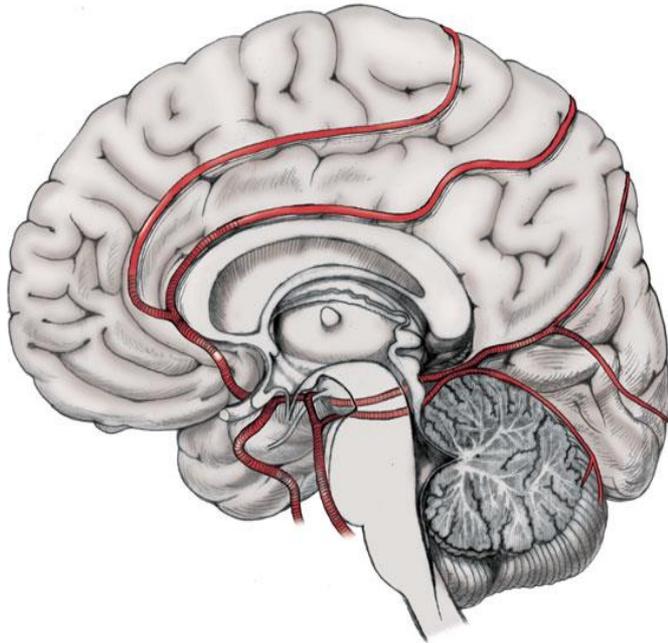
# ACA Stroke

Contralateral leg weakness



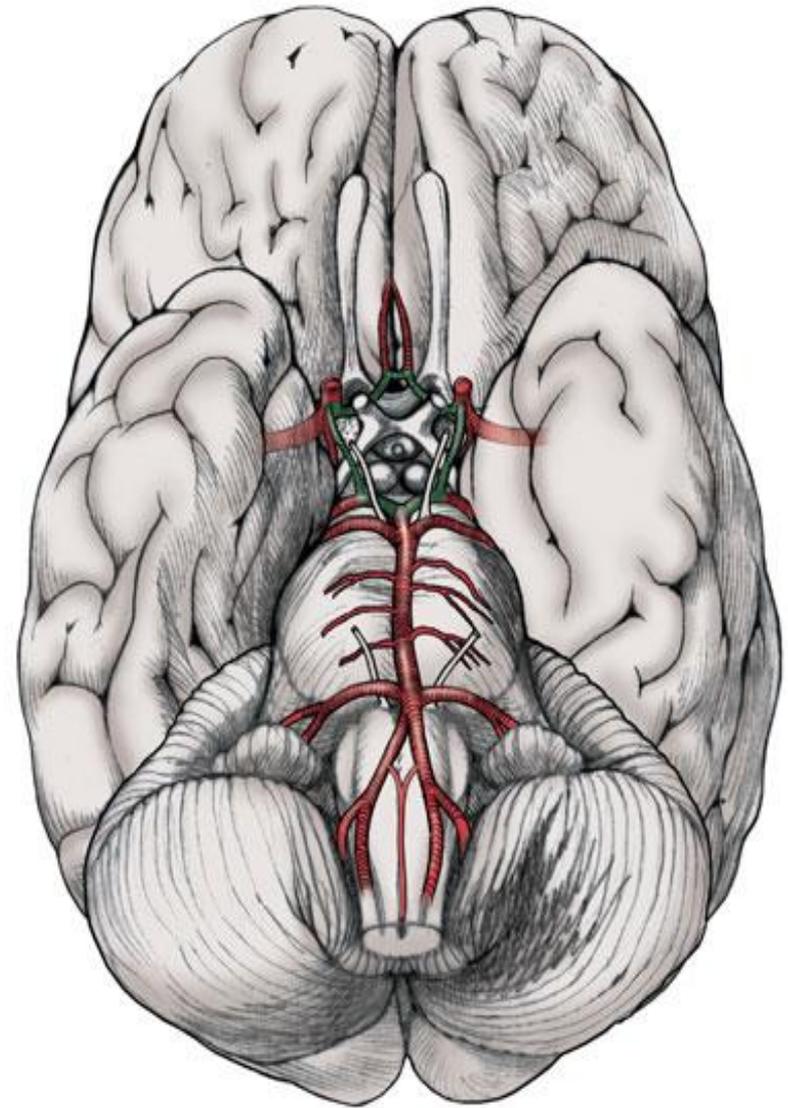
# PCA Stroke

Homonymous  
Hemianopsia



# Basilar Artery Stroke

- Coma
- Cranial Nerve Deficits
- Apnea
- Cardiovascular instability



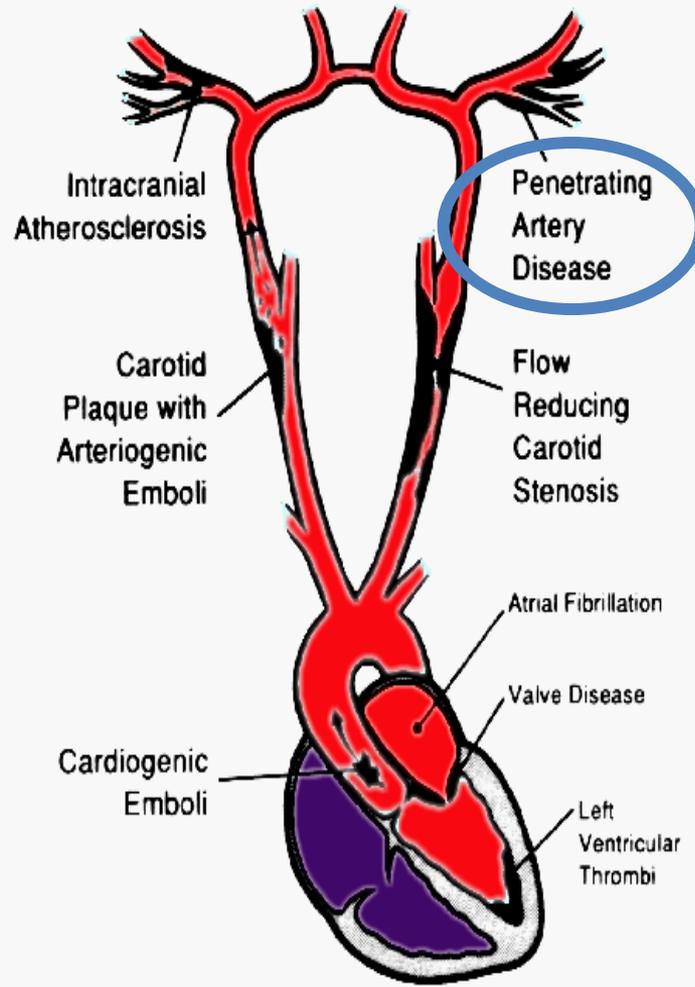
© 2002 Sinauer Associates, Inc.

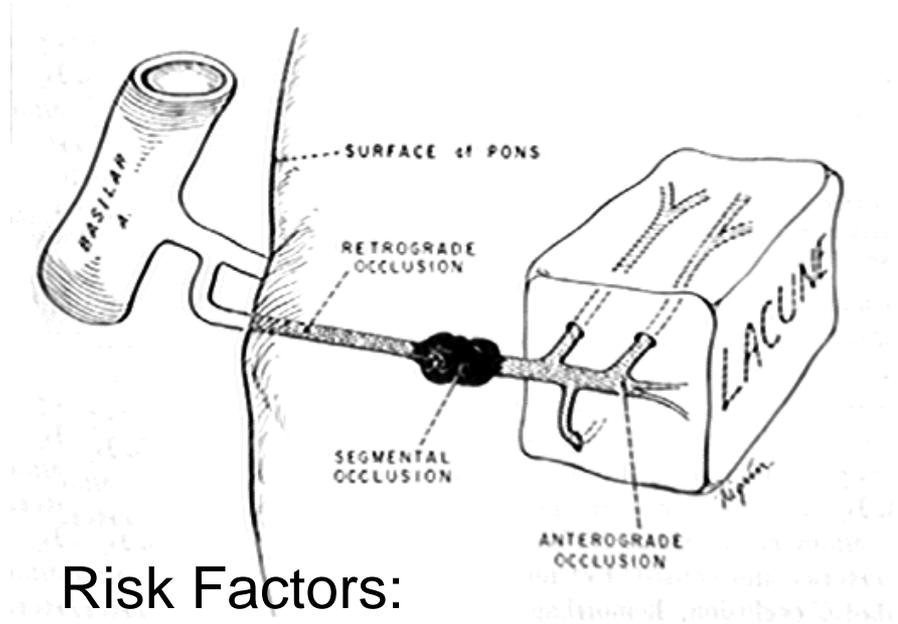
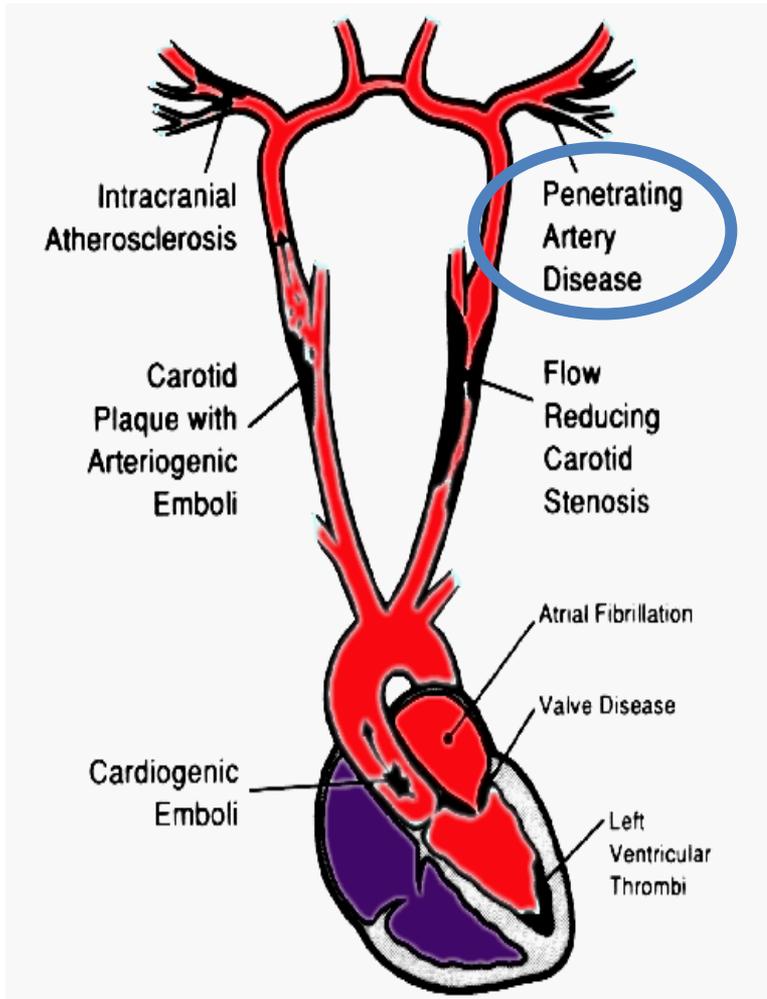
# ISCHEMIC

LARGE  
VESSEL

SMALL  
VESSEL

OTHER





**Risk Factors:**

- Hypertension, Diabetes

**Two syndromes to remember:**

- Pure Motor Stroke
- Pure Sensory Stroke

# Small Vessel Stroke

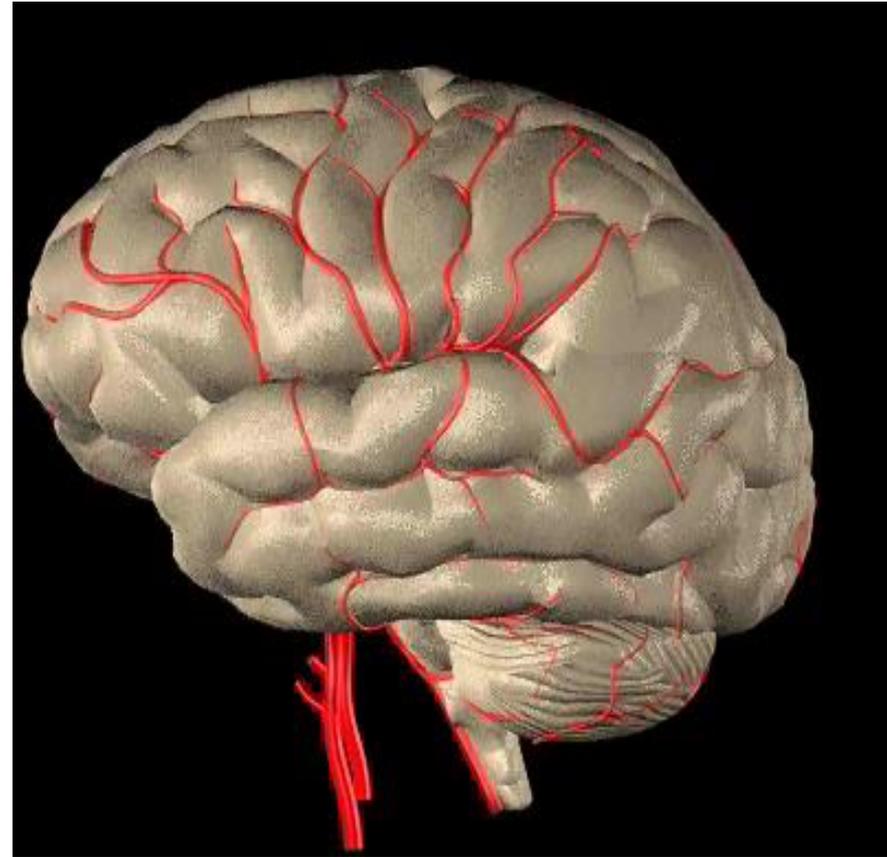
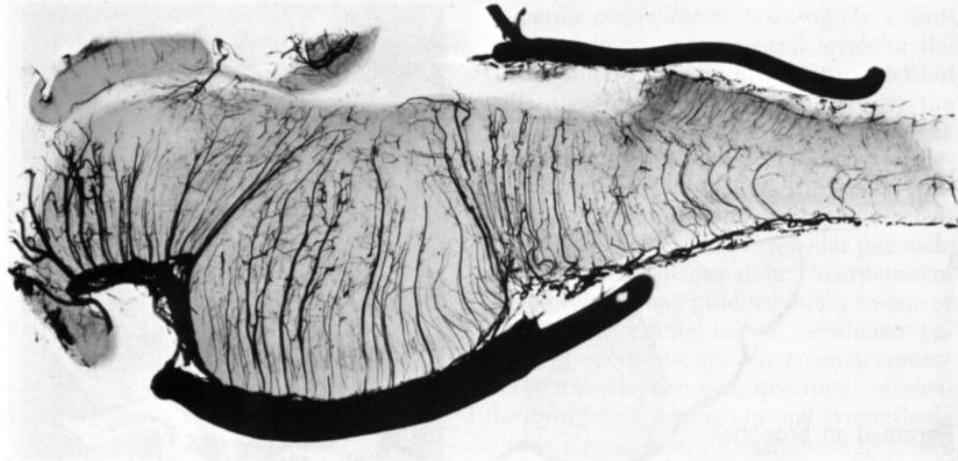
Lenticulostriates – Pure Motor

Thalamoperforators – Pure Sensory

Brainstem penetrators

Cerebellar hemisphere

Deep cerebral white matter



# Large v. Small Vessel Stroke/TIA

## Large Vessel Stroke

- Cortical signs (aphasia, visual field, neglect)
- High morbidity
- Embolic
- AOC if A-Fib
- BP control and statin

## Small Vessel Stroke

- Motor or sensory only; typically no cognitive impairment
- Less morbid
- Thrombotic
- ASA/Clopidogrel, BP control, statin