

Visual Manifestation of Stroke

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Objectives

- Identify common visual manifestations of stroke
- Be familiar with patterns specific for stroke syndromes
- Identify eye manifestations of serious etiology
- Be efficient in triaging acute versus chronic strokes

Introduction

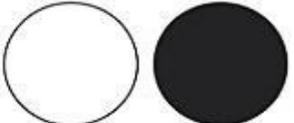
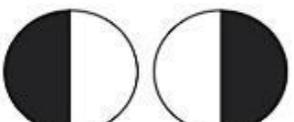
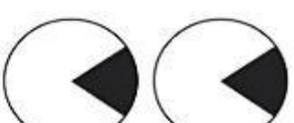
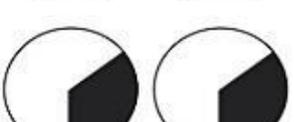
- Stroke is the end result of an acute vascular phenomenon and can lead in different signs and symptoms of which eye symptoms can be the only presenting complain and an optometrist can be the first person to identify this serious condition

Types of stroke

- Strokes can be ischemic or hemorrhagic
- Ischemic strokes can be cardio-embolic “from the heart” or “athero-embolic “from a plaque in the carotid or “idiopathic”.
- Hemorrhagic strokes can occur in someone with HTN and or / be on anticoagulant
- Be careful ...someone with a fib and on Coumadin is not immune to get a stroke.. instead they are even at risk of hemorrhagic stroke..

Visual Pathway

Visual Field Defects Associated with Visual Pathways

Visual Field Defect	Lesion Location
 Decreased vision, right eye	Right optic nerve
 Junctional scotoma	Posterior right optic nerve
 Bitemporal hemianopia	Chiasm
 Right homonymous hemianopia	Left optic tract
 Right homonymous sectoranopias	Left lateral geniculate nucleus
 Right homonymous superior hemianopic defect	Left temporal lobe
 Right homonymous inferior hemianopic defect	Left parietal lobe
 Right homonymous inferior quadrantanopia	Left occipital lobe (upper bank)
 Right homonymous superior quadrantanopia	Left occipital lobe (lower bank)
 Right homonymous macular-sparing hemianopia	Left occipital lobe
 Right homonymous scotomas	Tip of the left occipital lobe

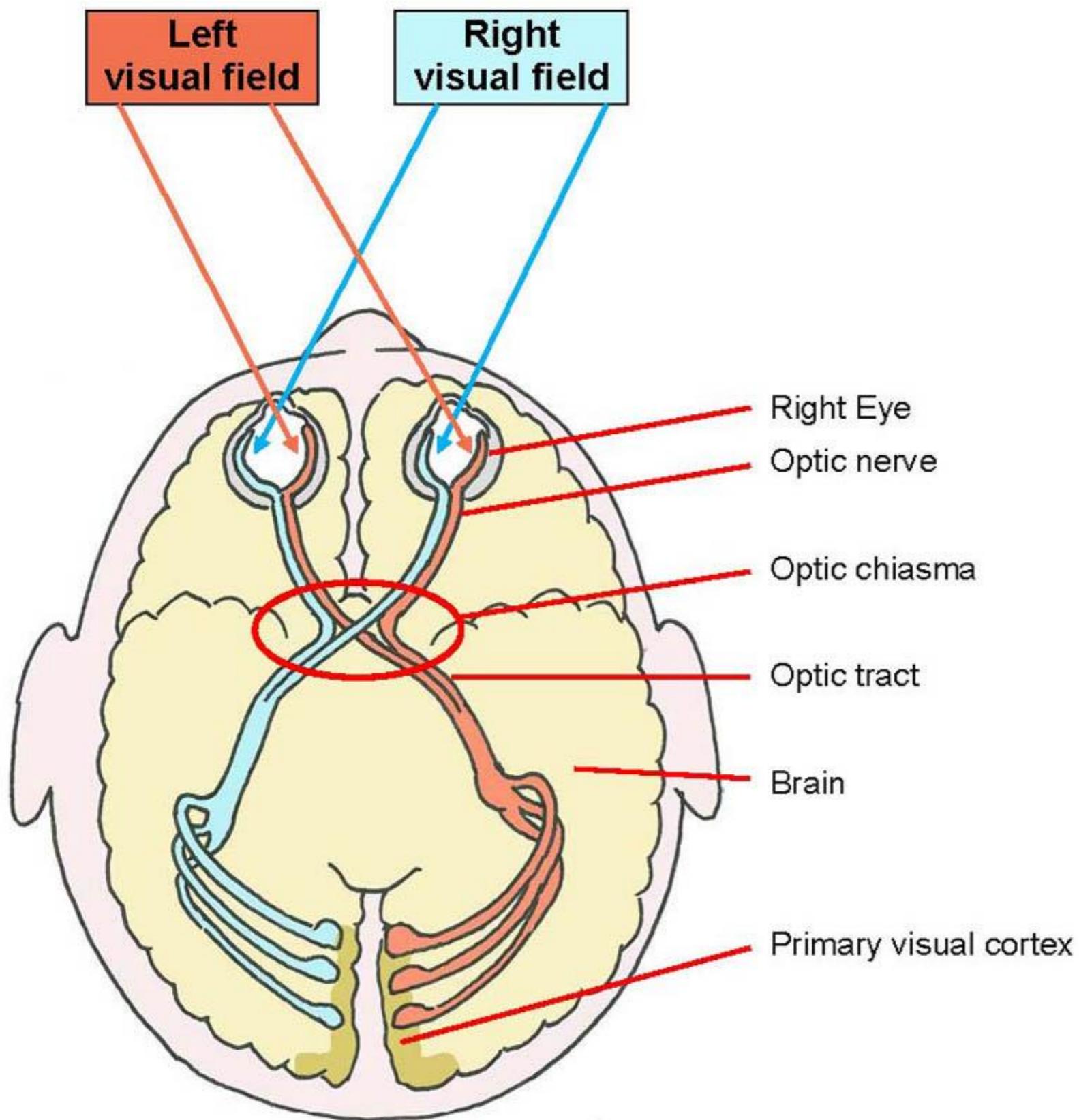
- Each part of the visual pathway can be affected by stroke and can lead to a specific visual field defect

1. Complete blindness of open eye

- DD: includes stroke, optic neuritis, CRVO, other ocular disease such as RD.. exam can be helpful
 - CRAO : acute painless severe painless loss of vision of one eye
 - * significance: do not send patient home
 - * will need brain MRI, to rule out silent strokes, will need neurology eval to identify stroke etiology
 - * will need ESR, CRP, CBC with platelets and to screen for GCA

2. Homonymous visual field defect

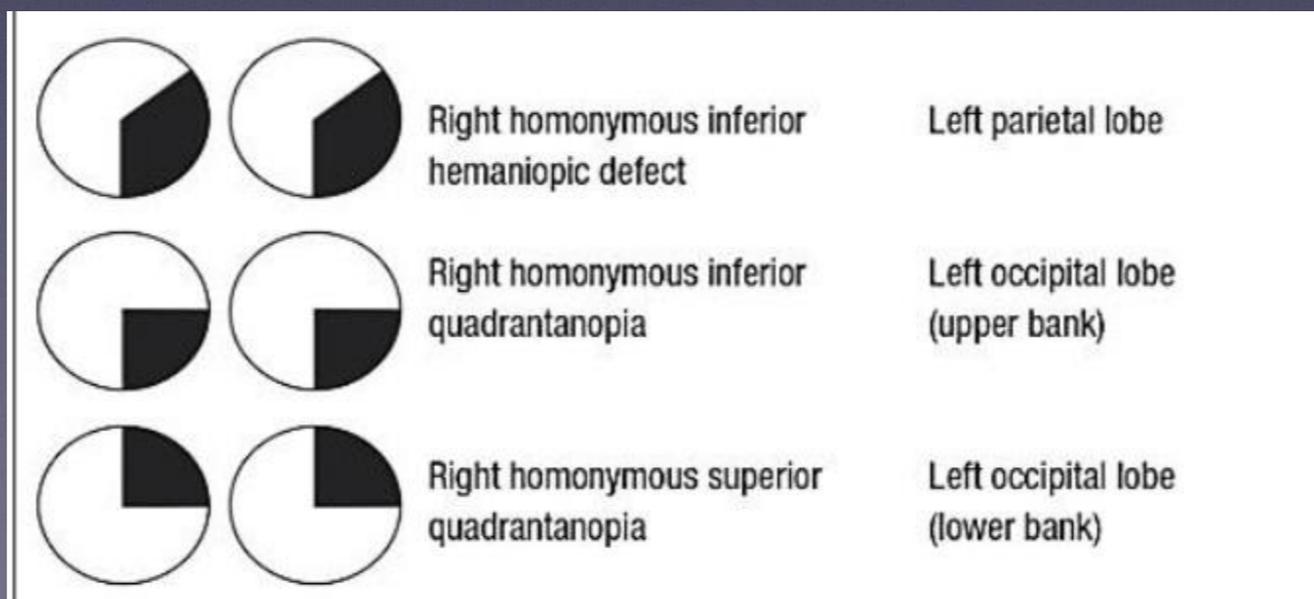
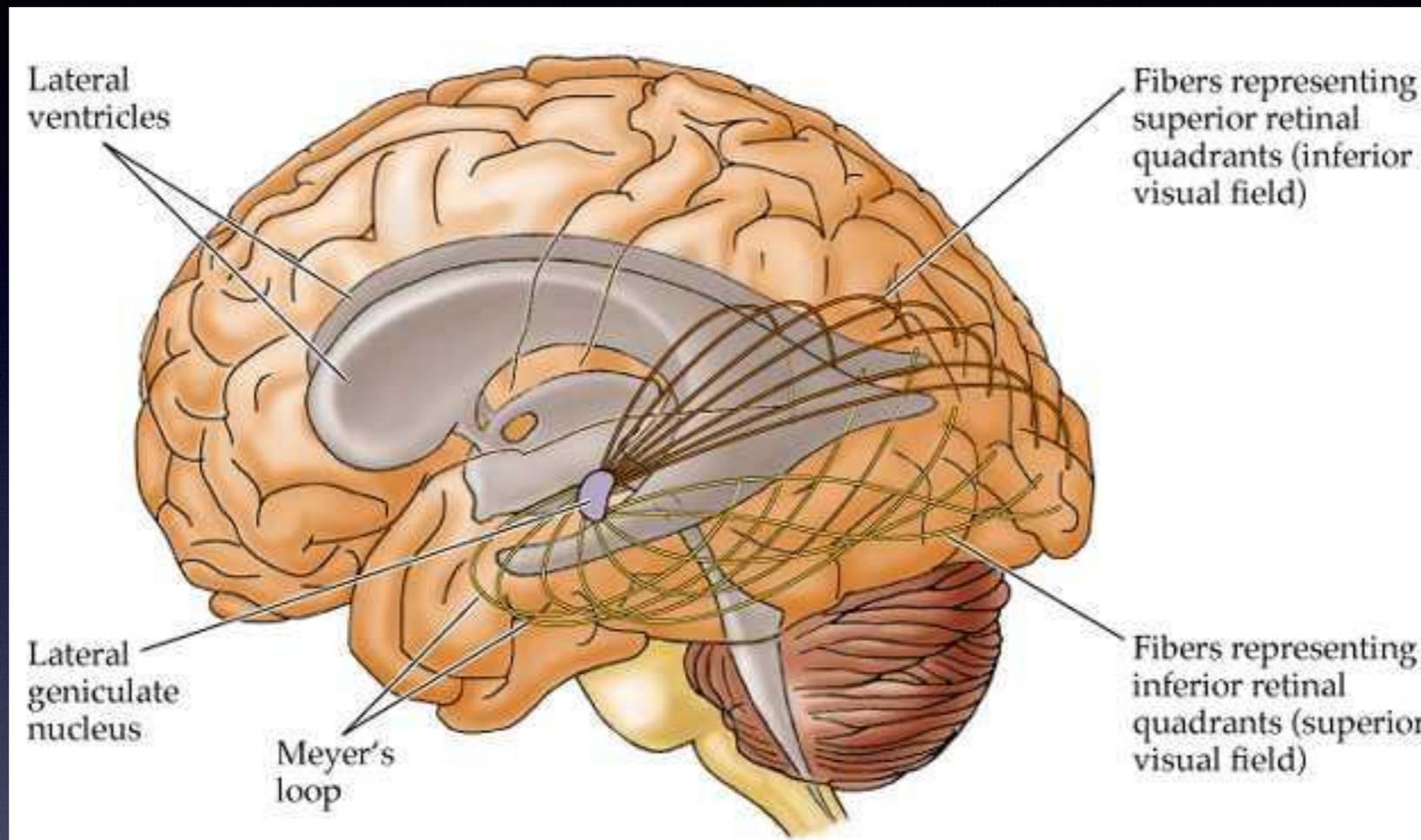
- This means affections of the visual field of the same side of both eyes.
- It can be complete or partial, congruous or incongruous, subtle or obvious



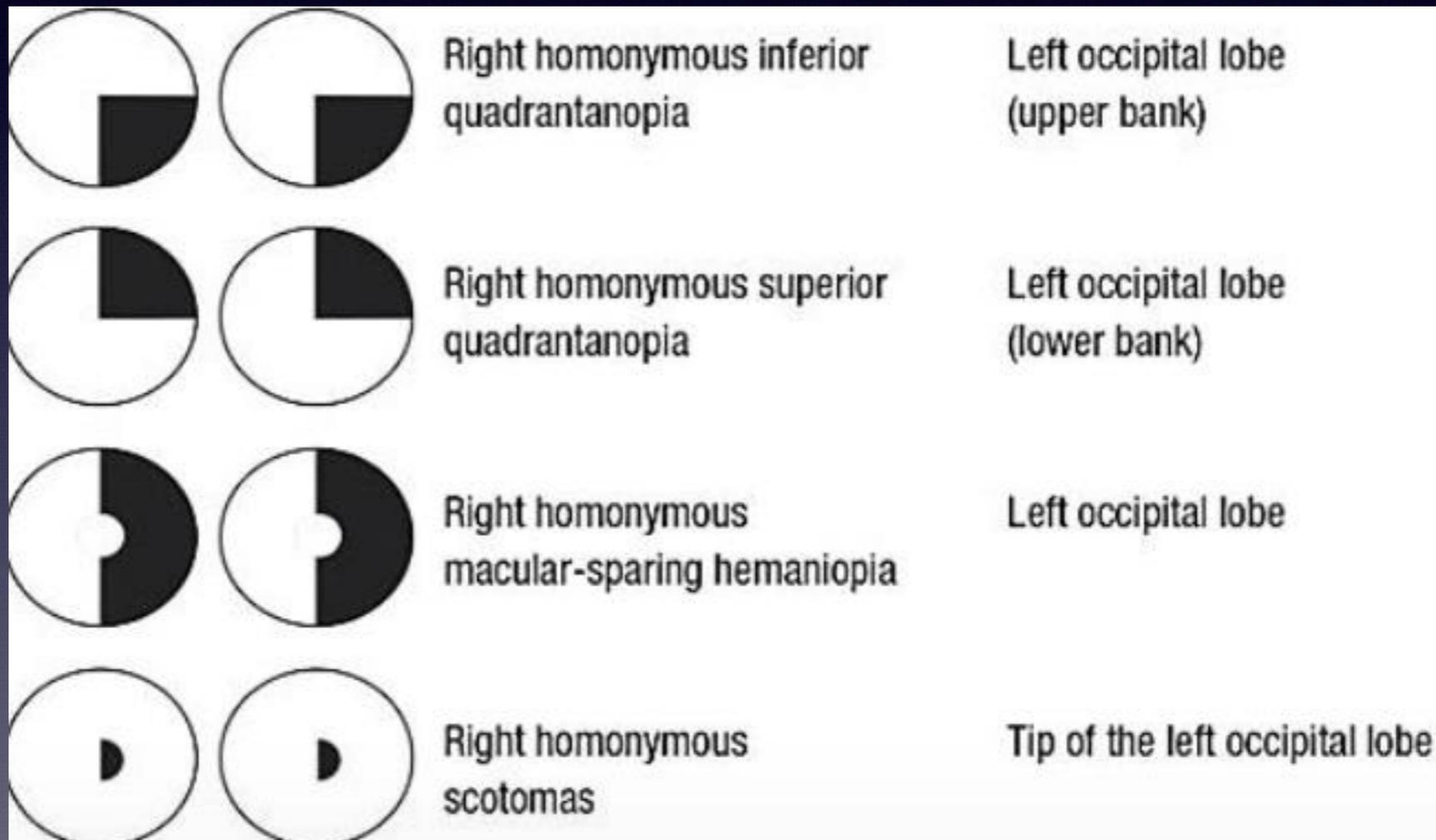
Optic tract



LGB, Optic radiations



Occipital lobe

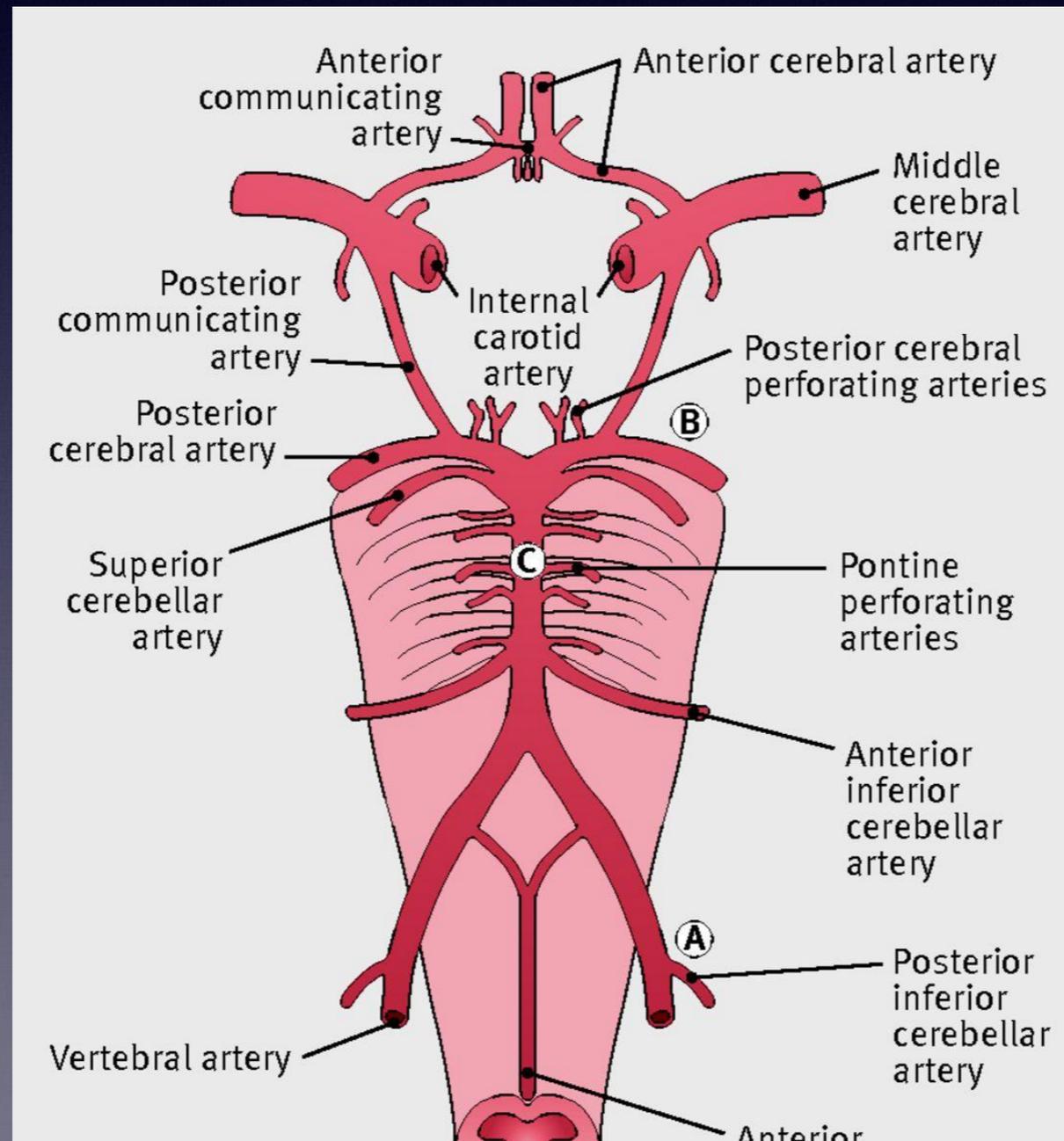


Syndromes associated with stroke that may make diagnosis difficult

- 1. “Expressive Aphasia” due to temporal lobe syndrome
- 2. “Balint Syndrome” bilateral occipital lobe stroke

Is it really serious?

- Yes.. Posterior circulation strokes can lead to severe syndromes and can lead to death



Recommended Workup

- Do not send the patient home, in most cases the patient will need ED evaluation
- Screen for GCA
- Screen for stroke symptoms and risk factors
- If you are not sure, ask for help

Conclusions

- Eye manifestations can be the only and the first symptom of a stroke
- Early identification and accurate assessment can be life saving in some cases