

# Ophthalmology SAQ

## By: 430 Ophthalmology team

Neuroophthalmology

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Revised by: Sara AlShehri

❖ **Note: please refer to the original lecture given by the doctor**



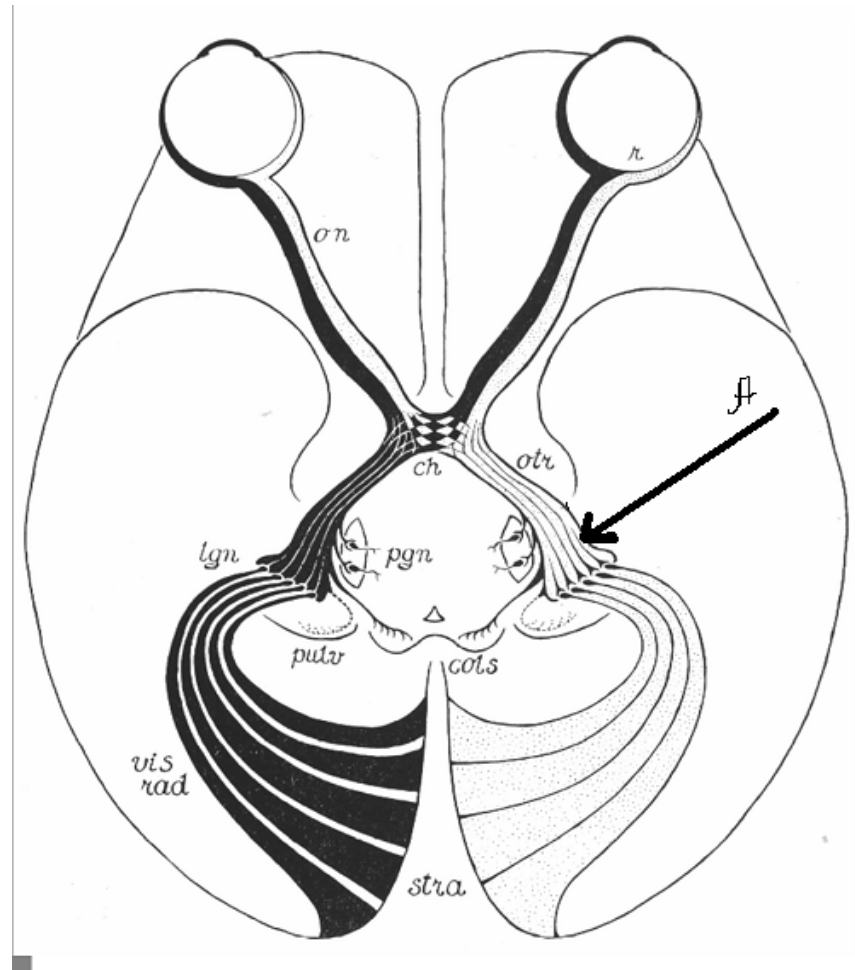
The pictures were sorted by:

- Sara Mohammad Al-Shehri
- Marwah Salem Bafadel
- Ahlam Abdullah Al-Sulaiman
- Lamis Atyah Al-Malki

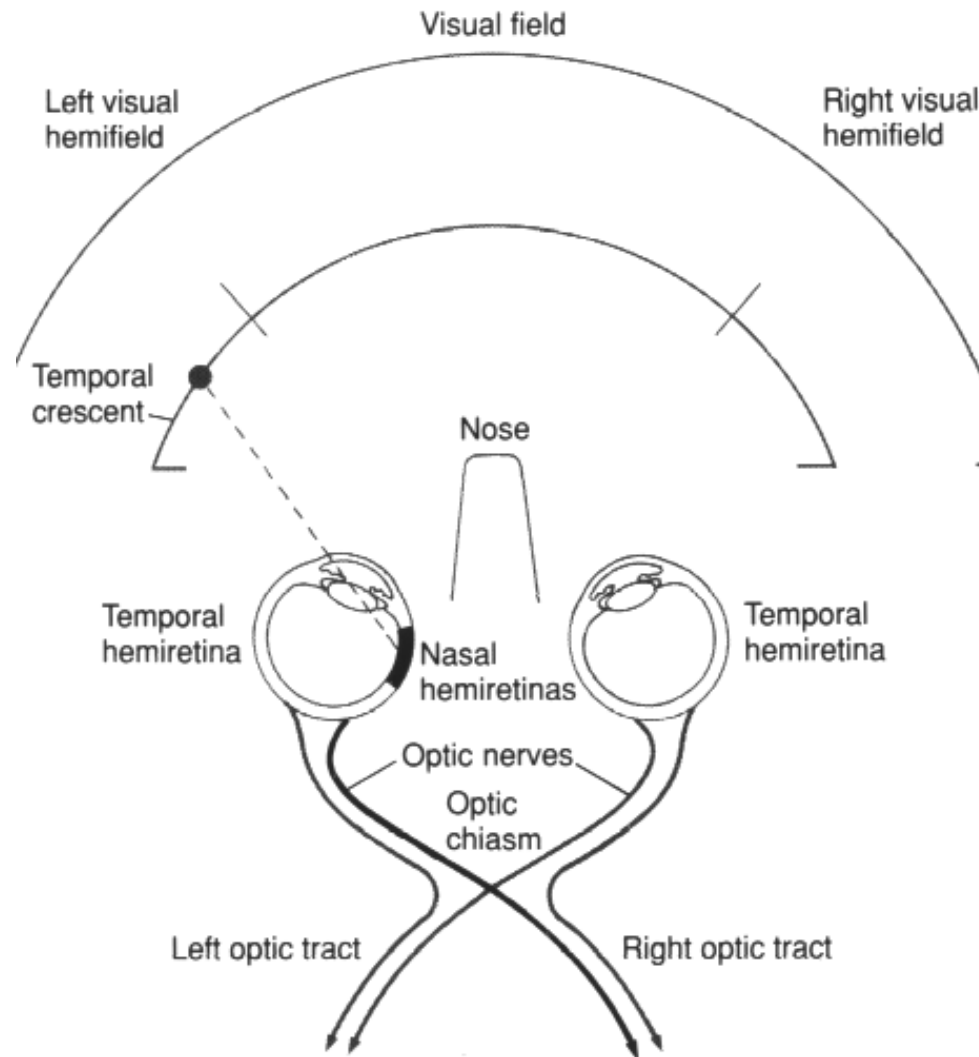
# The Human Afferent Visual System

- Name the labeled structure
  - Left optic tract.
- What is the visual defect caused by a lesion in this structure?
  - Right homonymous hemianopia.

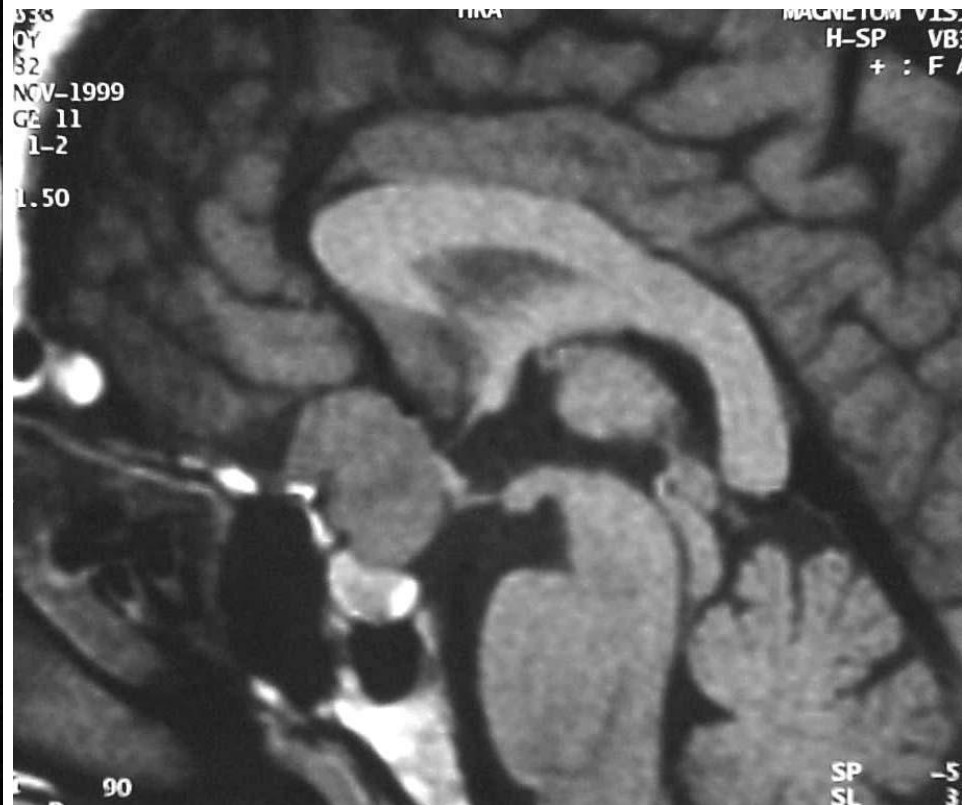
Keep in mind that they might ask you to identify the side where the defect is (right or left)



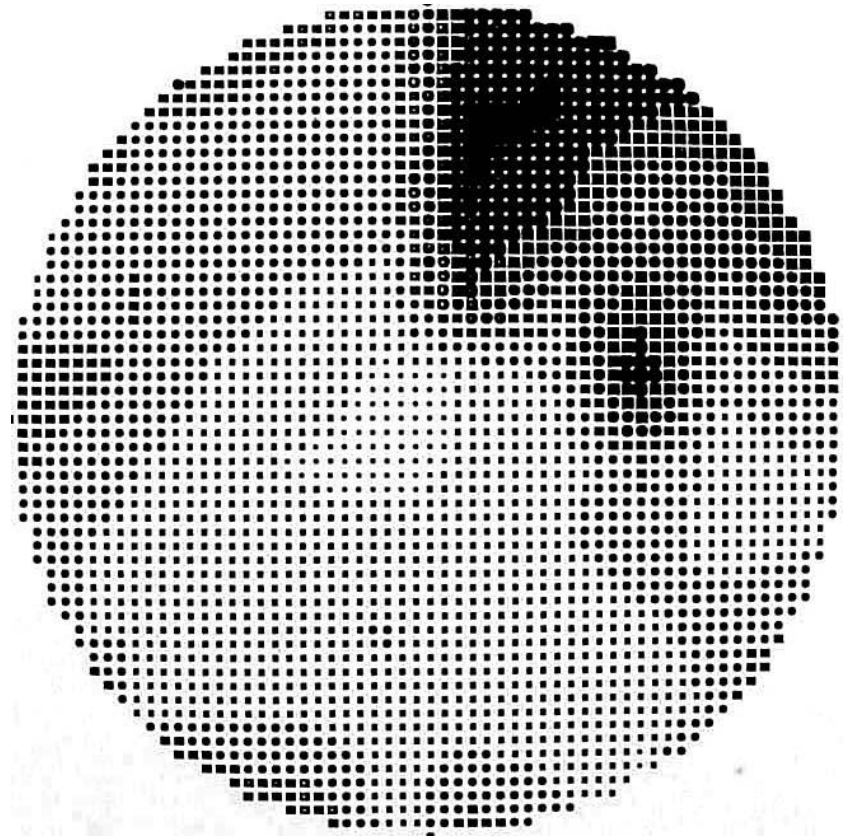
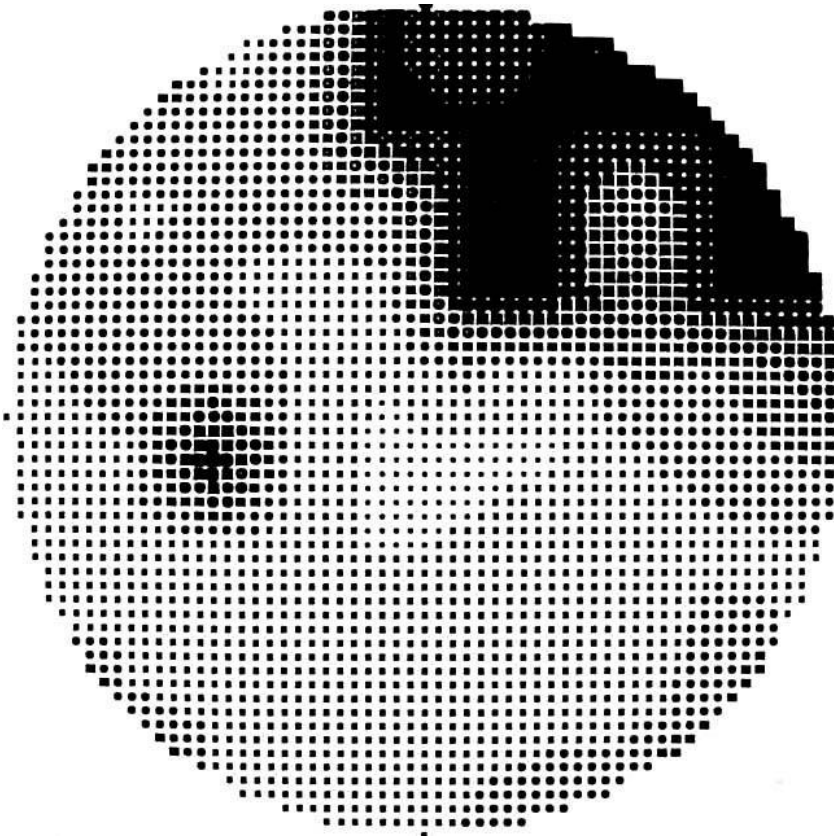
# Afferent Anatomy



# Normal Sagittal Scan



# After Temporal Lobectomy



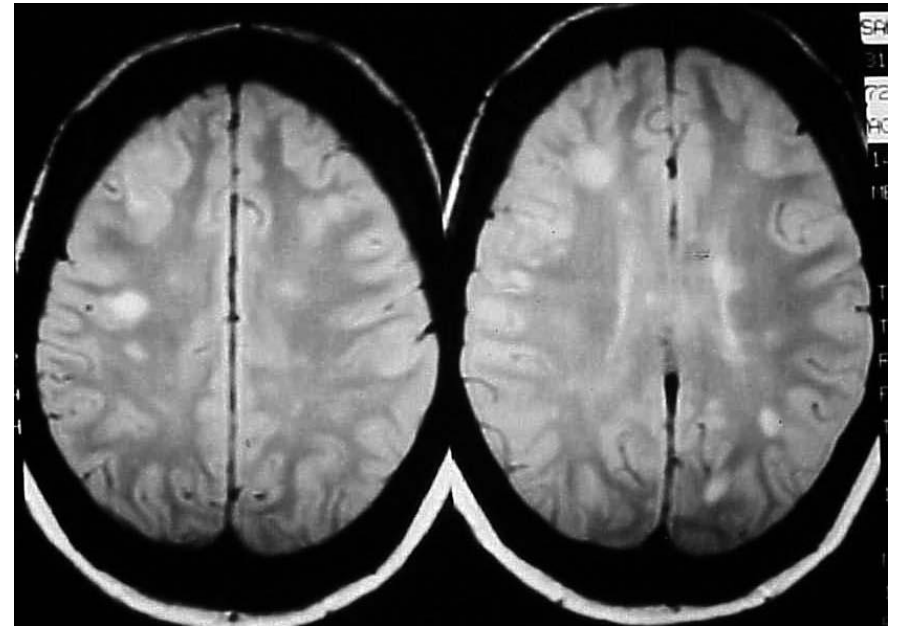
# 25 Year old man

- Firecracker exploded near left eye
- NLP(No light perception)  
OS (Left eye)
- Diagnosis: Left Optic nerve Avulsion

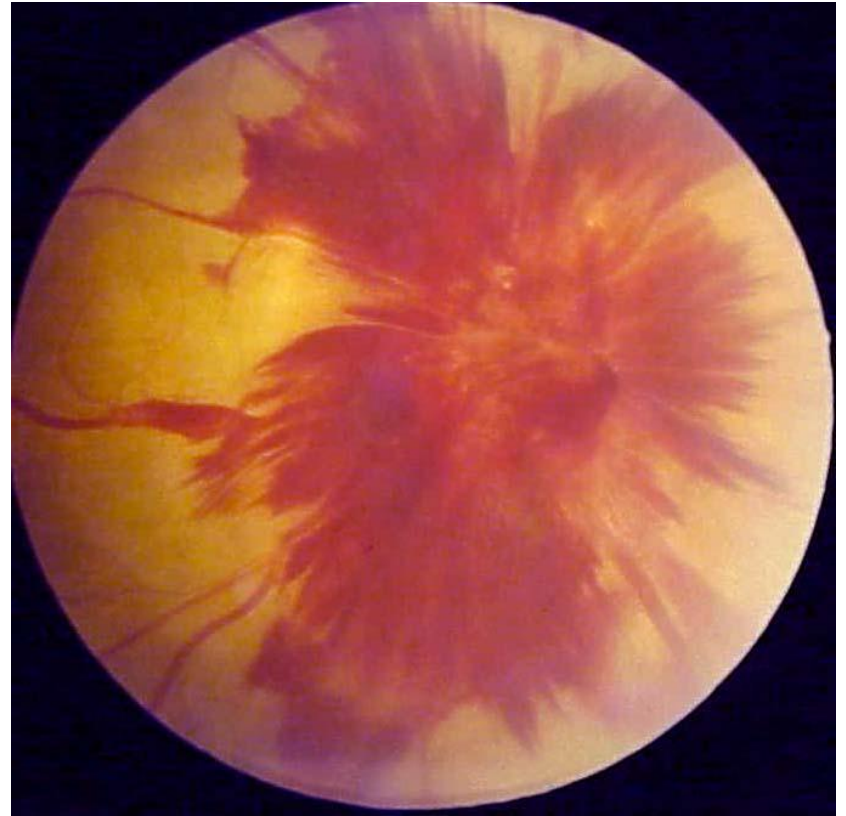




- Developed blurred vision OD (Right eye) and mild right periorbital pain
- VA 20-50
- MRI abnormal
- **Diagnosis: MS**
  - Meaning she has Optic Neuritis
  - A brain MRI of a Pt. who has MS shows opacities consistent with MS

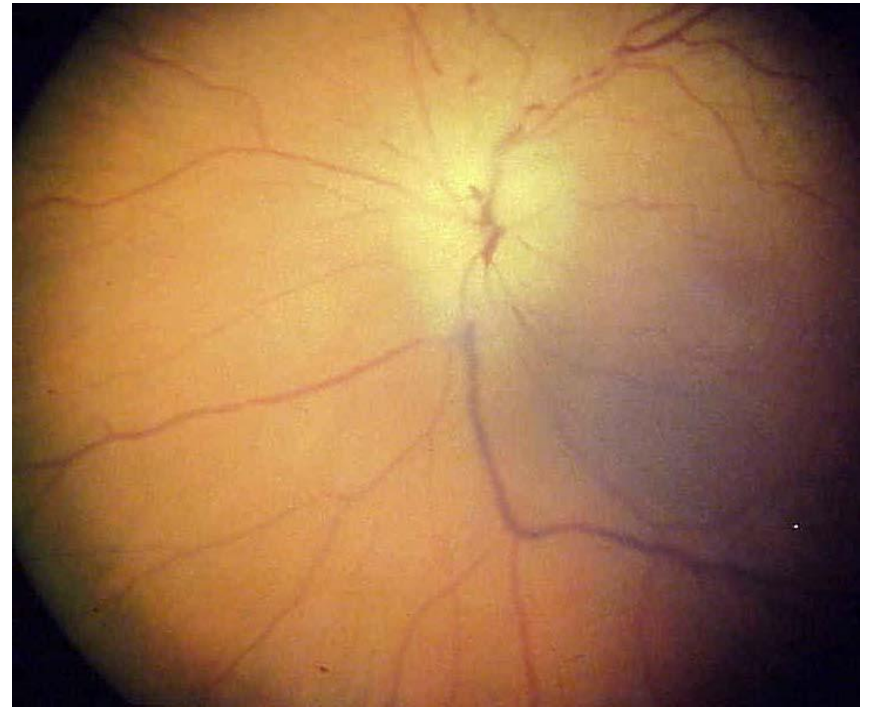


- Developed modest left per orbital pain 3 weeks ago
- Some blurring of vision OS (Left eye)
- B-Scan showed **posterior scleritis**

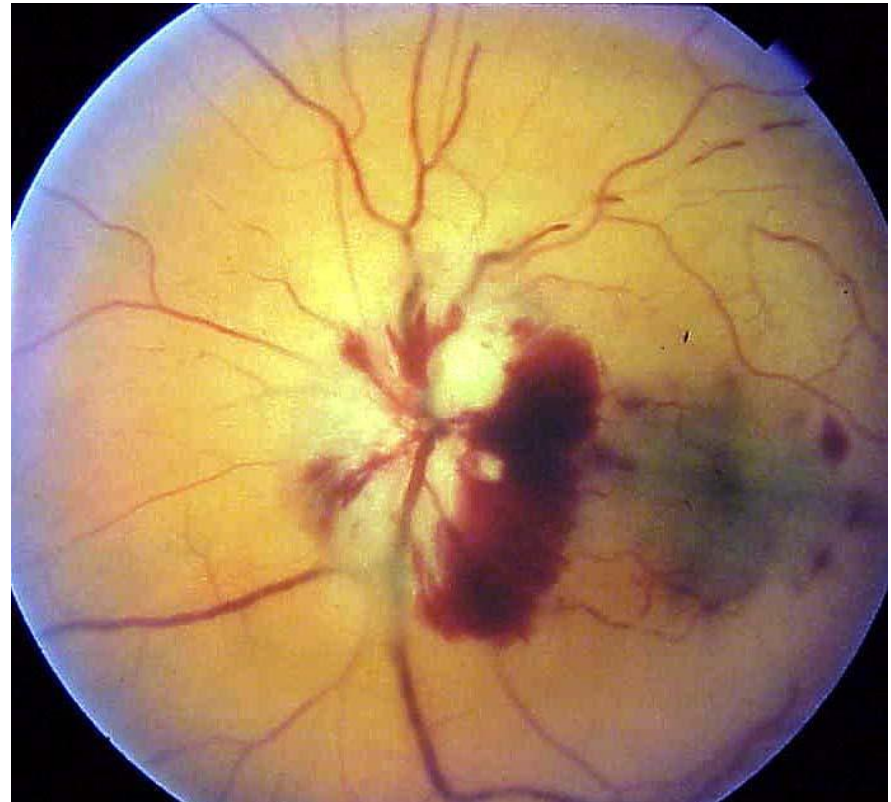
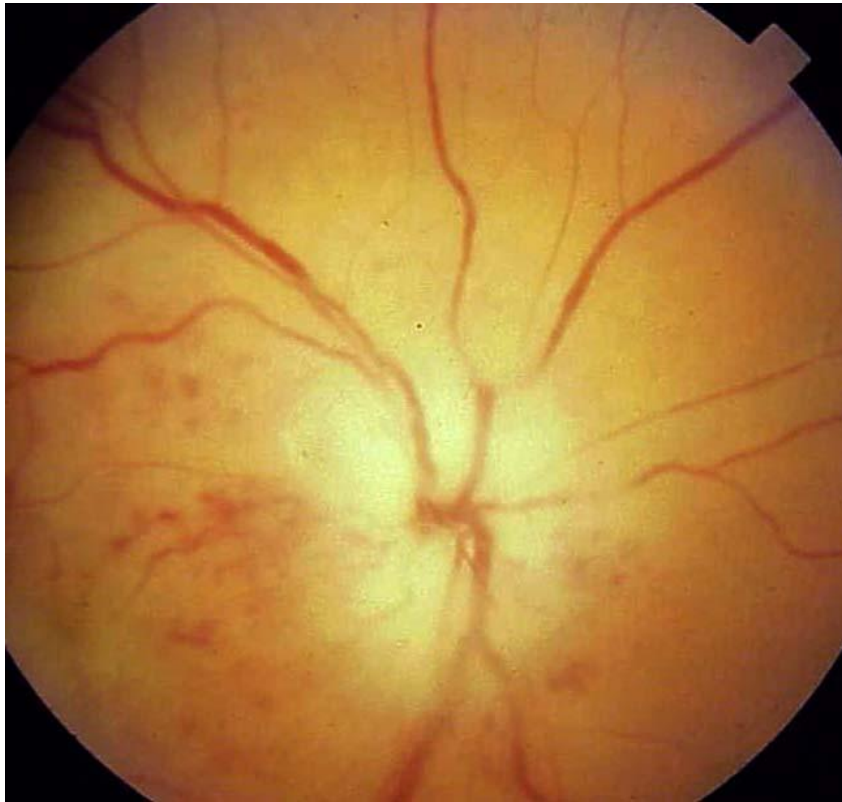




# Giant Cell Arteritis, Day 2

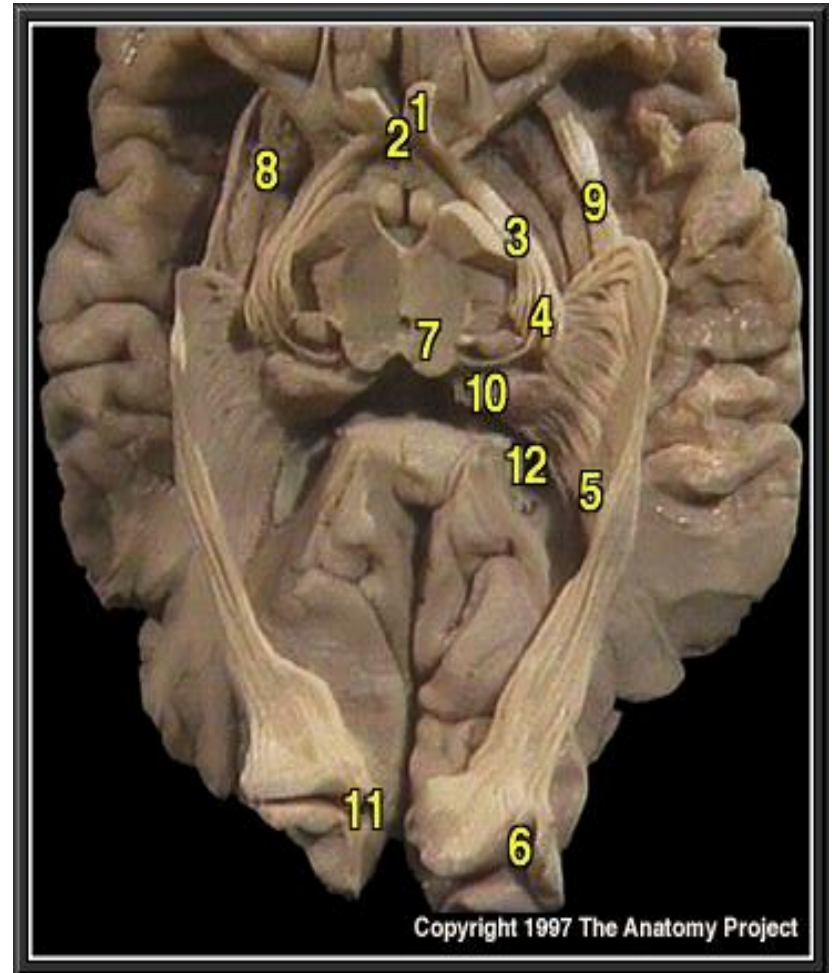


# Giant Cell Arteritis, Day 4



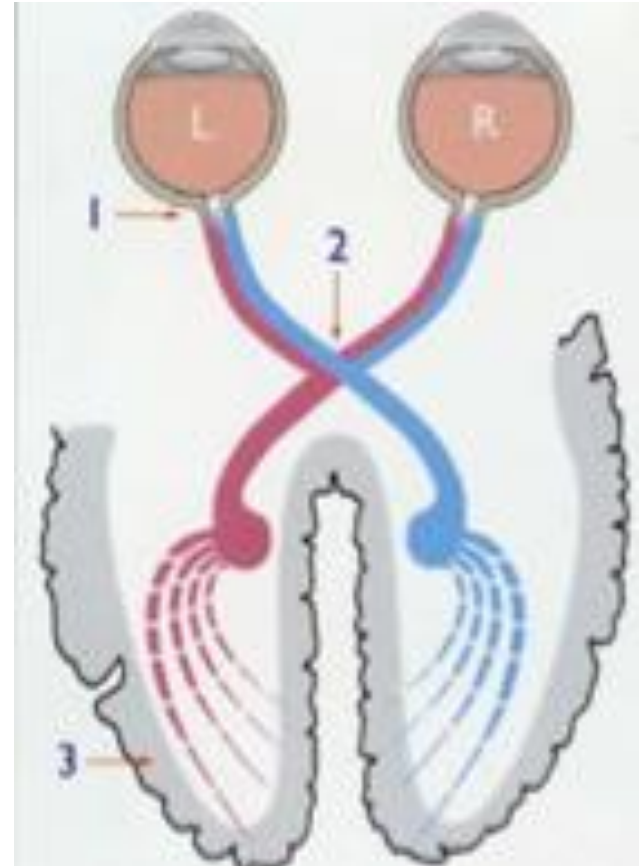
# Anatomy

- Identify structure 2?
  - Optic Chiasm
- Identify structure 3?
  - Left Optic Tract
- Identify Structure 5?
  - Left Optic Radiation
- Identify structure 6 ?
  - Left visual cortex



# Visual Field Defects

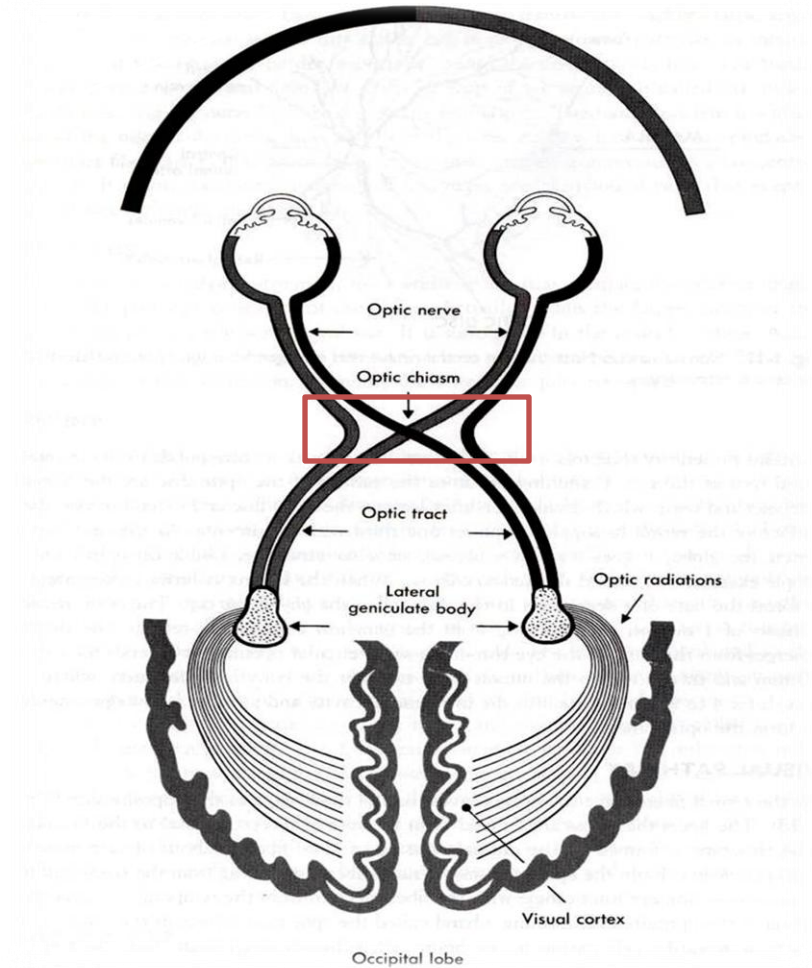
- A lesion in 2 would give what visual field?
  - Bitemporal Hemianopia
- Give one of the most common causes:
  - Pituitary Adenoma





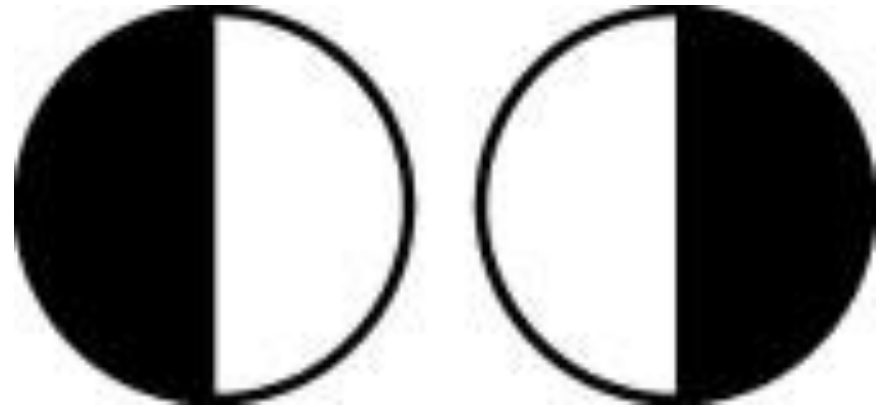
# Visual Field Defects

- Identify the organ
  - Optic chiasm.
- What type of visual field defect would be caused by a lesion in this area?
  - Bitemporal hemianopia.



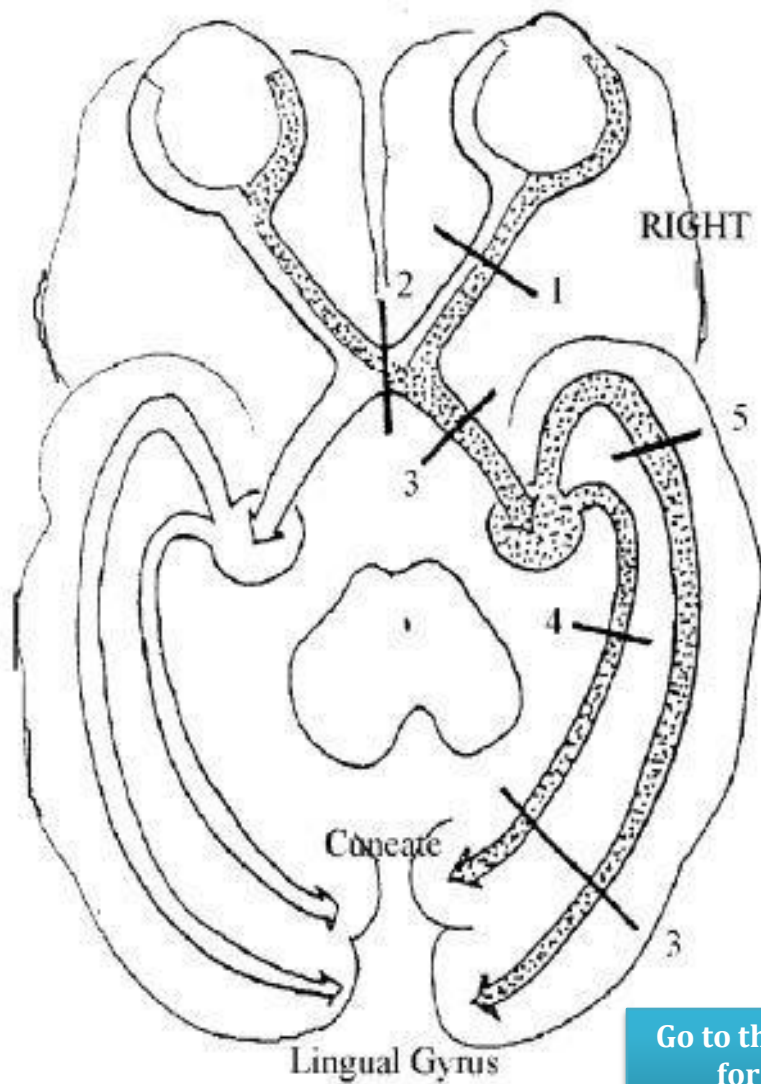
# Visual Field Defects

- This is a 30 year old patient's visual field
- What's the name of this visual field ?
    - Bitemporal hemianopia
  - Name one cause for this condition ?
    - Optic chiasm defect due to pituitary adenoma or meningioma



This is how they're going to ask us about Visual Field Defects. Study the pictures in the following slides based on this outline.



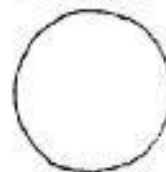


Go to the next slide for further information

## Visual Field Defect

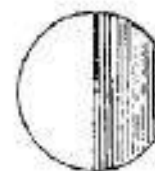
Left Eye

Right Eye



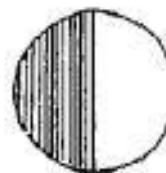
1

Blindness of Right Eye



2

Bitemporal Hemianopsia



3

Left Homonymous Hemianopsia



4

Left Homonymous Inferior Quadrant Visual Loss



5

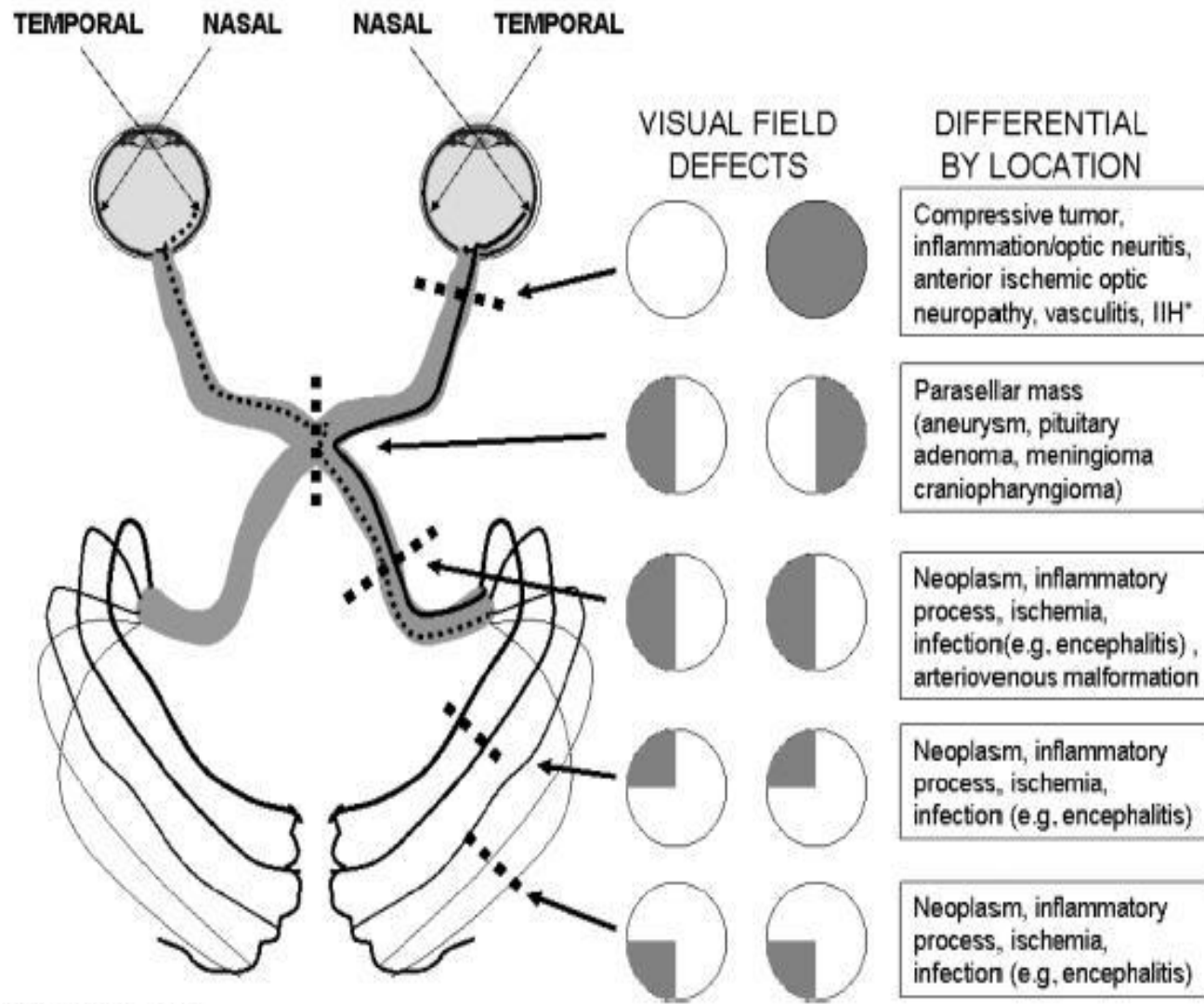
Left Homonymous Superior Quadrant Visual Loss

# A distinctive feature of the optic radiations is that they split into two parts on each side:

- Fibers from the [inferior retina](#) must pass through the [temporal lobe](#).
- Carry information from the [superior part of the visual field](#).
- A lesion in [the temporal lobe](#) causes a characteristic loss of vision in [the superior quadrant](#)([quadrantanopia](#) or "pie in the sky" defect.)
- Fibers from the [superior retina](#) travel straight back through the [parietal lobe](#) to the [occipital lobe](#) .
- Carry information from the [inferior part of the visual field](#).
- A lesion in [the parietal lobe](#) causes a characteristic loss of vision in the [inferior quadrant](#).



**Figure 2. The Visual Field Defects Associated With The Various Possible Locations Of A Pathological Lesion**



\* IIH, idiopathic intracranial hypertension.

# Identify?

