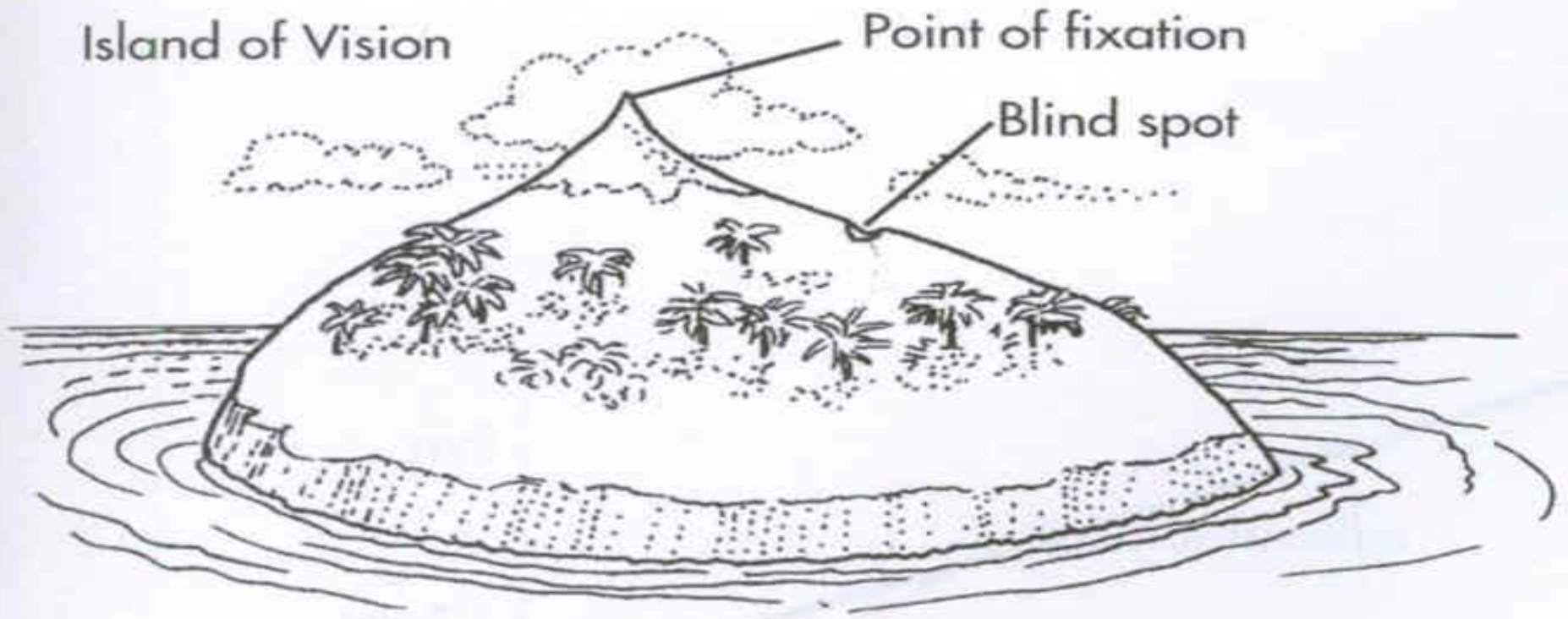


Neuro-ophthalmology and visual field

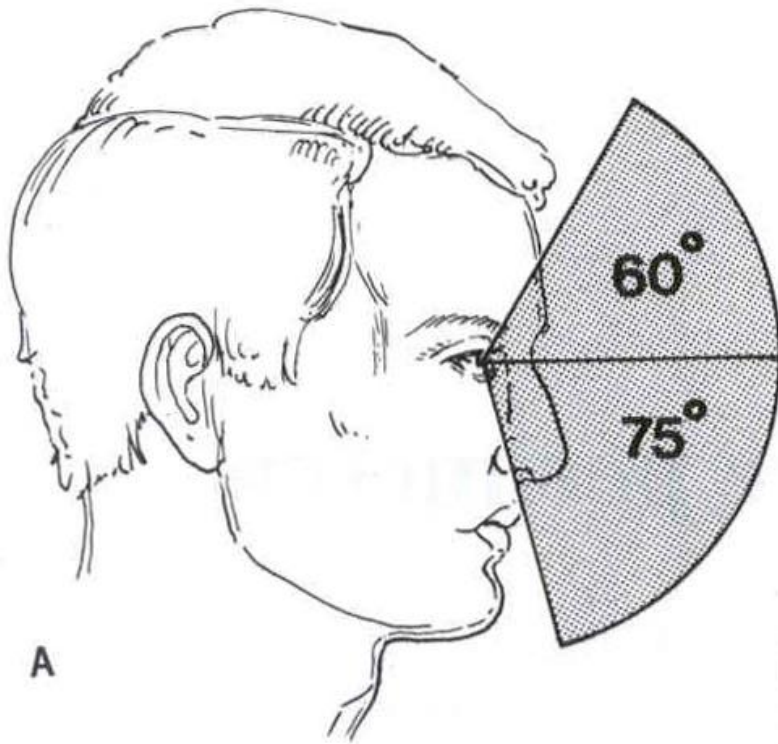
Topics

- Neuro-ophthalmic anatomy
- Visual field defects in neuro-ophthalmology and glaucoma
- Localization
- Marcus Gunn (RAPD)
- Optic neuritis – AION- papilledema

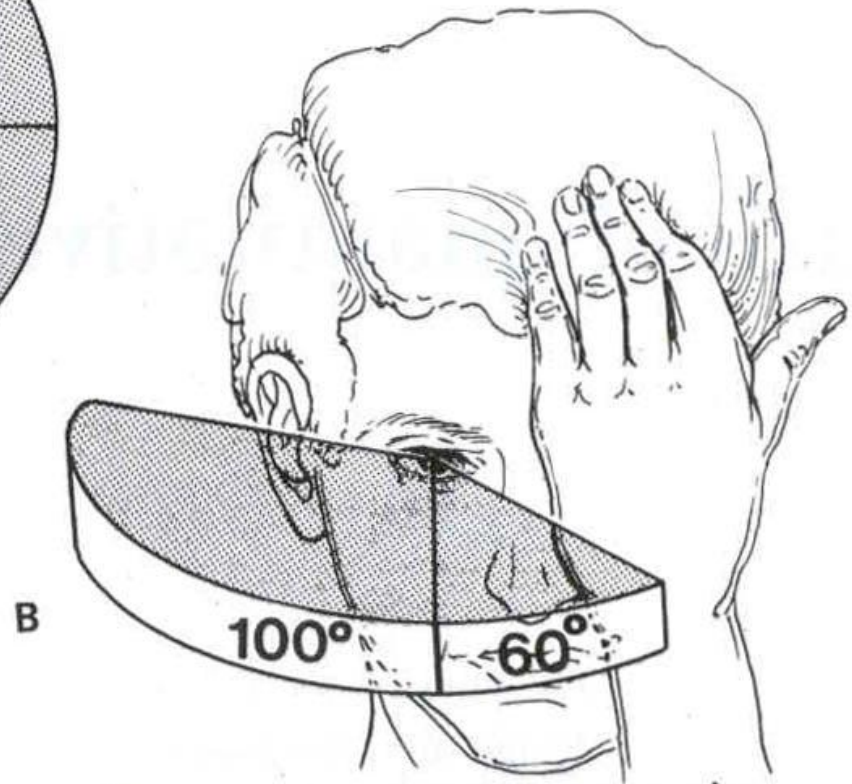
The visual field is analogous to an island in a sea of darkness where the highest point represents the fovea



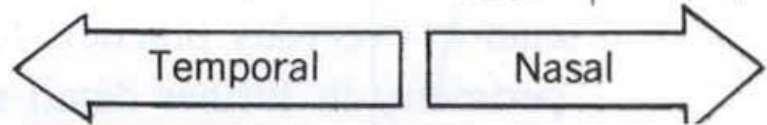
Blind spot is located temporally 15 degrees from fixation



A



B



Temporal

Nasal

Perimetry Techniques

- ⦿ Confrontation
- ⦿ Manual Perimetry (dynamic)
- ⦿ Automated Perimetry (static)





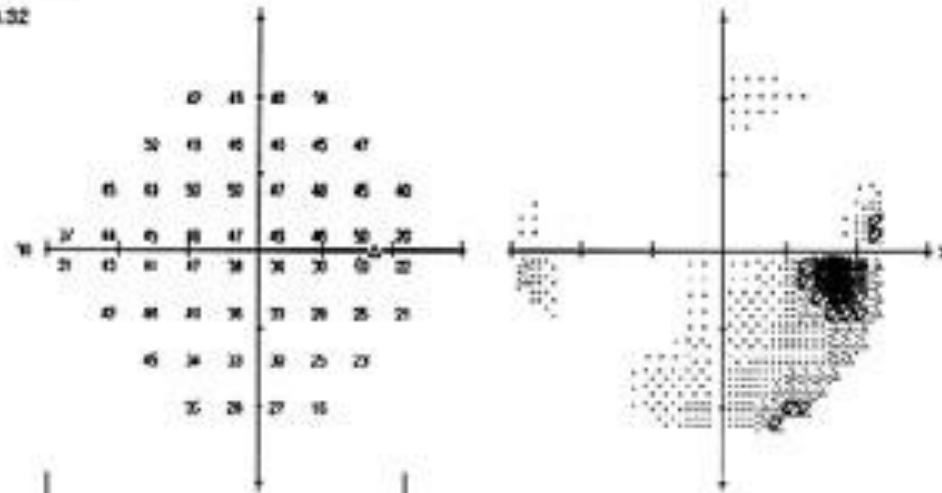
Fixation Monitor: Gaze/Blindspot
 Fixation Target: Central
 Fixation Losses: 6/15
 False POS Errors: 20 %
 False NEG Errors: 30 %
 Test Duration: 00:32

Stimulus: Ill. White
 Background: 31.5 A55
 Strategy: SITA-Standard

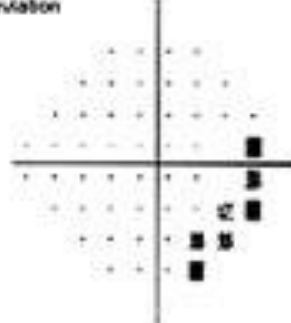
Pupil Diameter: 2.6 mm
 Visual Acuity: 20/20
 Rx: +3.00 DS DC X

Date: 11-21-2000
 Time: 8:48 AM
 Age: 73

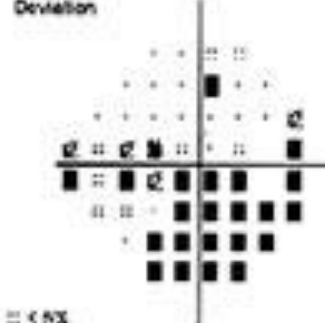
Fovea: OFF



Total
Deviation



Pattern
Deviation



□ < 5%
 □ < 2%
 □ < 1%
 □ < 0.5%

GD1
 Abnormally High Sensitivity

MD +9 to 0H
 PSD 10.00 dB P < 0.5%

ST. ALBANS VA ECC
 OPTOMETRY SECTION
 ST. ALBANS, NY 11425
 718-520-1000 X2435

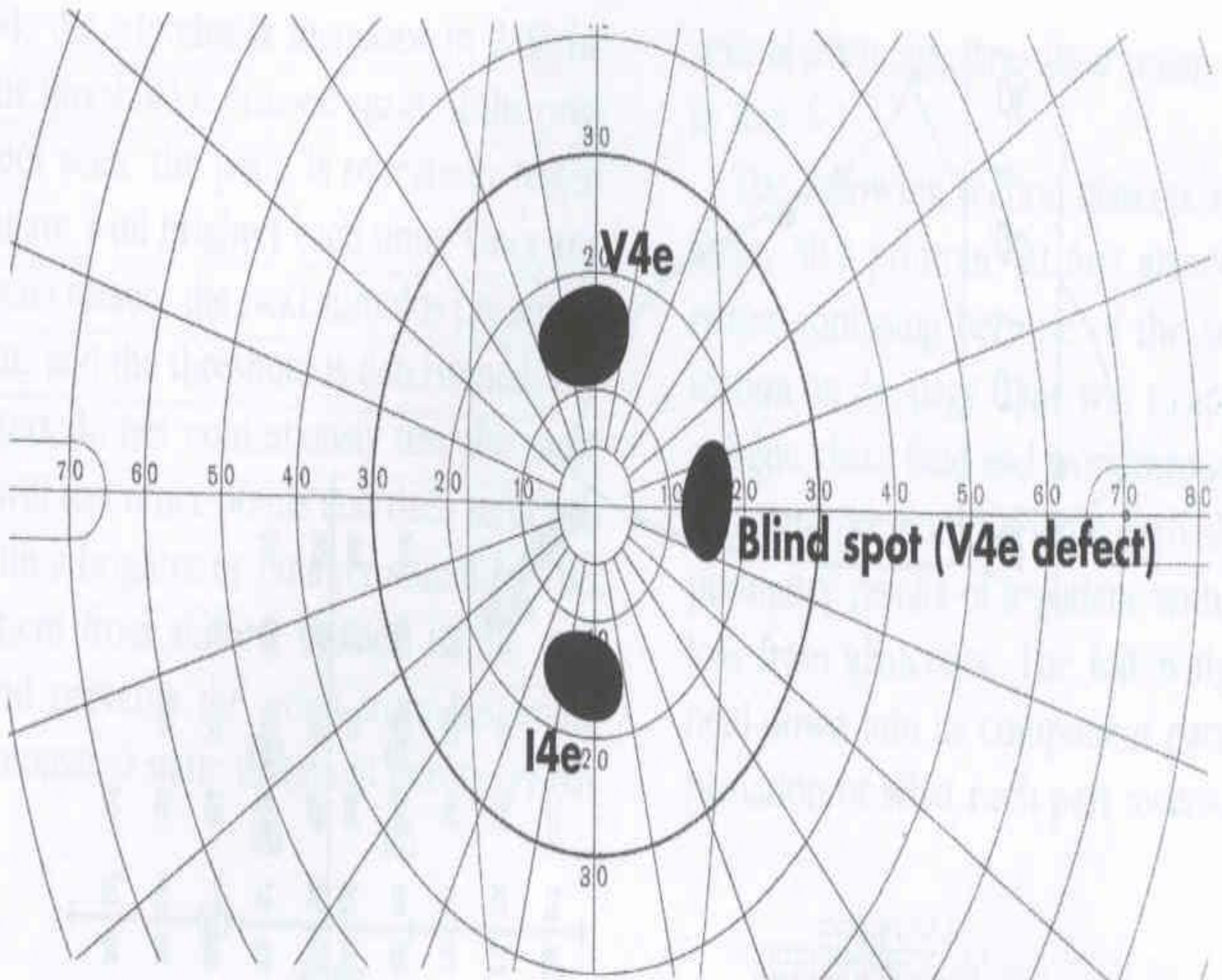
Apostilbs & Decibels

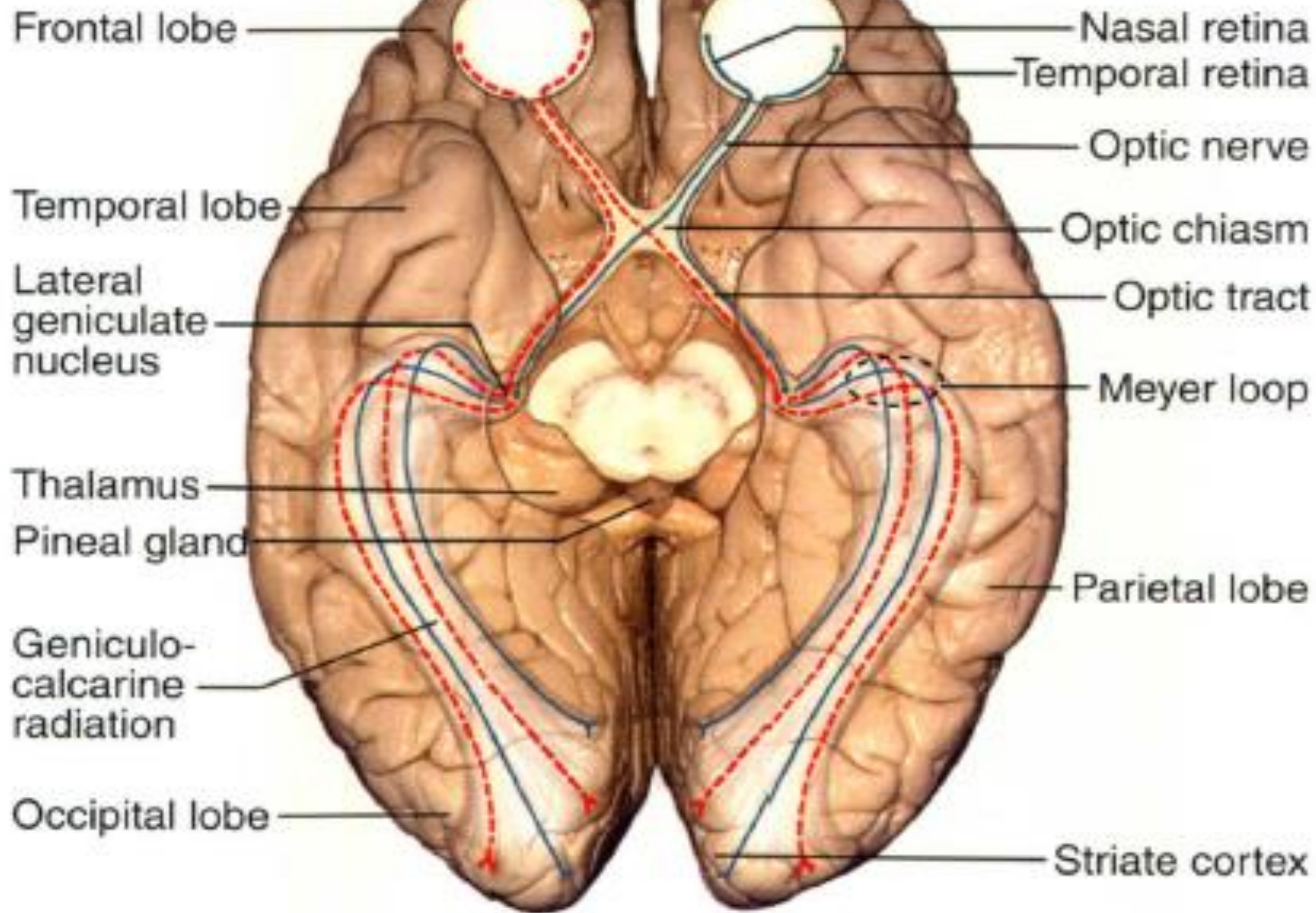
- ⦿ An **Apostilb** or Asb is an absolute unit of luminance
- ⦿ The **decibel** is a relative scale created by the manufacturers to measure the sensitivity of the island of vision.
- ⦿ It is an inverted logarithmic scale.

Decibel

Zero decibels is set as the brightest stimulus.

- A **scotoma** is an area of decreased sensitivity surrounded by areas of greater sensitivity



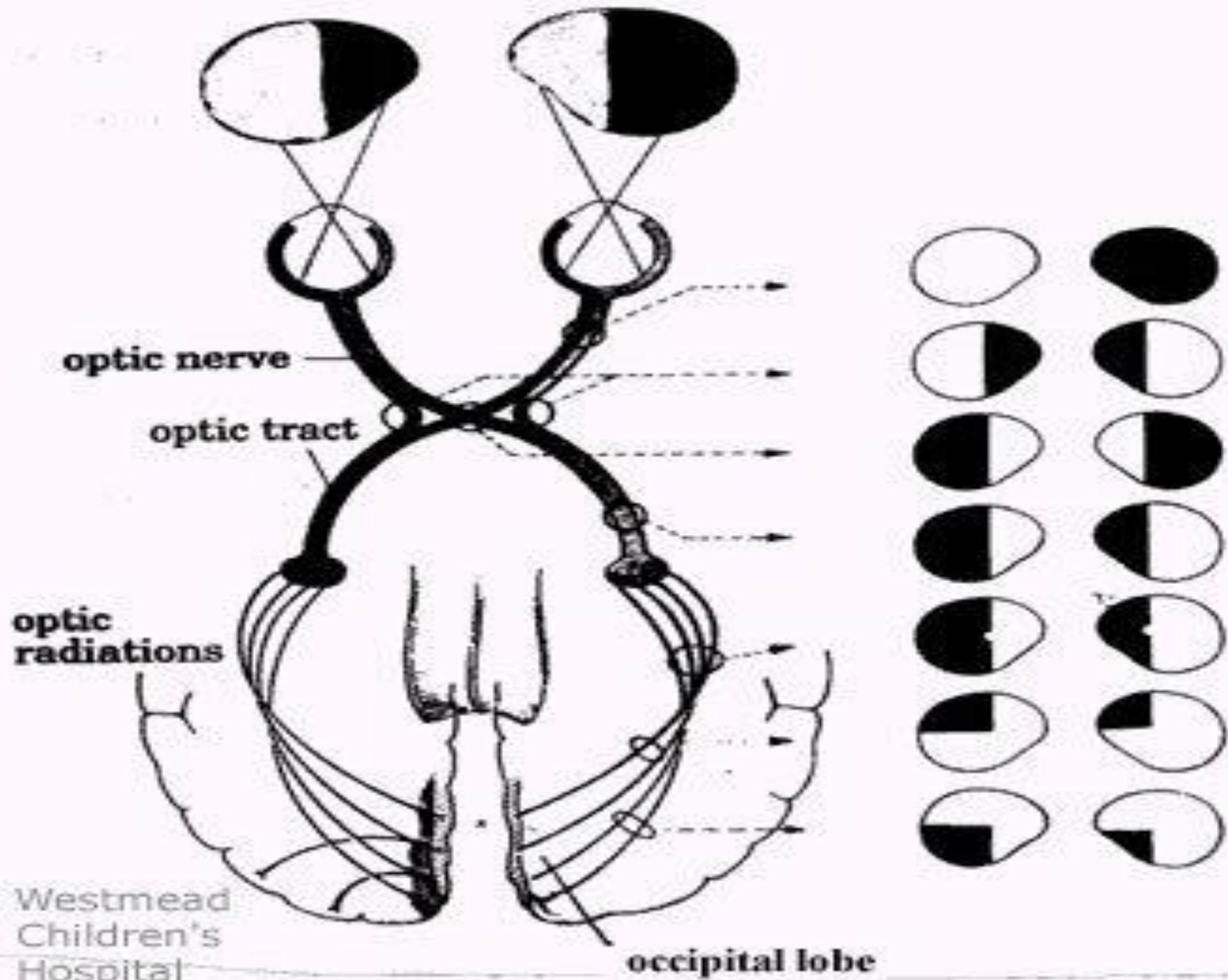


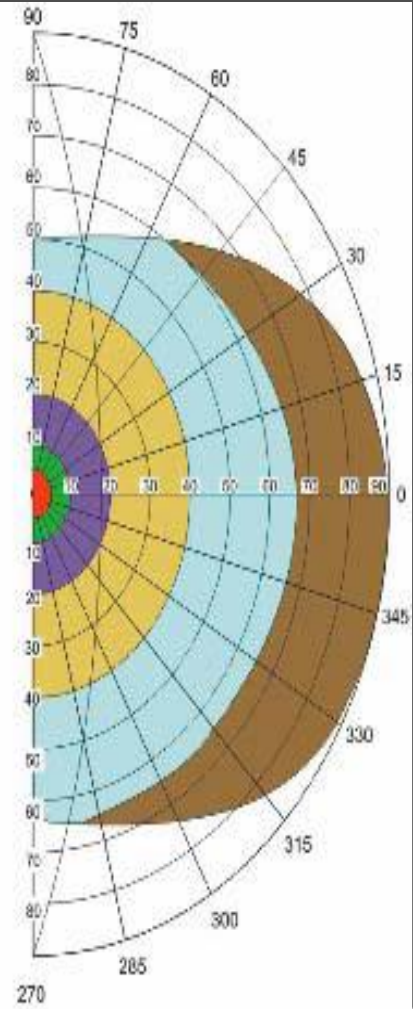
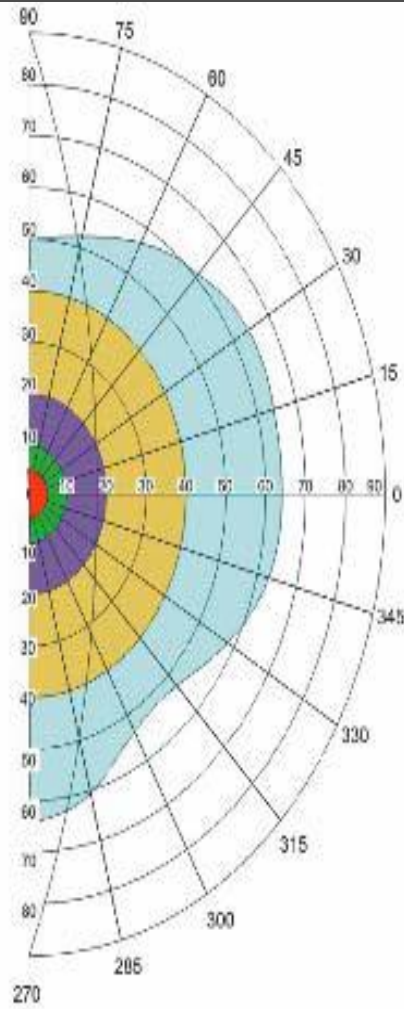
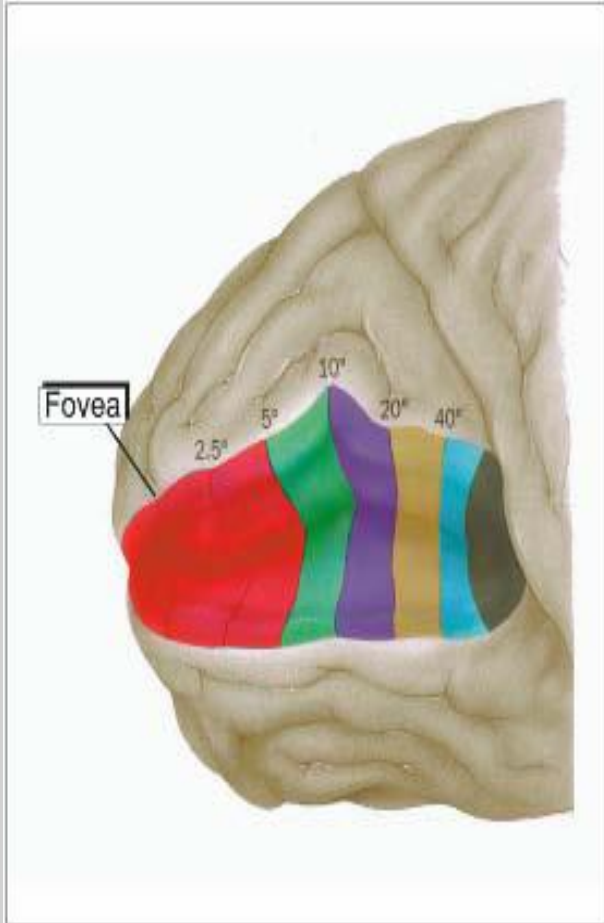
◎ یک خط عمودی از روی ماکولا رتین را به 2 قسمت نازال و تمپورال تقسیم می کند

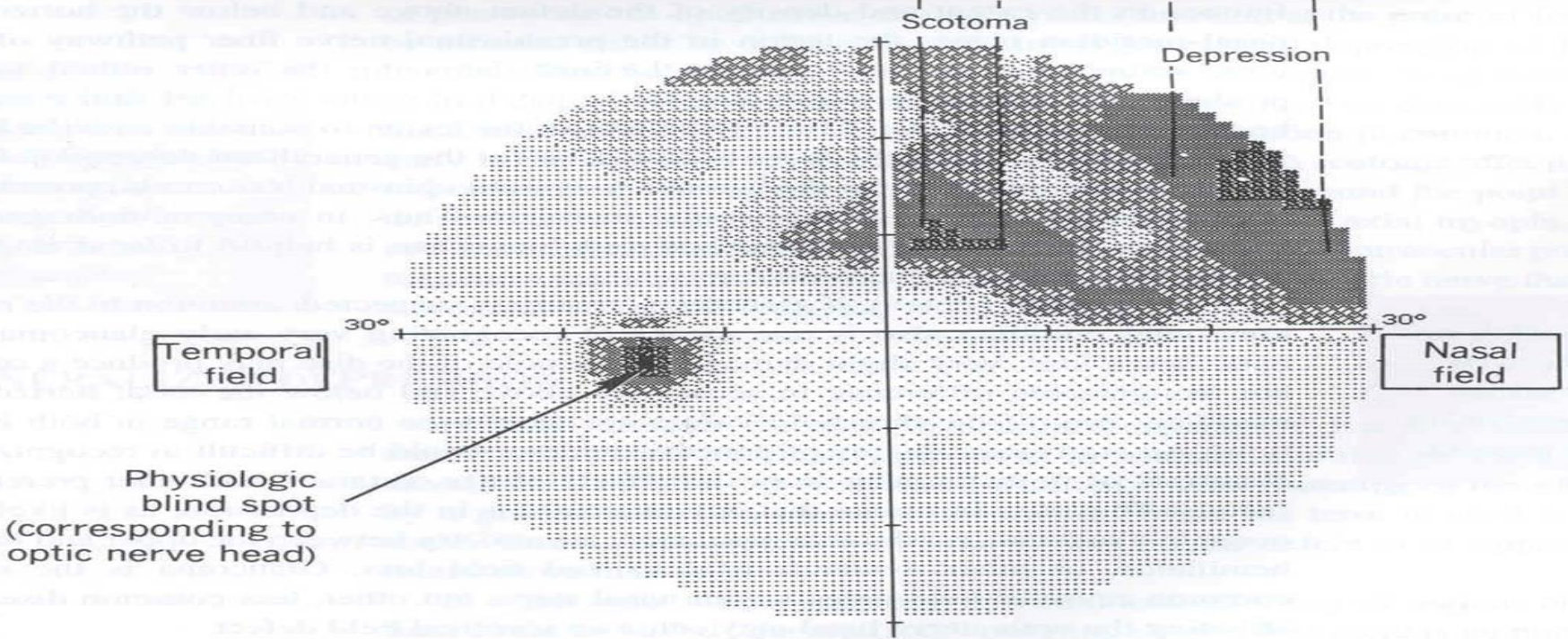
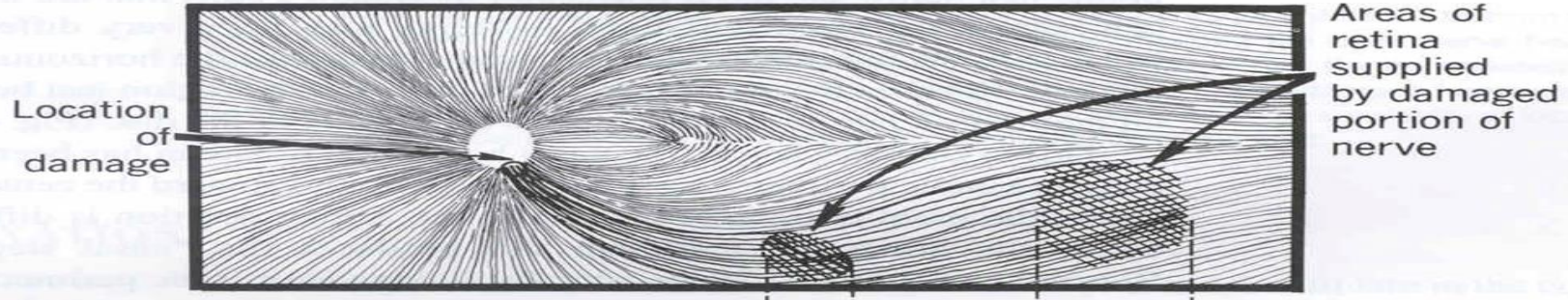
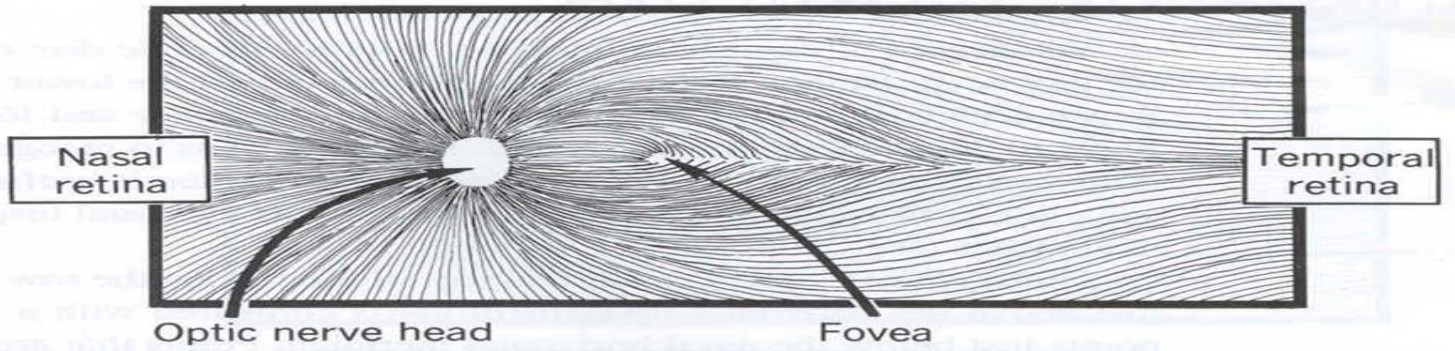
◎ رتین نازال هر چشم فیلد تمپورال همان چشم را می بیند
(ورتین تمپورال فیلد نازال)

◎ رتین سوپریور فیلد اینفریور را می بیند و رتین اینفریور فیلد سوپریور را می بیند

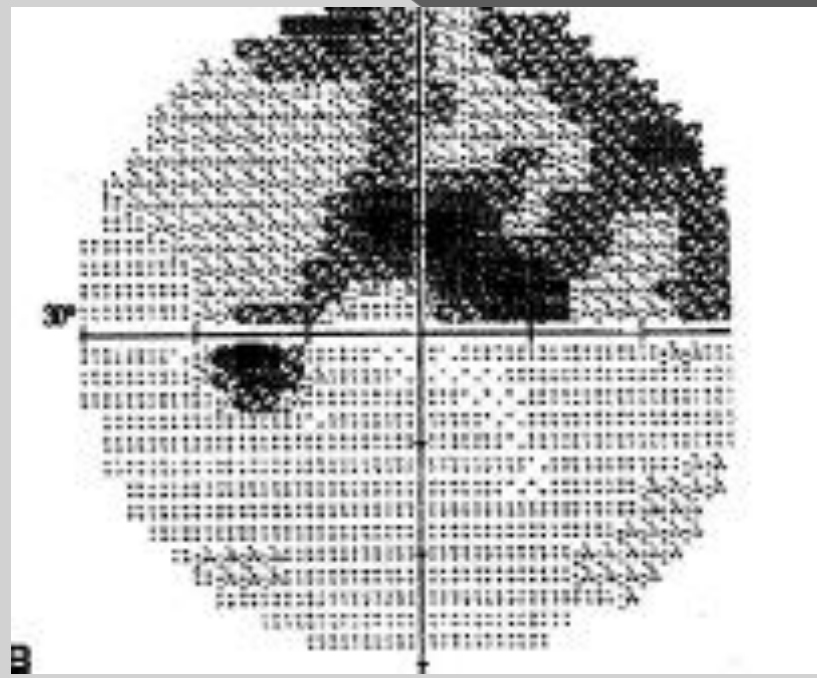
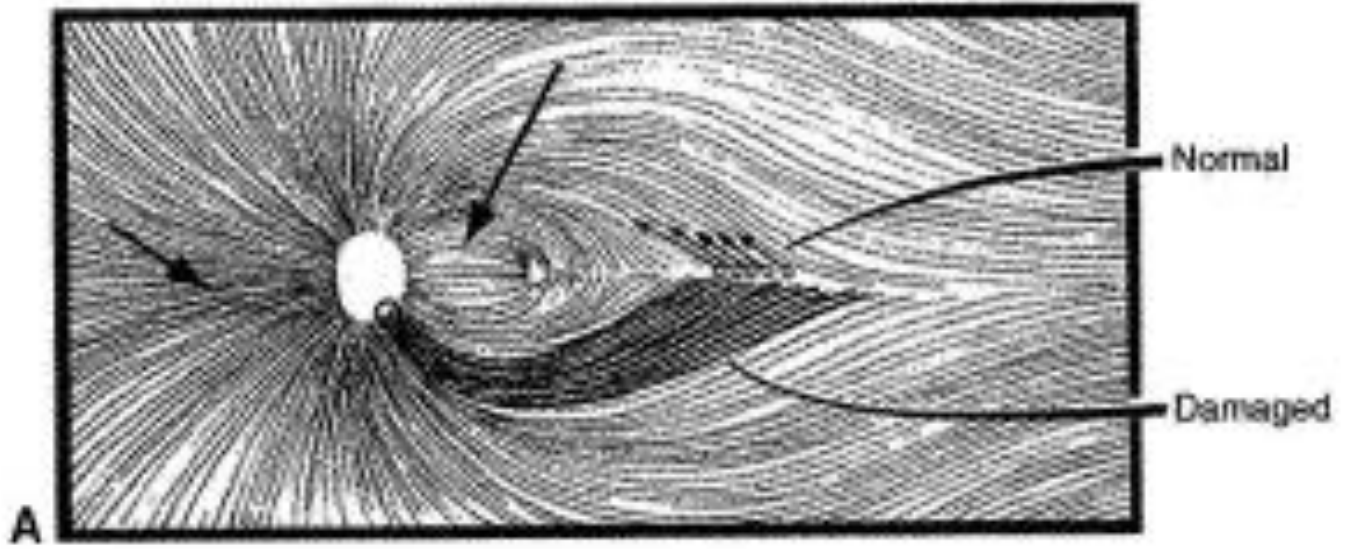
◎ در دید دو چشمی فیلد سمت راست روی رتین نازال چشم راست و رتین تمپورال چشم چپ می افتد و به کورتکس اکسیپیتال چپ مخابره می شود

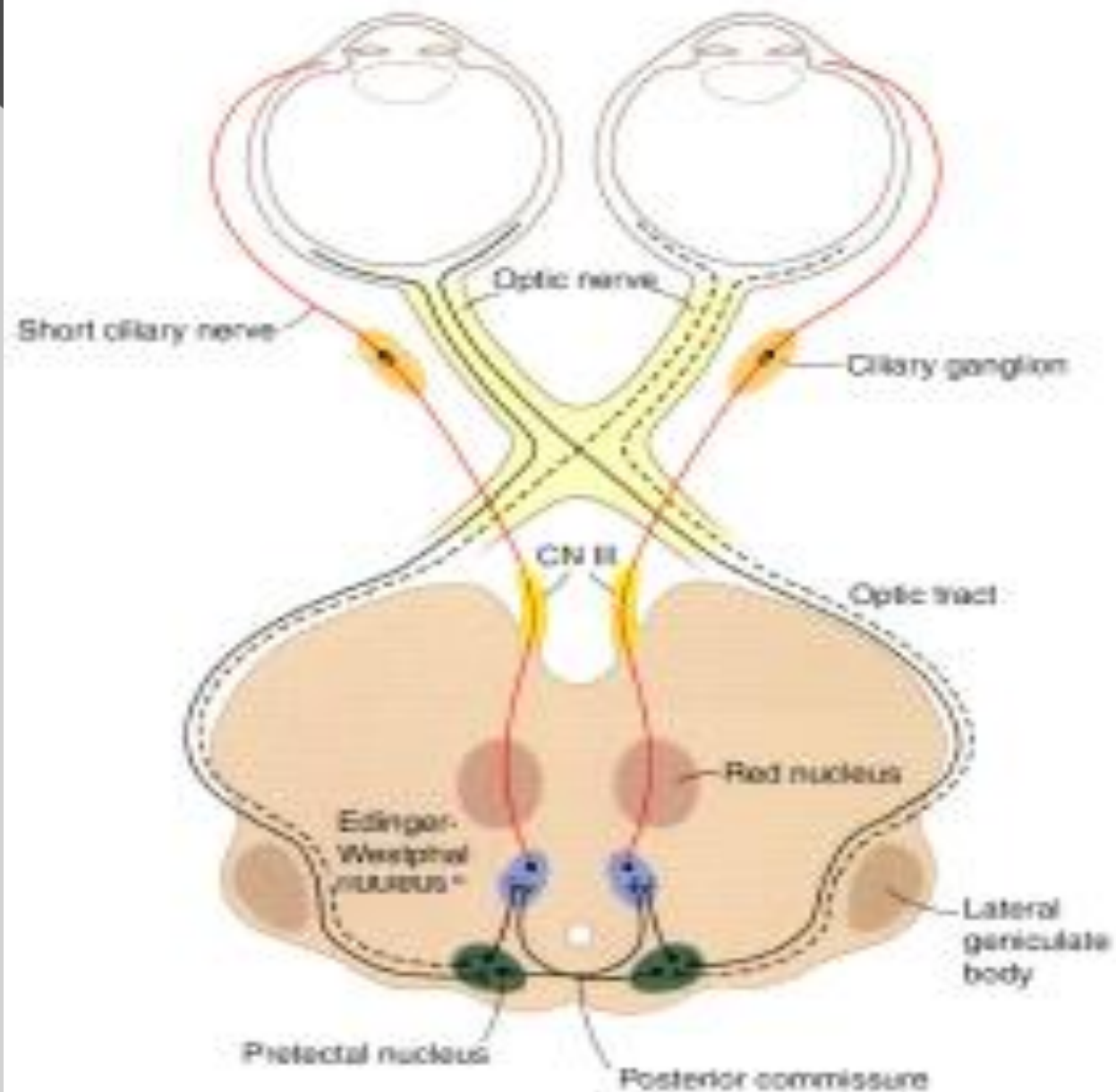










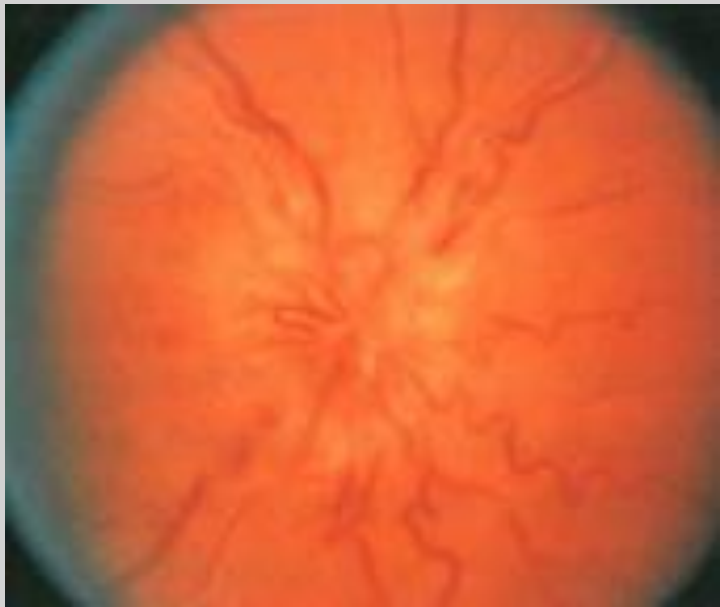
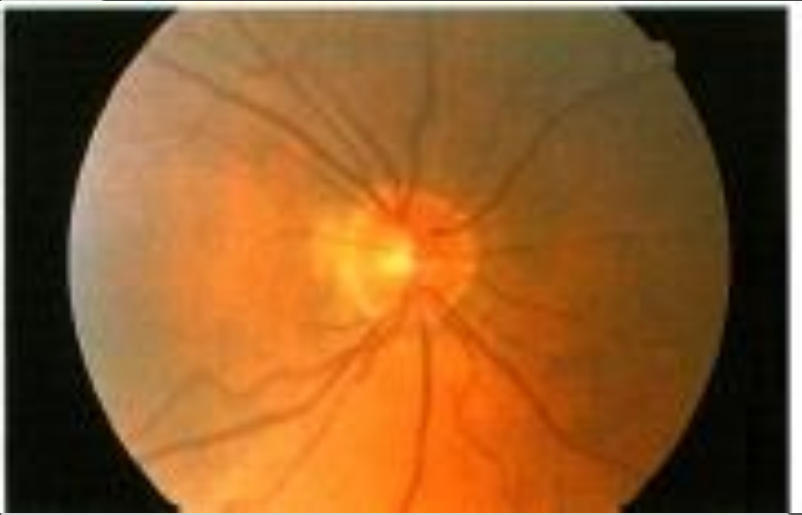


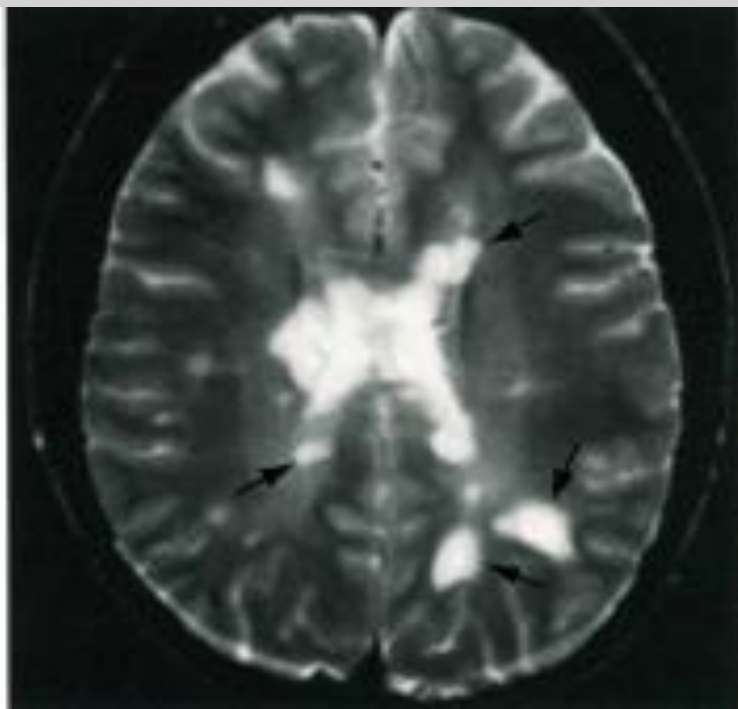
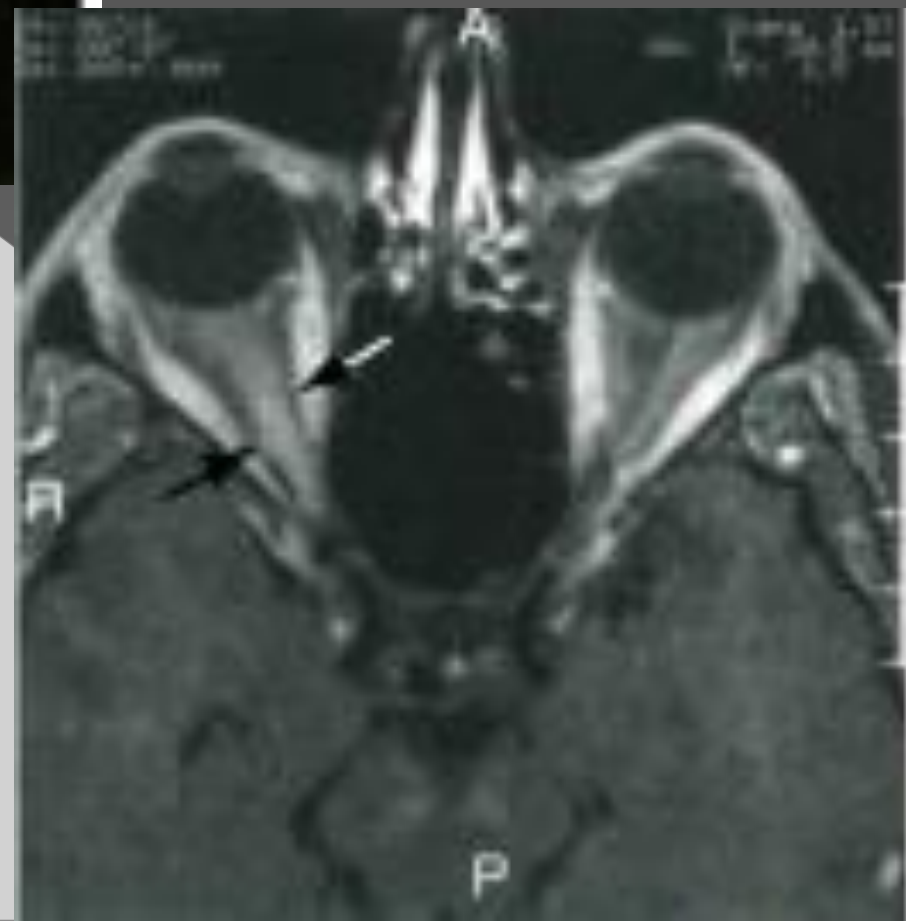
Check RAPD

Relative afferent pupillary defect



Lets review some neuro-ophthalmic
disease





Optic neuritis

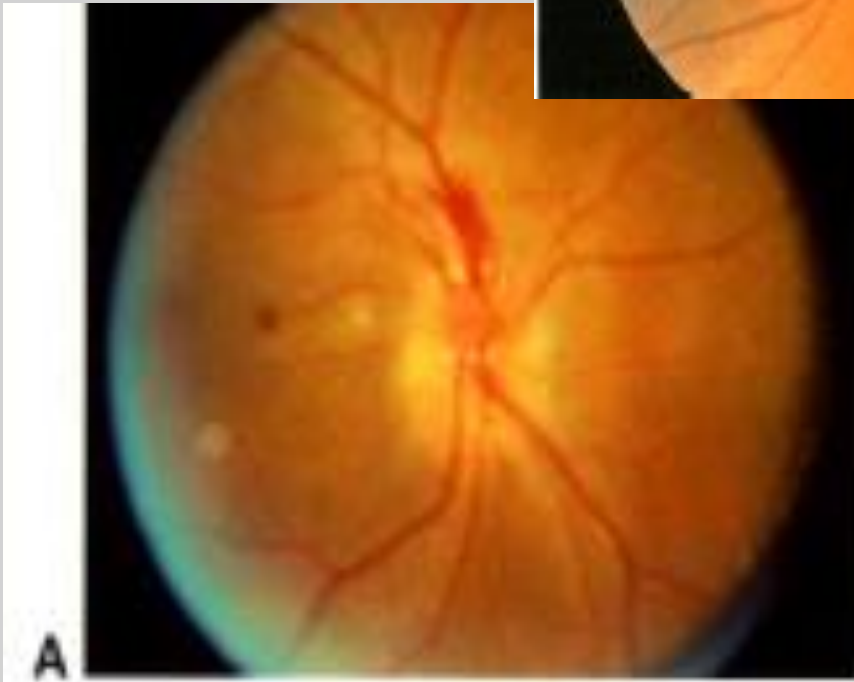
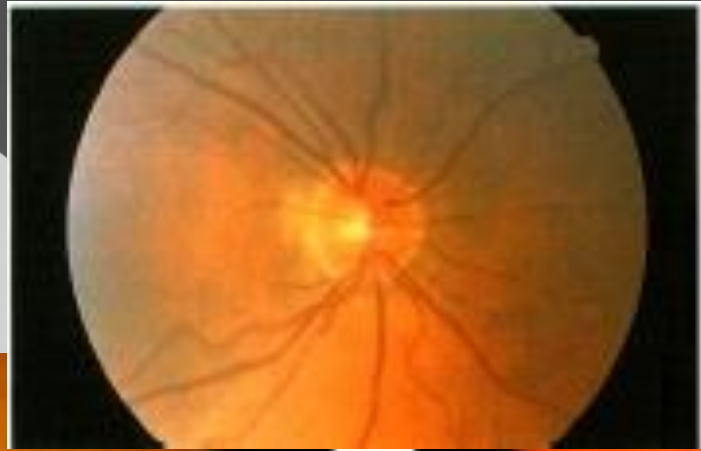
- 1/3 Papilitis
- 2/3 retrobulbar optic neuritis
- RAPD
- Color vision problem
- Ocular pain during movement

Etiology

- MS
- Infection (Syphilis)
- Autoimmune (SLE)
- Immunologic (vaccination)

- Visual prognosis is good
- Long term: 50% developed MS
- Treatment: IV methylprednisolon 1g daily for 3 day 1g/kg oral prednisolon for 11 day
- Oral prednisolon alone??????

NAION and AAION



- ESR

- CRP

GCA

- treatment?

- Methyl prednisolon

- Temporal artery biopsy



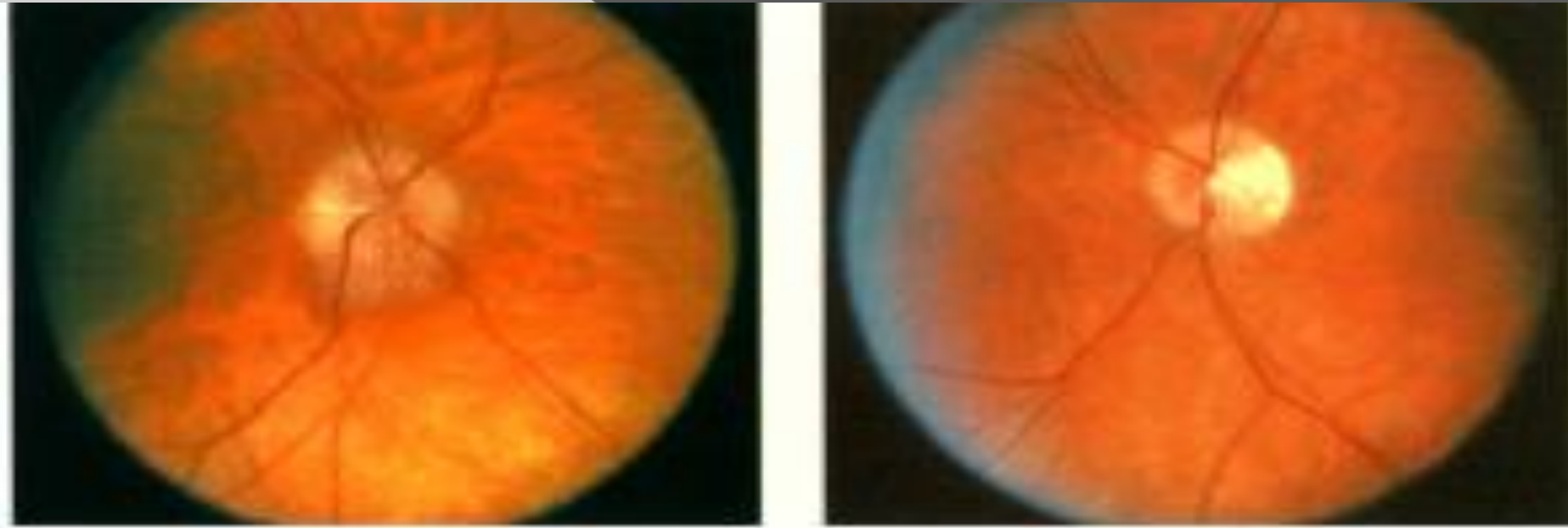
papilledema

- Pseudotumor cerebri
- Brain tumor
- Hydrocephaly
- Subdural hematoma
- Tetracyclin
- Vit A
- OCP
- steroids

Optic disc drusen (pseudopapilledema)



Foster Kennedy syndrome



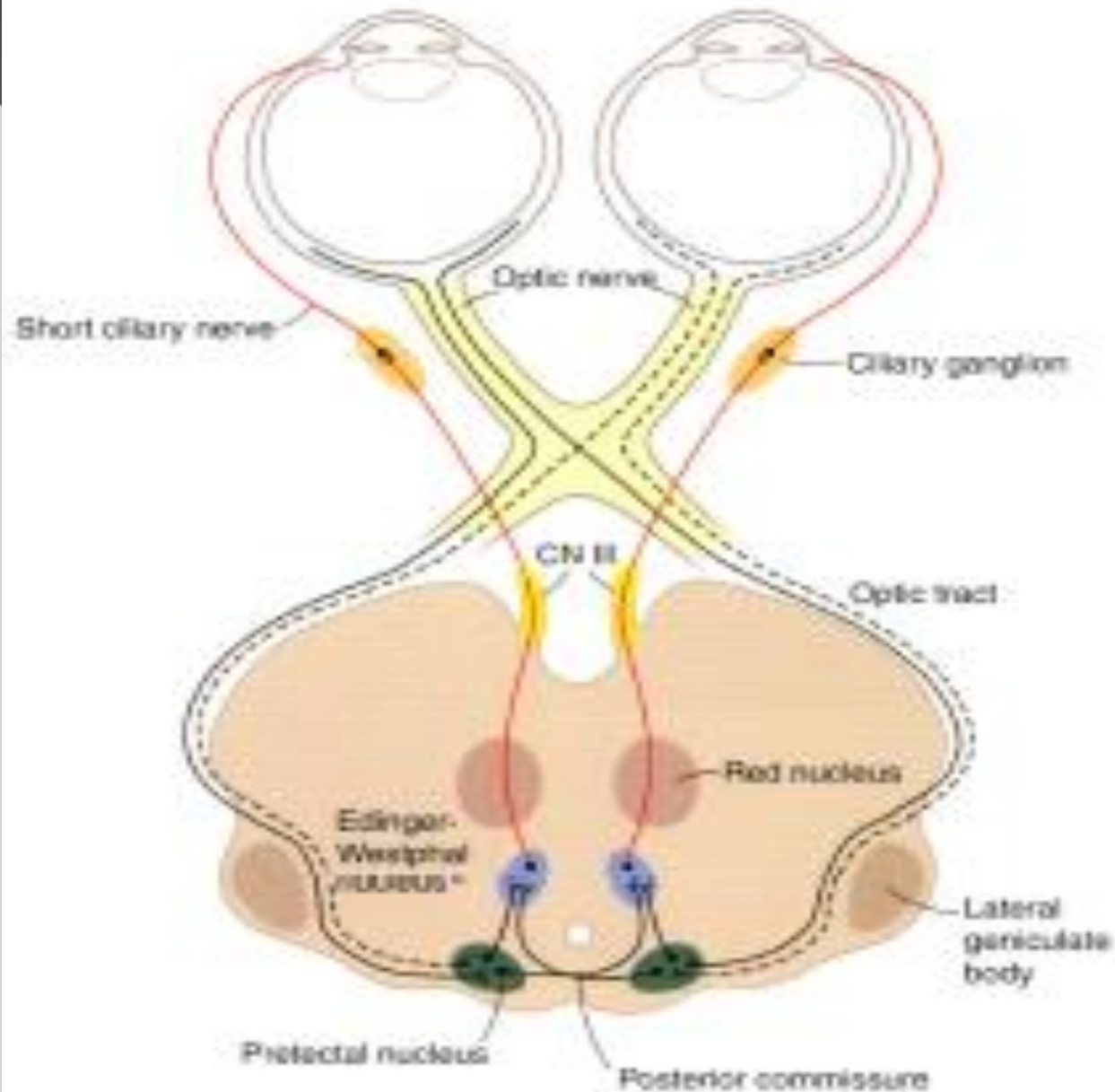
Remember methanol toxicity

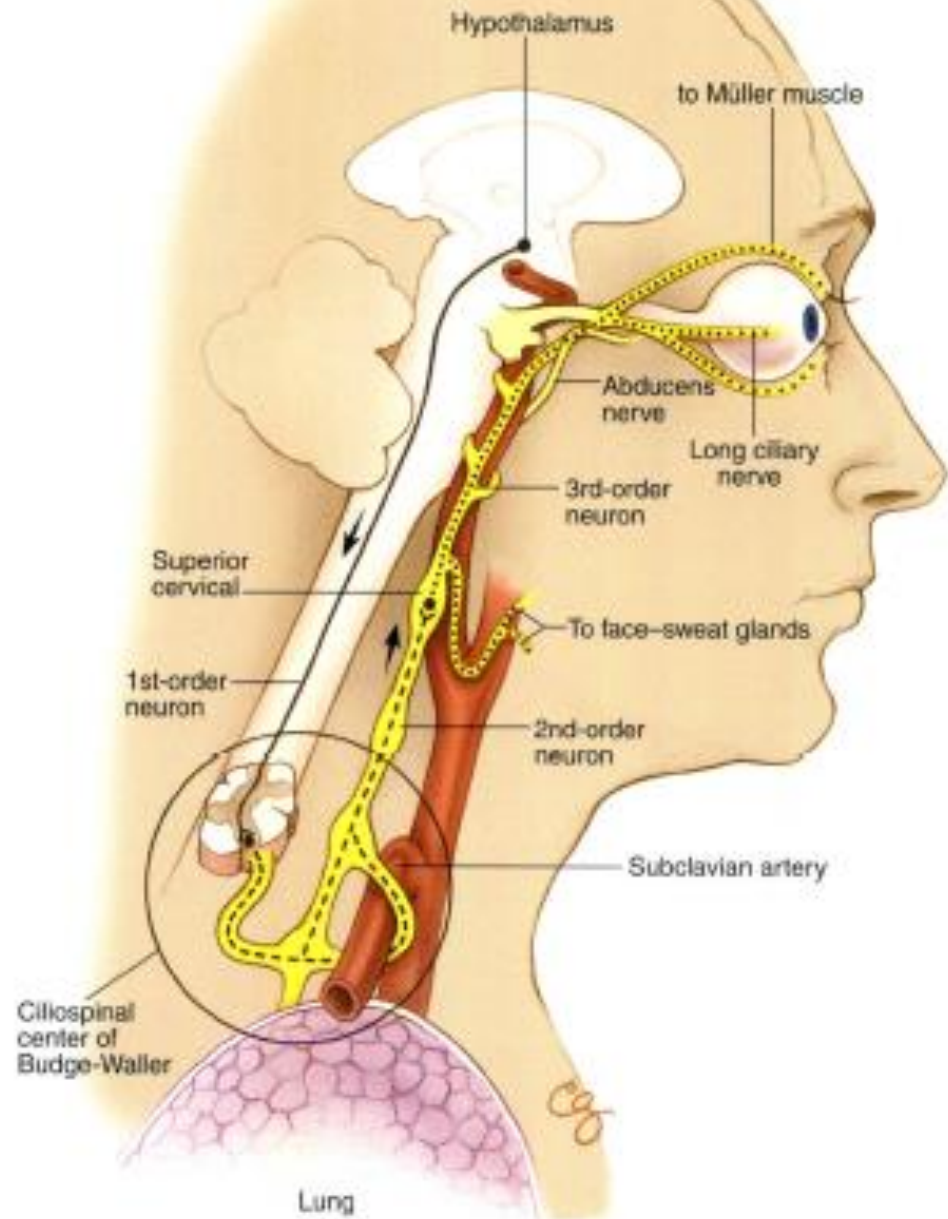
- ⦿ Decreased VA+ acidosis
- ⦿ ON congestion
- ⦿ Decreased light reflex

Treatment

- ⦿ Treat acidosis by sodium bicarbonate
- ⦿ Ethanol oral or IV
- ⦿ Hemodialysis

The pupil abnormality





Check RAPD

Relative afferent pupillary defect



⦿ a patient with right
eye cataract has
RAPD?

Anisocoroa

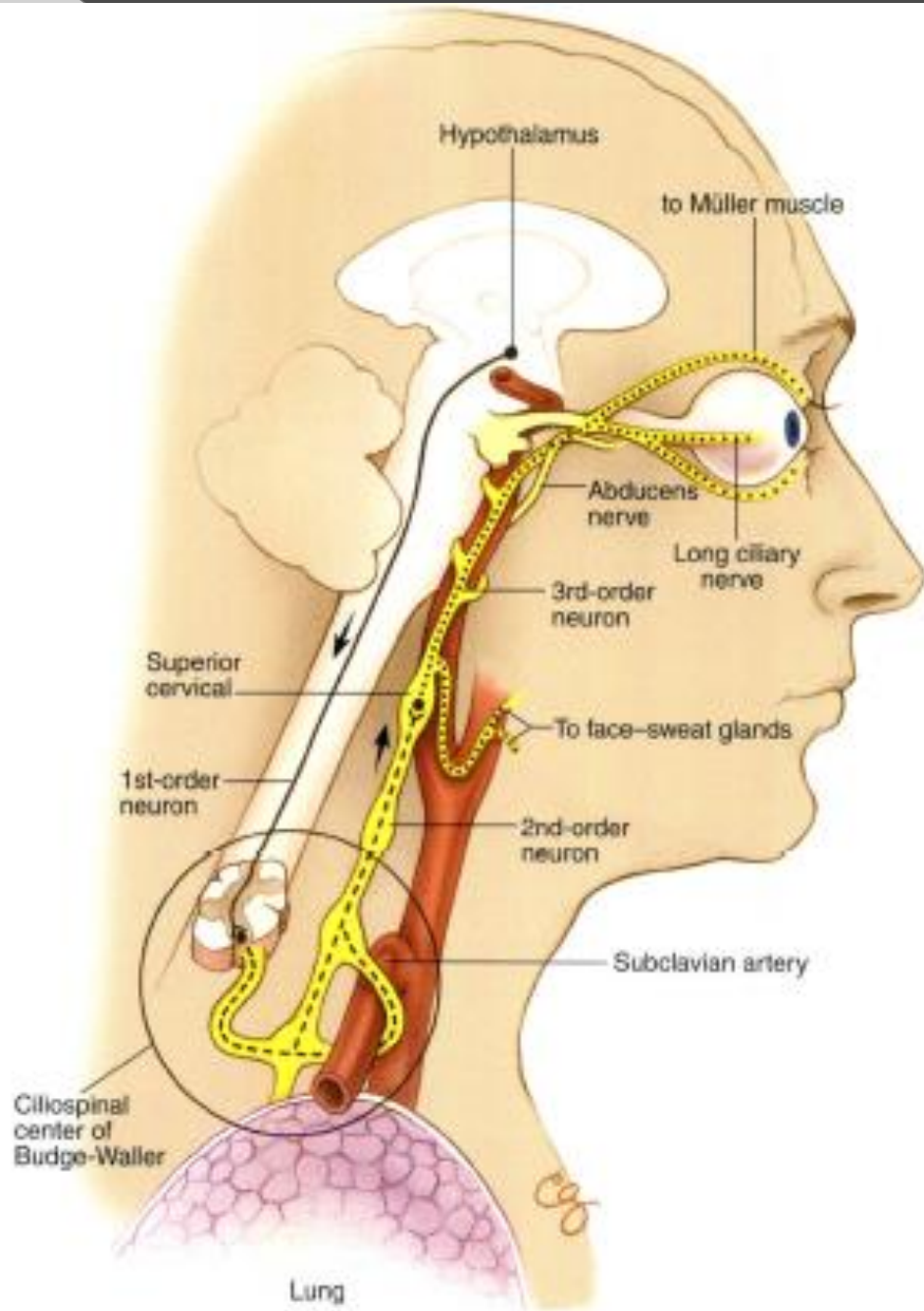
● آنیزوکوریا بیشتر در نور کم : در نور کم مردمک می خواهد گشاد شود نمی تواند

چسبندگی خلفی عنبیه
آنیزوکوریا ناشی از دارو
سندرم هورنر

● آنیزوکوریا بیشتر در نور زیاد : در نور زیاد مردمک می خواهد تنگ شود نمی تواند

آسیب اسفنکتر
آنیزوکوریا ناشی از دارو
مردمک تونیک آدی
فلج عصب زوج سوم





سندرم هورنر

پرہ گانگلیونیک

پست گانگلیونیک

تست کوکائین

- 90% از نوراپی نفرین در سیناپس باز جذب میشود
- کوکائین مهار باز جذب نوراپی نفرین
- مردمک سندرم هورنر به کوکائین پاسخ نمی دهد

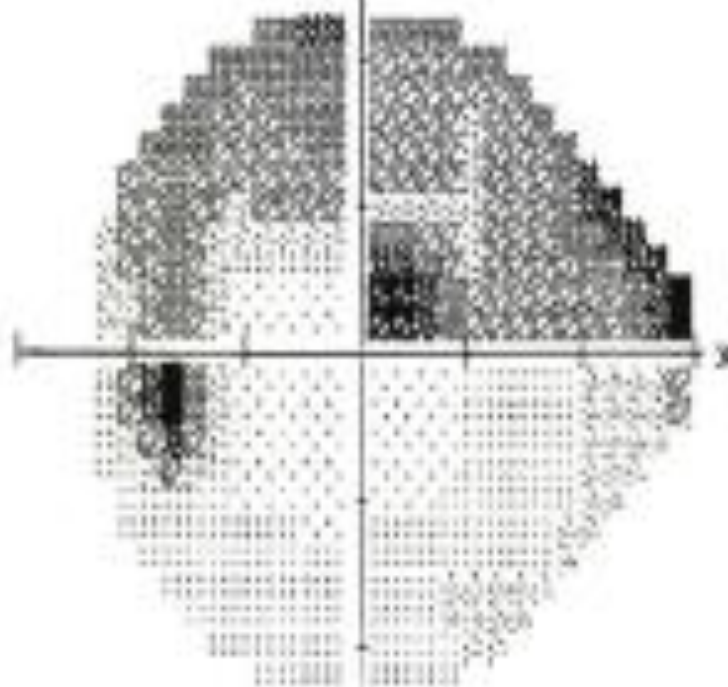
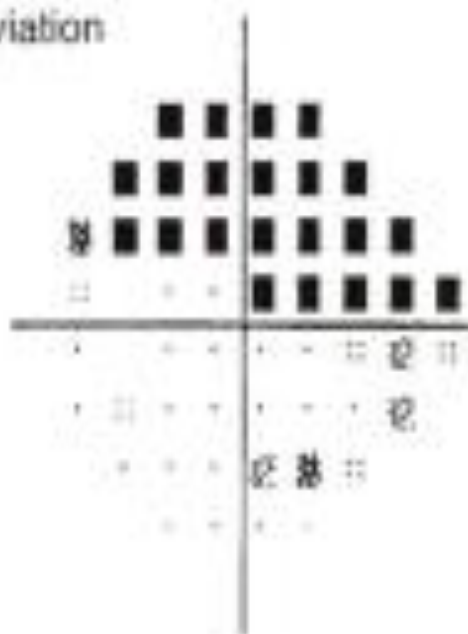
مردمک آرژیل روبرتسون

- نوروسیفیلیس ثالثیه
- مردمک کوچک و نامنظمو دوطرفه
- عدم پاخ به نور اما پاسخ نسبی به نگاه نزدیک

Now its your turn

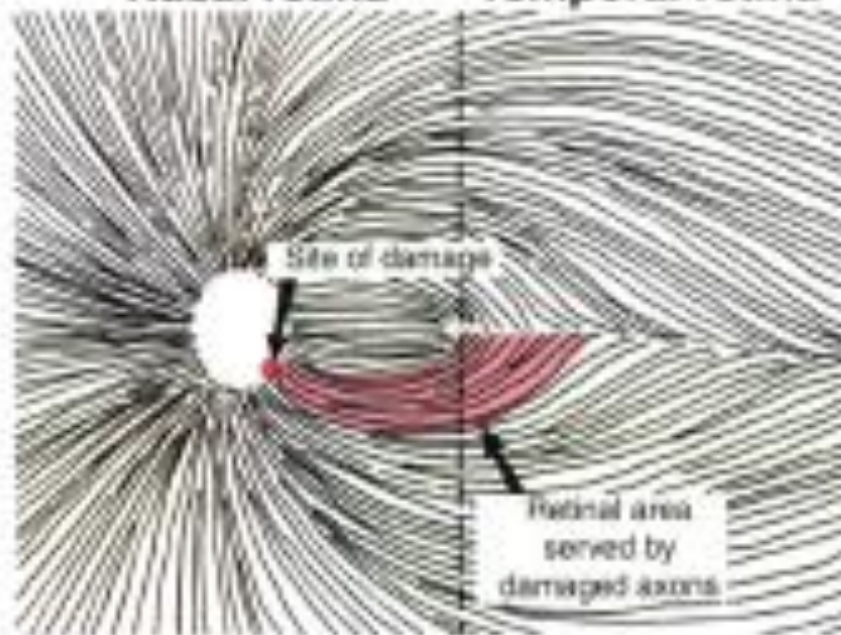


Pattern
deviation

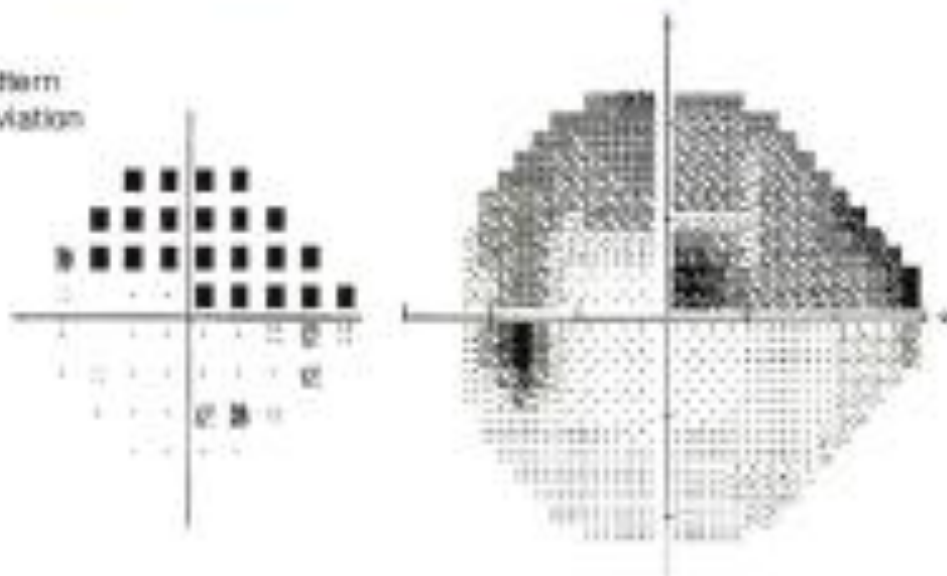


Nasal retina

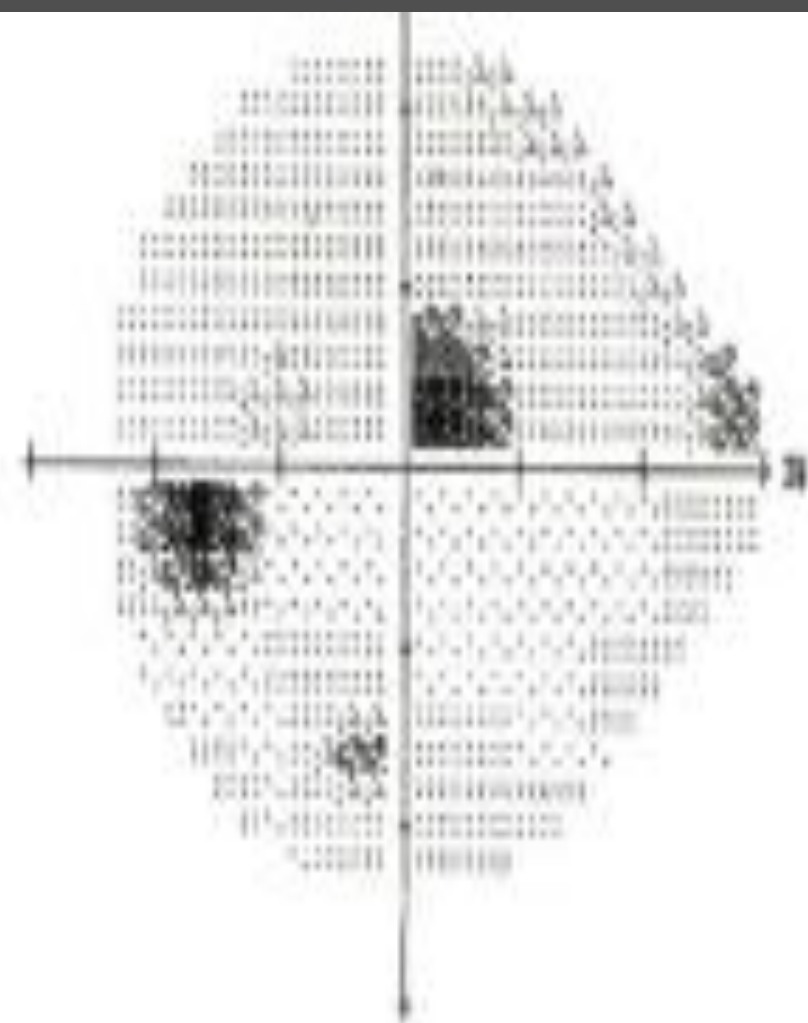
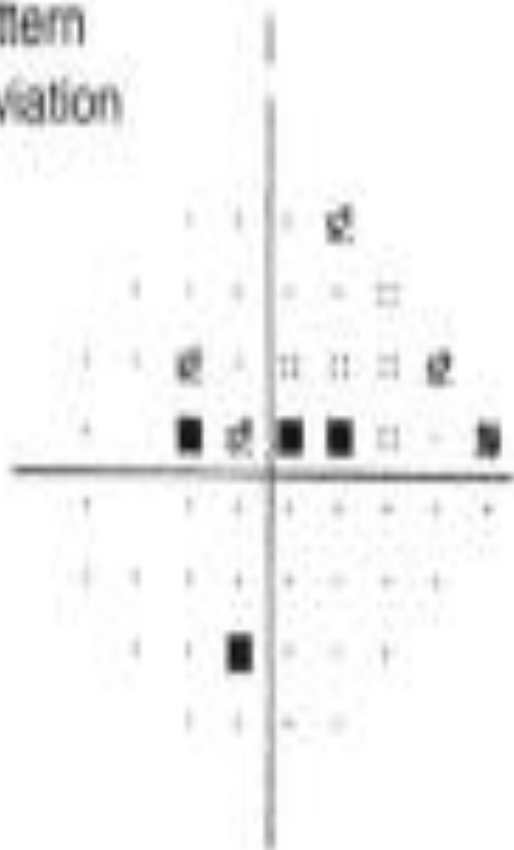
Temporal retina



Pattern deviation

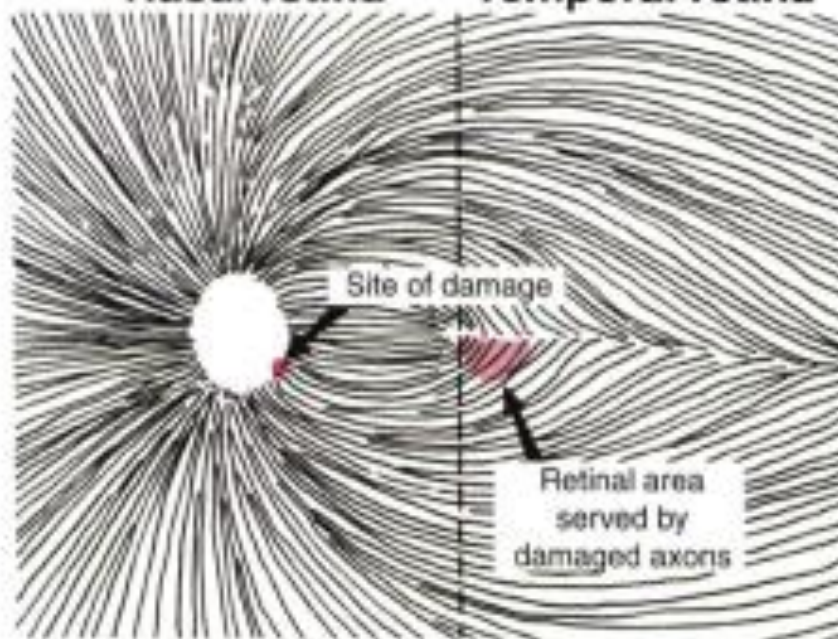


Pattern deviation

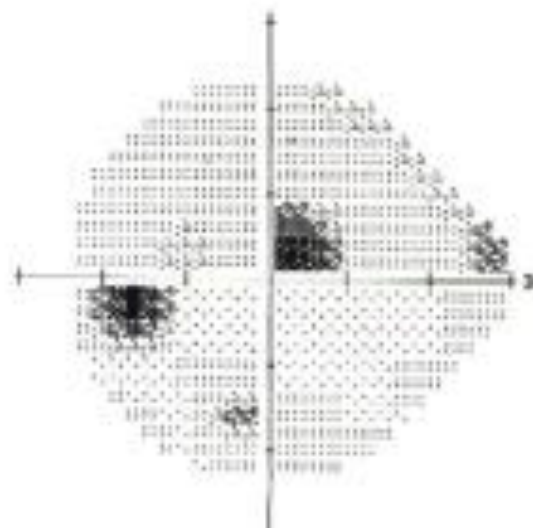
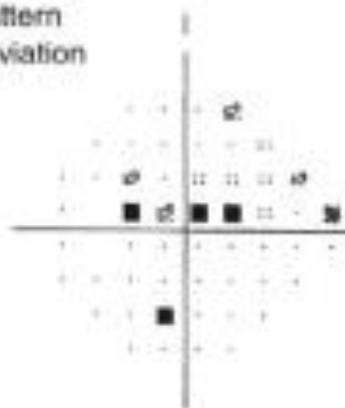


Nasal retina

Temporal retina

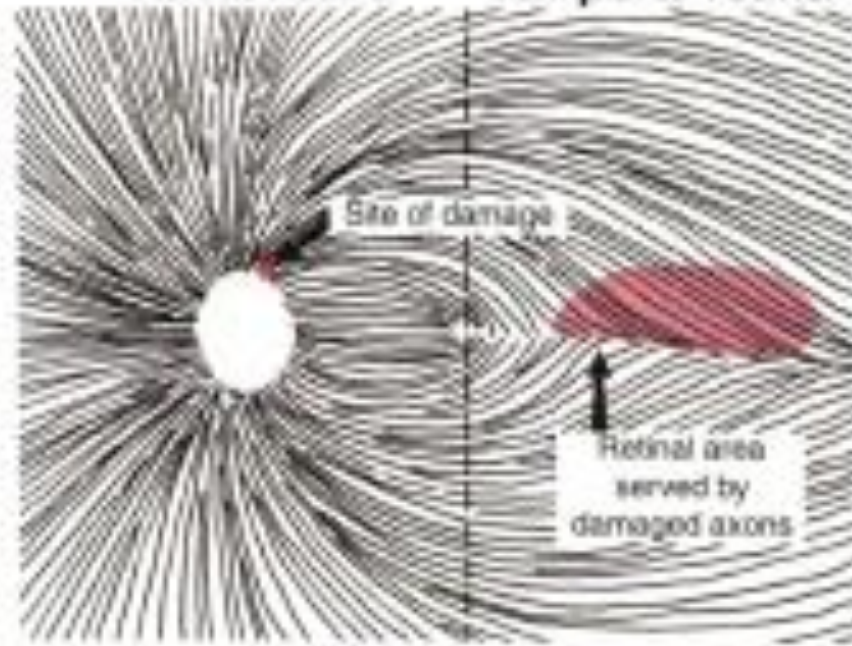


Pattern deviation



Nasal retina

Temporal retina



Pattern deviation

