

SISTEMA VISUAL E SISTEMA OCULOMOTOR

Profa. Dra. Fabíola Dach

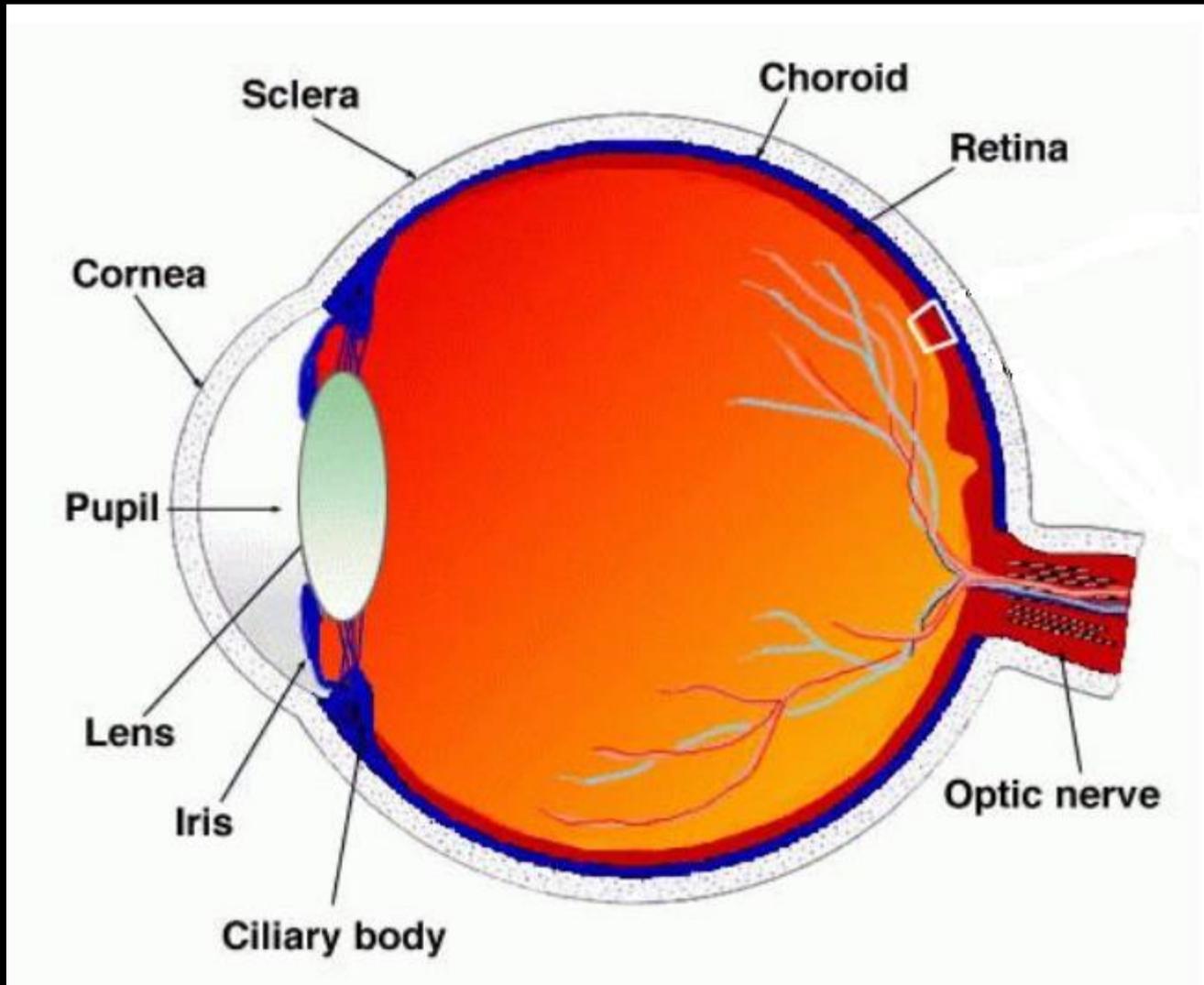
Departamento de Neurociências e Ciências do Comportamento

FMRP-USP

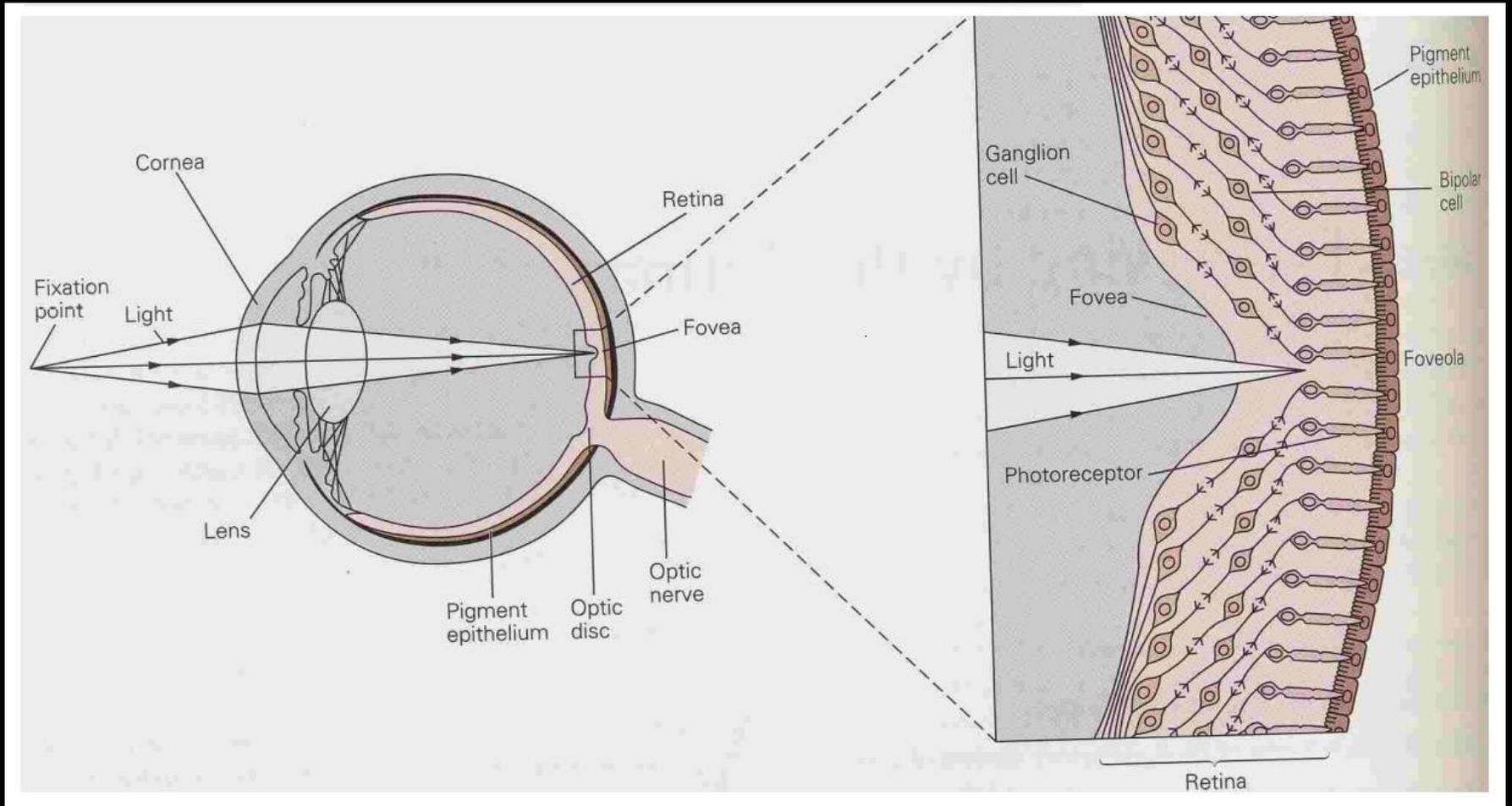
SISTEMA VISUAL



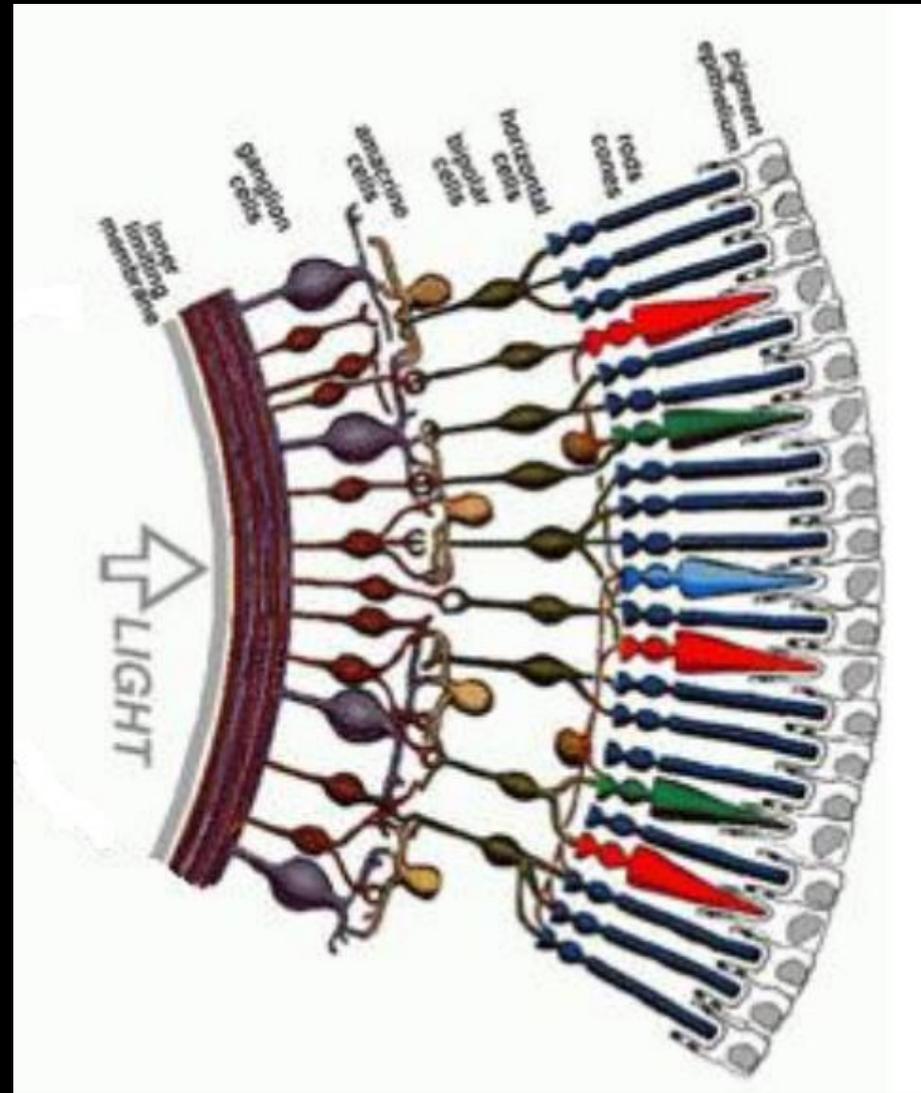
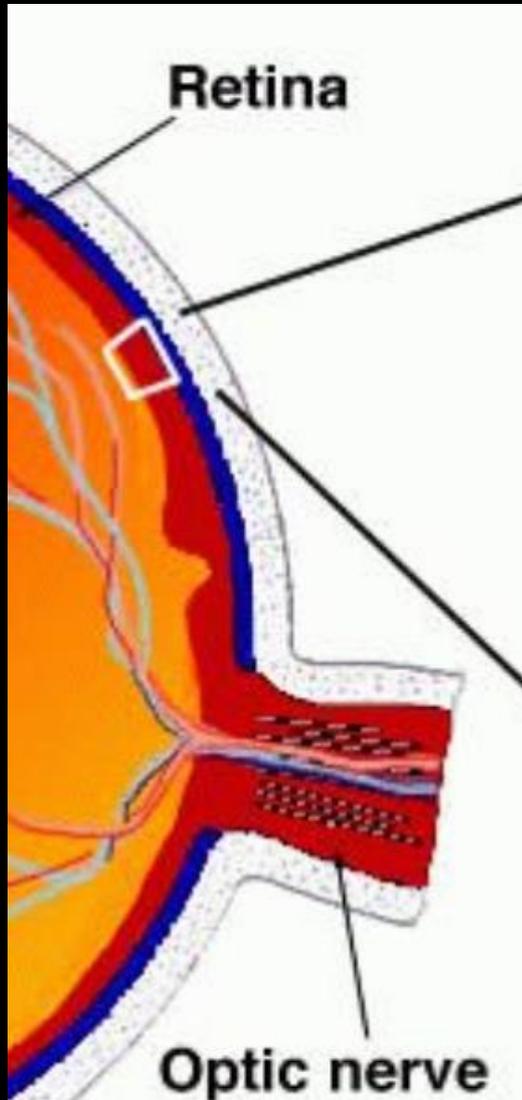
Globo Ocular



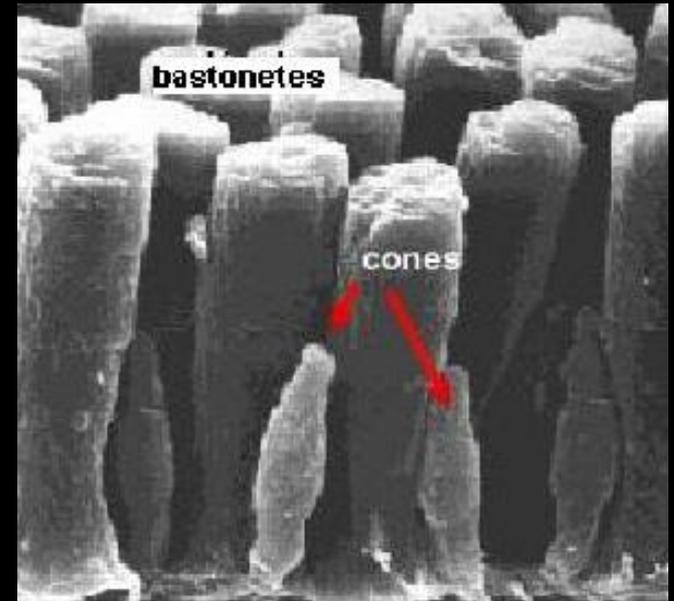
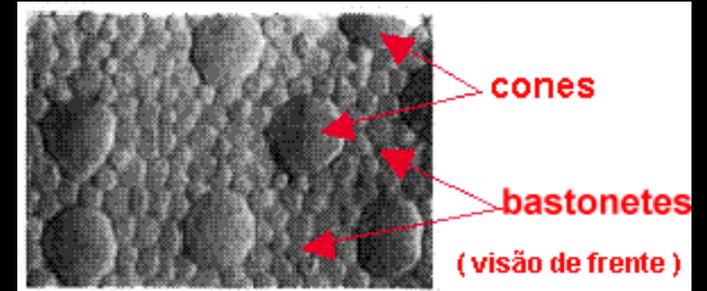
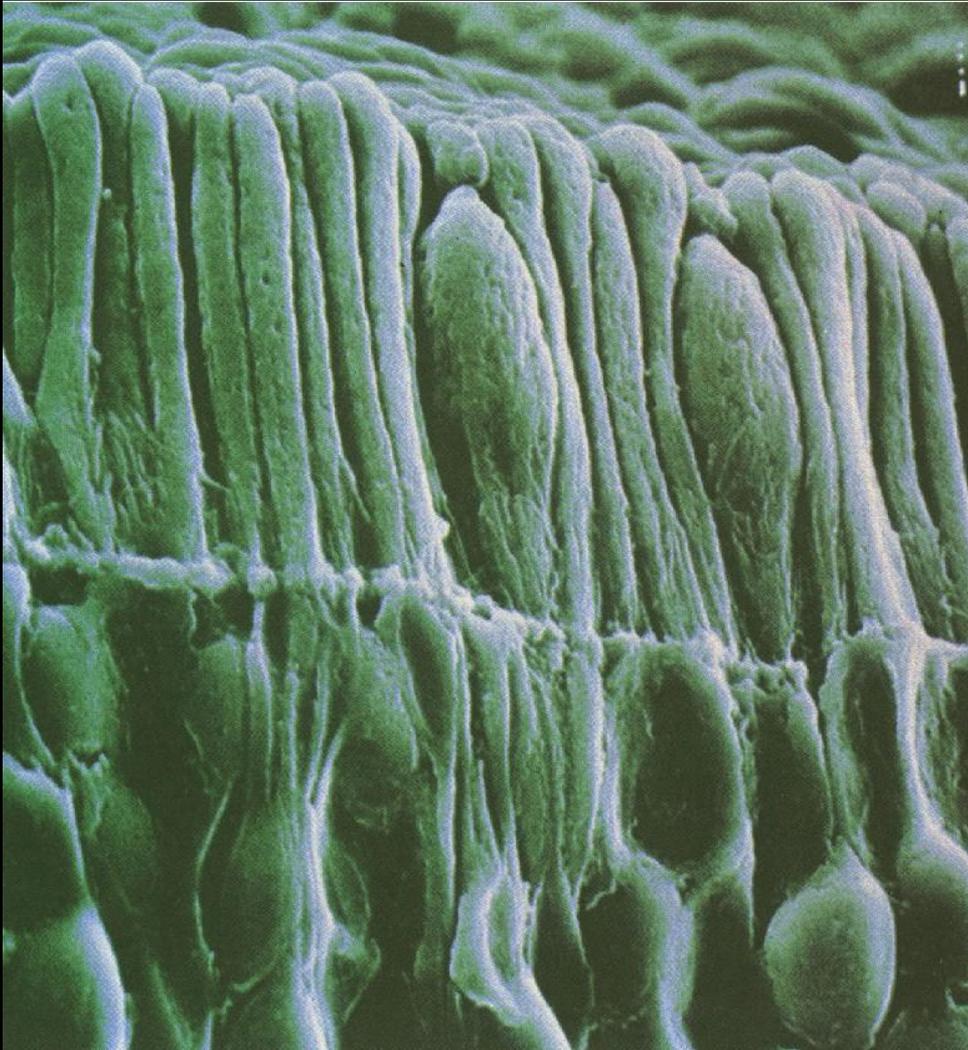
Globo Ocular



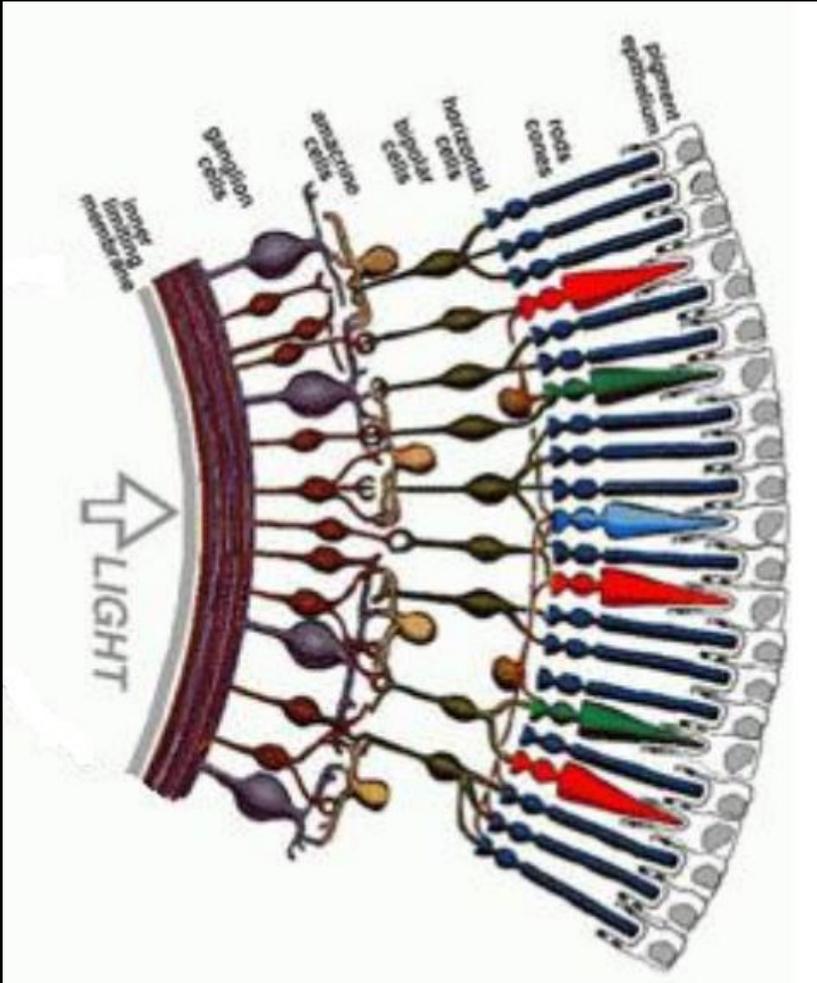
Retina



Cones e bastonetes

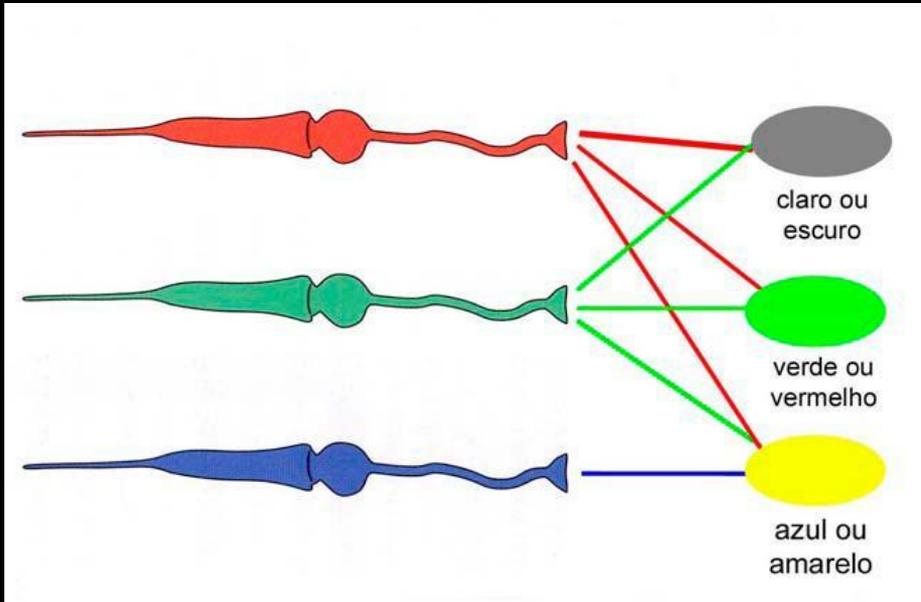


Cones

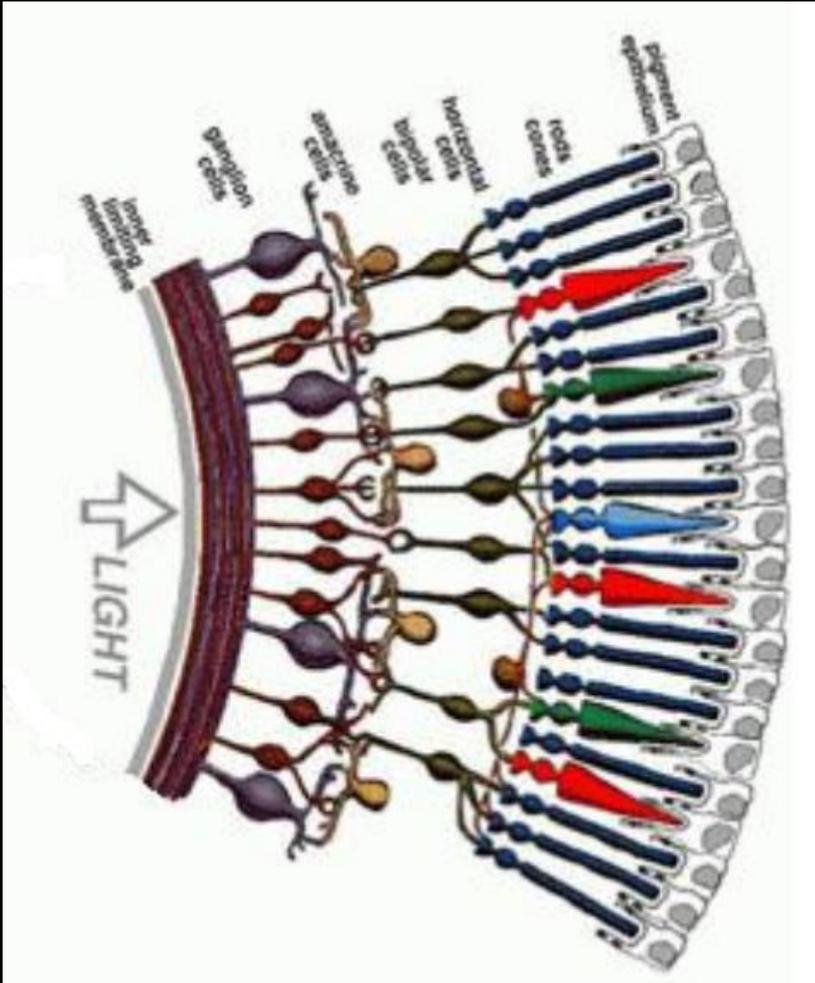


- concentrado na mácula;
- visão diurna, mais precisa;
- visão colorida (3 tipos);
- conexão com 1 célula bipolar;
- 6 milhões/olho.

Cones

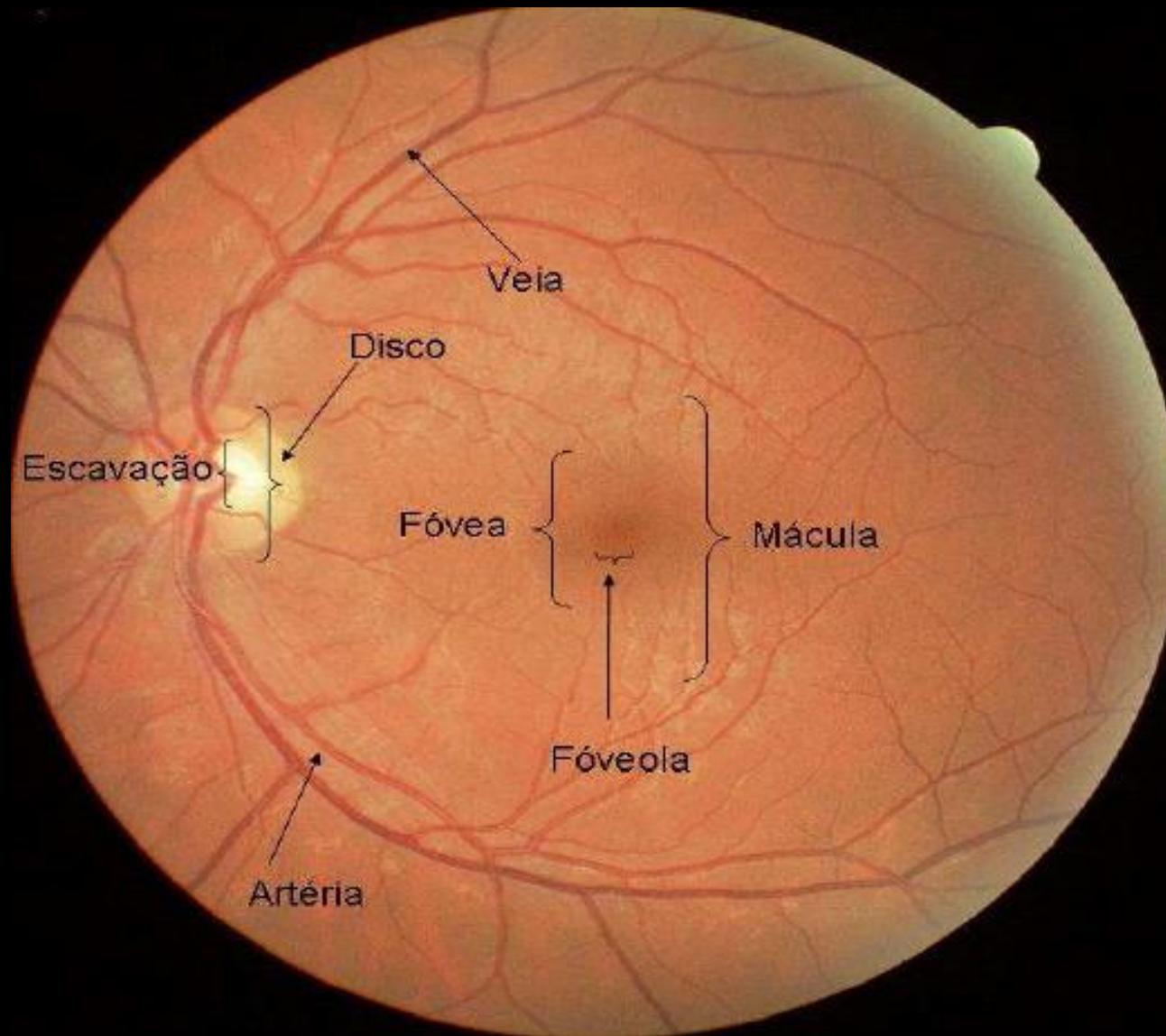


Bastonetes

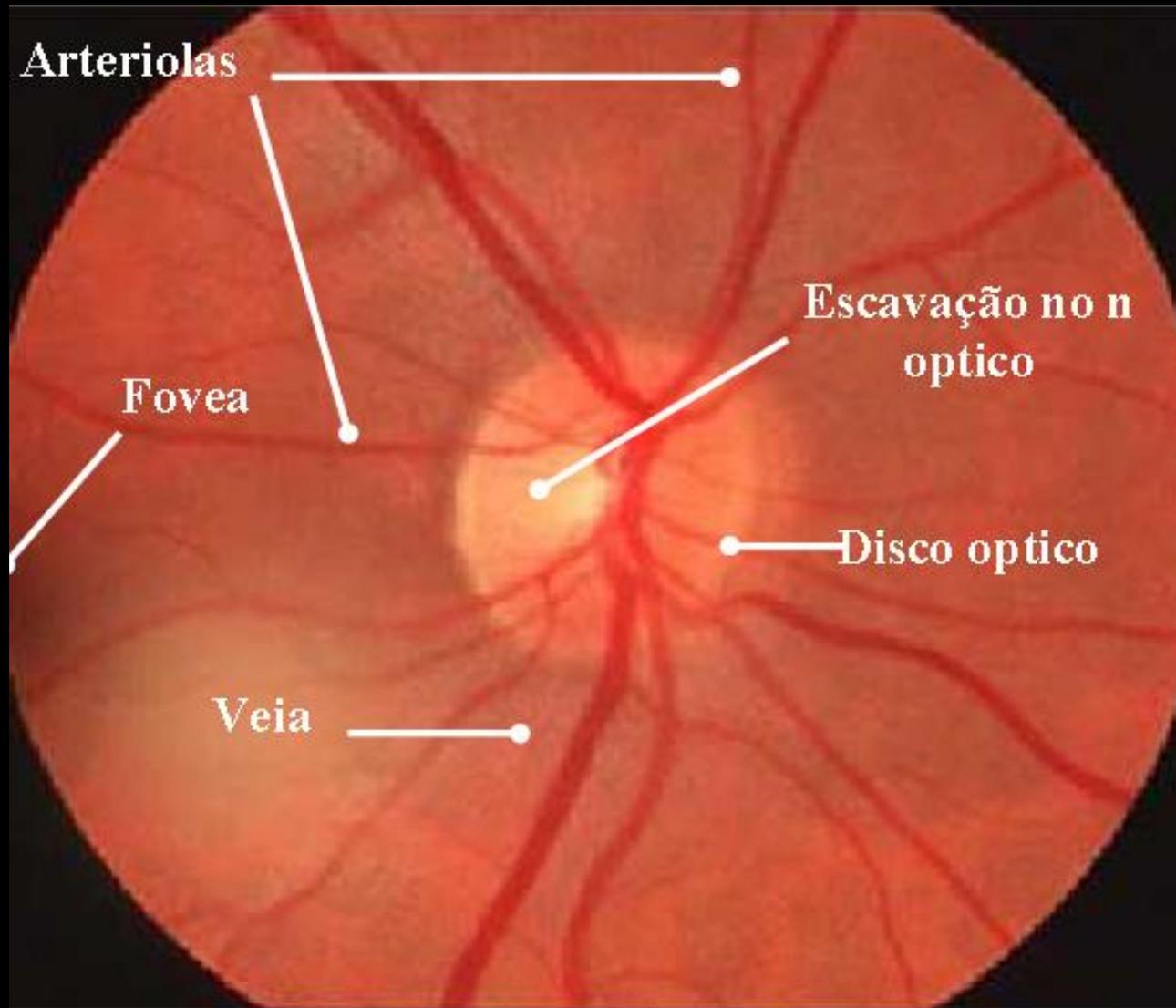


- Em toda a retina;
- visão noturna;
- visão preto e branco;
- visão menos precisa;
- cada 3 bastonetes se conectam com 1 célula bipolar.
- 120 milhões/olho.

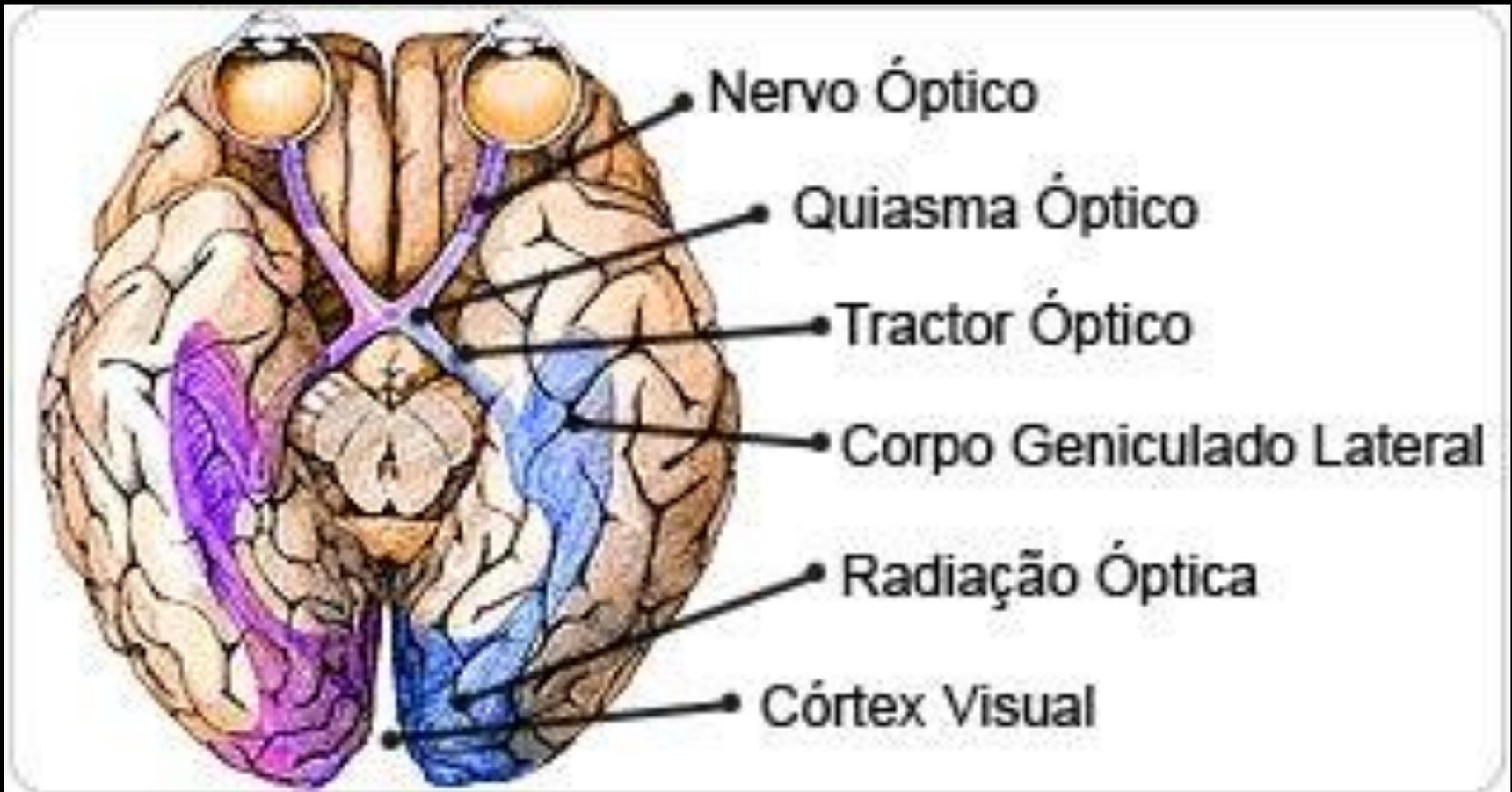
Fundo de olho

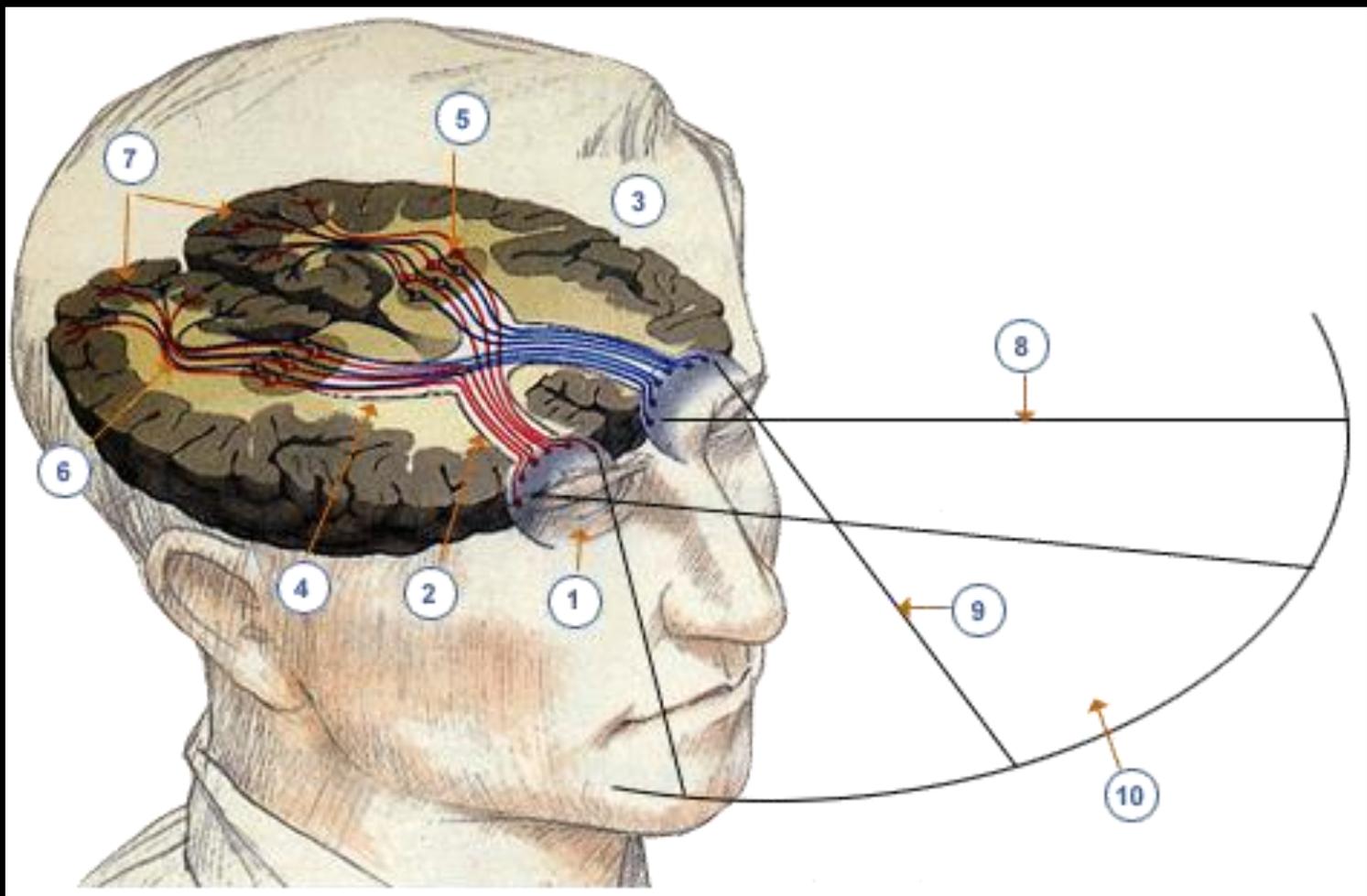


Fundo de olho



Sistema Visual





1 - Globos oculares;

2 - Nervo óptico;

3 - Quiasma óptico

4 -Tracto óptico;

5 - Ganglio geniculado lateral

6 - Radiação óptica

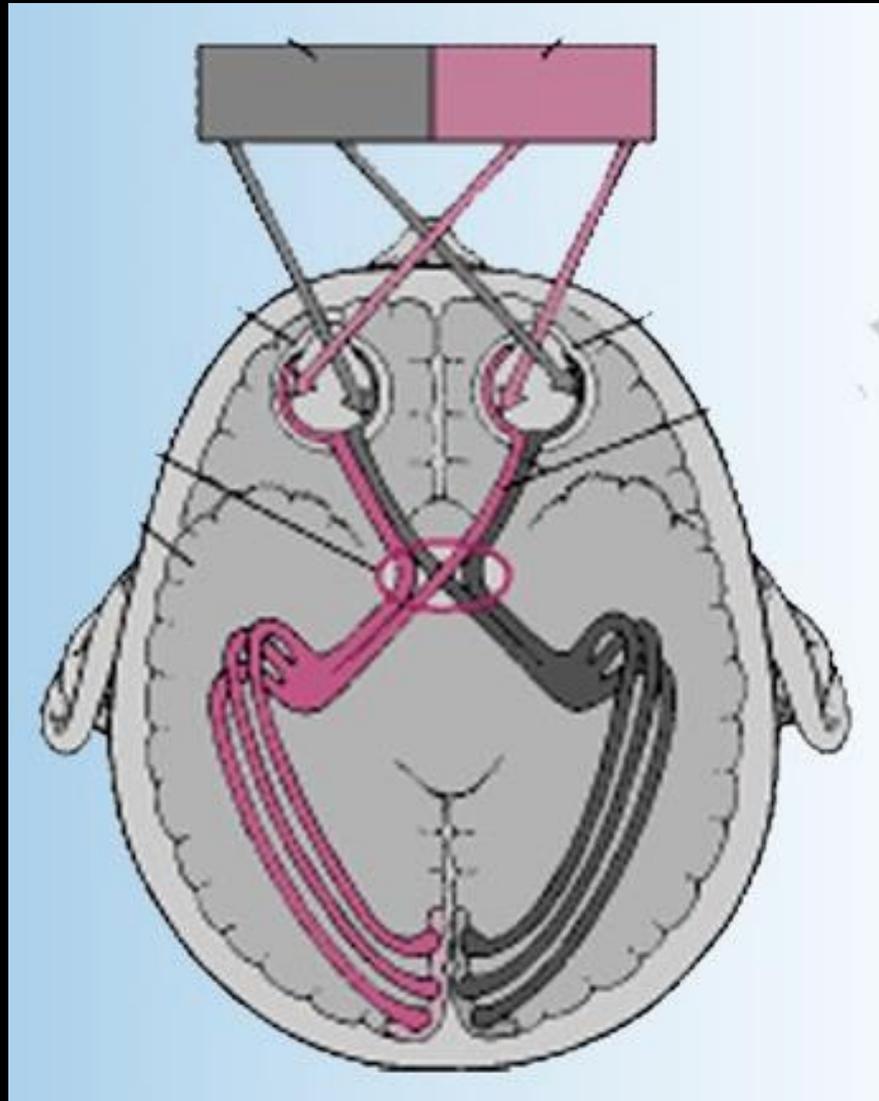
7 - Córtex visual primário

8 - Campo visual olho direito

9 - Campo visual olho esquerdo

10 - Campo binocular

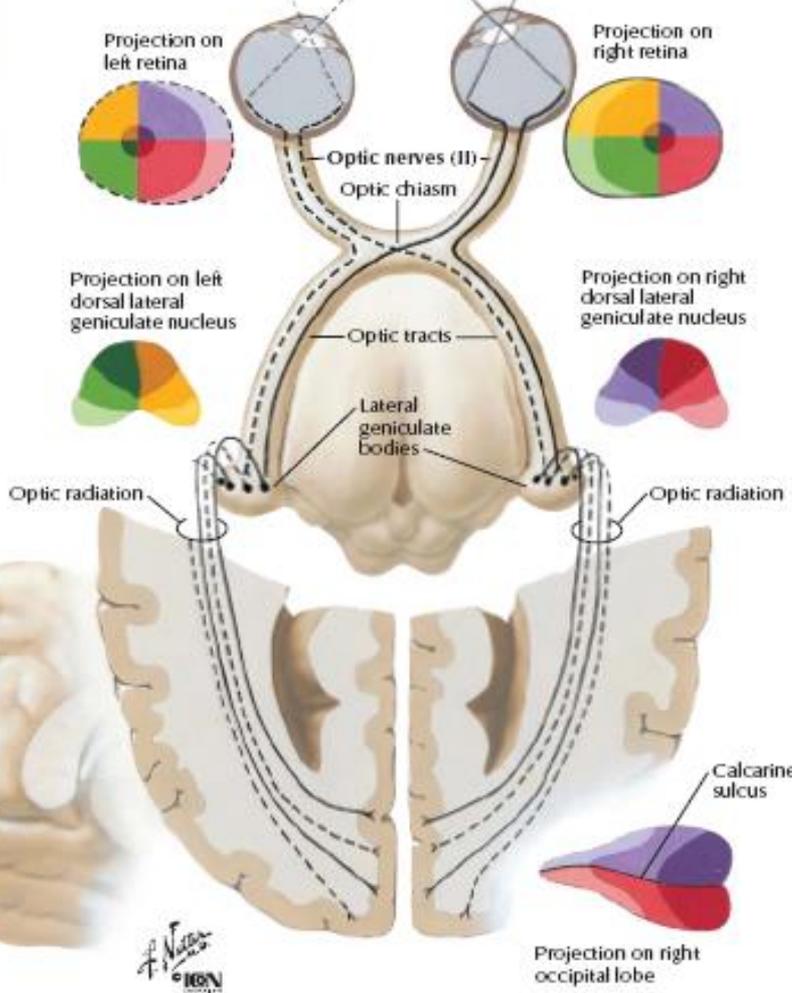
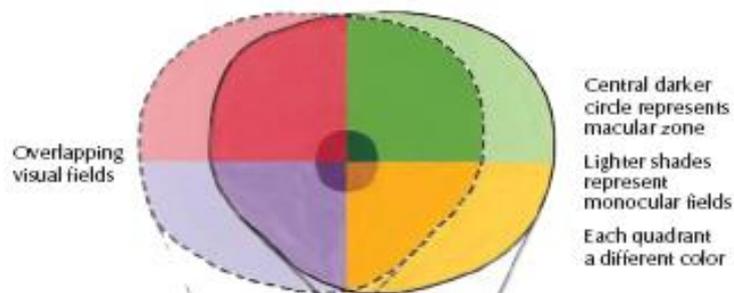
Campo Visual

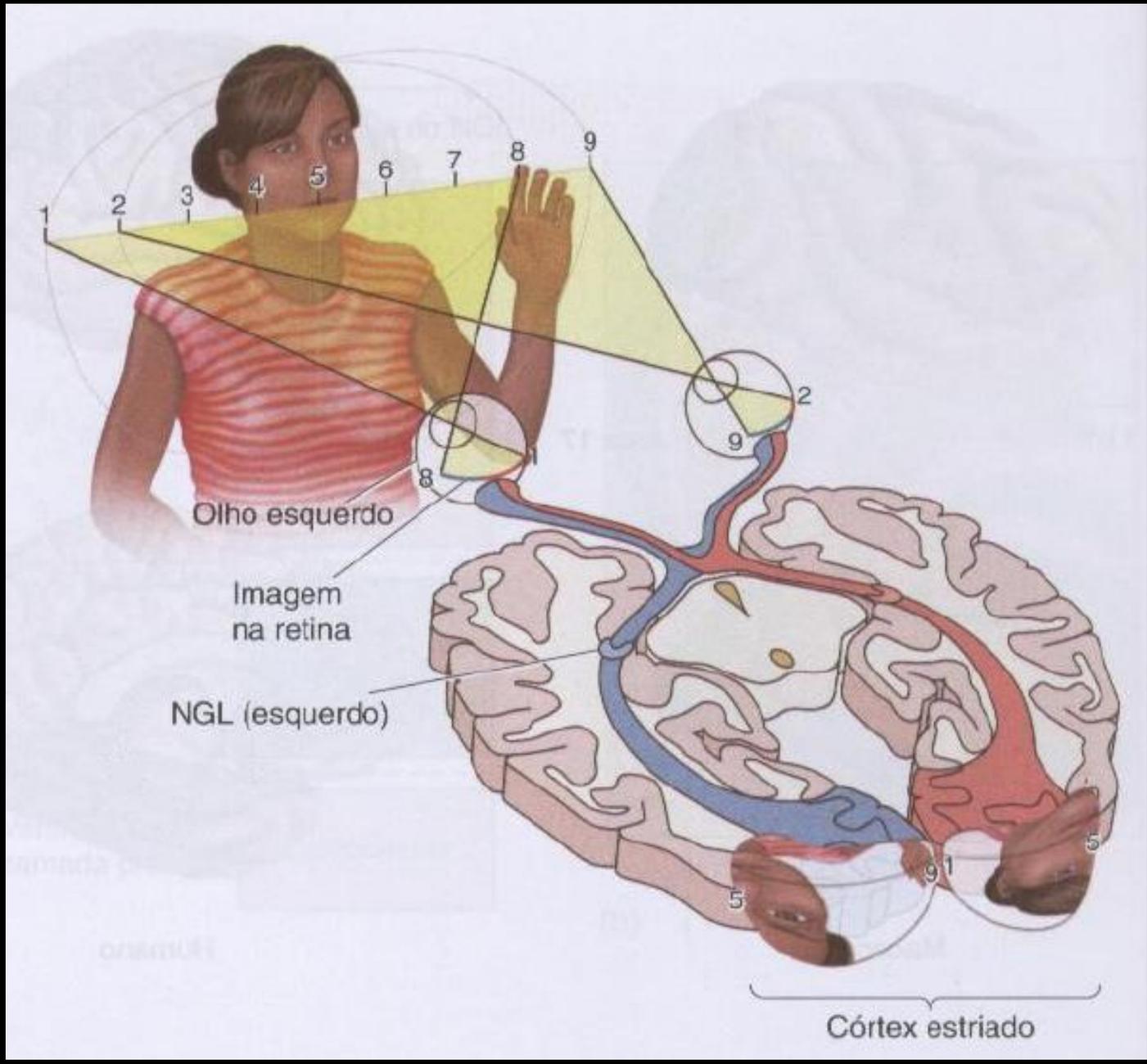




Structure of retina: schema

- A Amacrine cells
- B Bipolar cells
- C Cones
- G Ganglion cells
- H Horizontal cells
- P Pigment cells
- R Rods



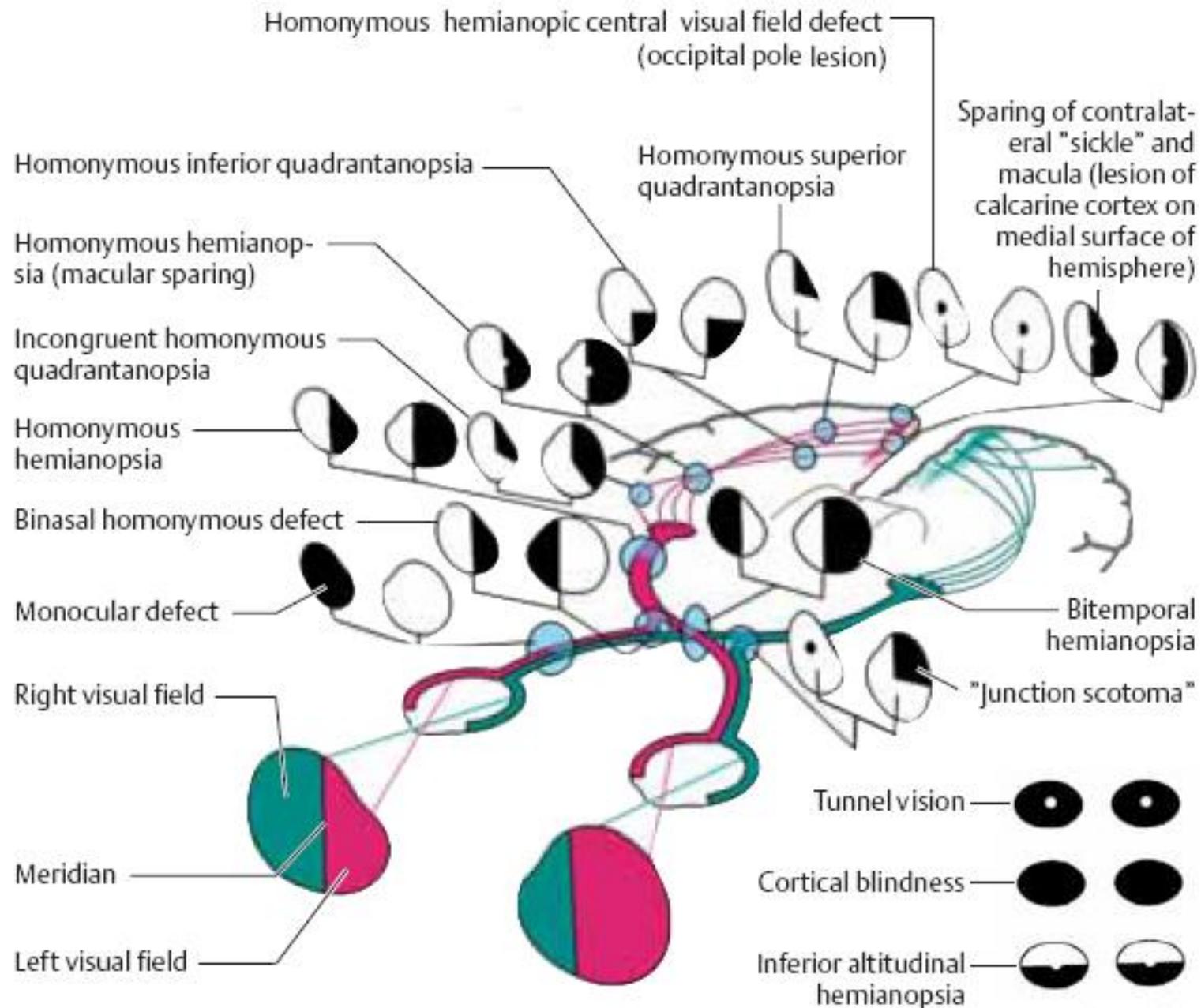


Olho esquerdo

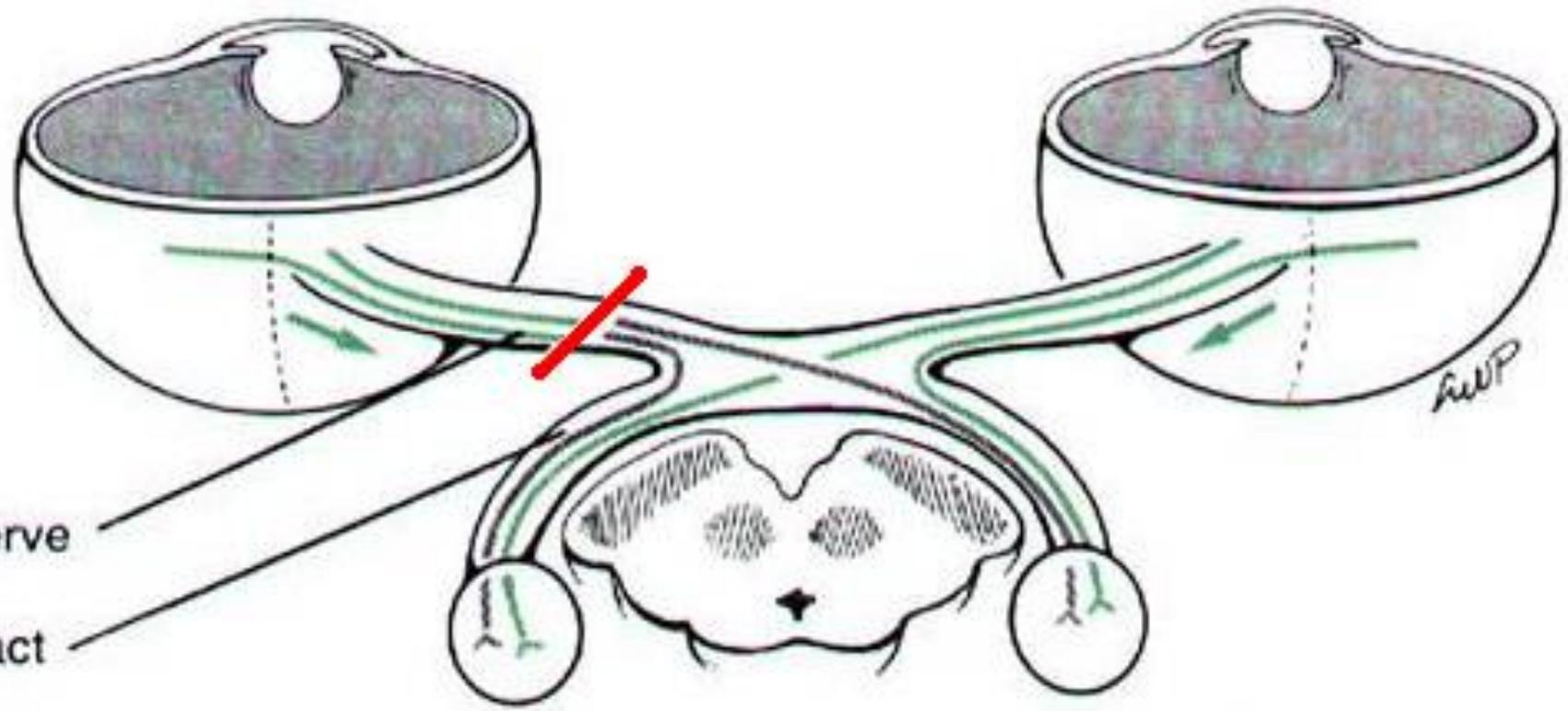
Imagem na retina

NGL (esquerdo)

Córtex estriado

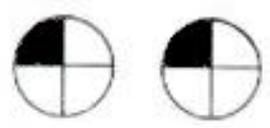
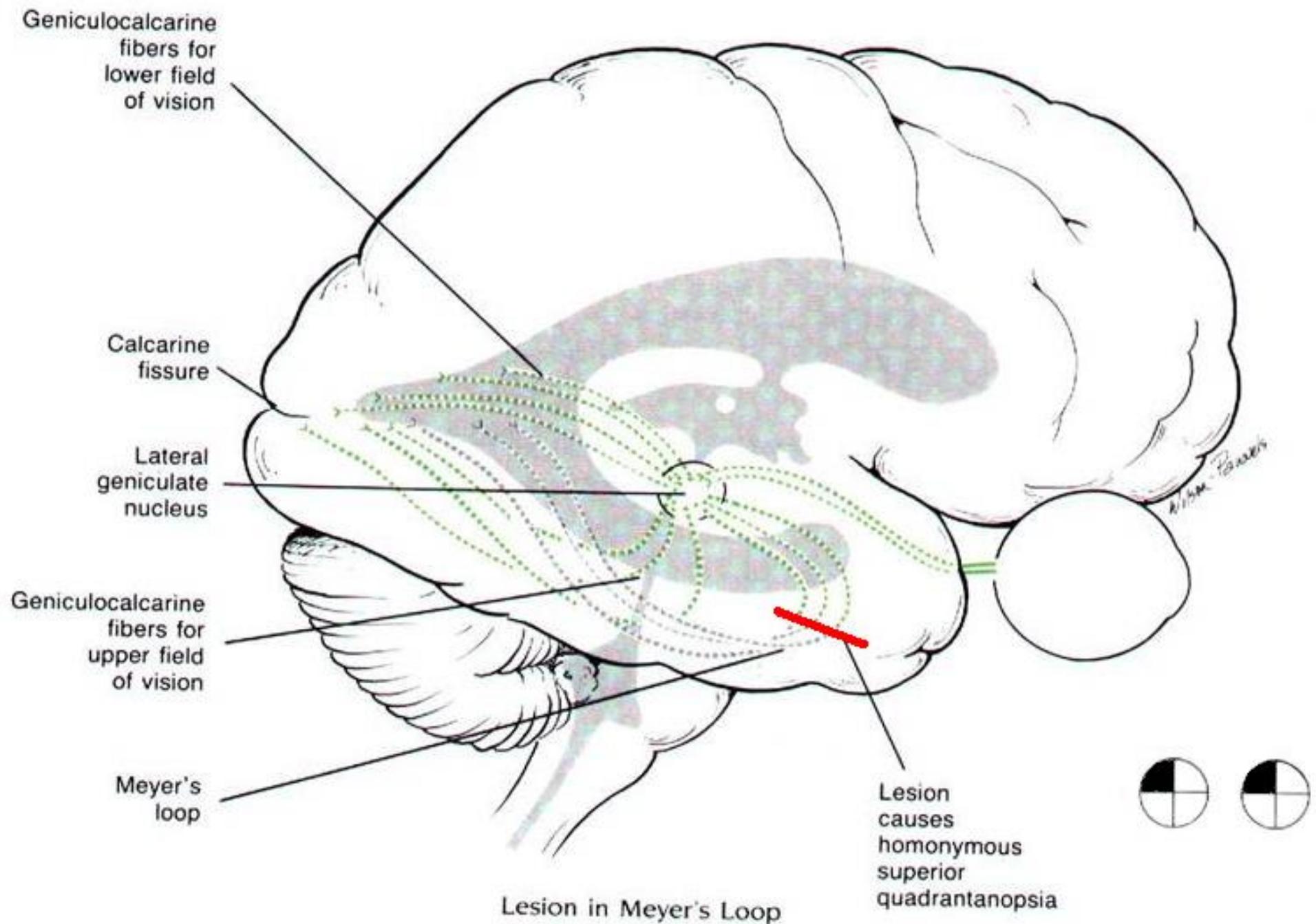


Types and localization of visual field defect



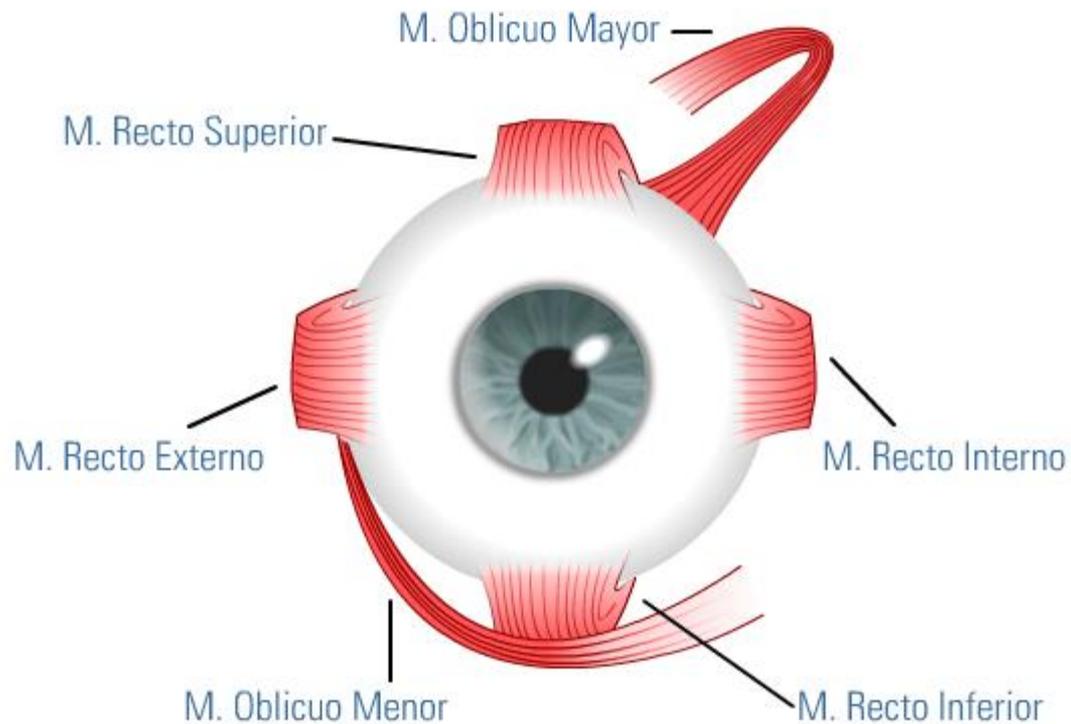
Optic nerve
Optic tract

Lesion to Optic Nerve



SISTEMA OCULOMOTOR

Músculos extraoculares



Sistema Oculomotor

- Intrínseco:
reflexo pupilar e acomodação.
- Extrínseco
movimento do globo ocular.

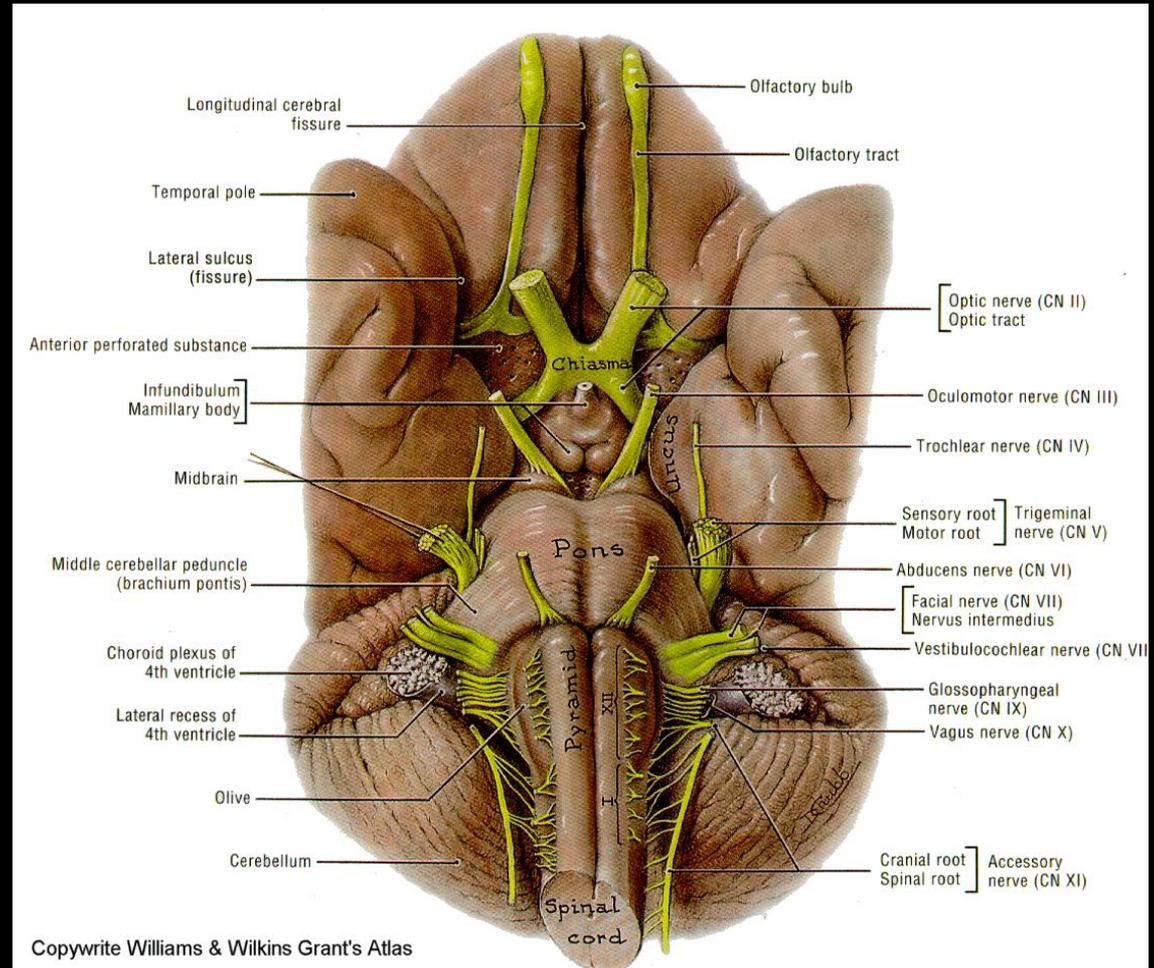
Intrínsecos

- Aferência

II nervo

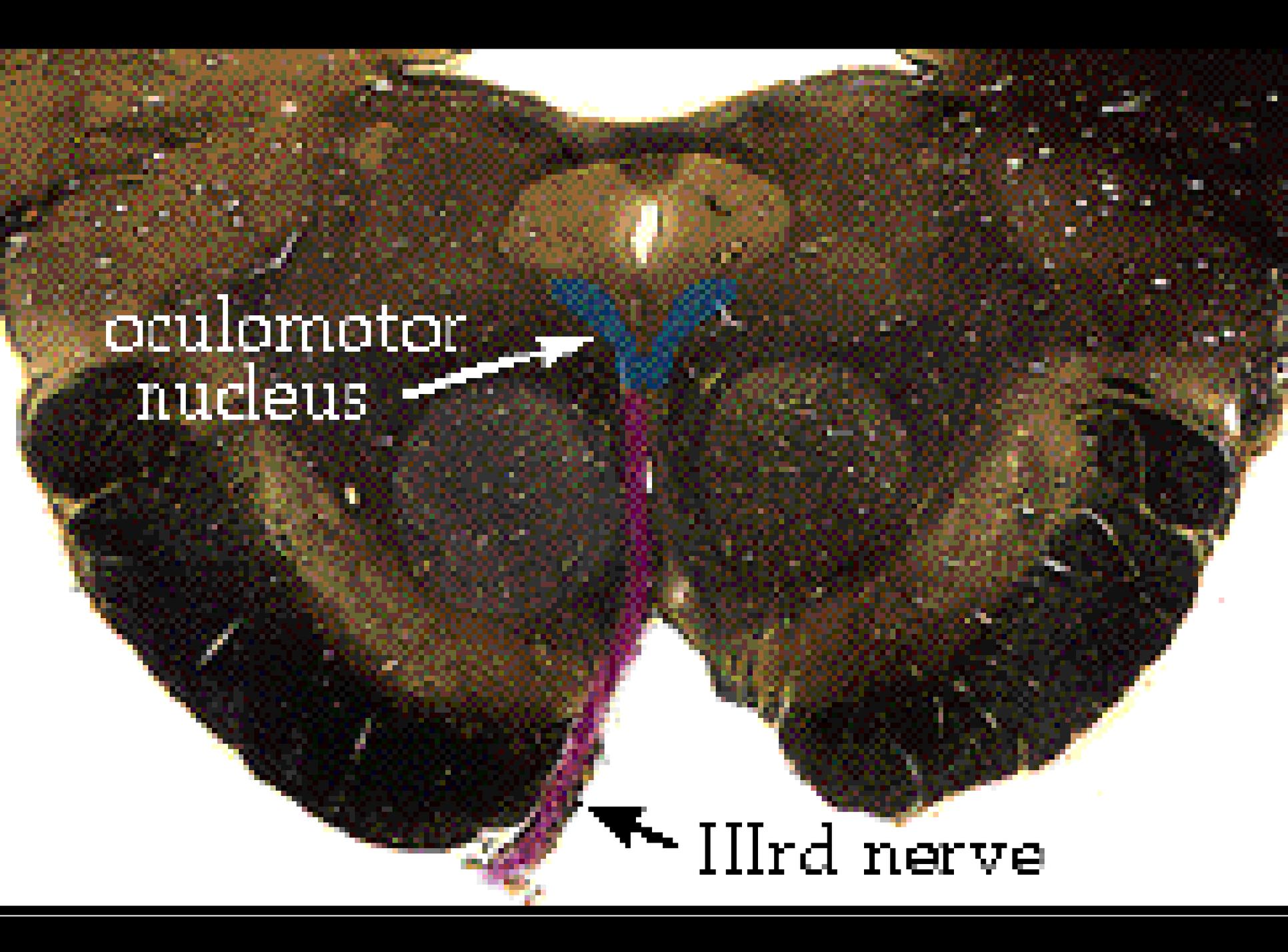
- Eferência

III nervo



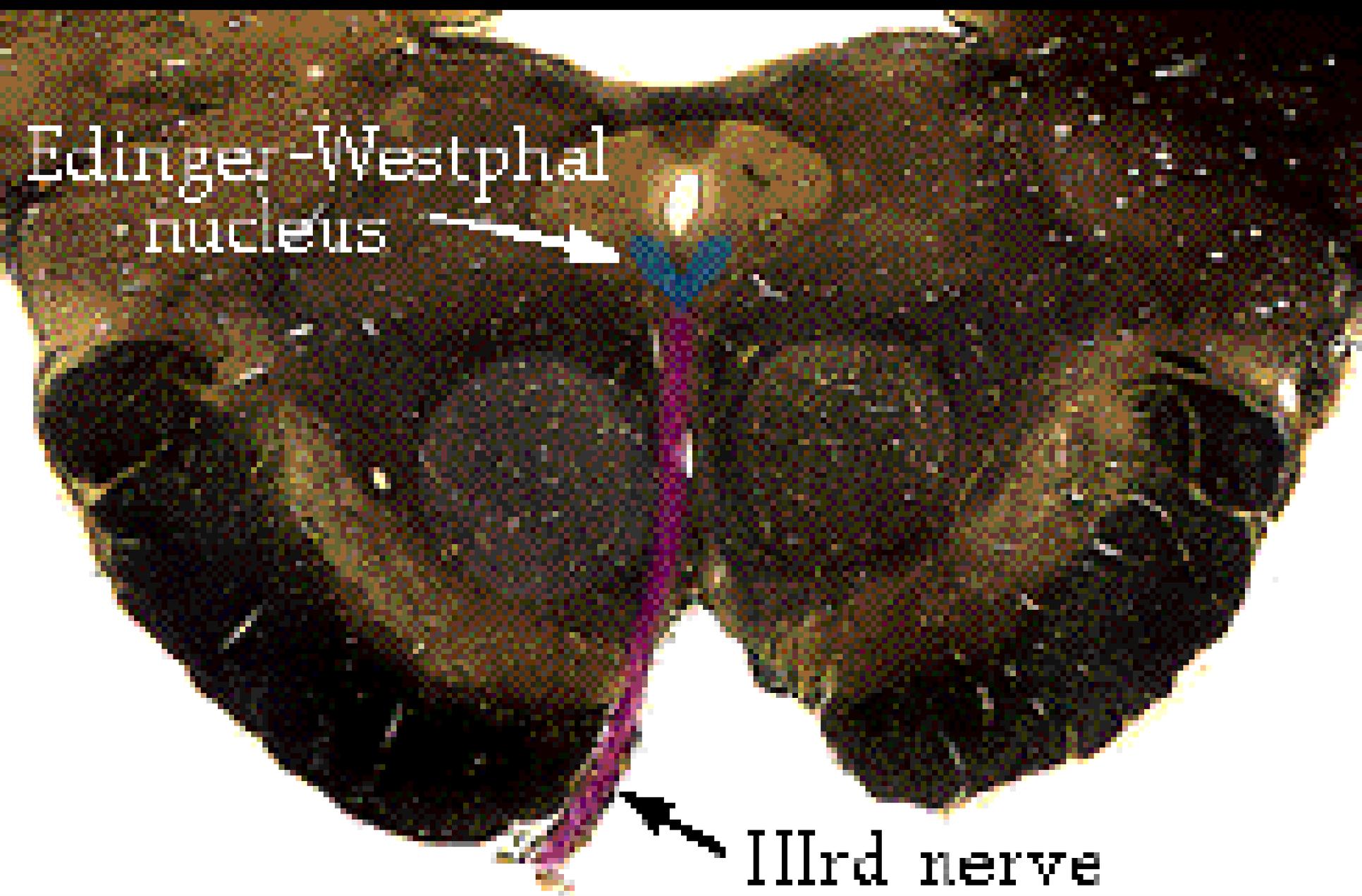
oculomotor
nucleus

IIIrd nerve



Edinger-Westphal
nucleus

IIIrd nerve



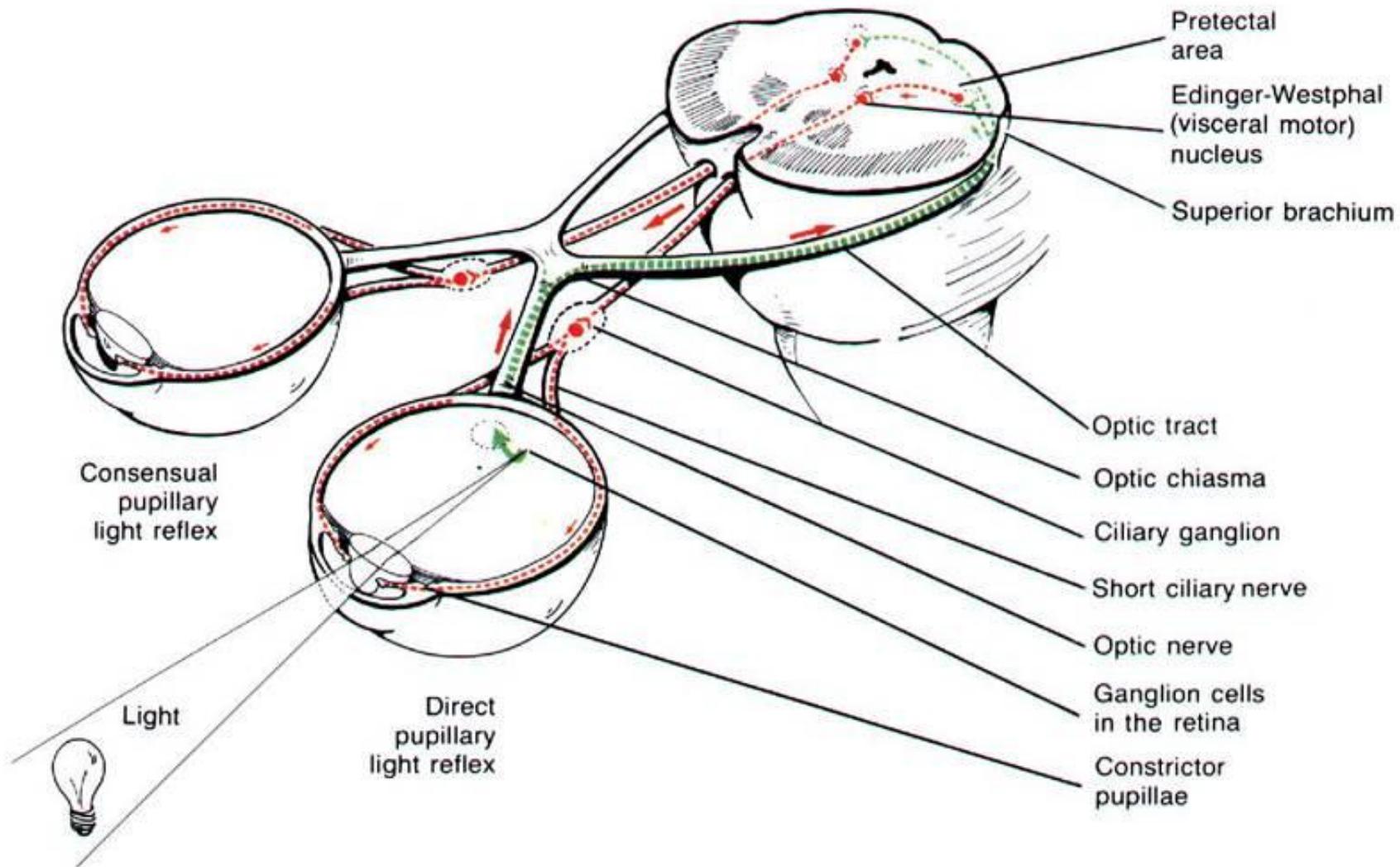
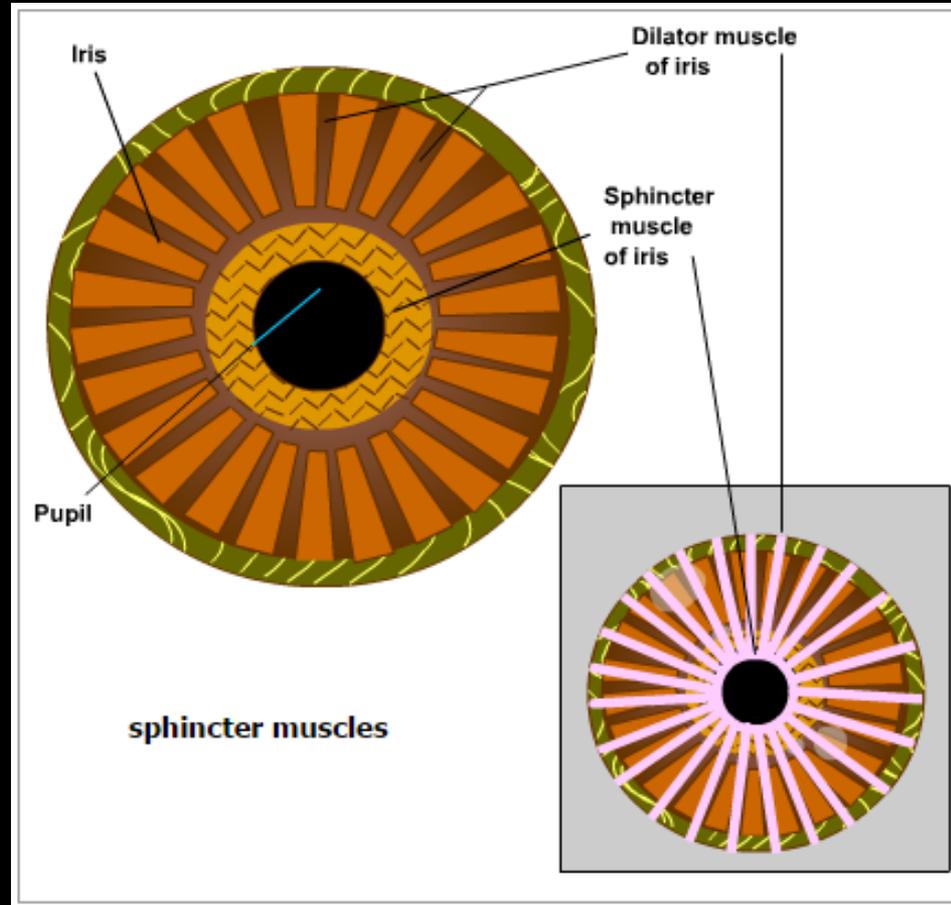
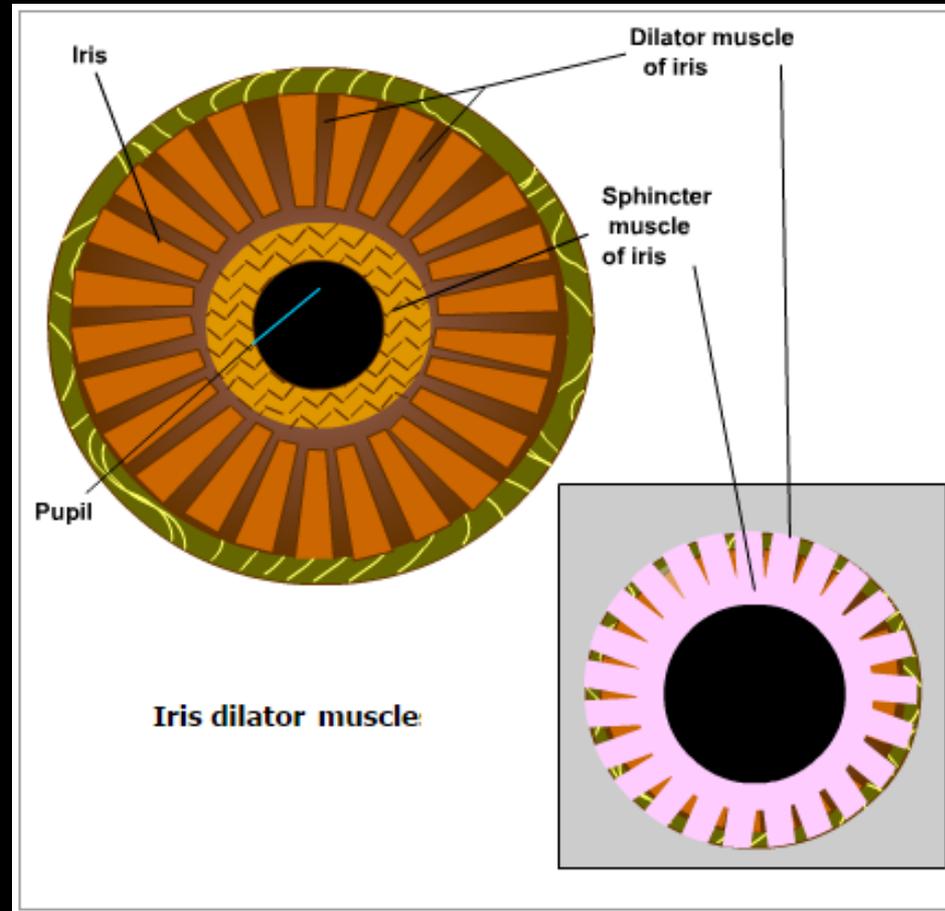


Figure III-8 Pupillary Light Reflex

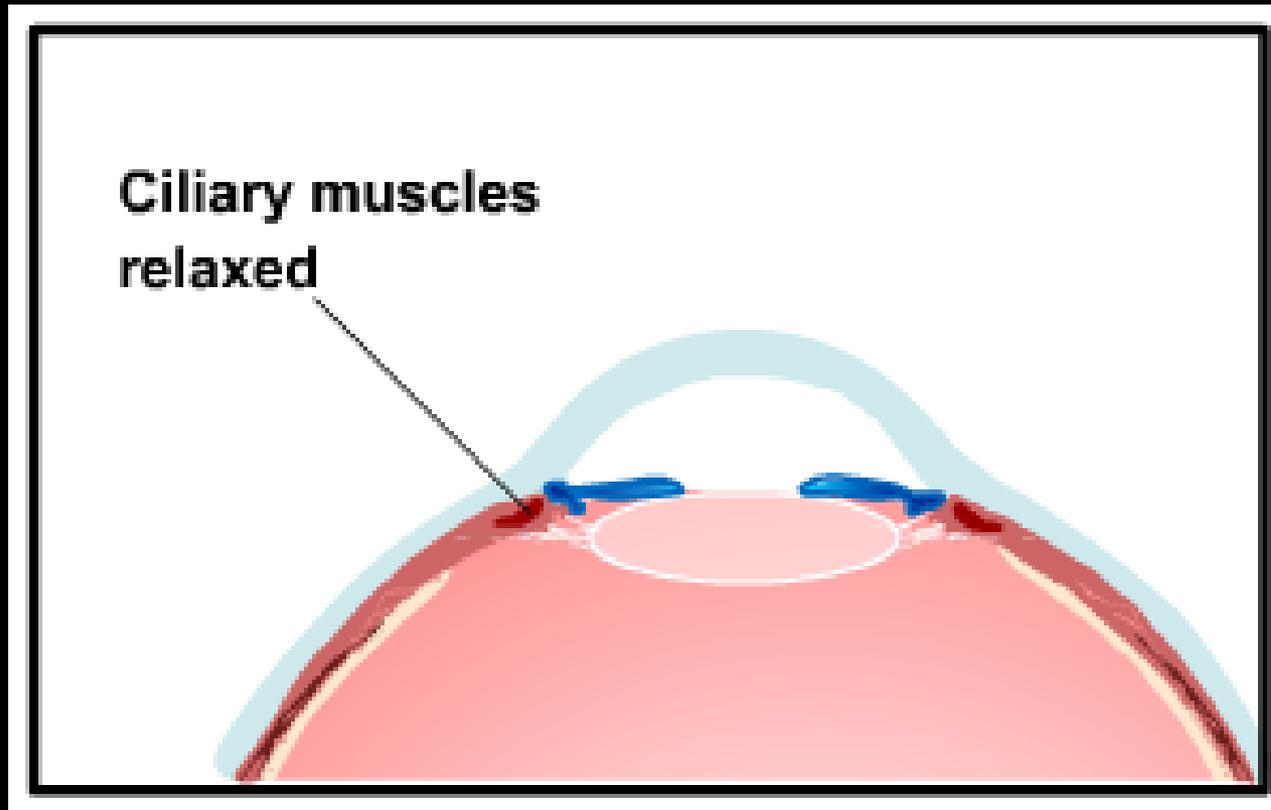
Reflexo pupilar



Reflexo pupilar

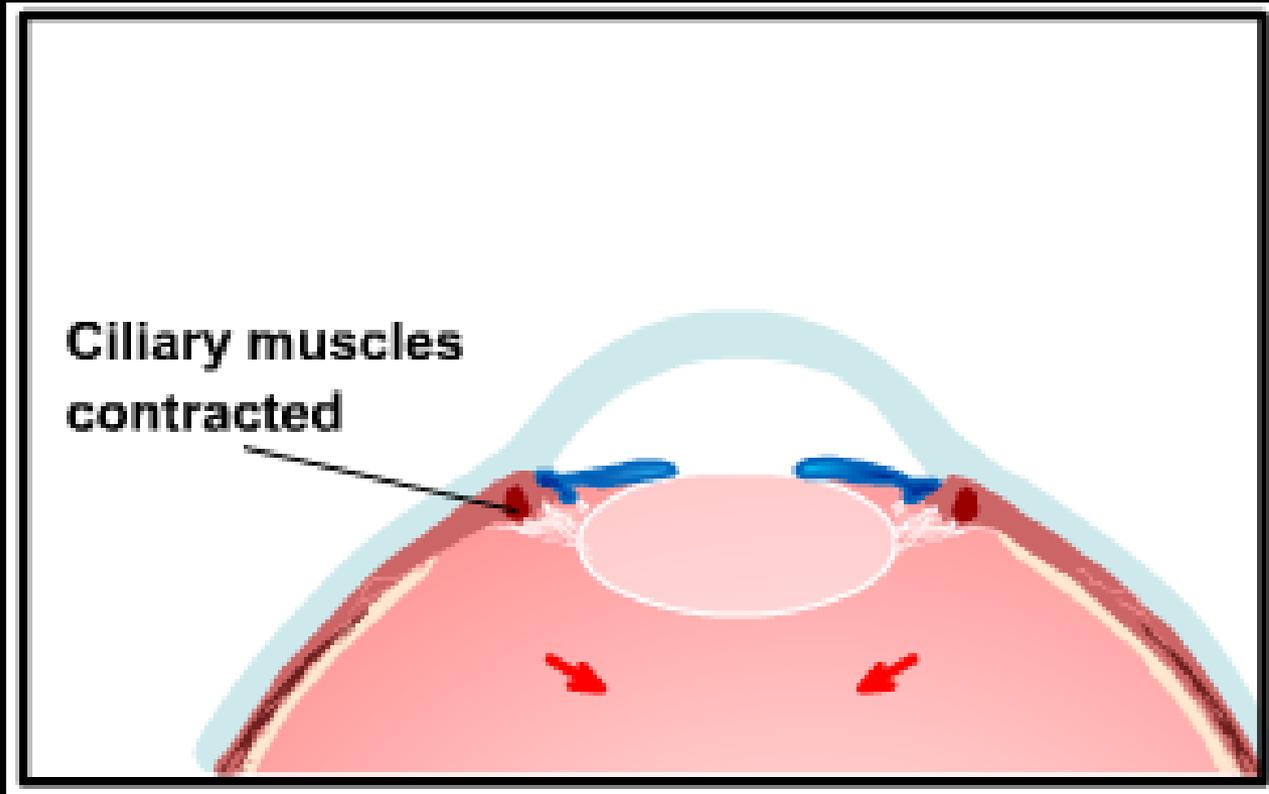


Acomodação

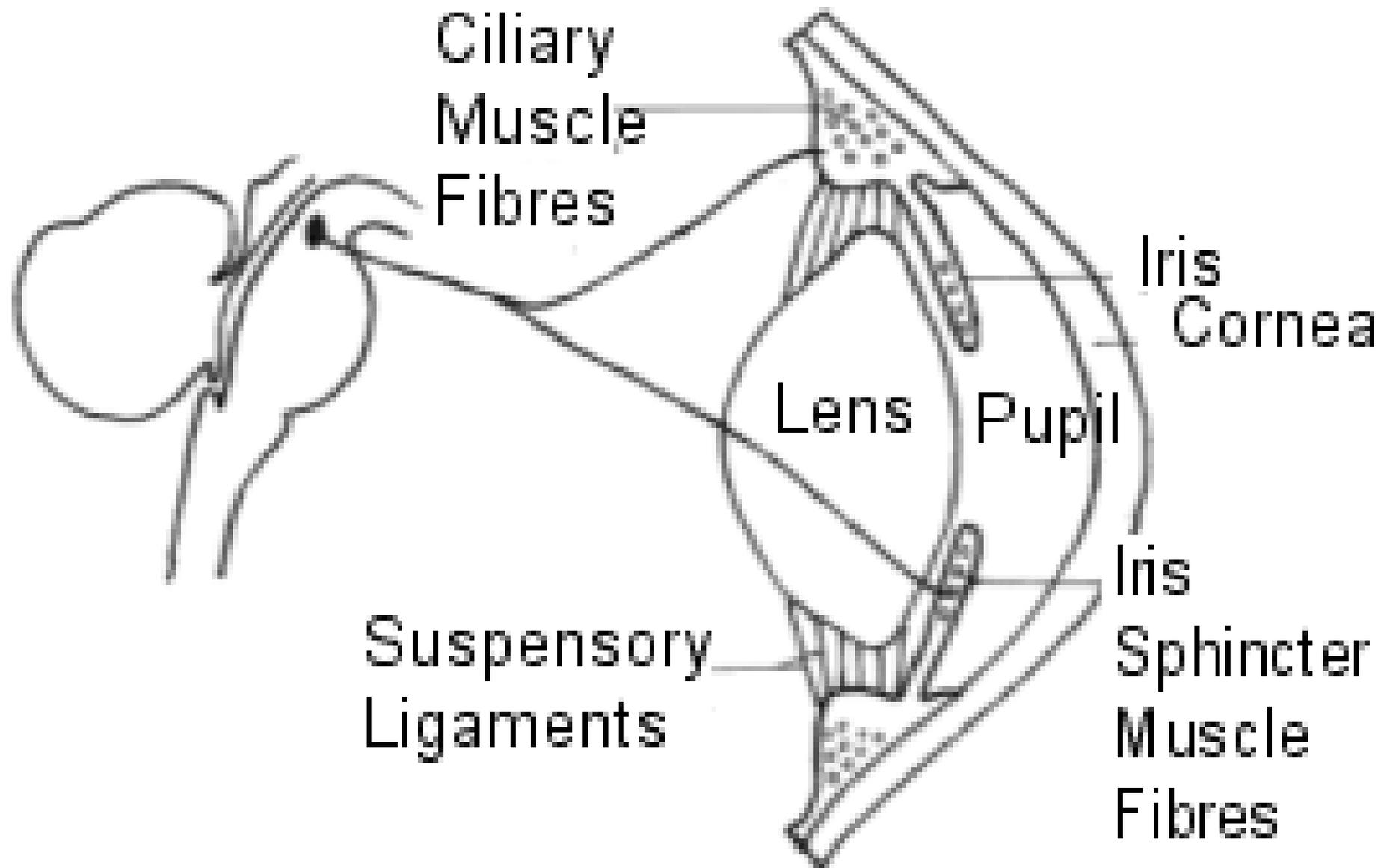


<http://neuroscience.uth.tmc.edu/s3/chapter07.html>

Acomodação



<http://neuroscience.uth.tmc.edu/s3/chapter07.html>



Extrínseco

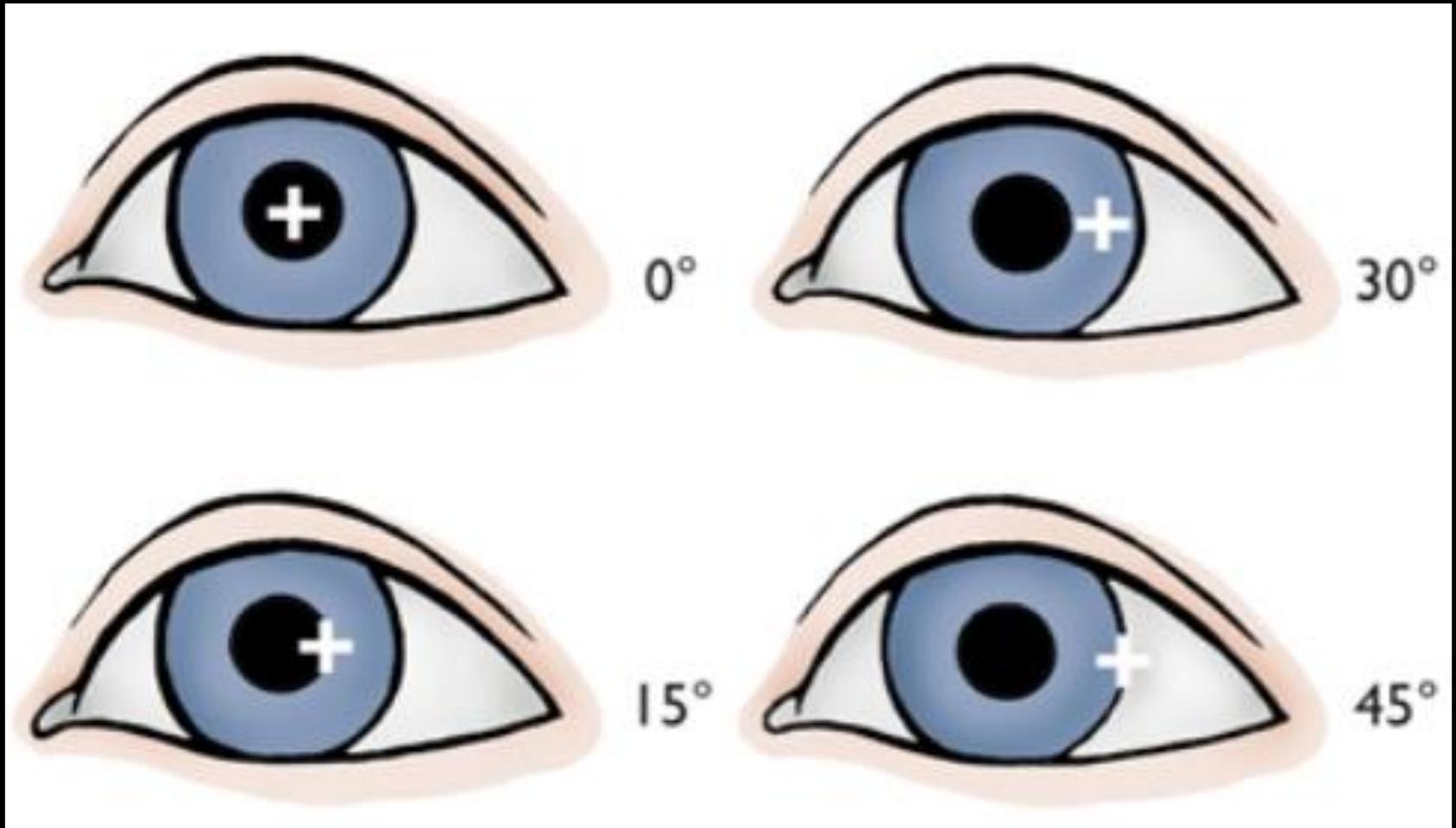
- Movimentação ocular

III nervo

IV nervo

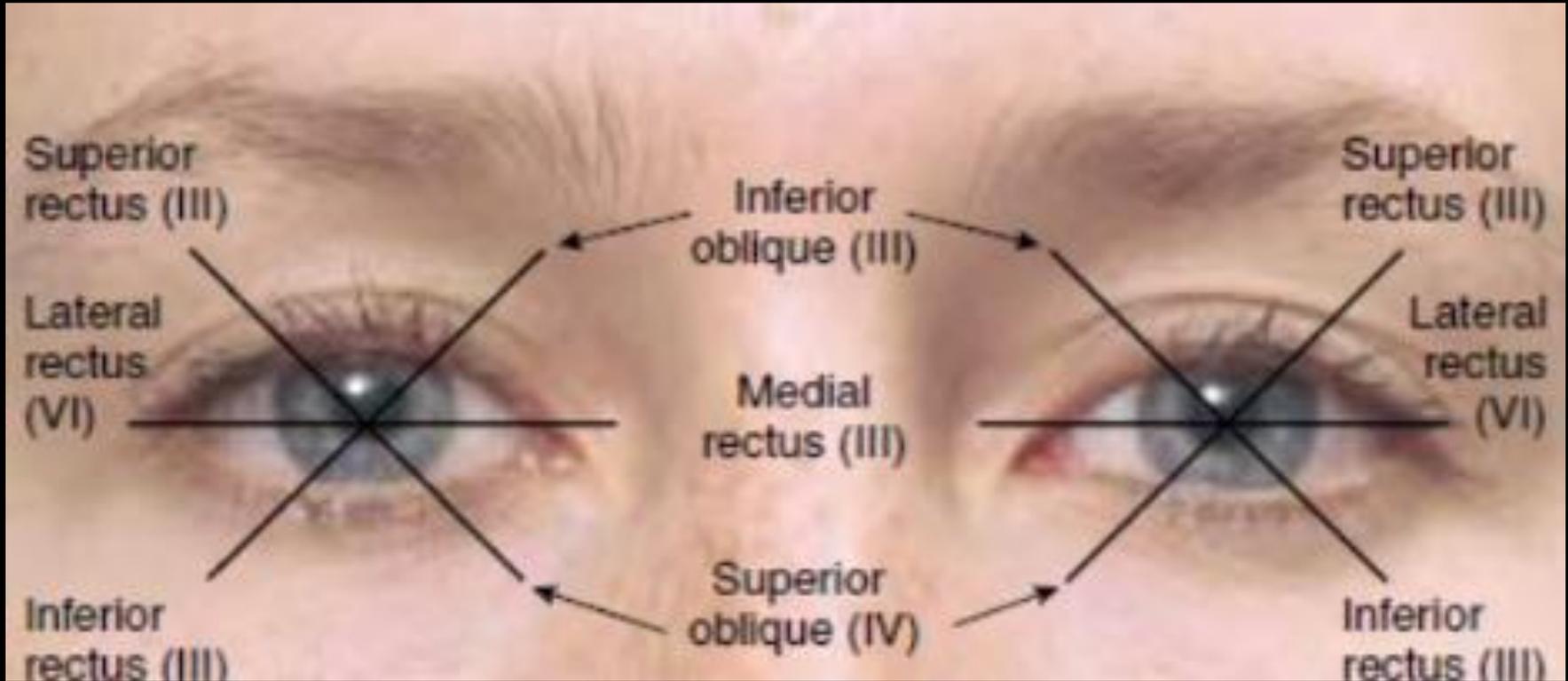
VI nervo

Reflexo da luz na pupila

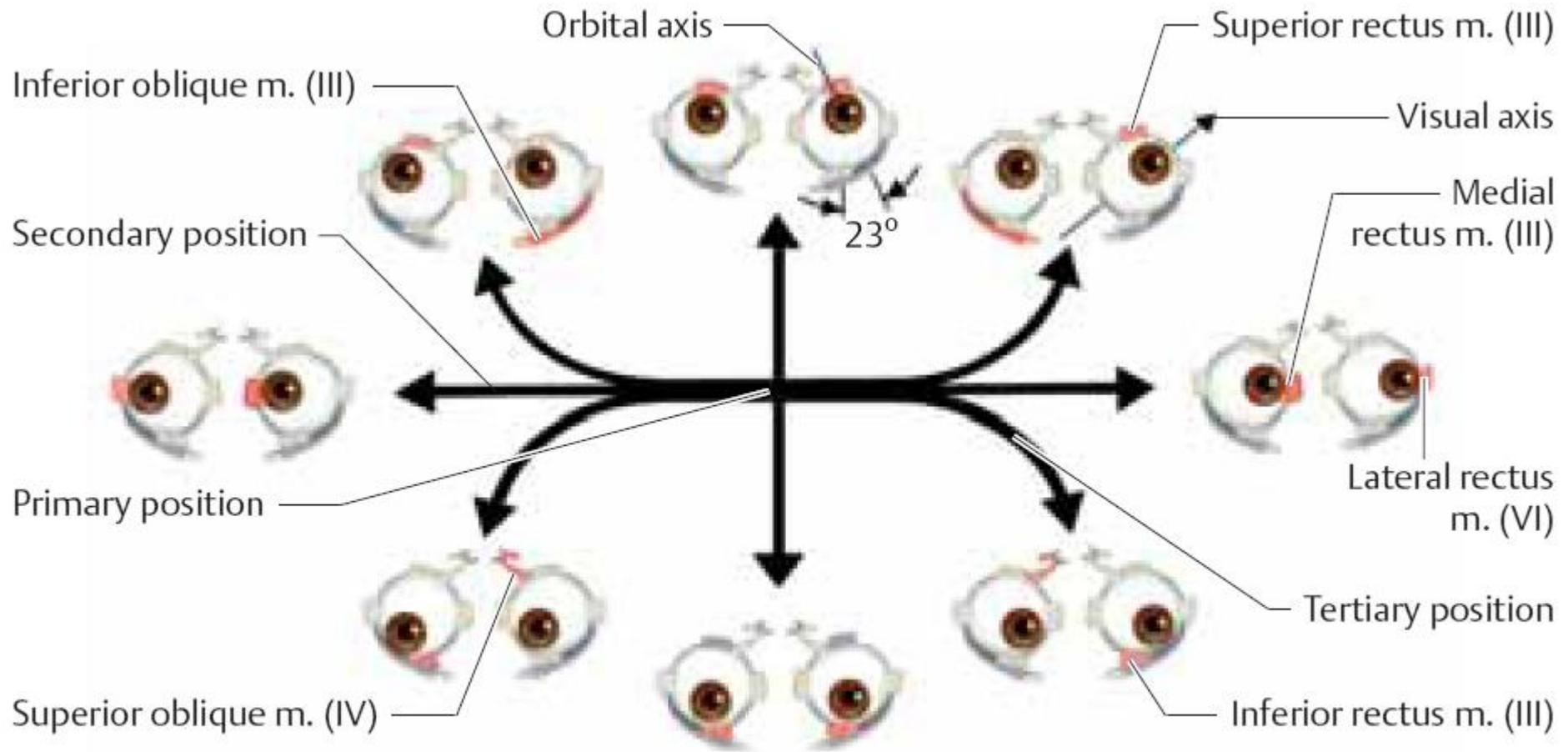


Teste de Hirschberg

Movimentação ocular



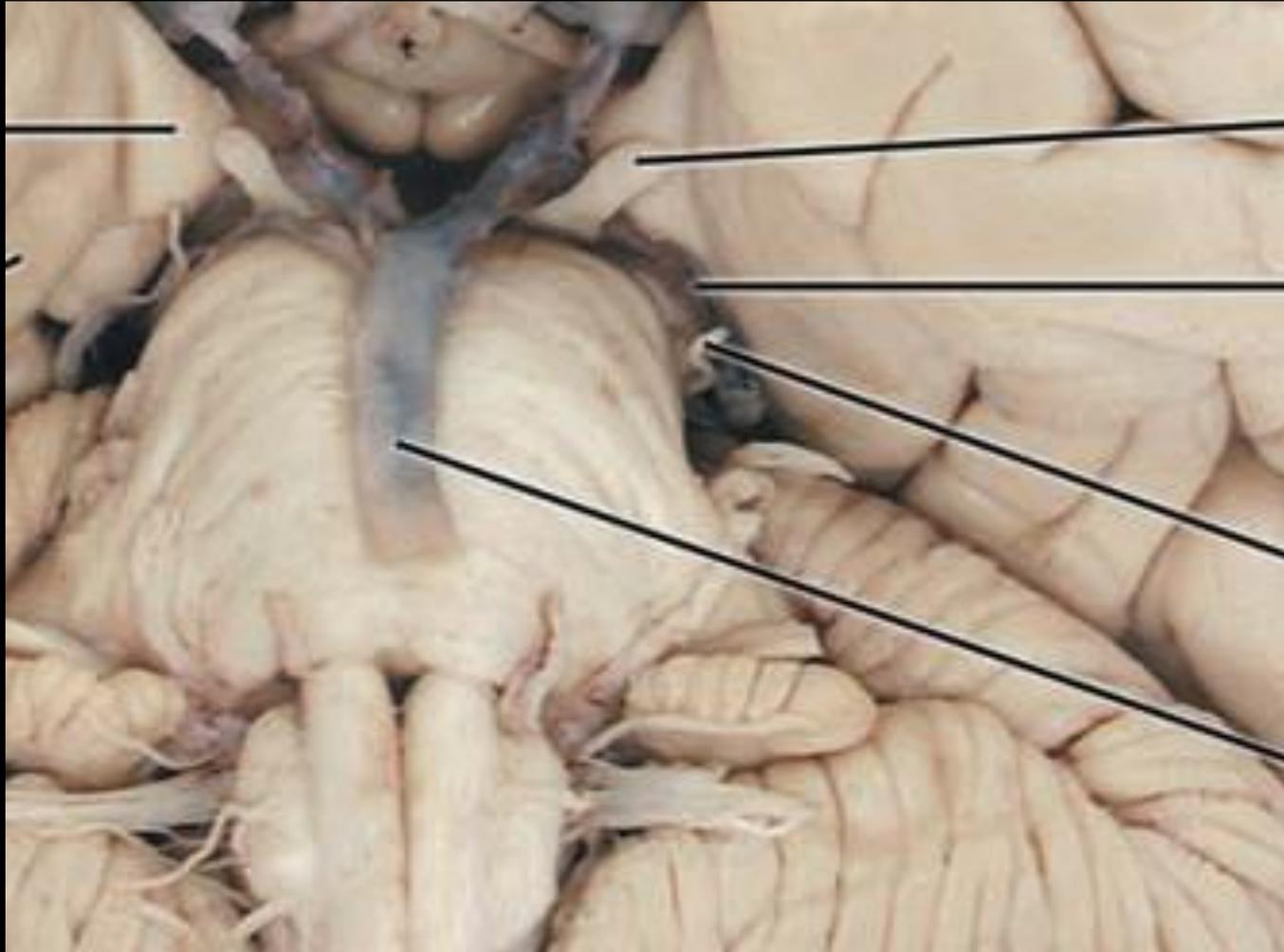
Movimentação ocular

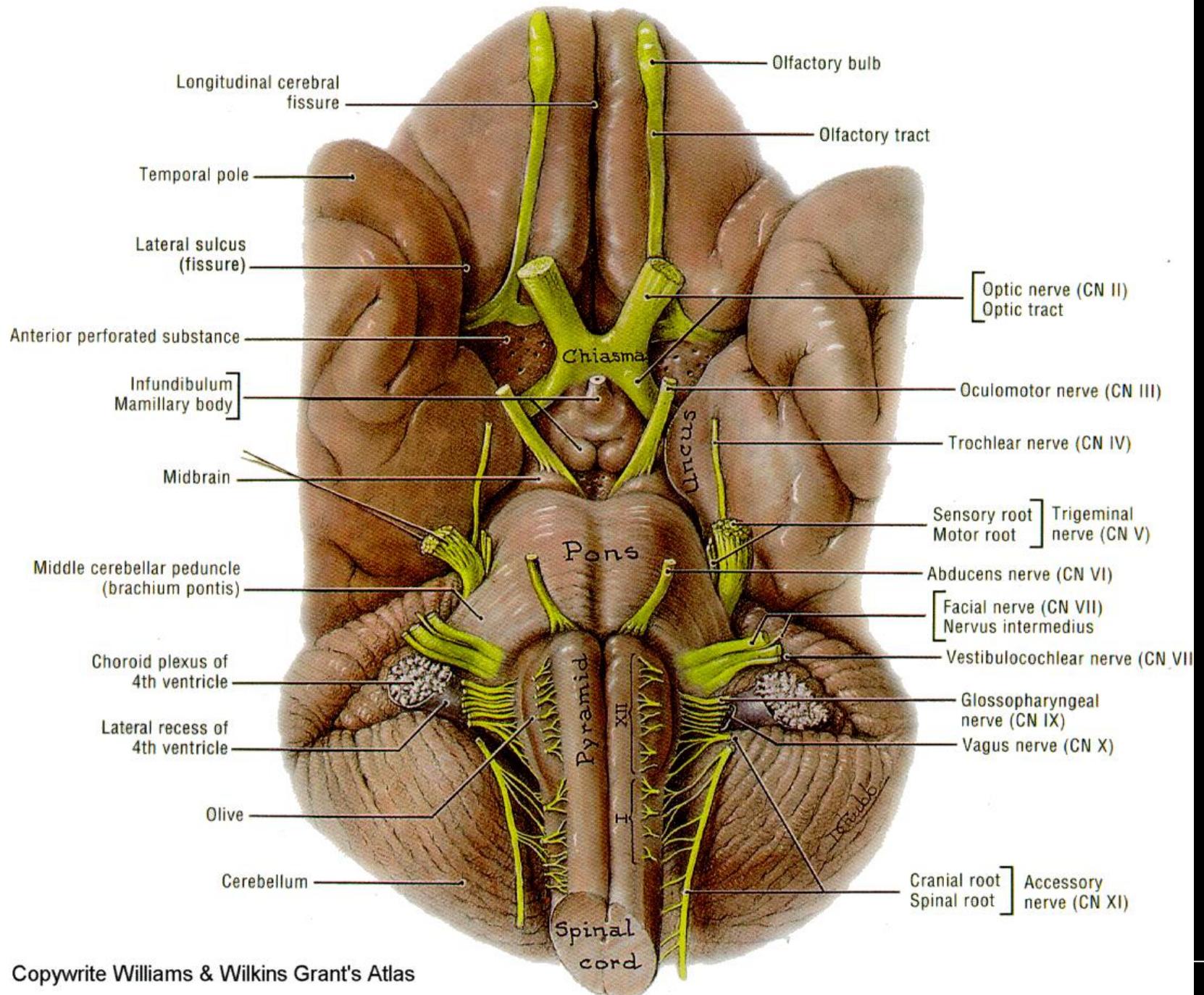


Conjugate eye movements

(arrows indicate direction of gaze, red = active muscle)

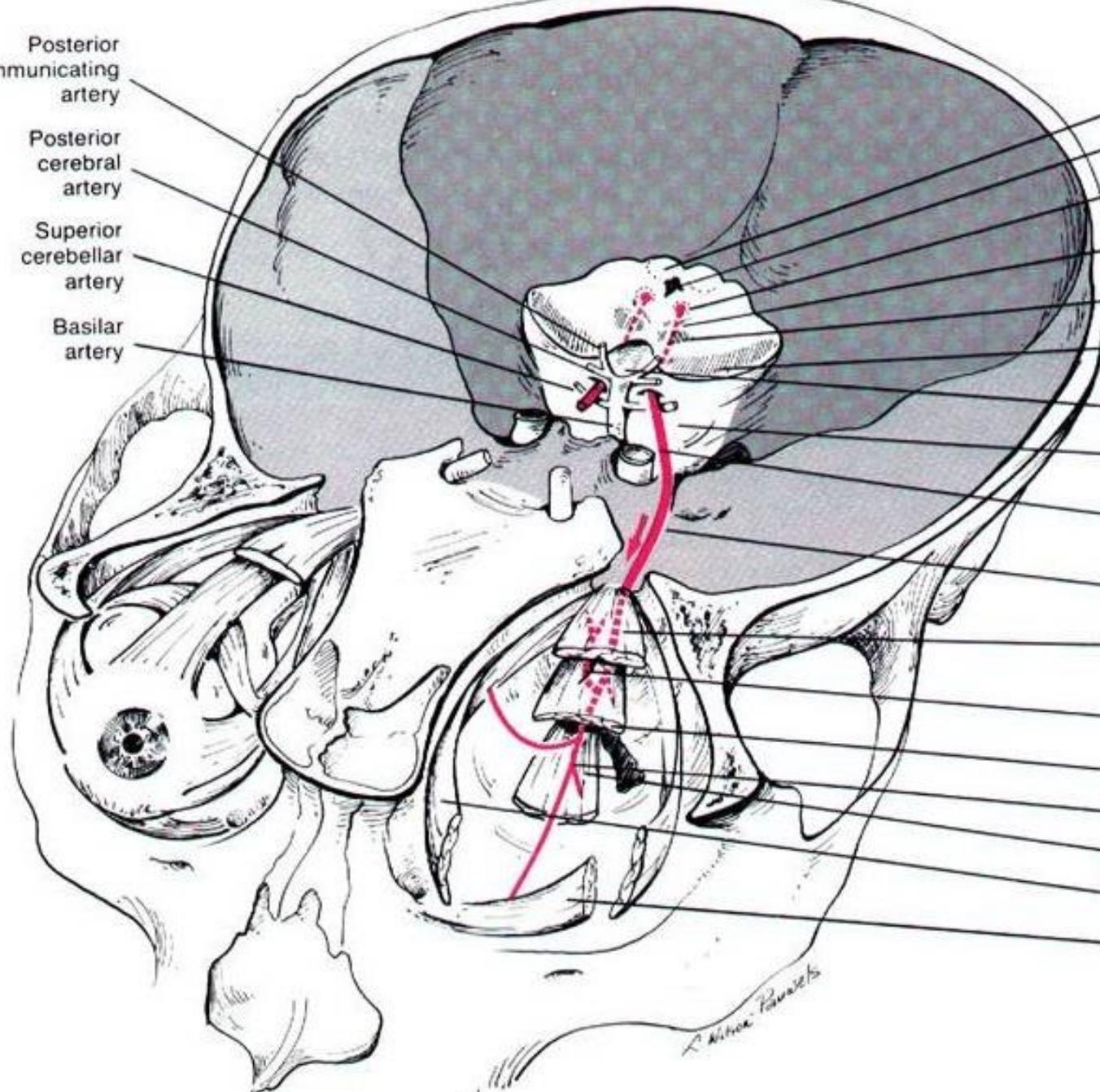
III nervo craniano





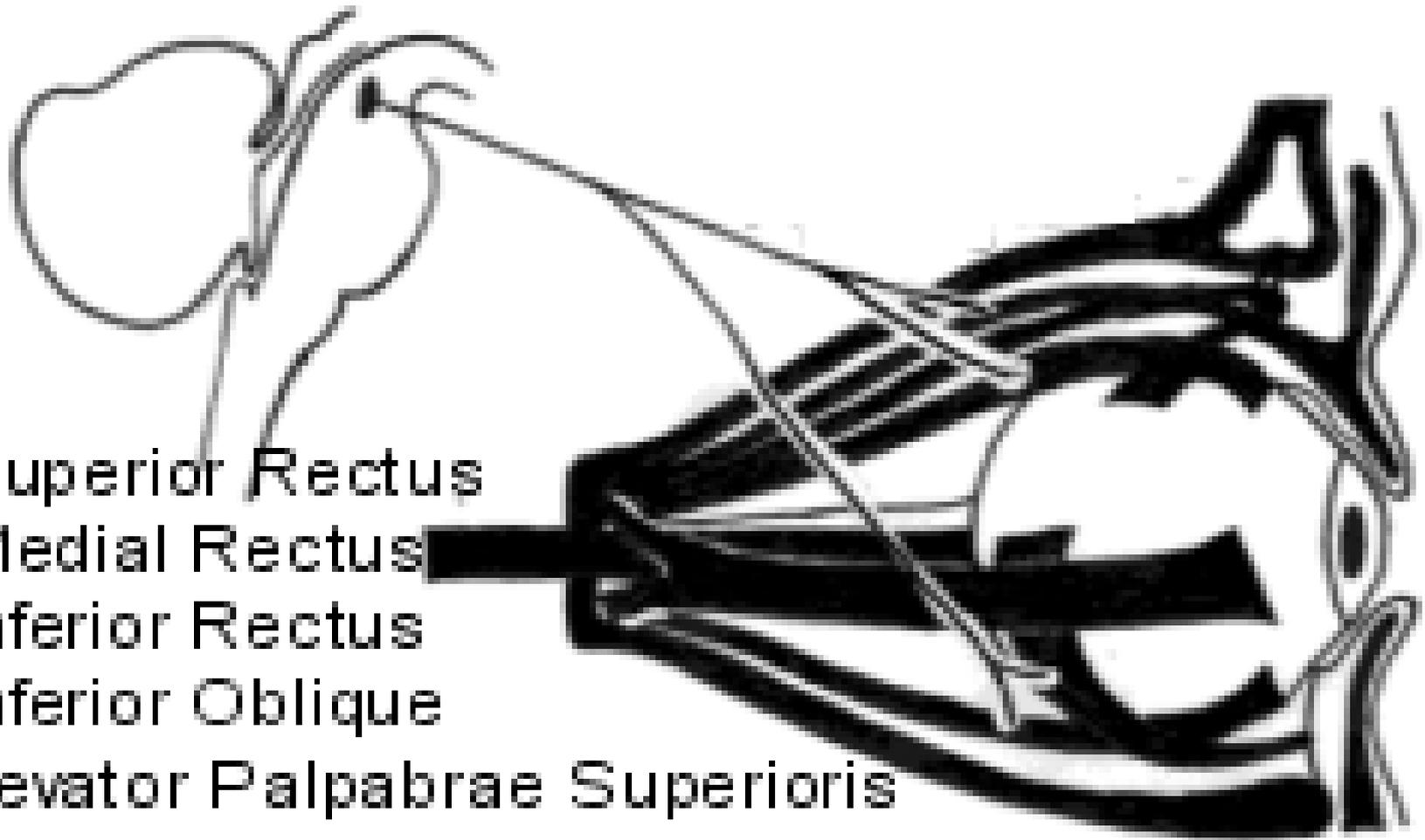
Posterior communicating artery
 Posterior cerebral artery
 Superior cerebellar artery
 Basilar artery

Superior colliculus
 Cerebral aqueduct
 Motor nucleus of cranial nerve III
 Medial longitudinal fasciculus
 Red nucleus
 Corticobulbar tract
 Interpeduncular fossa
 Pons
 III Somatic motor component
 Region of the cavernous sinus
 Levator palpebrae superioris
 III Superior division
 Superior rectus
 III Inferior division
 Inferior rectus
 Medial rectus
 Inferior oblique



R. Netter, M.D.

Somatic Motor Component of Oculomotor Nerve



Superior Rectus

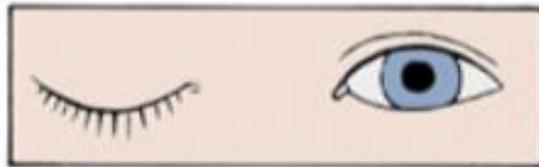
Medial Rectus

Inferior Rectus

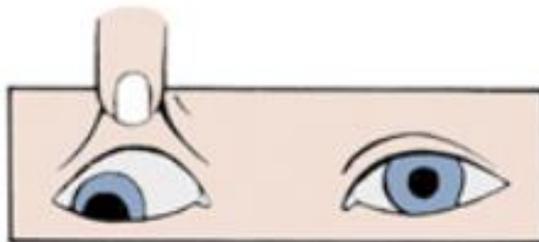
Inferior Oblique

Levator Palpabrae Superioris

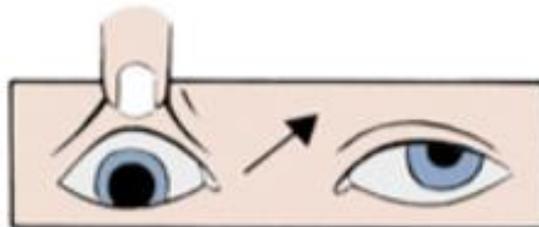
Paralisia do nervo oculomotor direito



Ptose



Midríase / posição ocular em repouso



Posição ocular quando está se olhando para cima e para a esquerda



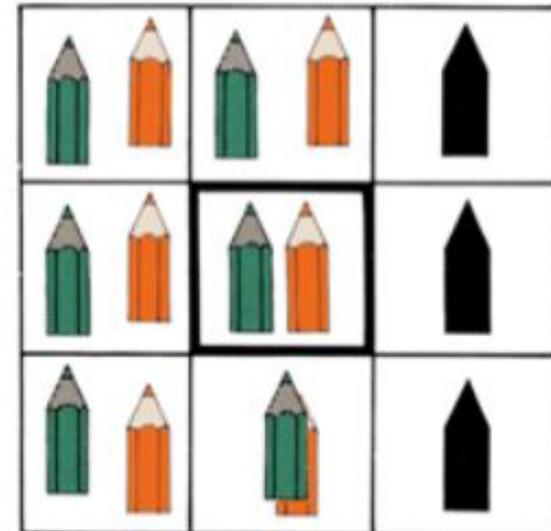
Imagem do olho esquerdo



Imagem do olho direito



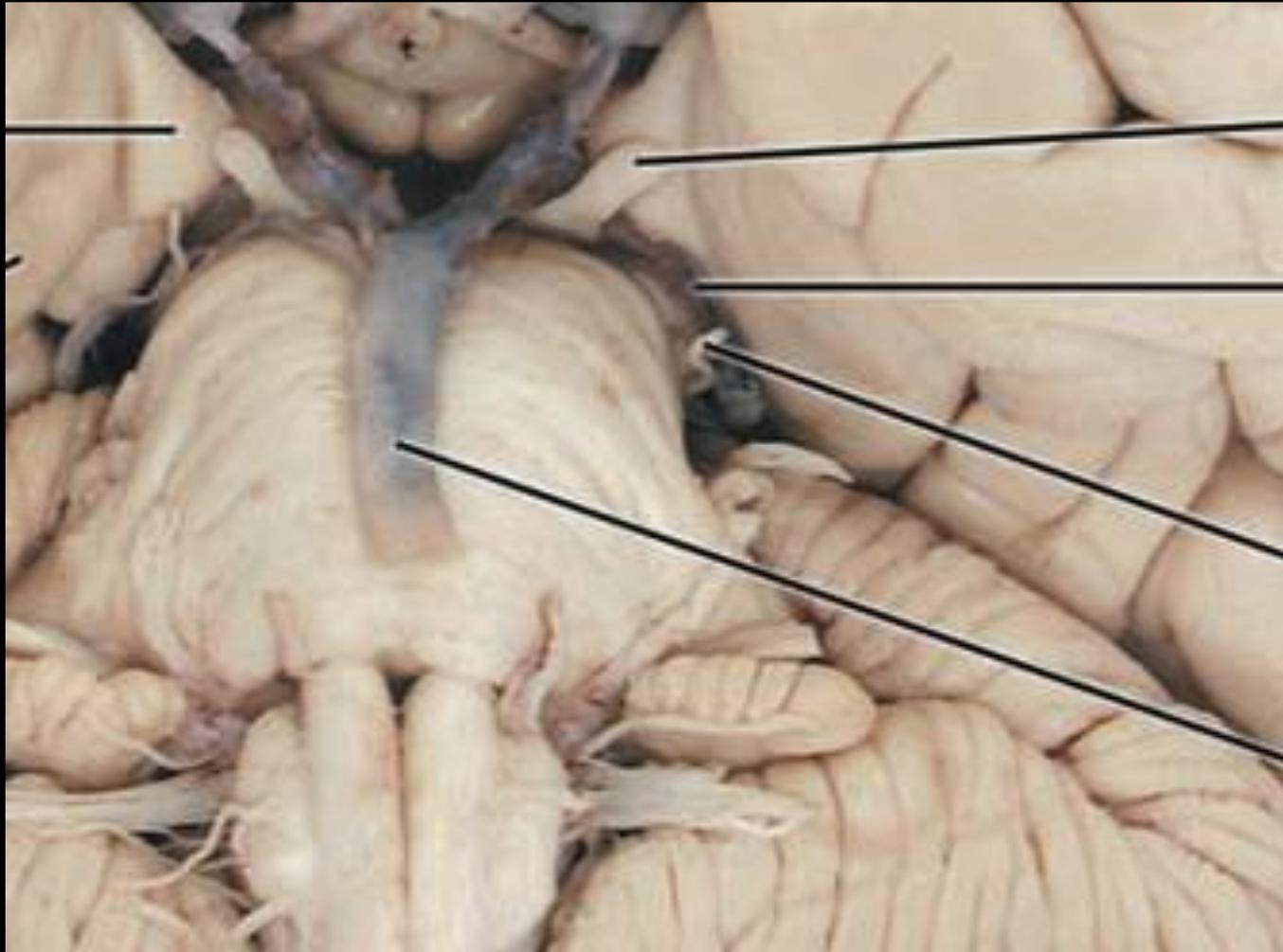
Os dois olhos

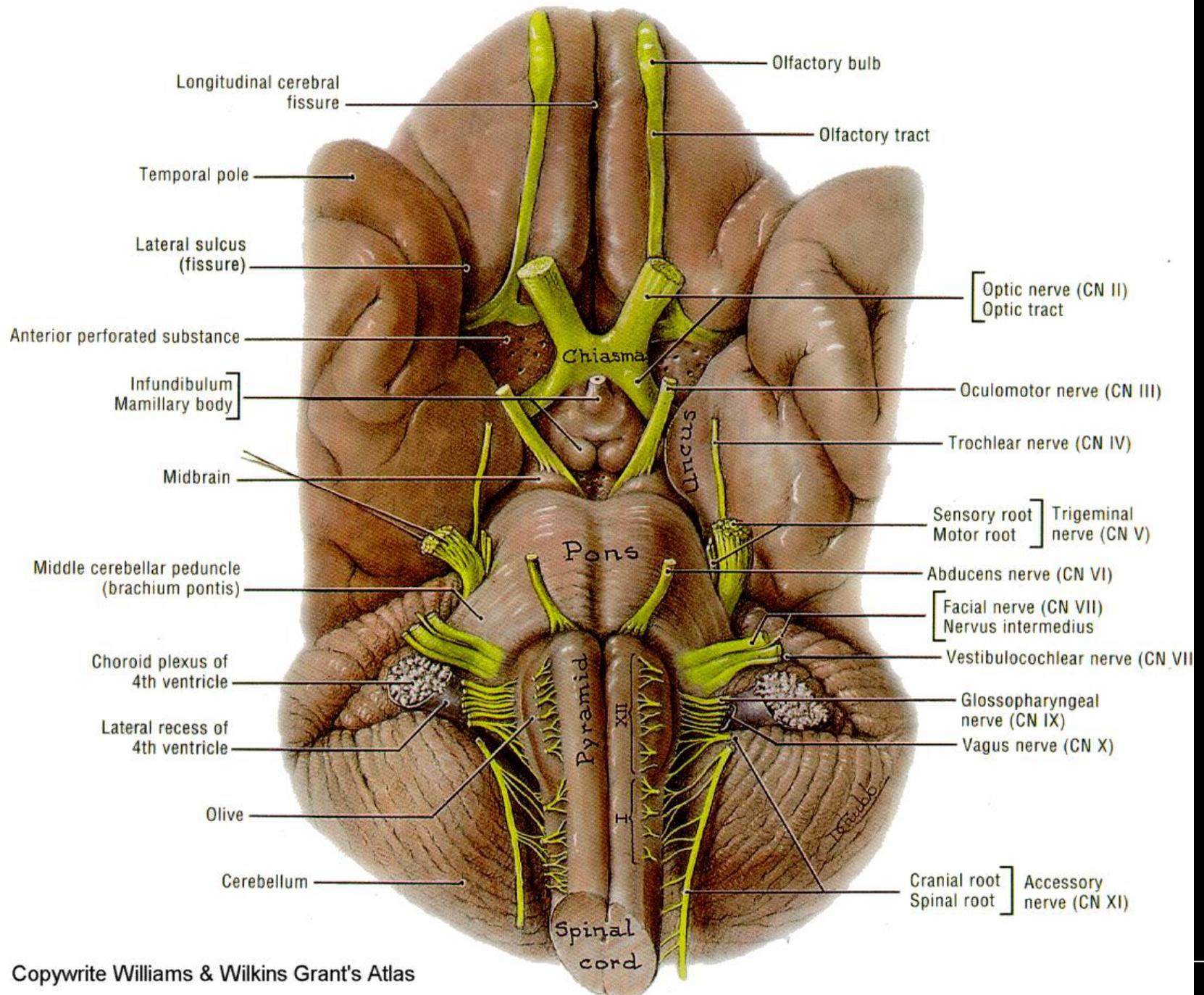


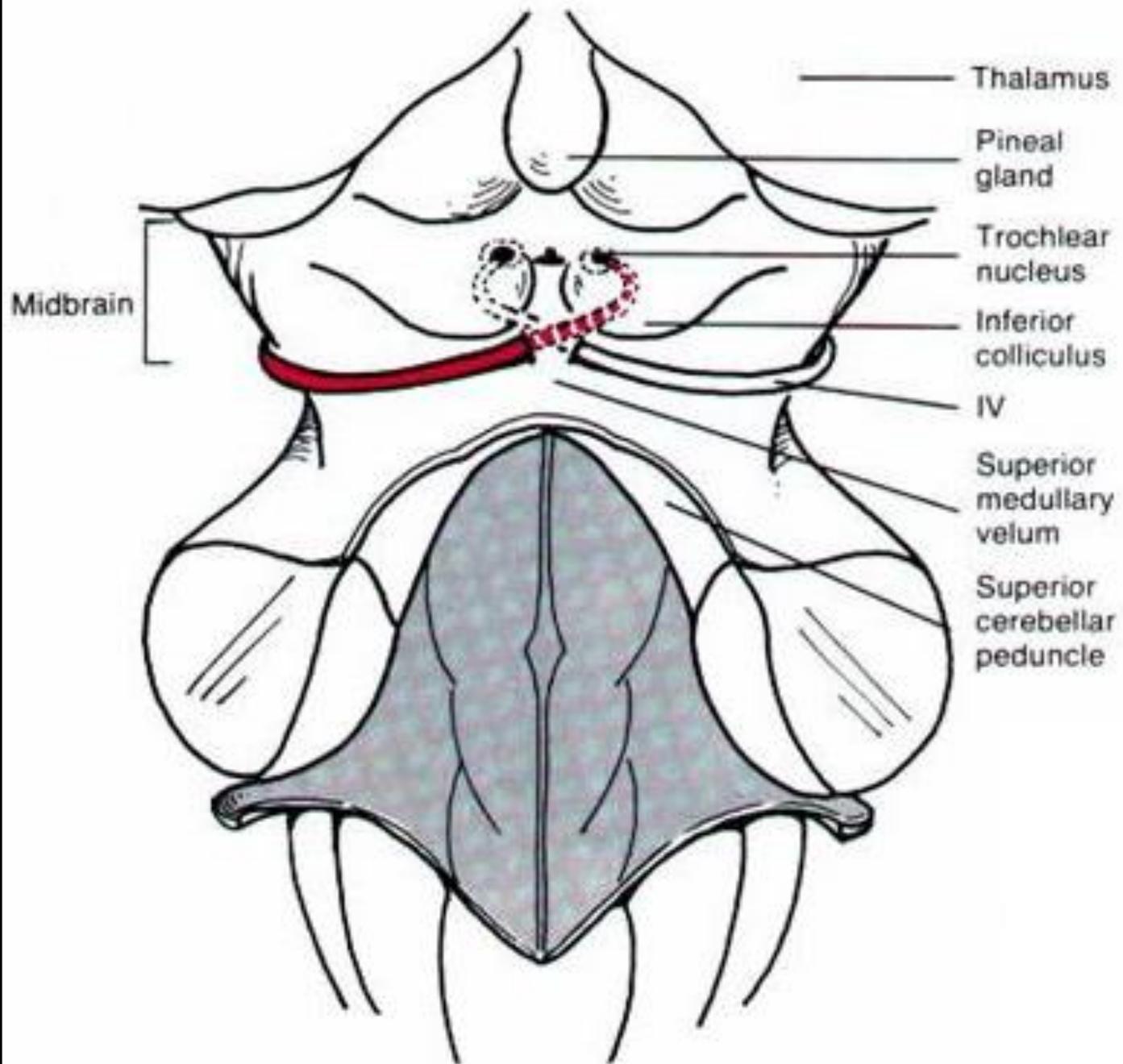
Lesão do nervo oculomotor esquerdo



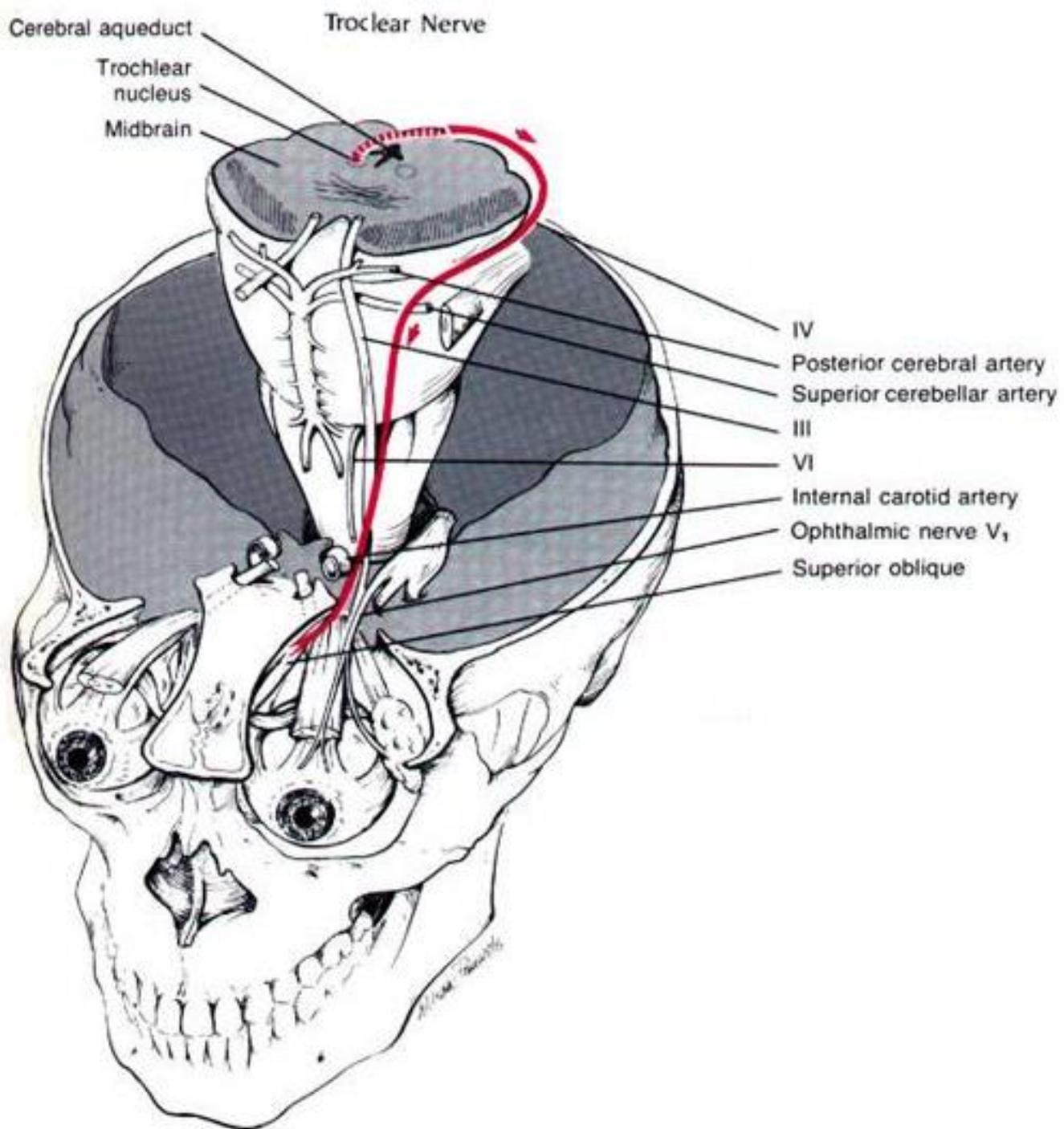
IV nervo craniano



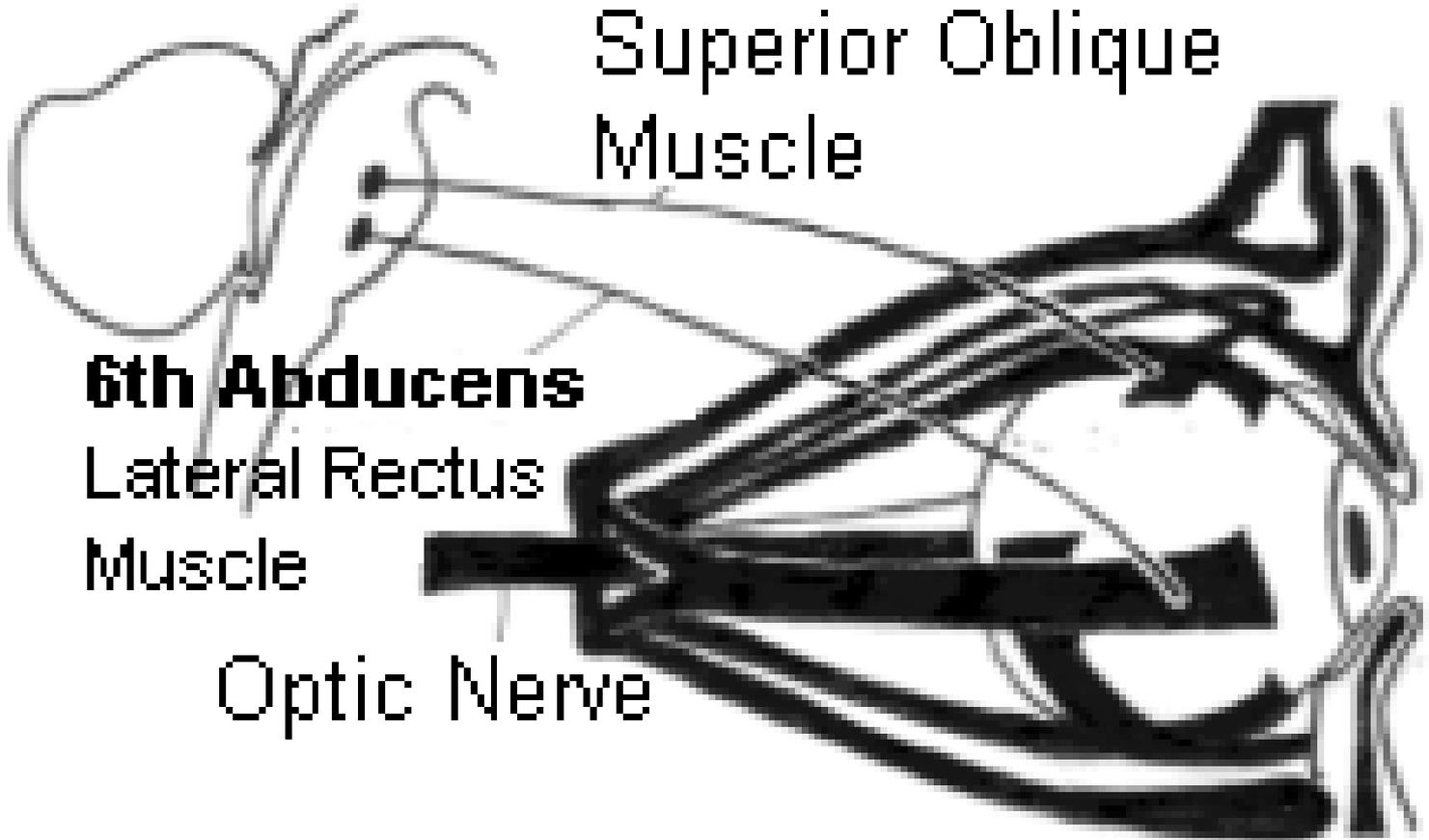




Dorsal Aspect of Brain Stem

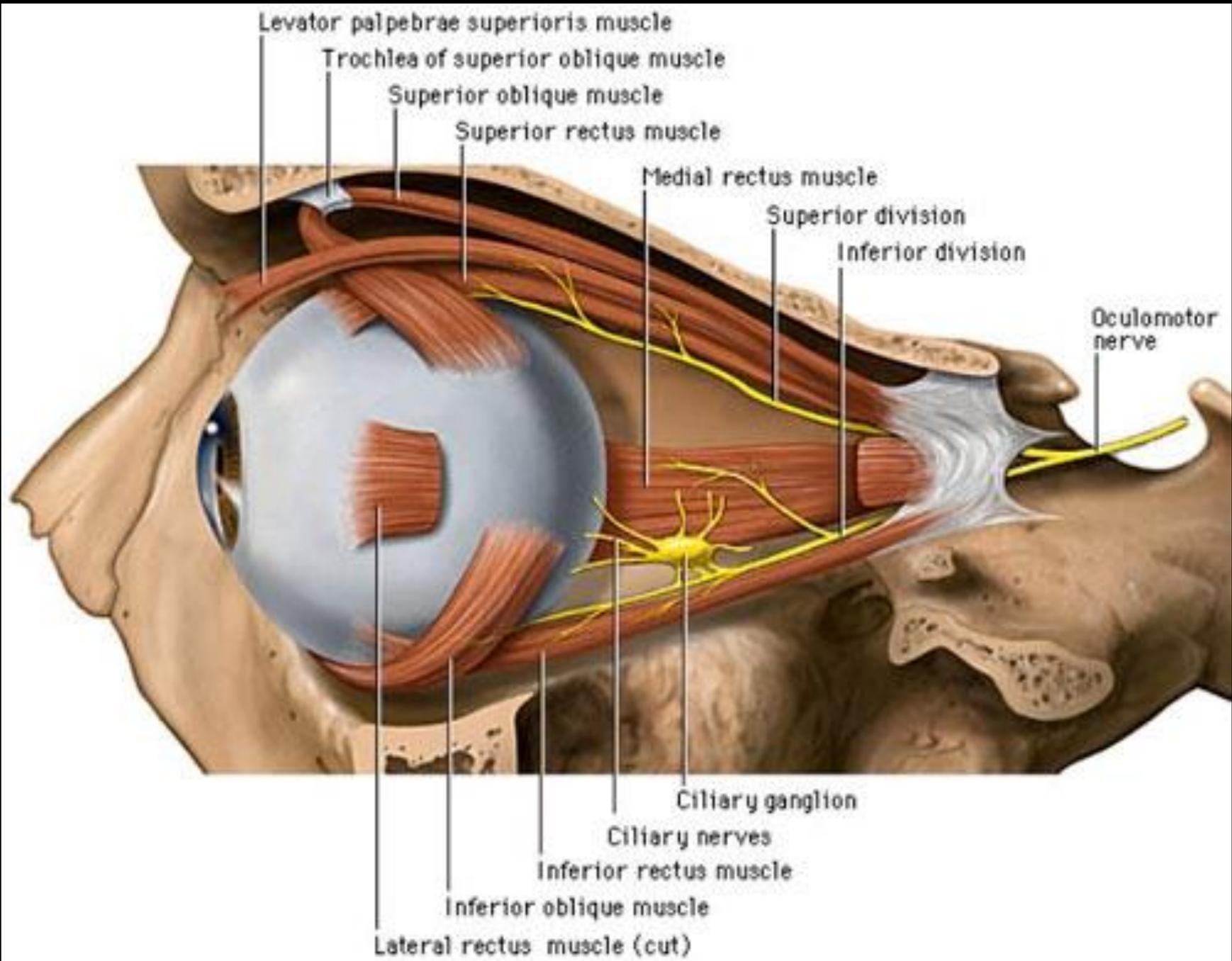


**4th Trochlear
Superior Oblique
Muscle**



**6th Abducens
Lateral Rectus
Muscle**

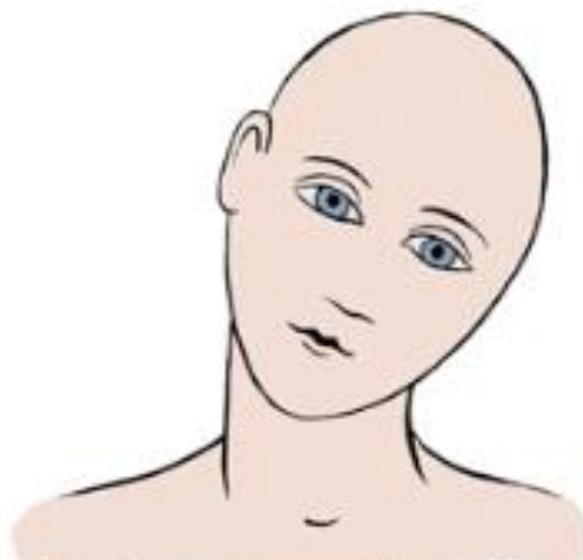
Optic Nerve



Paralisia do nervo troclear direito



Posição ocular em repouso



Posição compensatória da cabeça

 Imagem do olho esquerdo

 Imagem do olho direito

 Os dois olhos

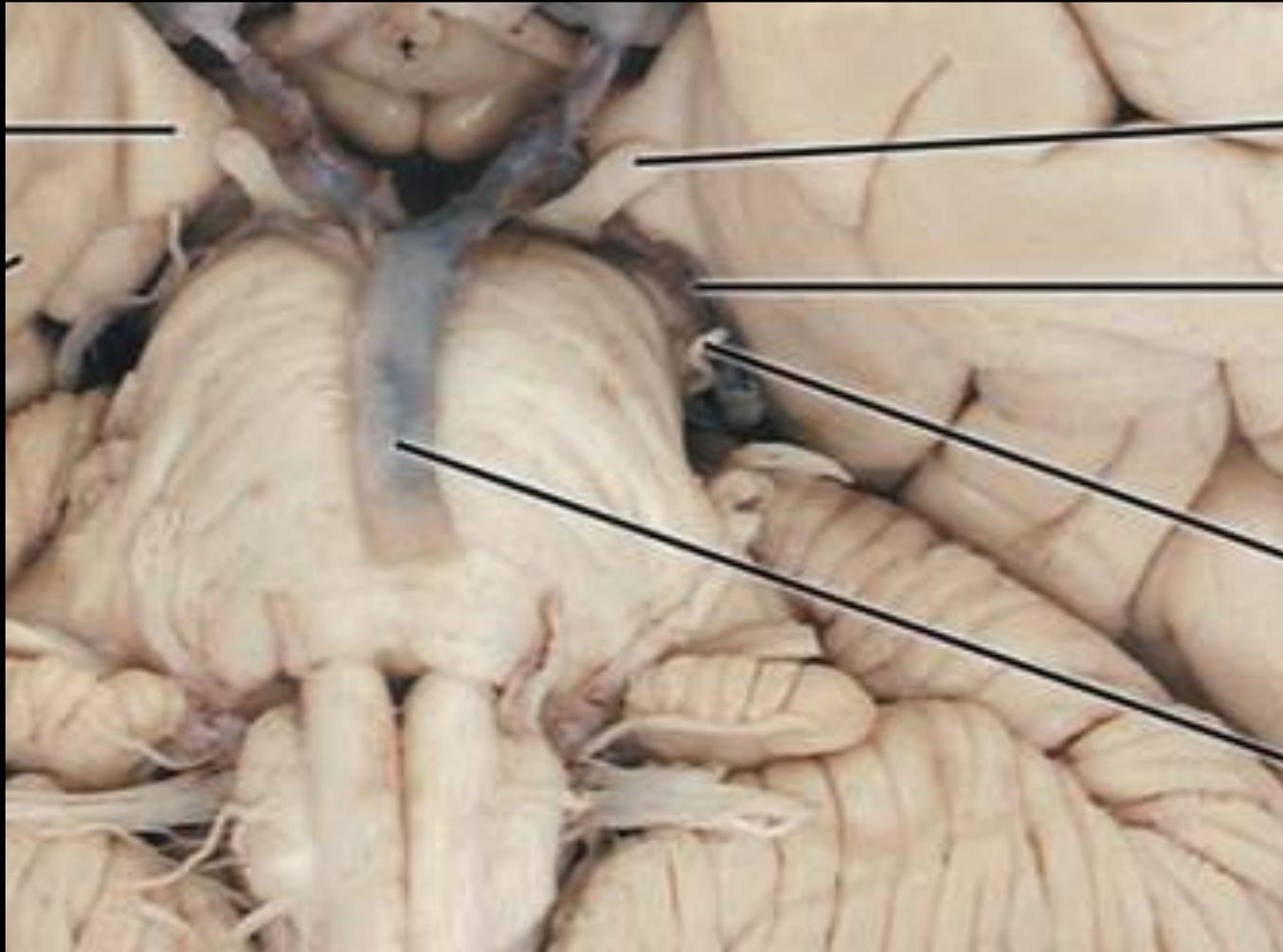
E

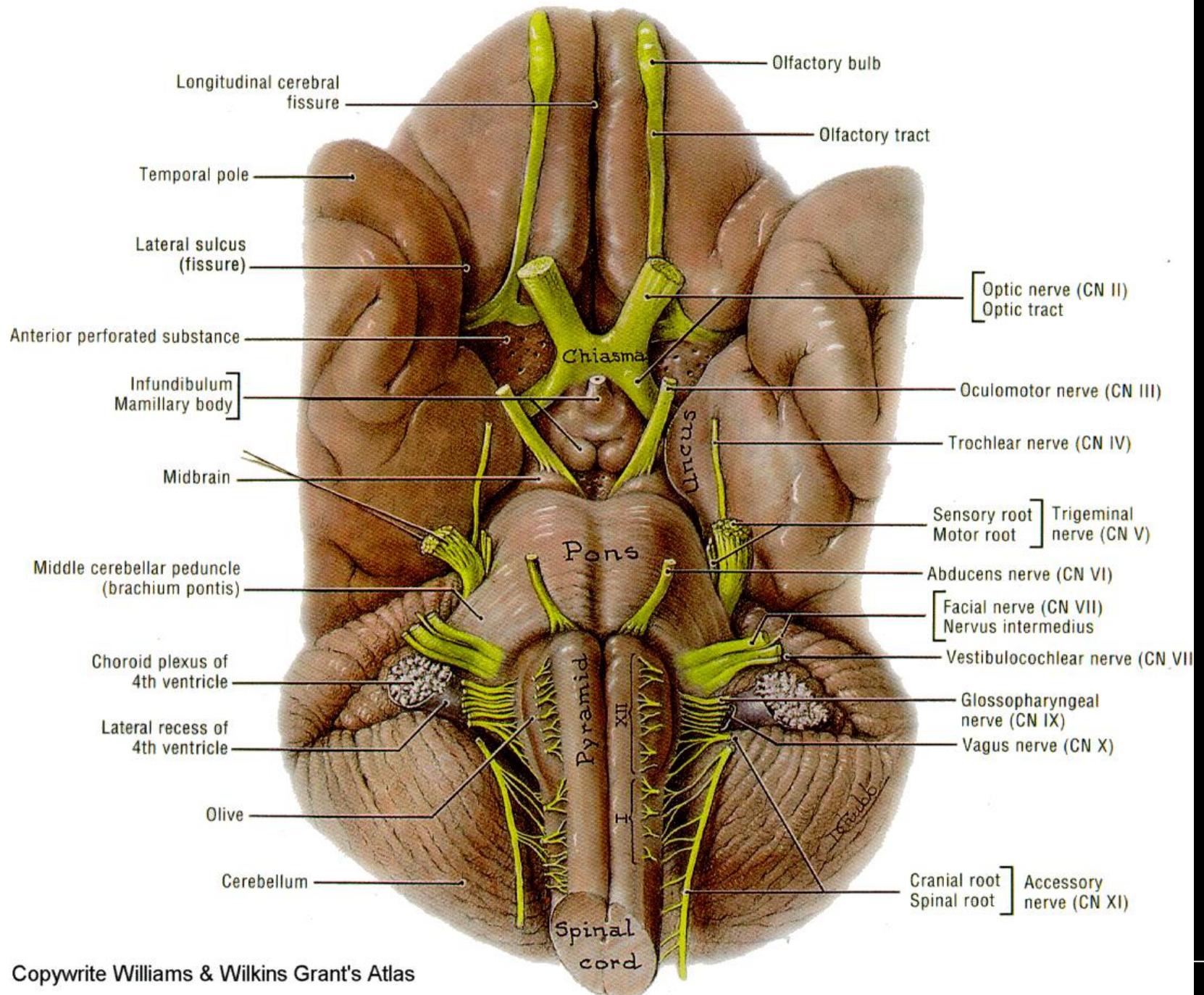
D

Lesão do nervo troclear esquerdo

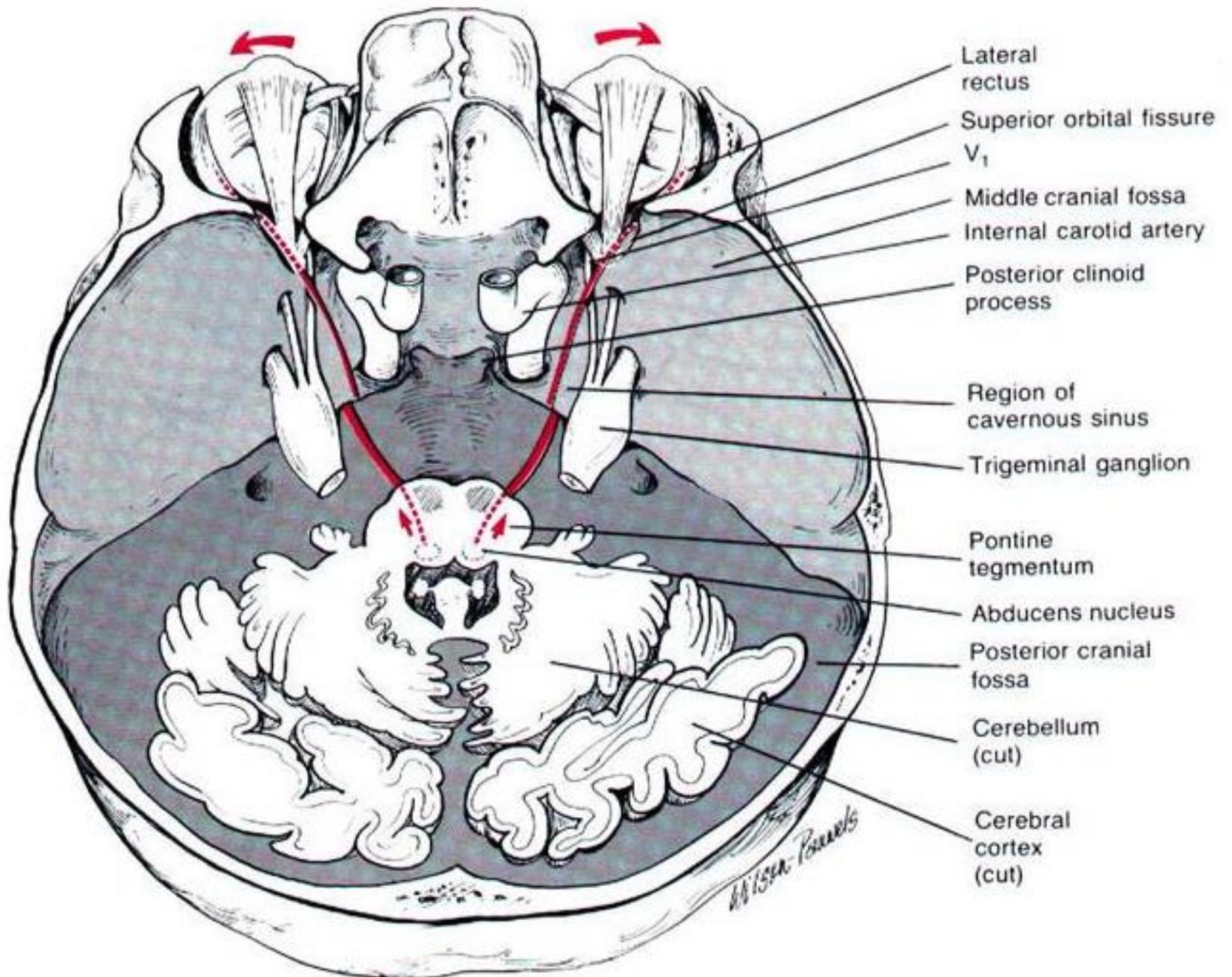


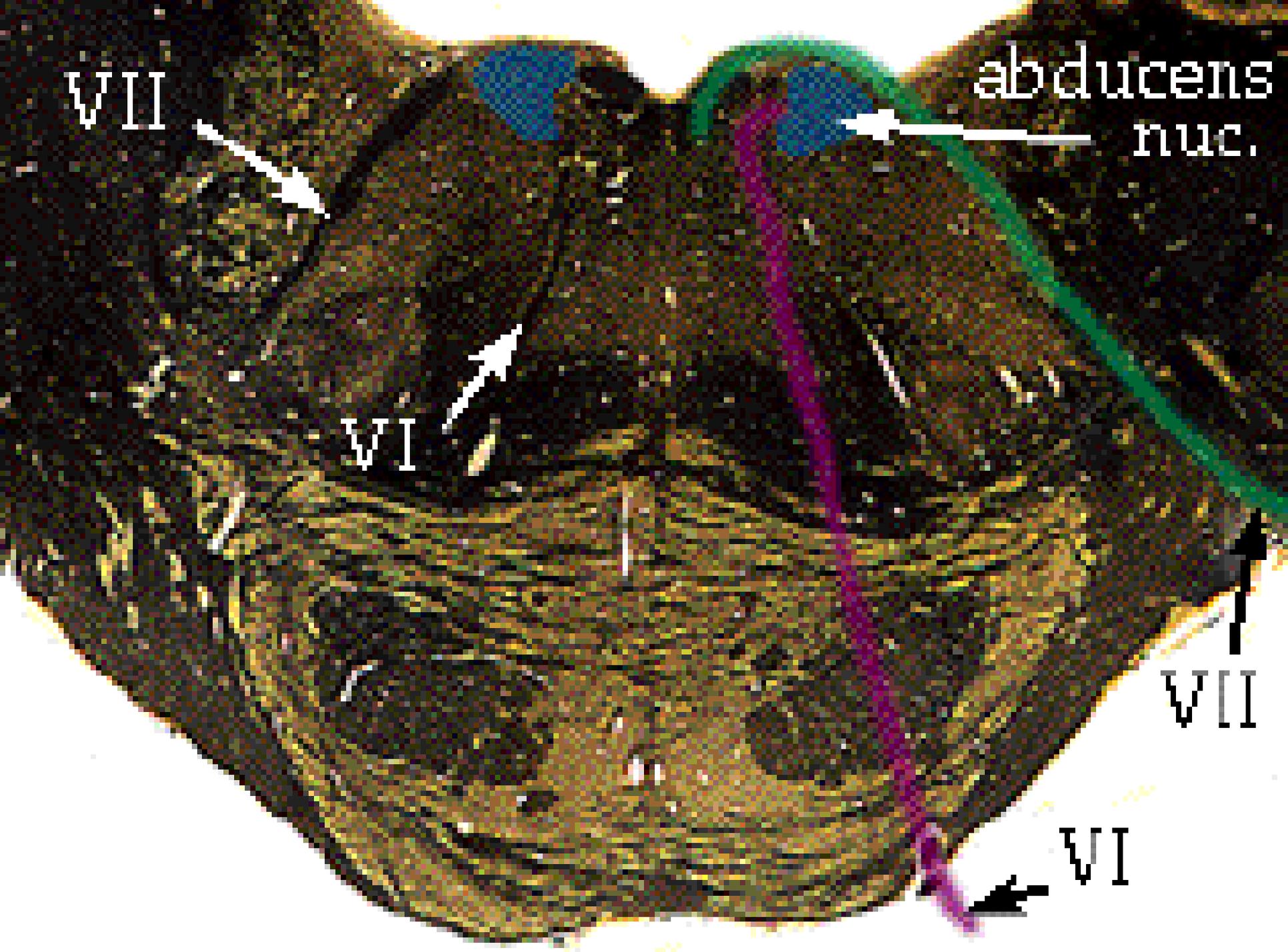
VI nervo craniano





Abducens Nerve





VII

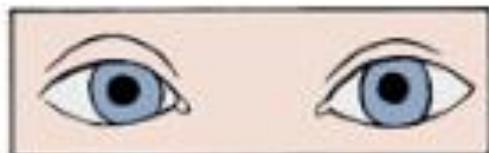
abducens
nuc.

VI

VII

VI

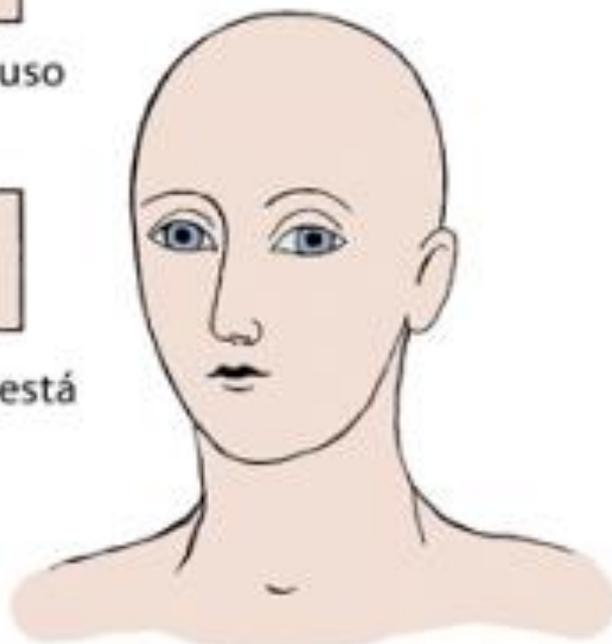
Paralisia do nervo abducente direito



Posição ocular em repouso



Posição ocular quando está olhando para a direita



Posição compensatória da cabeça



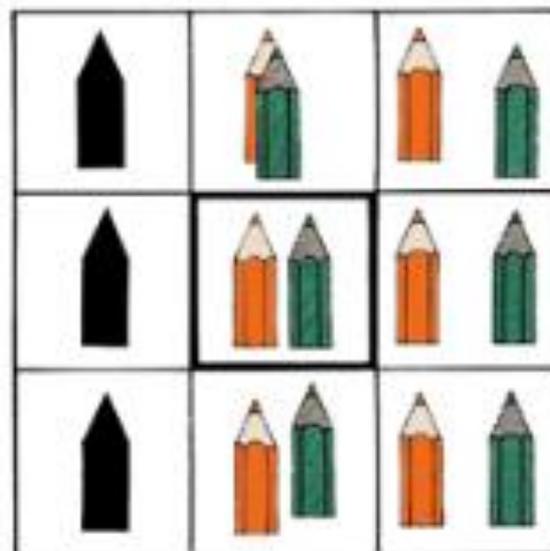
Imagem do olho esquerdo



Imagem do olho direito



Os dois olhos



E

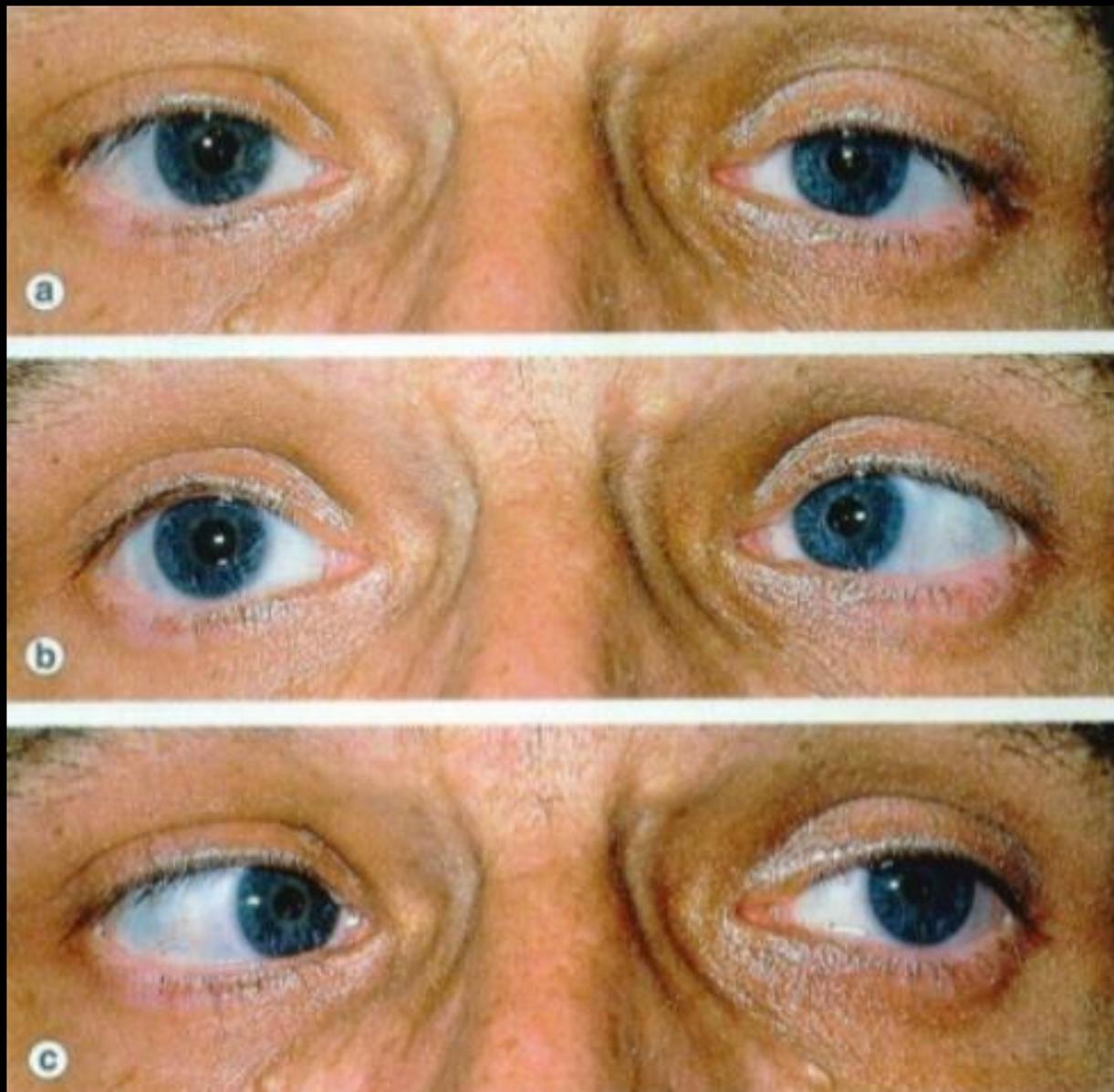
D

Lesão do nervo troclear esquerdo

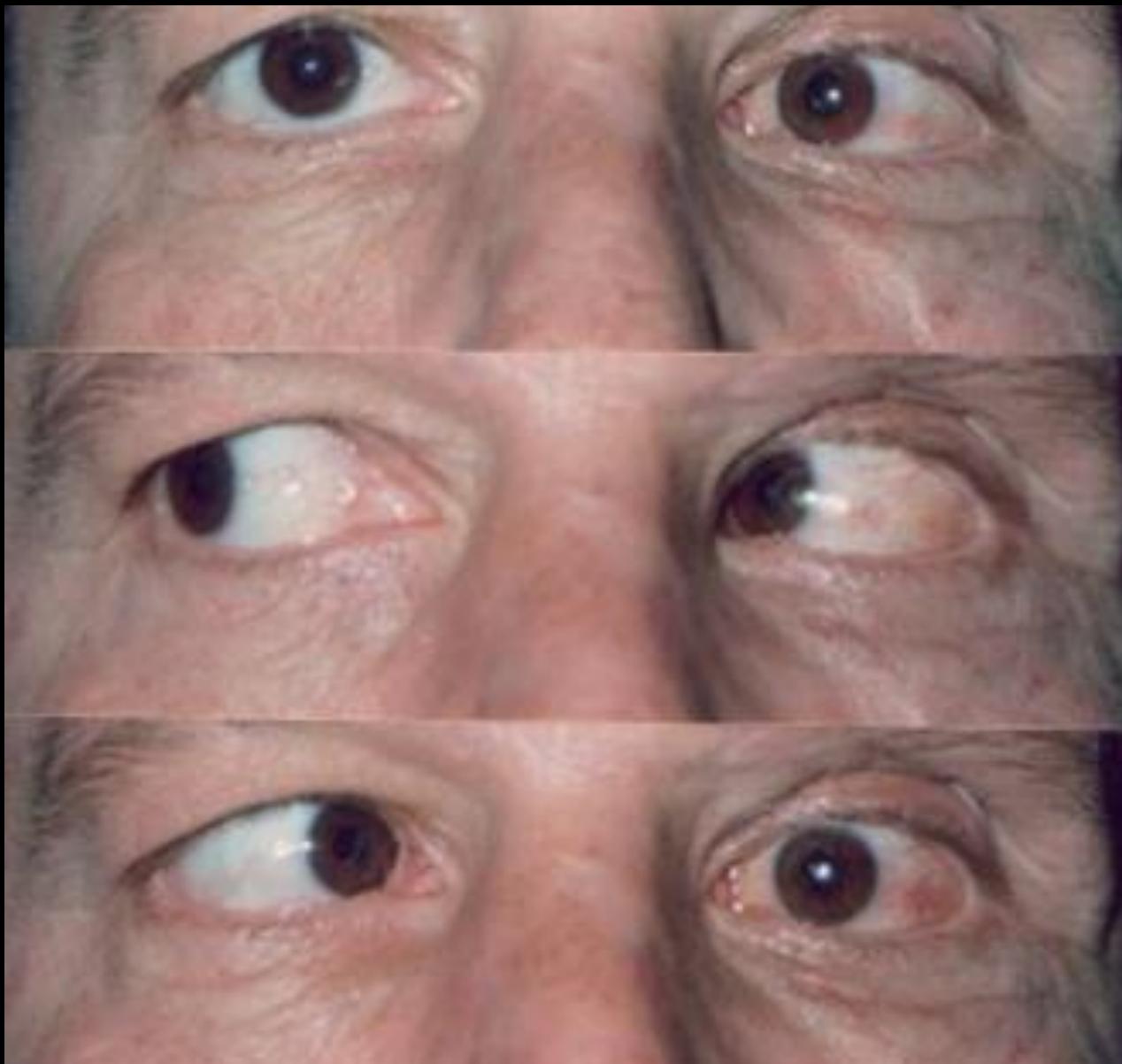


Vamos testar?

VI
bilateral



VI
esquero



III izquierdo

