Exame Neurológico

Roberto Caron

História

O exame neurológico, tal como o conhecemos hoje em dia, foi concebido durante 30 anos, entre 1870 e 1900, e elaborado em sua forma atual pelos neurologistas clínicos durante a primeira metade do século 20, em especial Gordon Holmes (1946).

McHenry, Garrison’s History of Neurology, 1969



História

Leonard Auenbrugger (1761)
Percussão toráxica

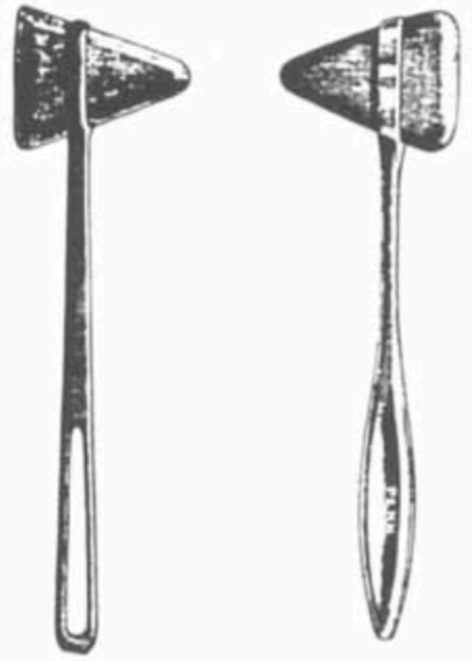
Weir Mitchell (1859)
“a peculiar contraction”

Heinrich Erb e Carl Westphal (1875)
Descrição do reflexo patelar
“finger taps”; “side hand taps”

John Madison Taylor (1888)
Primeiro martelo de reflexos



A



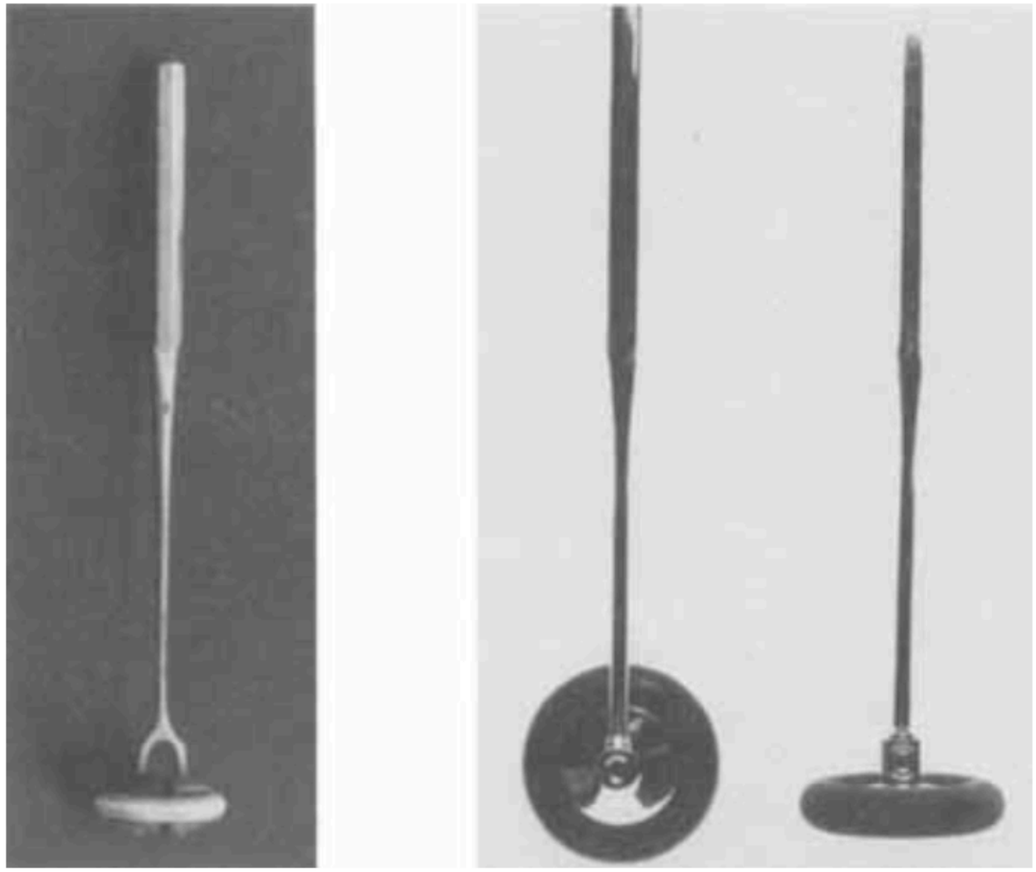
B



C

Figure 3. (A) John Madison Taylor (1886). (Photograph courtesy of the College of Physicians of Philadelphia); (B) Versions of the Taylor reflex hammer: left, ca 1904[36]; right, ca 1920. (From The illustrated catalog of a complete line of standard surgical instruments, *Boston: Codman & Shurtleff Inc.,* ca *1920:15). (C) American Academy of Neurology logo, incorporating the Taylor reflex hammer and a tuning fork.*

História

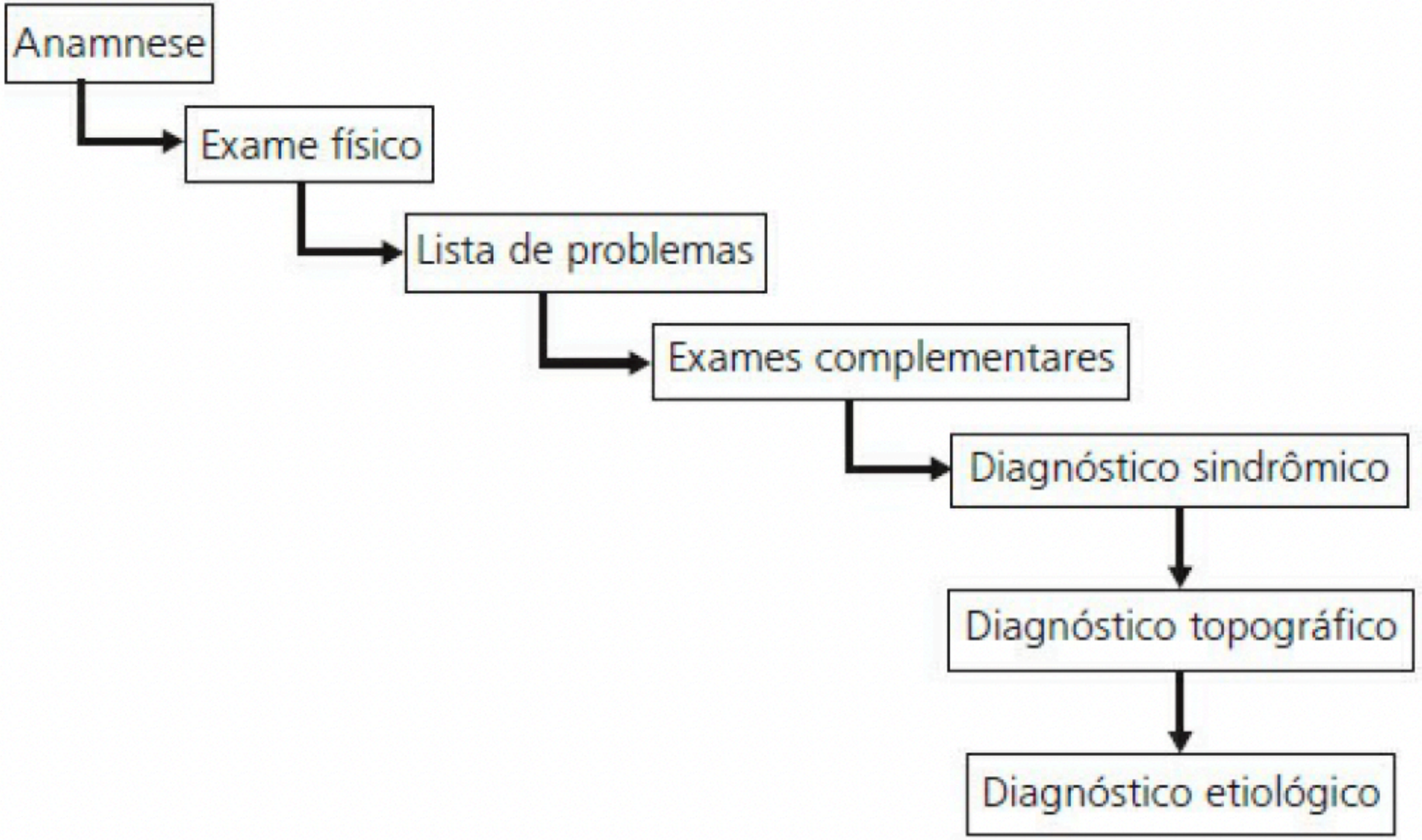


A B



"Quem não sabe o que procura, não interpreta o que acha"

Claude Bernard
(1813 - 1878)


Anamnese
Exame físico
Lista de problemas
Exames complementares
Diagnóstico sindrômico
Diagnóstico topográfico
Diagnóstico etiológico

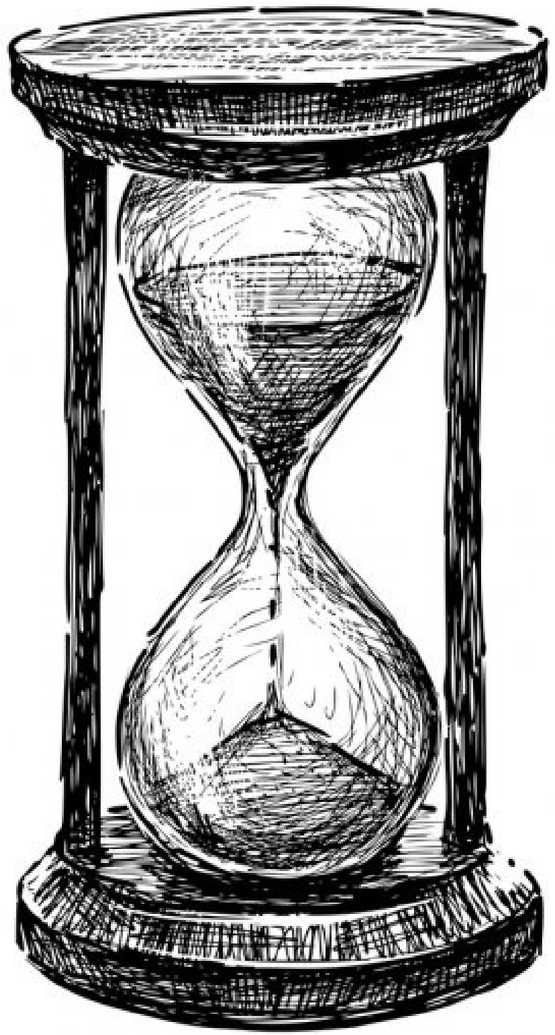
Diagnóstico

Diagnóstico Diferencial = Tempo de Evolução x Topografia



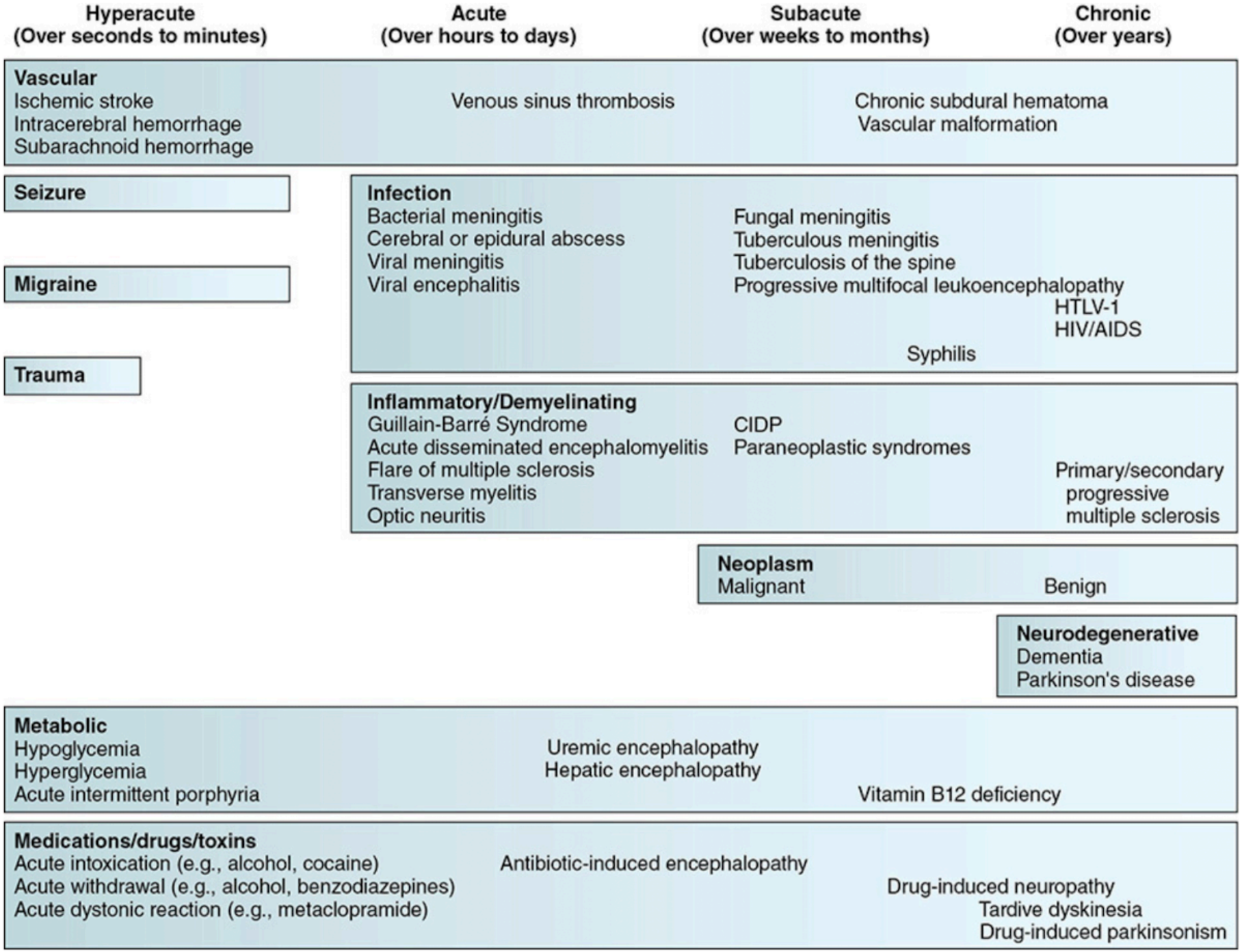






Anamnese

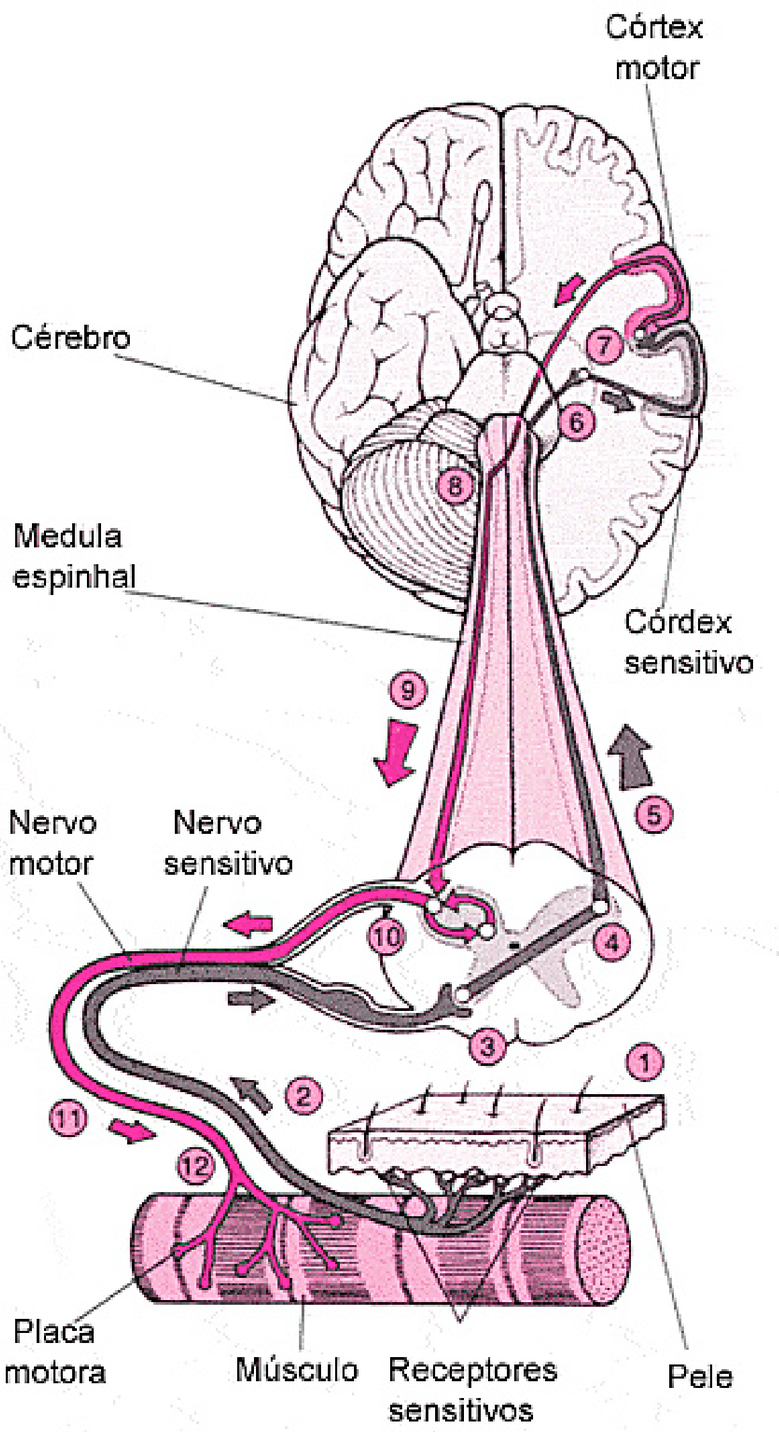
- Considere o **tempo de evolução** dos sintomas
  - **Segundos a minutos** = Epilepsia, Doenças cerebrovasculares.
  - **Horas a dias** = Doenças inflamatórias e desmielinizantes.
  - **Semanas a meses** = Tumores.
  - **Meses a anos** = Doenças neurodegenerativas.
  - **Paroxismos** = Epilepsias.
  - **Surtos e remissões** = Esclerose Múltipla.
- Considere a **topografia** da lesão



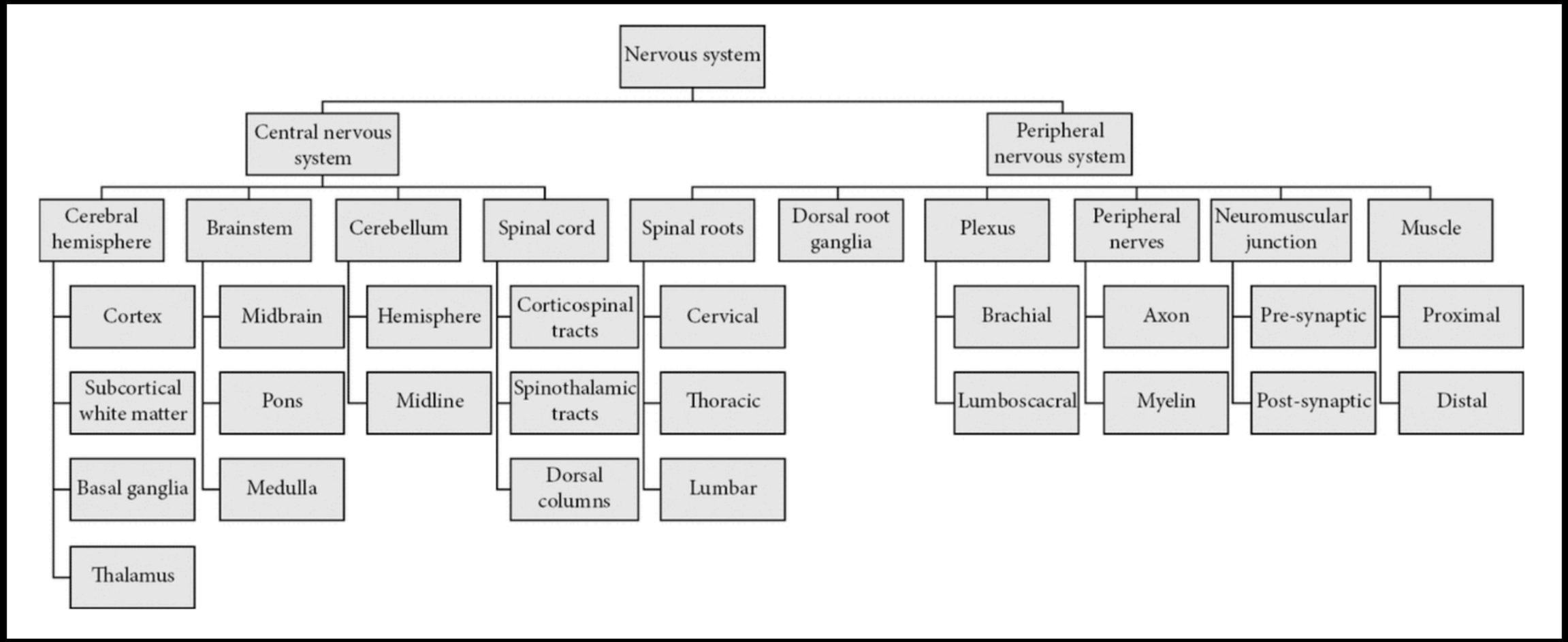
Berkowitz, 2022

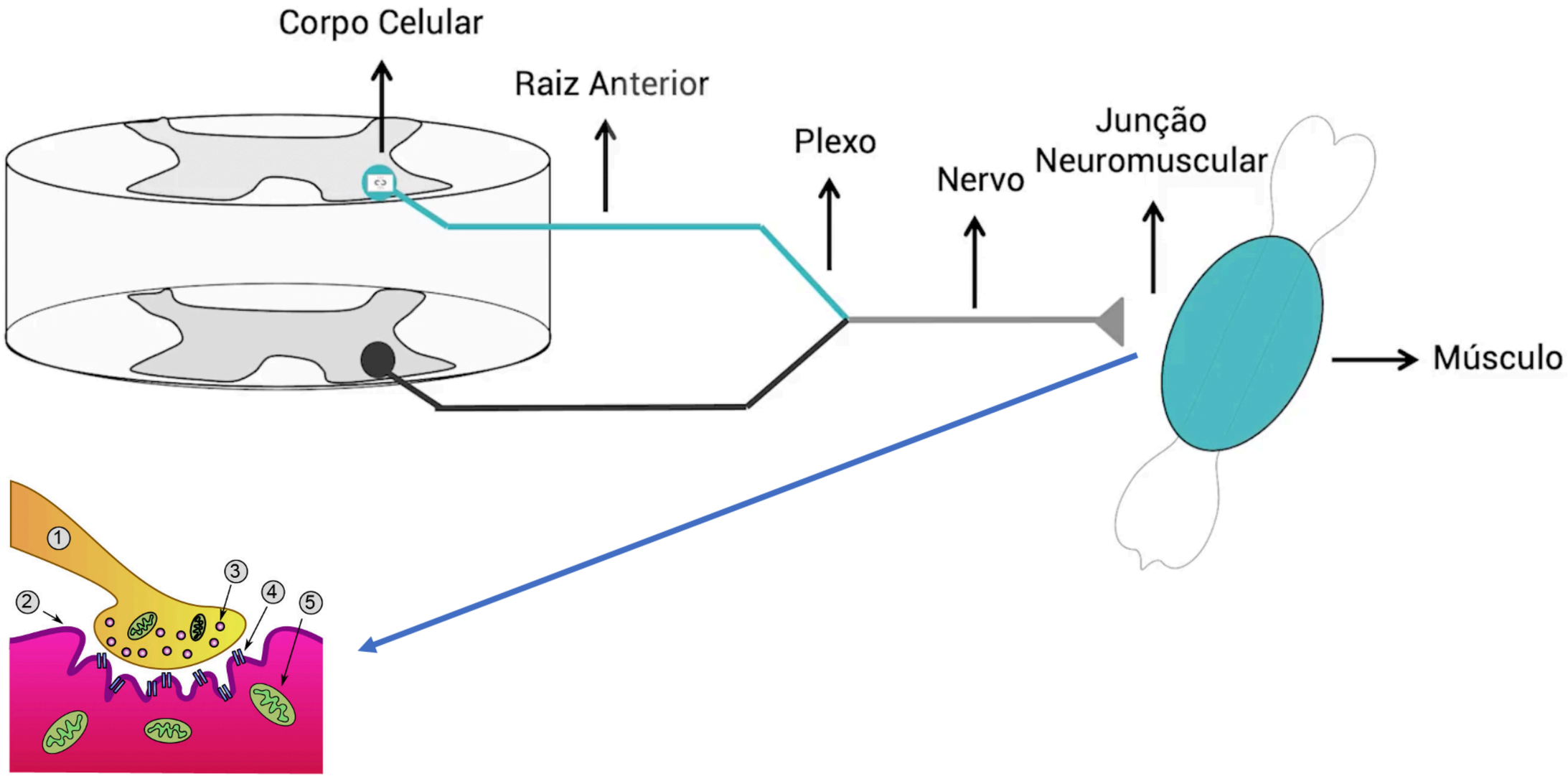
Diagnóstico Anatômico

1. Hemisférios Cerebrais
2. Tronco Cerebral
3. Cerebelo
4. Medula
5. Células do Corno Anterior da Medula
6. Raiz
7. Plexo
8. Nervo Periférico
9. Placa Motora
10. Músculo



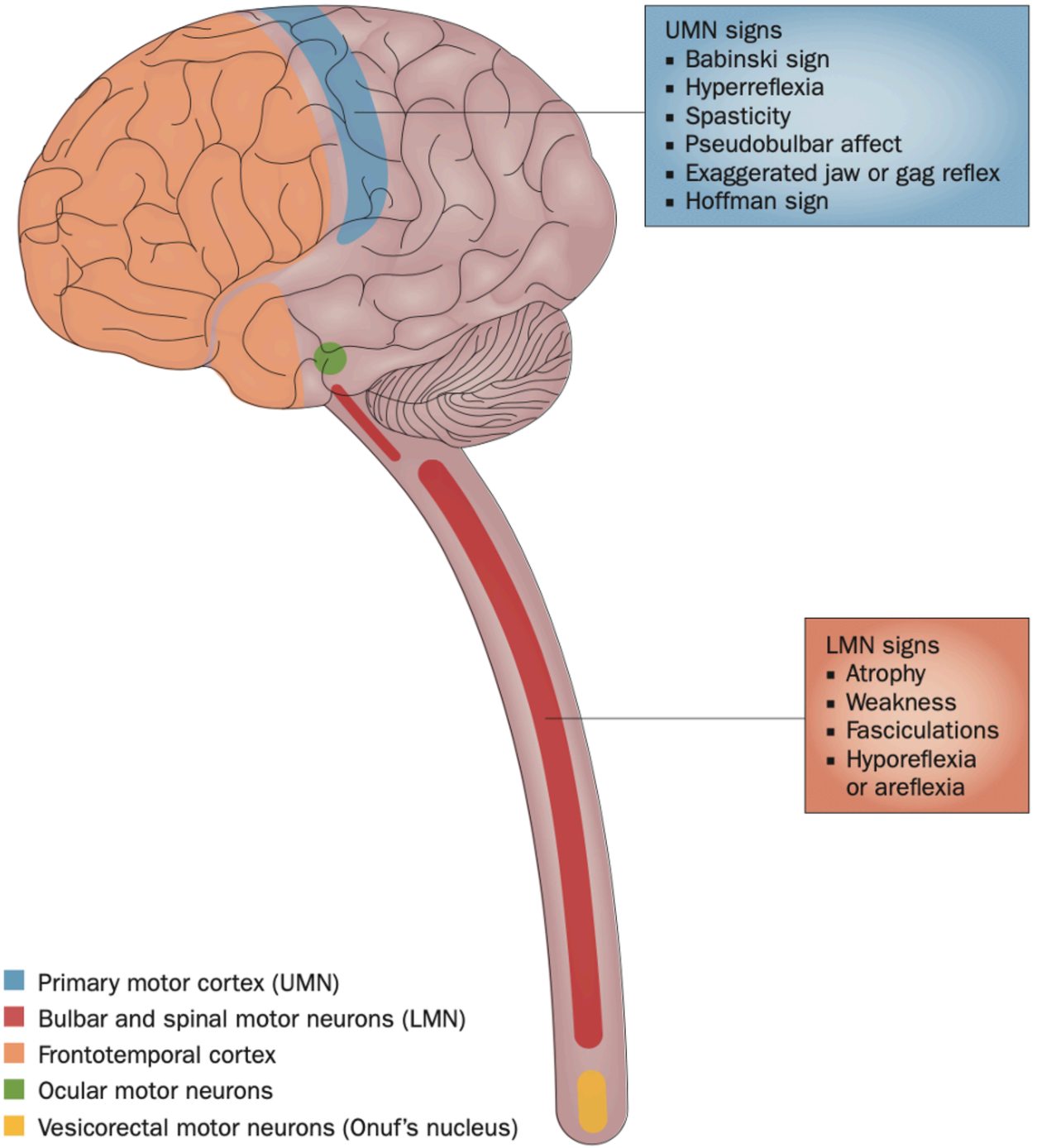
Diagnóstico Anatômico




Corpo Celular
Raiz Anterior
Plexo
Nervo
Junção
Neuromuscular
Músculo
1
2
3
4
5

Diagnóstico Síndrômico

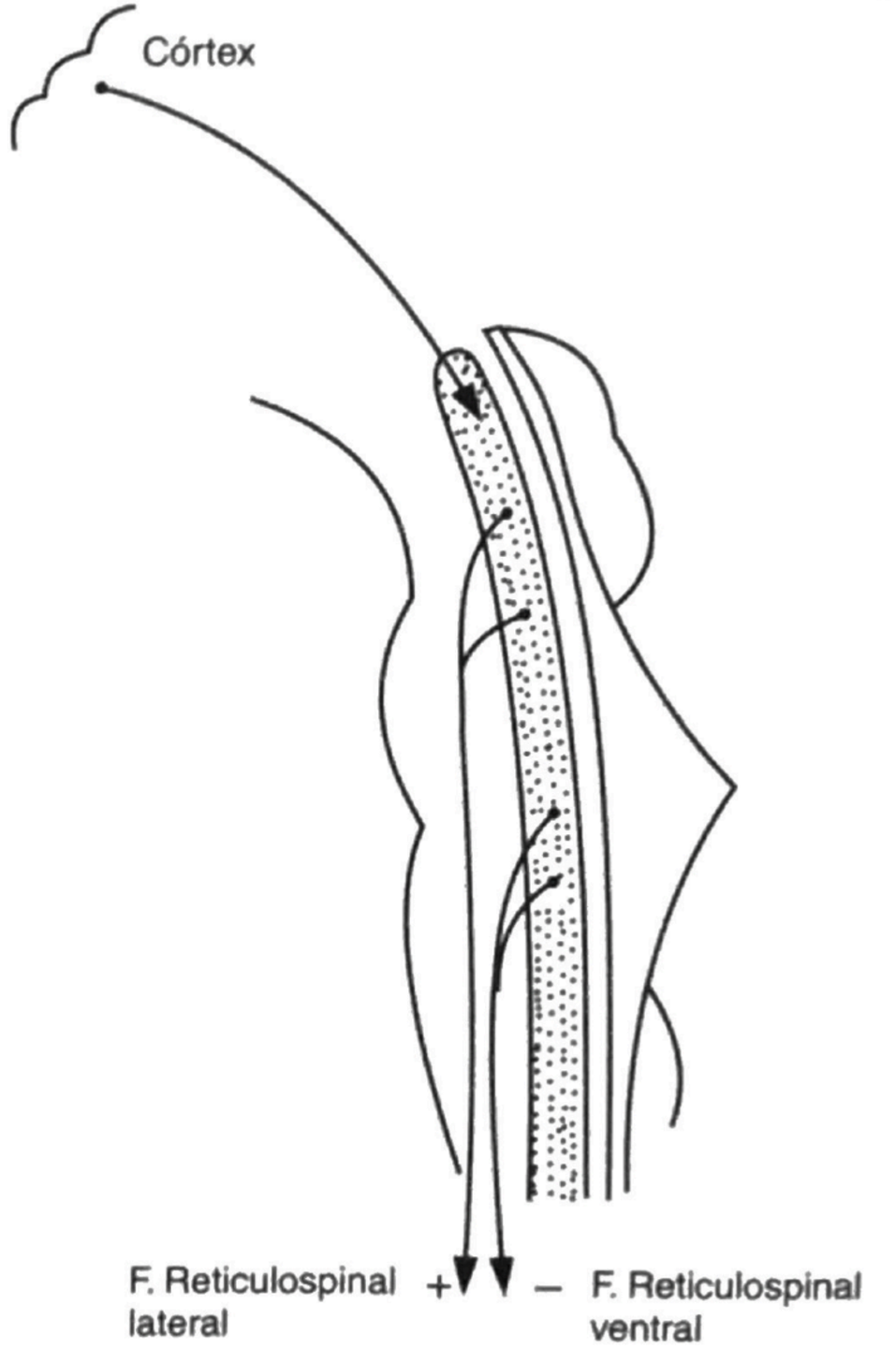
- **Neurônio motor superior**
- **Neurônio motor inferior**
- Meníngea
- Hipertensão intracraniana
- Demencial
- Extrapiramidal
- Cerebelar
- Medular
- Placa motora
- Miopatia
- Etc .....



Diagnóstico Síndrômico

Neurônio motor superior

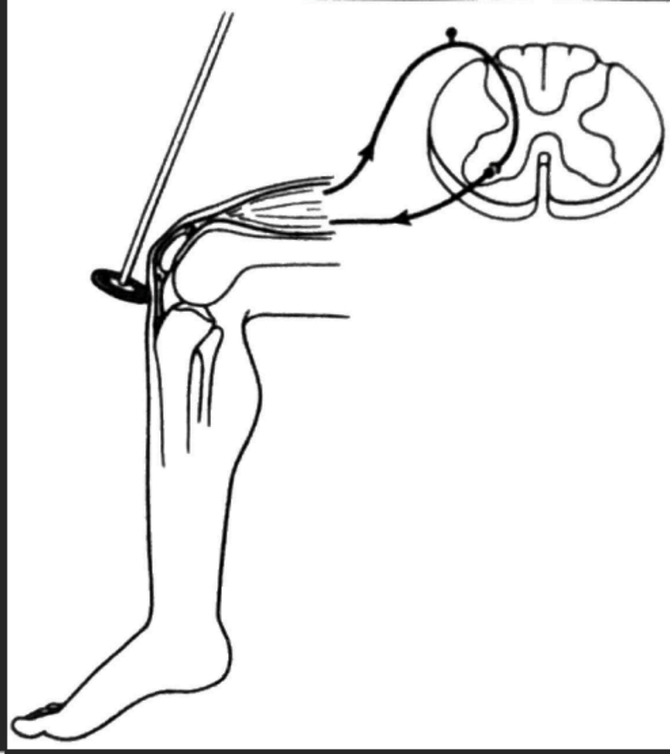
- Paresia ou plegia
- Hiperreflexia
- Espasticidade
- Atrofia muscular tardia
- Babinski, Hoffmann, clônus, ...

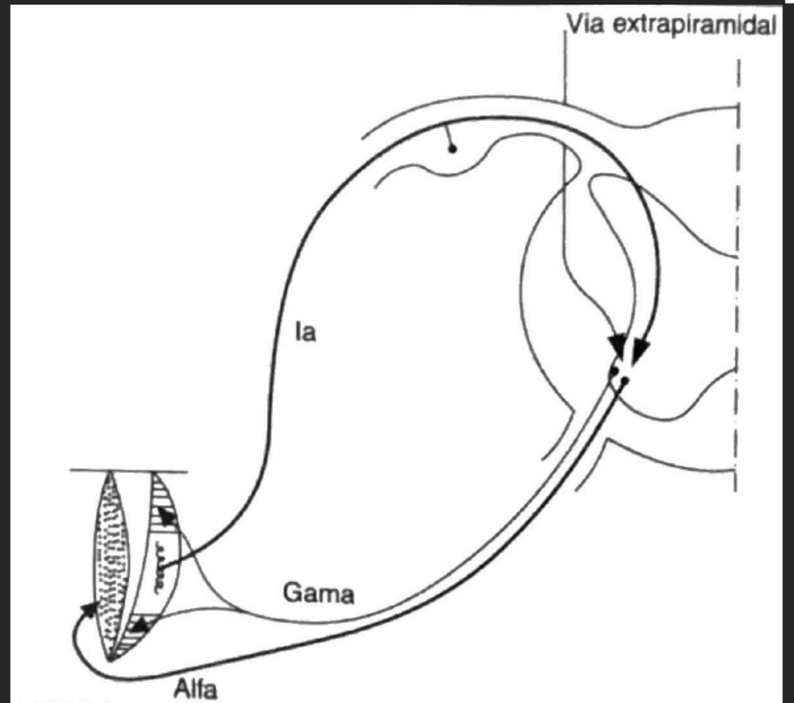


Diagnóstico Síndrômico

Neurônio motor inferior

- Paresia ou plegia
- Hipo ou arreflexia
- Hipotonia
- Atrofia muscular precoce
- Fasciculações

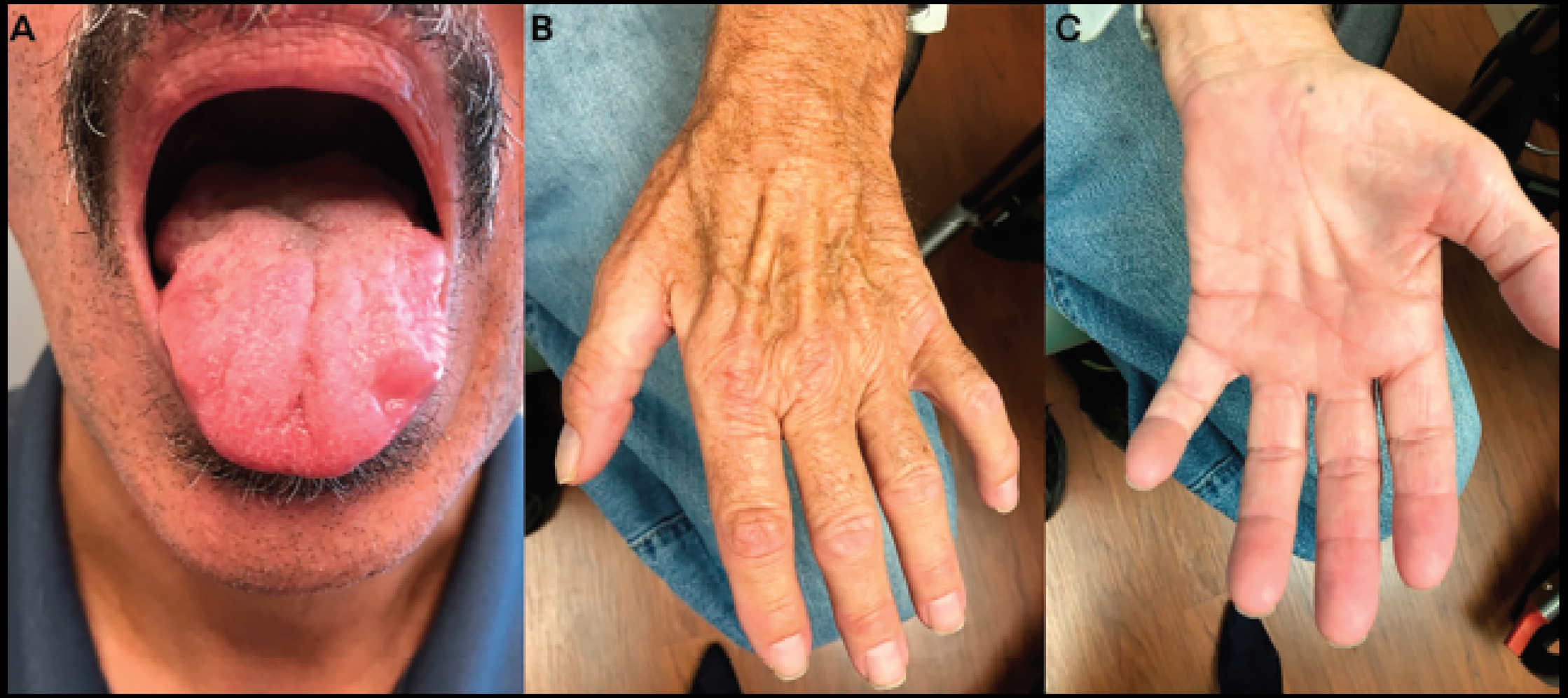




Fasciculações



Atrofia Muscular



Diagnóstico Etiológico

1. **V**ascular
2. **I**nfectious
3. **T**raumatic
4. **A**utoimmune
5. **M**etabolic/toxic
6. **I**atrogenic
7. **N**eoplastic
8. p**S**ychiatric
9. **D**egenerativa
10. **E**piléptica
11. **C**ongênita
12. **G**enética

VITAMINS-DECG

O Exame Neurológico

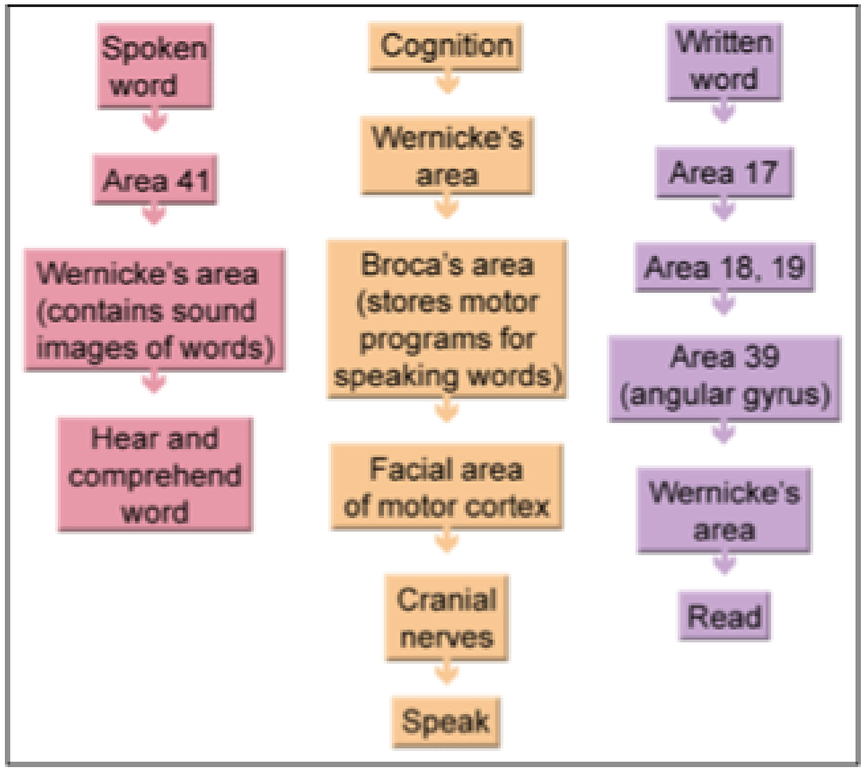
1. Estado mental
2. Pares Cranianos
3. Força Muscular
4. Reflexos
5. Sistema Sensorial
6. Coordenação
7. Marcha

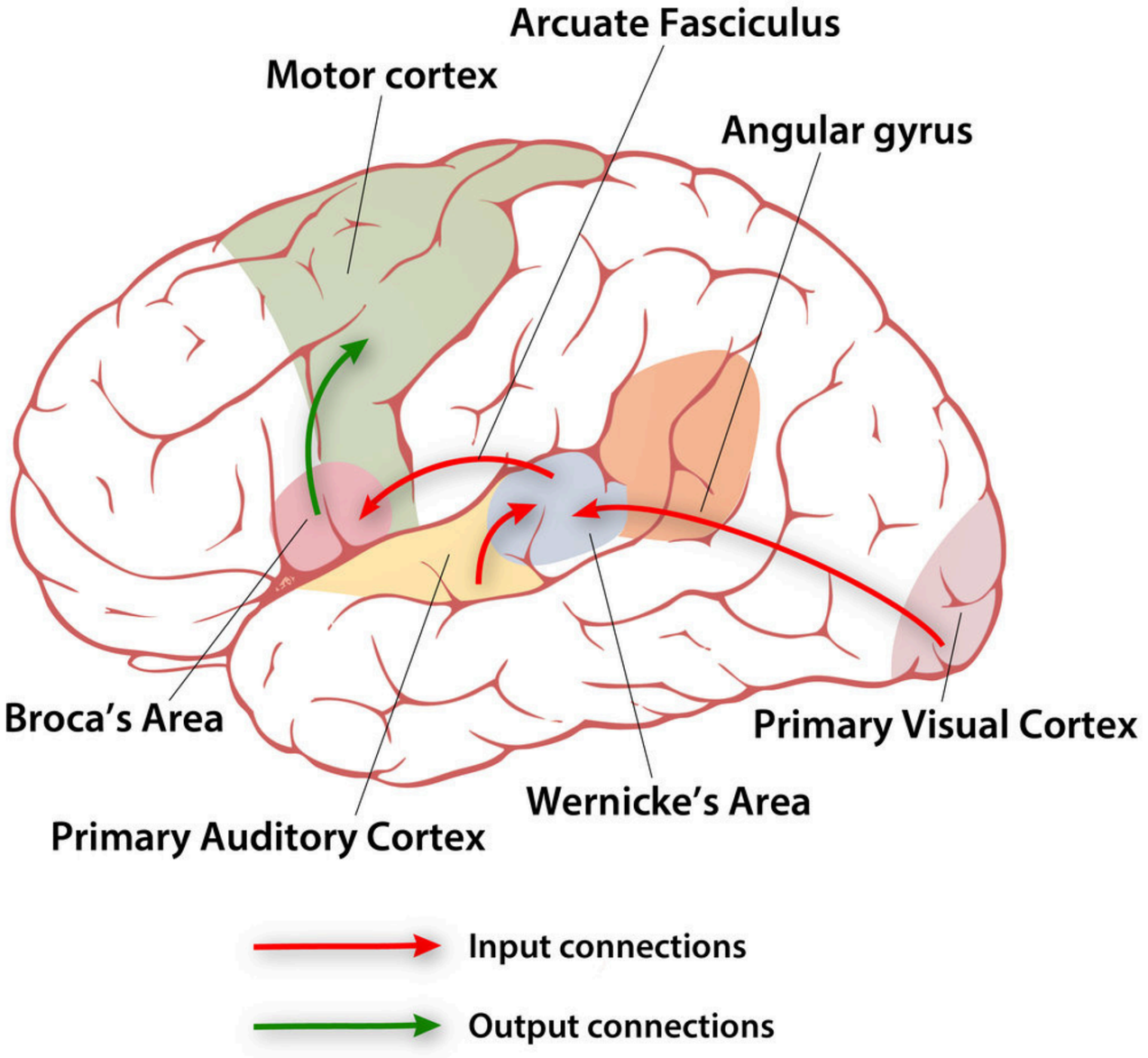


O Exame Neurológico

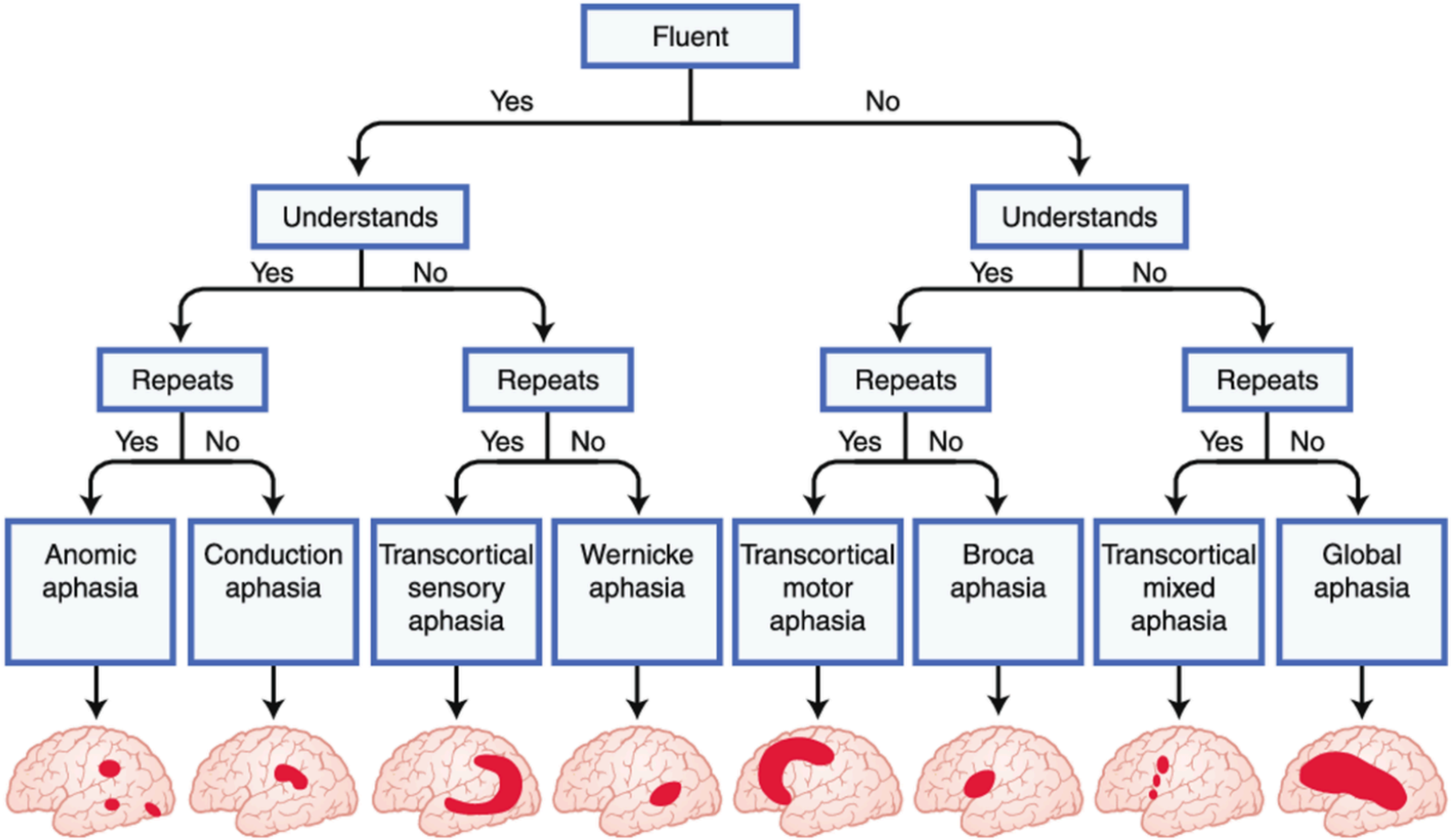
1. **Estado mental.**
2. **Pupilas → Reflexo Fotomotor direto e consensual.**
3. **Fundo de olho + Acuidade visual + Campos Visuais + Reconhecimento de Cores.**
4. **Pares cranianos (I ao XII).**
5. **Tônus muscular.**
6. **Força muscular distal e proximal.**
7. **Reflexos profundos → Bicipital, tricipital, braquiorradial, patelar, aquileu.**
8. **Reflexos superficiais → Cutâneo-plantar, Cutâneo-abdominal.**
9. **Coordenação → Diadococinesia, Metria, Índex –nariz, Calcâneo – joelho.**
10. **Sensibilidade superficial → Térmica, tátil e dolorosa.**
11. **Sensibilidade profunda → Palestesia, Batiestesia, Barestesia.**
12. **Sensibilidade discriminativa → Estereognosia, Grafestesia, Teste de Extinção.**
13. **Marchas.**

Afasias


Spoken word
Area 41
Wernicke's area (contains sound images of words)
Hear and comprehend word
Cognition
Wernicke's area
Broca's area (stores motor programs for speaking words)
Facial area of motor cortex
Cranial nerves
Speak
Written word
Area 17
Area 18, 19
Area 39 (angular gyrus)
Wernicke's area
Read


Arcuate Fasciculus
Motor cortex
Angular gyrus
Broca's Area
Primary Visual Cortex
Wernicke's Area
Primary Auditory Cortex
Input connections
Output connections

Afasias


Fluent
Yes
No
Understands
Yes
No
Understands
Yes
No
Repeats
Yes
No
Repeats
Yes
No
Repeats
Yes
No
Repeats
Yes
No
Anomic aphasia
Conduction aphasia
Transcortical sensory aphasia
Wernicke aphasia
Transcortical motor aphasia
Broca aphasia
Transcortical mixed aphasia
Global aphasia

Pares Cranianos

Nervo	Origem aparente	Território de inervação
Olfatório (I)	Telencéfalo	Mucosa olfatória
Óptico (II)	Diencéfalo	Retina
Oculomotor (III)	Mesencéfalo	Músculos elevador da pálpebra superior, oblíquo inferior e retos superior, inferior e medial
		Músculo esfíncter da pupila
		Músculo ciliar
Troclear (IV)	Mesencéfalo	Músculo oblíquo superior
Trigêmeo (V)	Ponte	Face e 2/3 anteriores da língua (exterocepção) e propriocepção dos dentes, ATM e músculos da mastigação
		Músculos da mastigação, miloioídeo, tensor do véu do paladar, tensor do tímpano e ventre anterior do digástrico
Abducente (VI)	Ponte	Músculo reto lateral
Facial (VII)	Ponte	2/3 anteriores da língua (gustação)
		Parte da mucosa da cavidade nasal e do palato mole
		Parte do pavilhão auricular e do meato acústico externo
		Glândula lacrimal
		Glândulas submandibular e sublingual
		Músculos da mímica, estapédio, estiloioídeo e ventre posterior do digástrico
Vestibulococlear (VIII)	Ponte	Órgão espiral
		Máculas e cristas ampulares
Glossofaríngeo (IX)	Bulbo	Parte do pavilhão auricular e do meato acústico externo
		1/3 posterior da língua \(gustação)
		1/3 posterior da língua, faringe, úvula, tonsilas, tuba auditiva, seio e corpo carotídeos
		Glândula parótida
		Músculo estilofaríngico
Vago (X)	Bulbo	Epiglote (gustação)
		Faringe, laringe, traquéia, esôfago e vísceras torácicas e abdominais (andar supramesocólico e compartimento direito do andar inframesocólico)
		Parte do pavilhão auricular e do meato acústico externo
		Músculos da faringe (exceto o estilofaríngico) e da laringe
Acessório (XI)	Bulbo	Músculos da laringe
		Músculos trapézio e esternocleidomastóideo
		Vísceras torácicas
Hipoglosso (XII)	Bulbo	Músculos intrínsecos e extrínsecos da língua

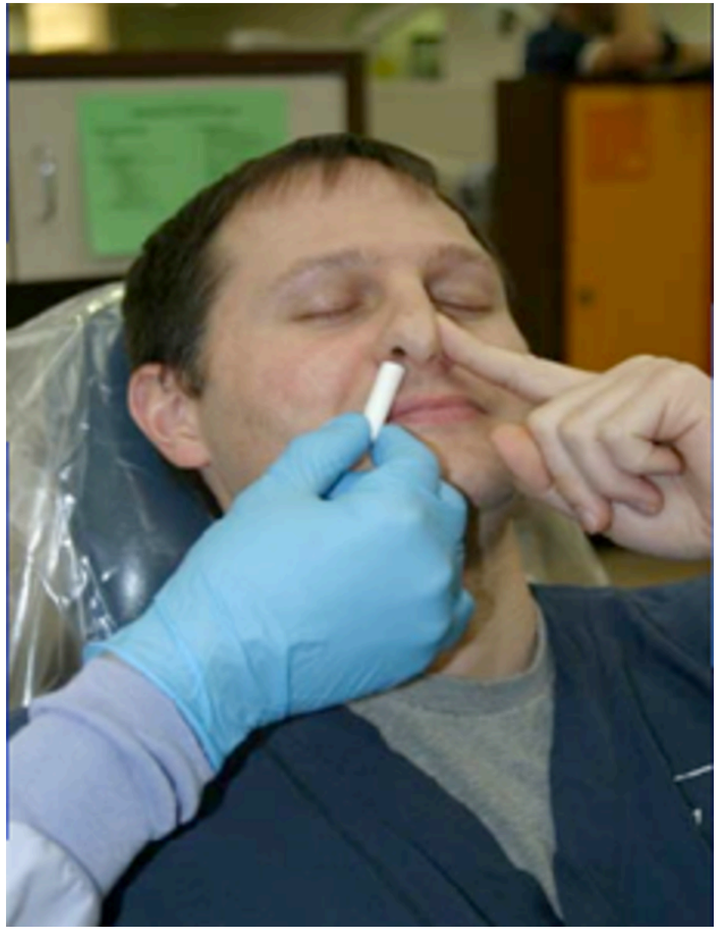
I Par - N. Olfatório

Paciente fecha os olhos

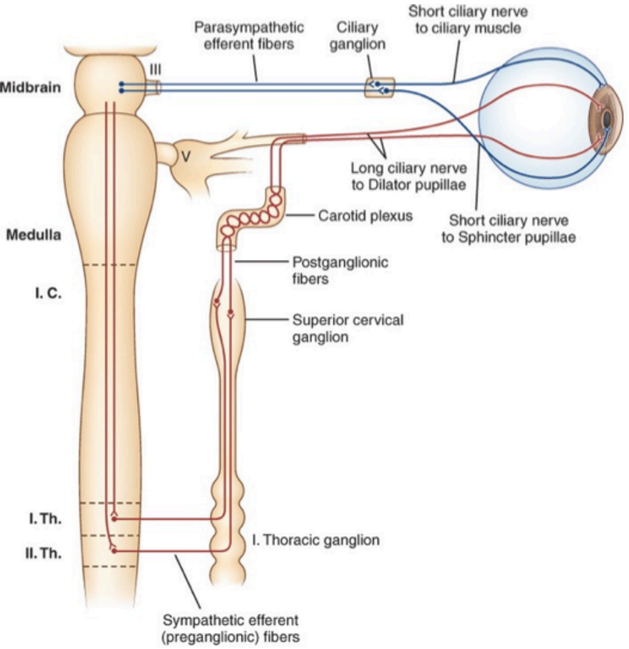
Oclusão de uma narina

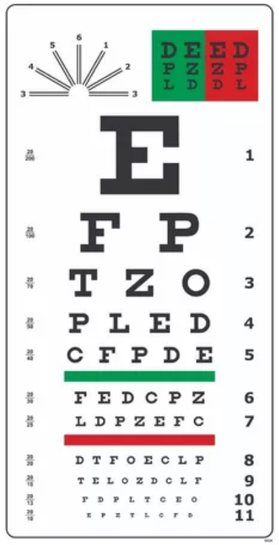
Testar uma nariza de cada vez

Odores: Chocolate, café, canela ou baunilha



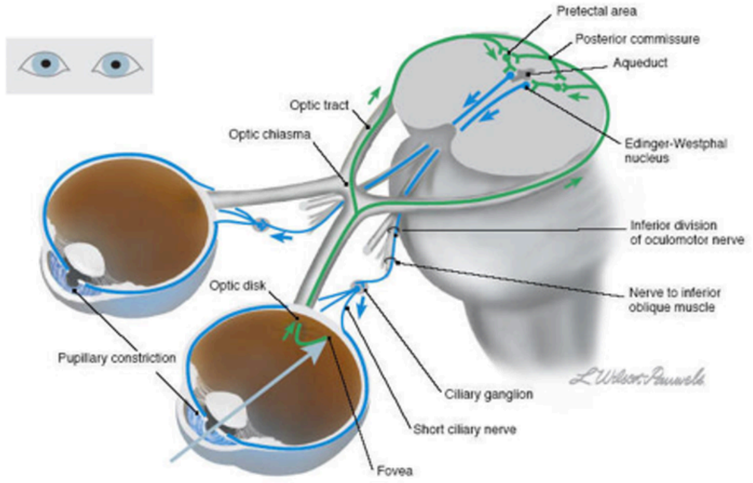
IIPar - Nervo Óptico

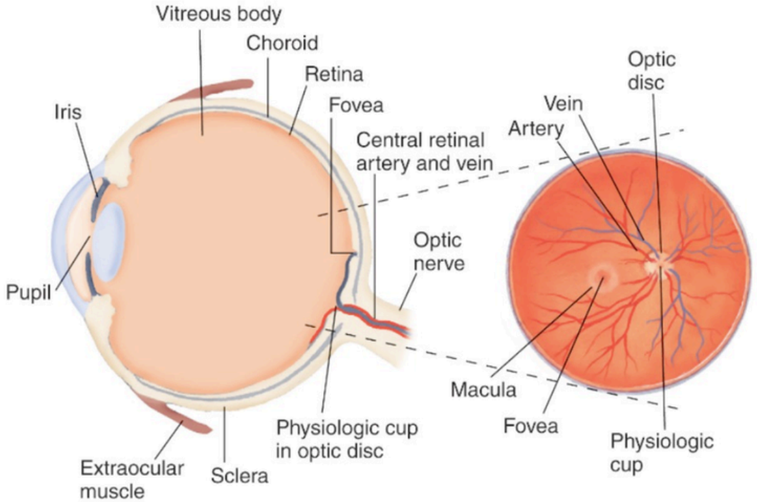


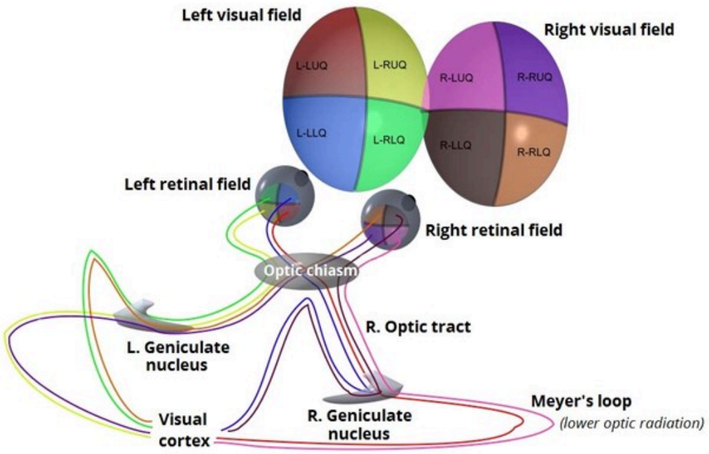


Segundo Par

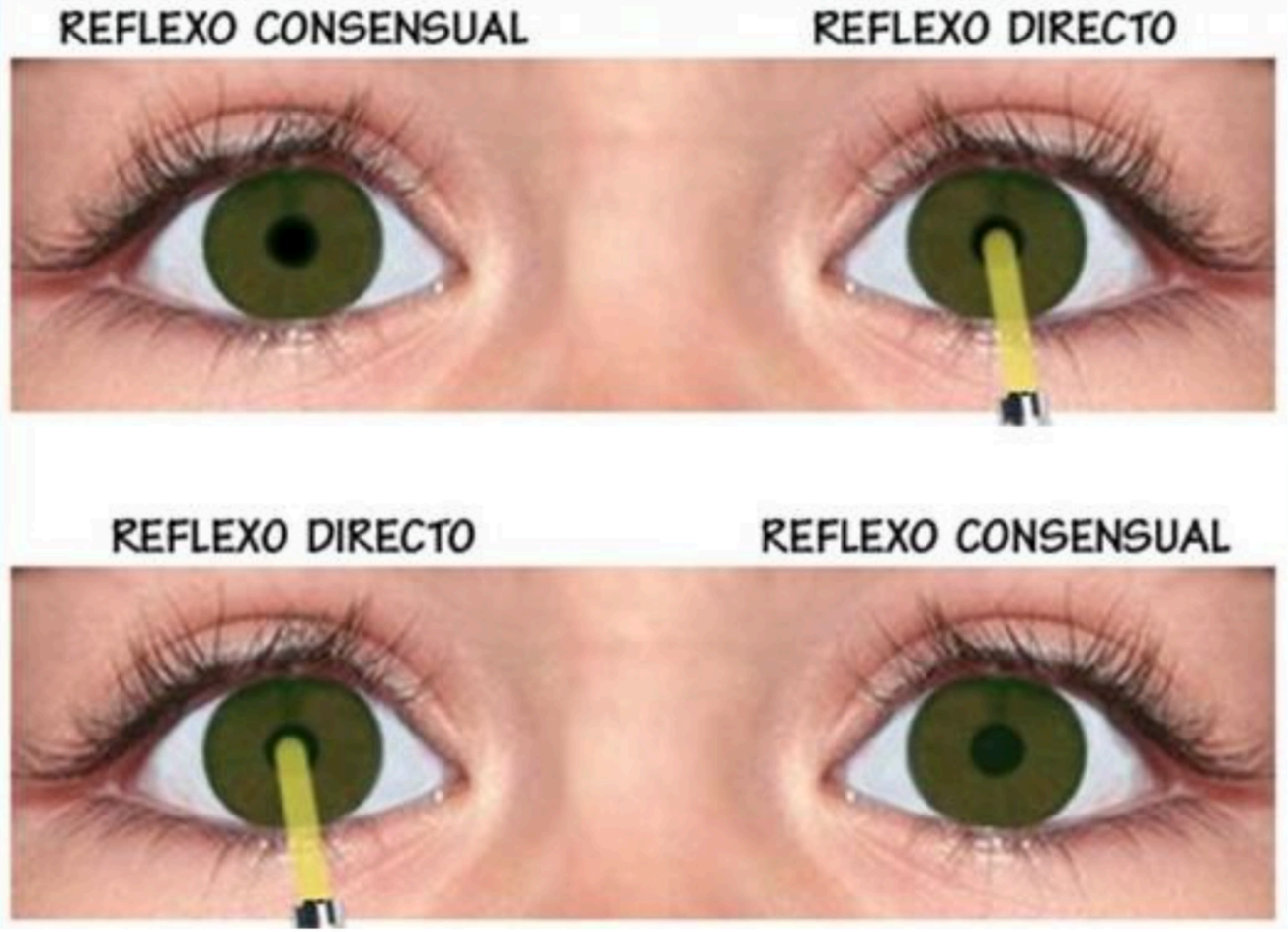
- Fundoscopia
- Acuidade Visual
- Campos Visuais
- Pupilas



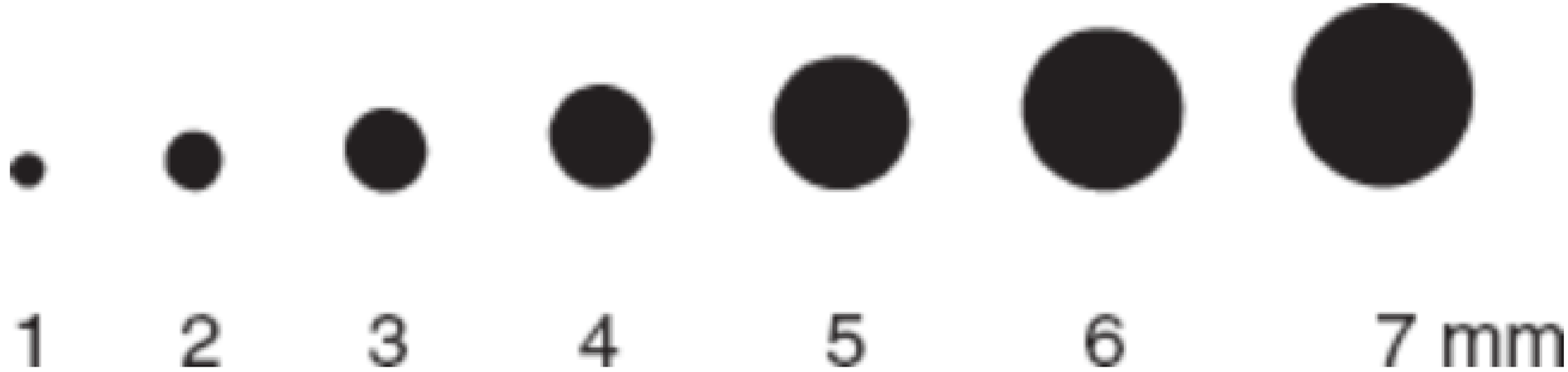




Pupilas

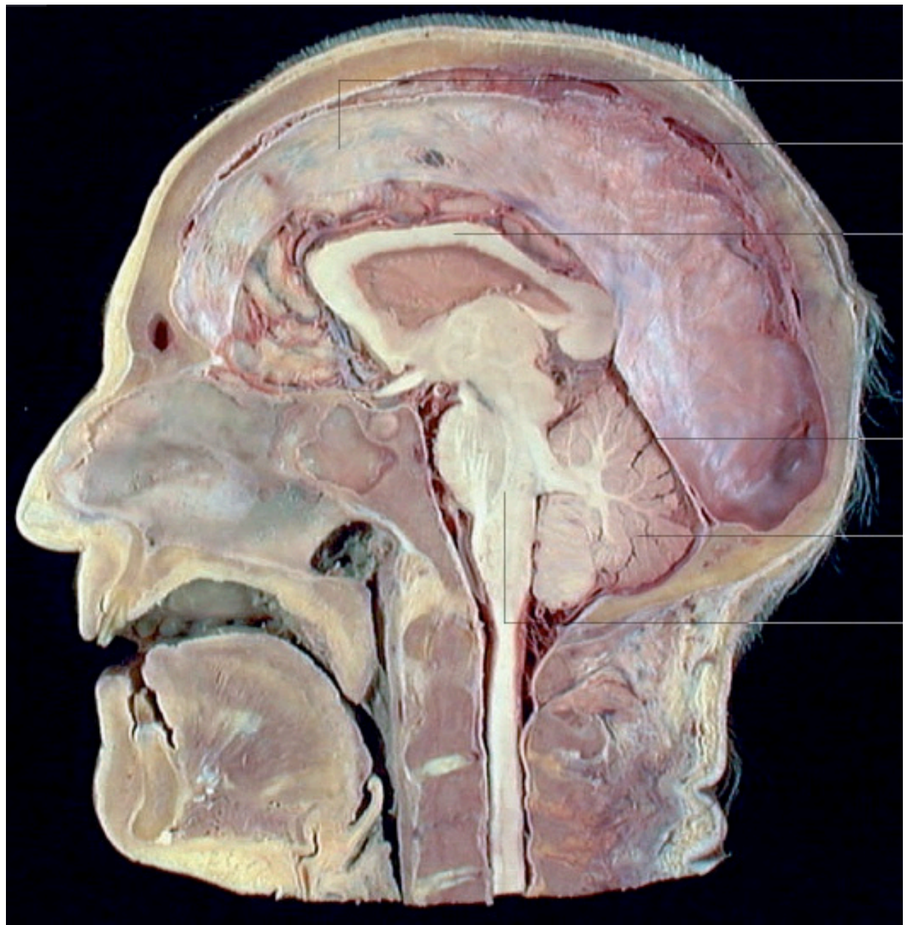

REFLEXO CONSENSUAL
REFLEXO DIRECTO
REFLEXO DIRECTO
REFLEXO CONSENSUAL

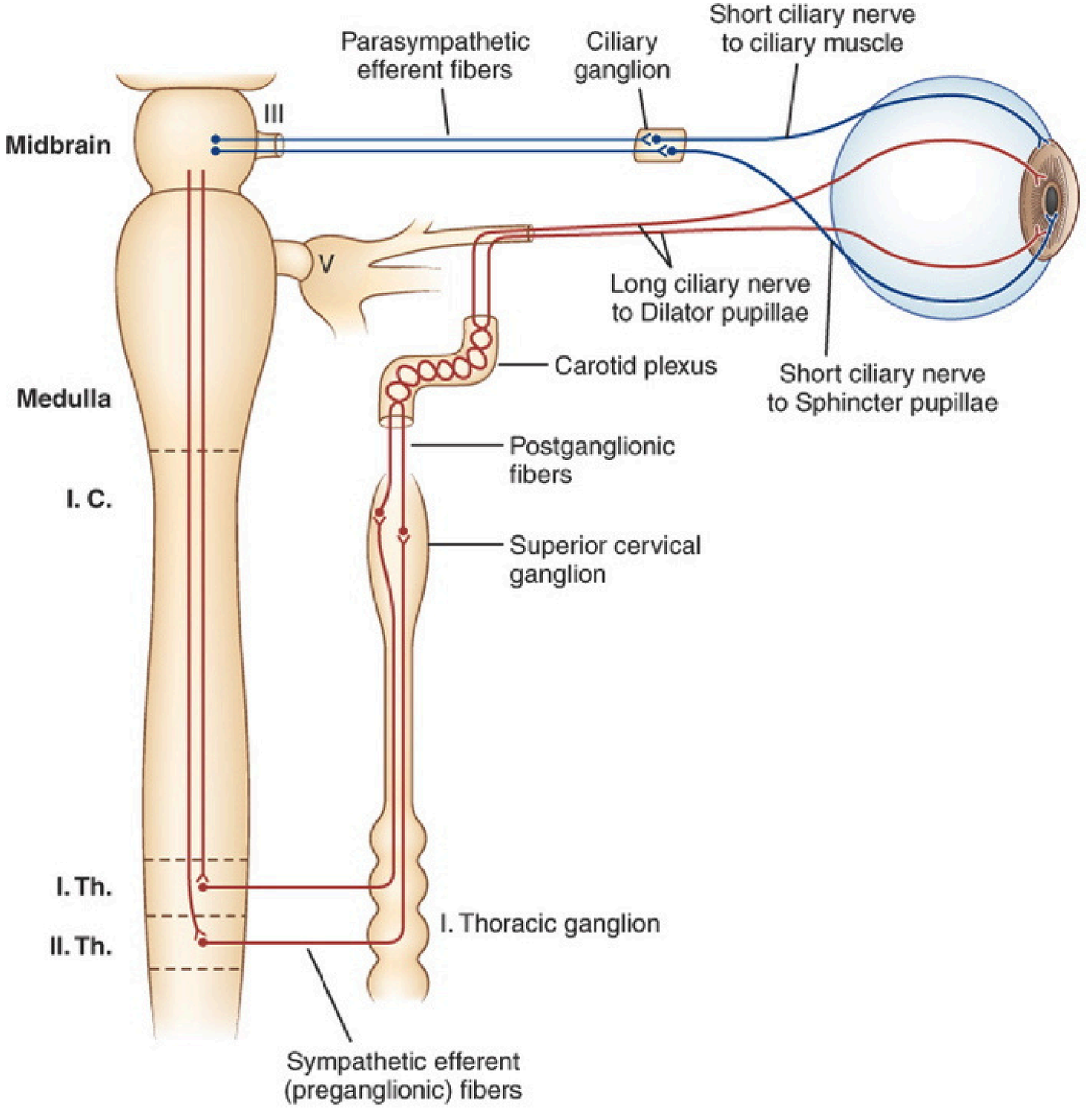
Pupilas





Simpático Craniano





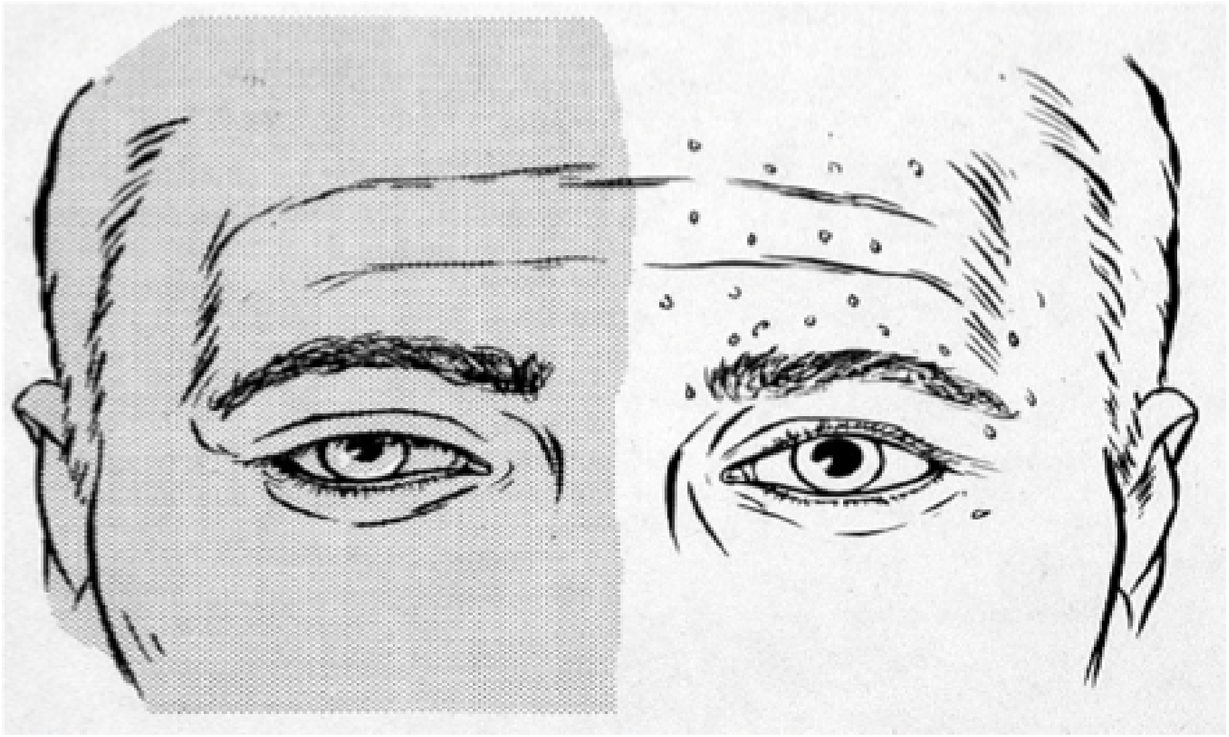
Sd. Claude-Bernard-Horner

Miose ipsilateral à lesão simpática.

Ptose palpebral.

Anidrose facial ipsilateral à lesão.





Sd. Porfour du Petit

(Horner Reverso)

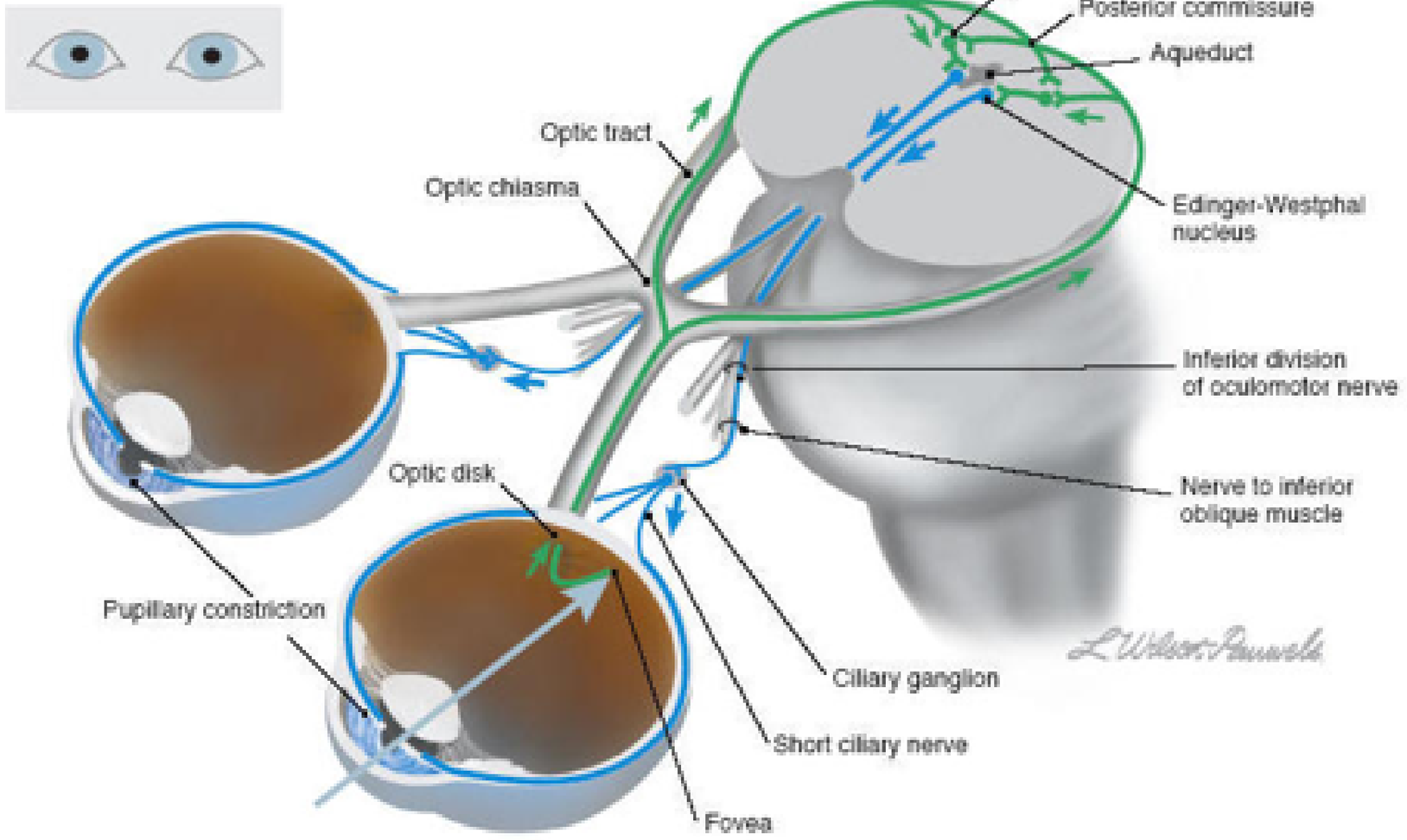
Midríase Unilateral.

Retração da pálpebra superior.

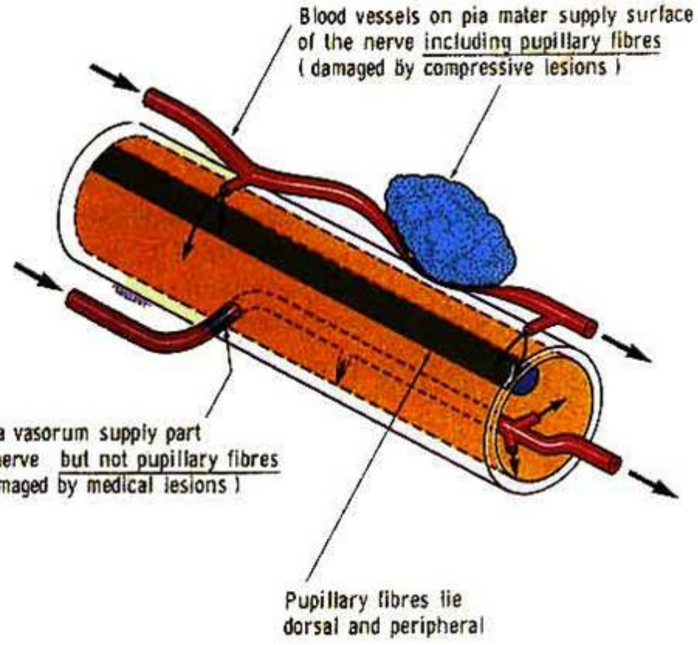
Hiperhidrose de hemiface.



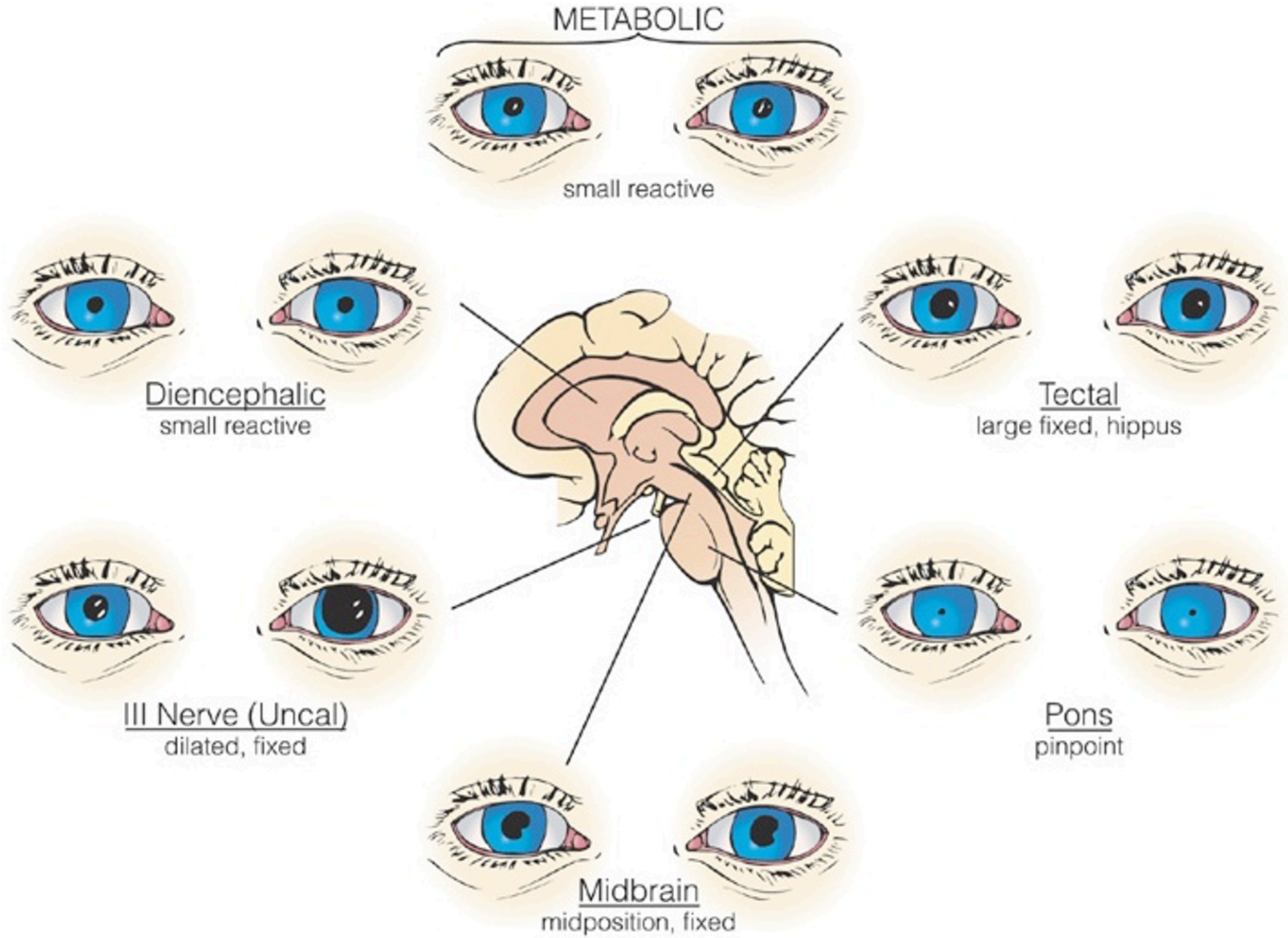
Parassimpático Craniano







Pupilas

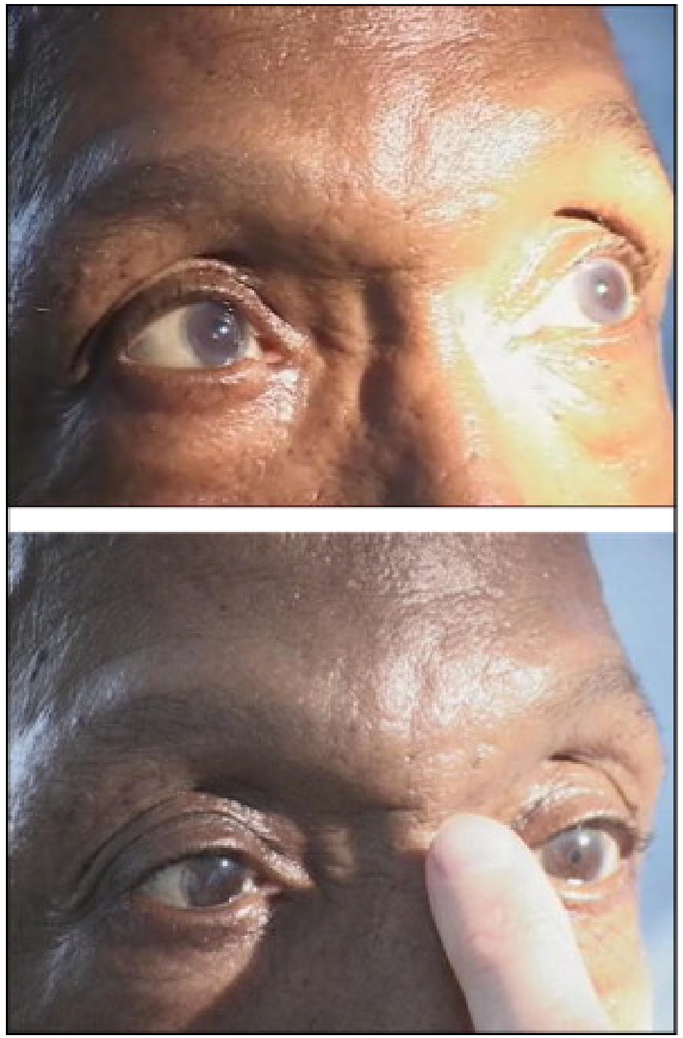

METABOLIC
small reactive
Diencephalic
small reactive
Tectal
large fixed, hippus
III Nerve (Uncal)
dilated, fixed
Pons
pinpoint
Midbrain
midposition, fixed

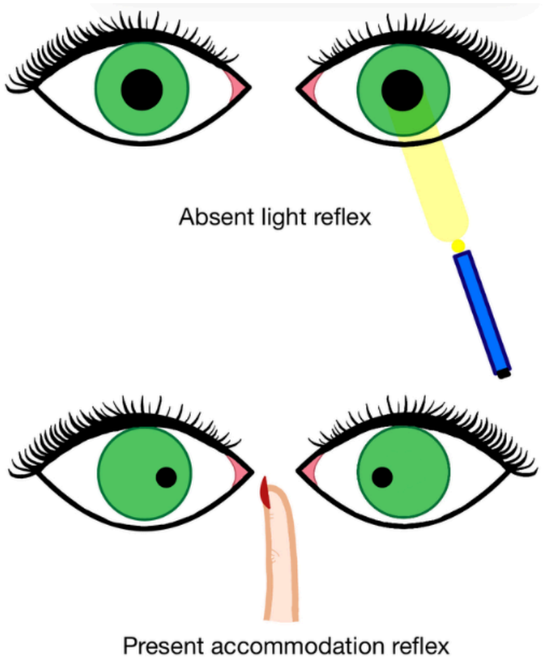
Pupila de Holmes-Adie



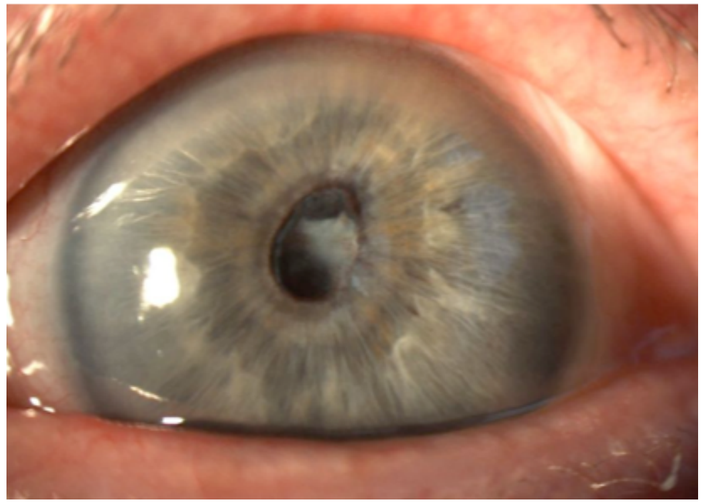
- Lesão do gânglio ciliar.
- Associado a infecções virais.
- Mulheres jovens (70%), entre os 20 e 50 anos.
- Hiporreflexia tendínea profunda.
- Pupila unilateralmente dilatada (80%), pouco reagente à luz e com boa resposta para perto (near – light dissociation).
- Redilatação vagarosa.
- Teste de Pilocarpina 0,1%

Pupila de Argyll-Robertson





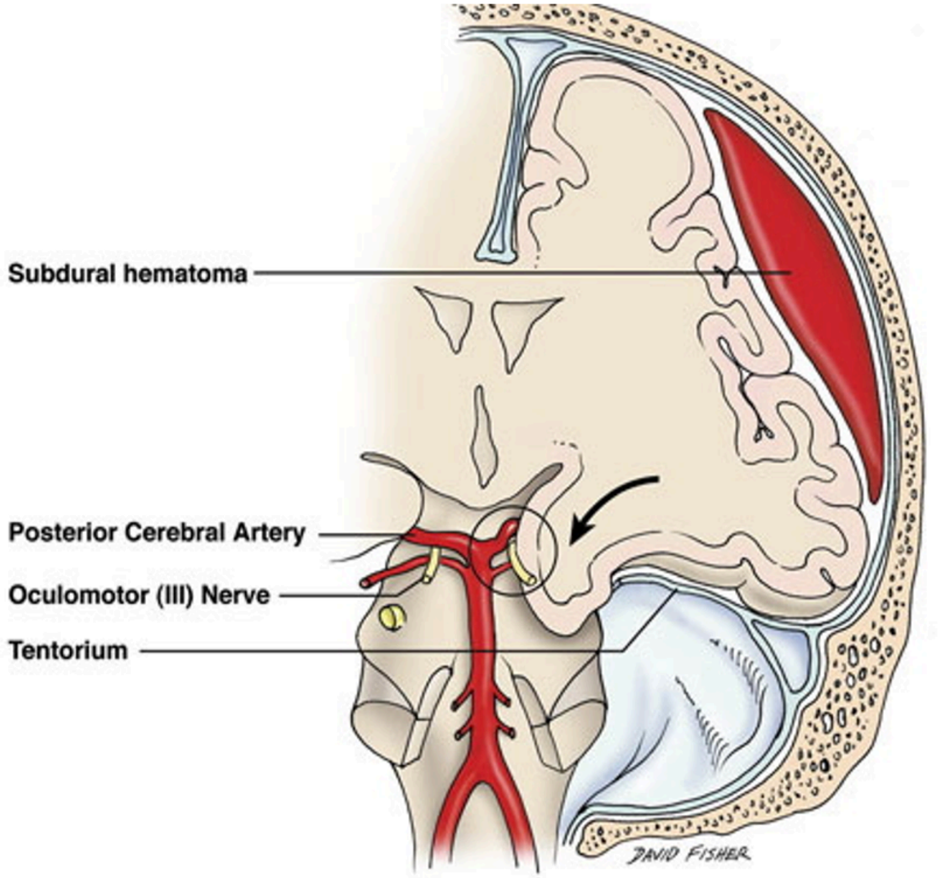
- Miose
- Discoria
- Resposta de convergência > Resposta à luz
- Sífilis terciária



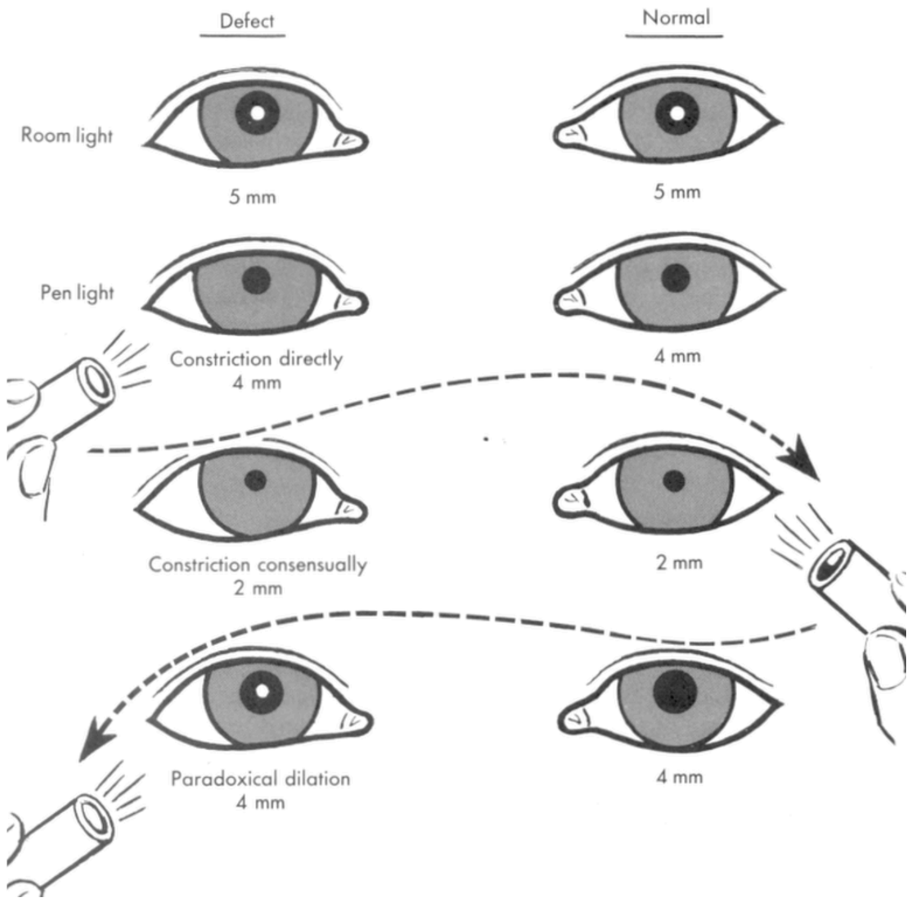
Pupila de Hutchinson

Lesão compressiva sobre o n. oculomotor e sobre as fibras parassimpáticas dorsais ao III par, ipsilateral à pupila comprometida, causando midríase.

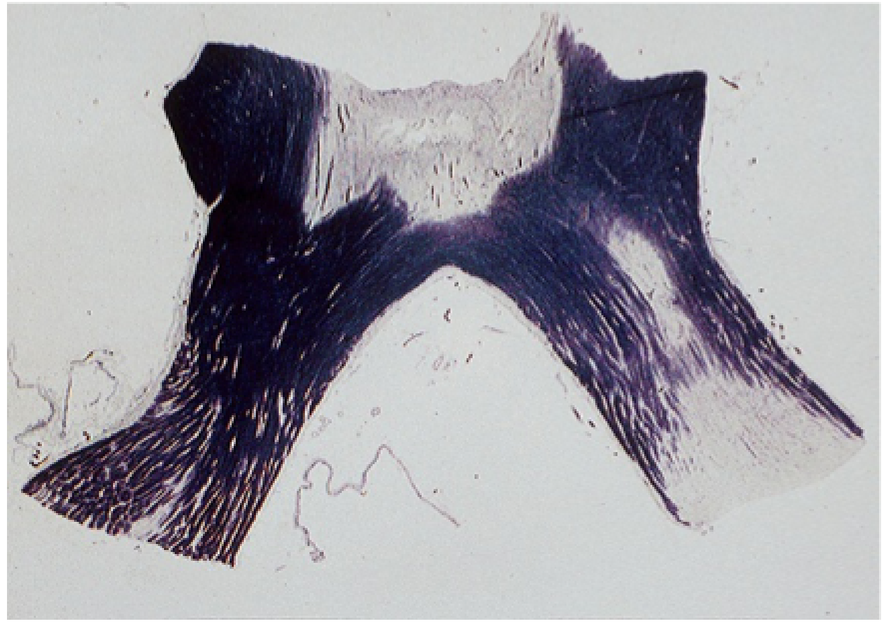




Pupila de Marcus Gunn



- Defeito pupilar aferente
- Pupila que dilata à luz – Teste da luz dançante
- Decorrentes de lesão do n. óptico



Oftalmoscopia Direta

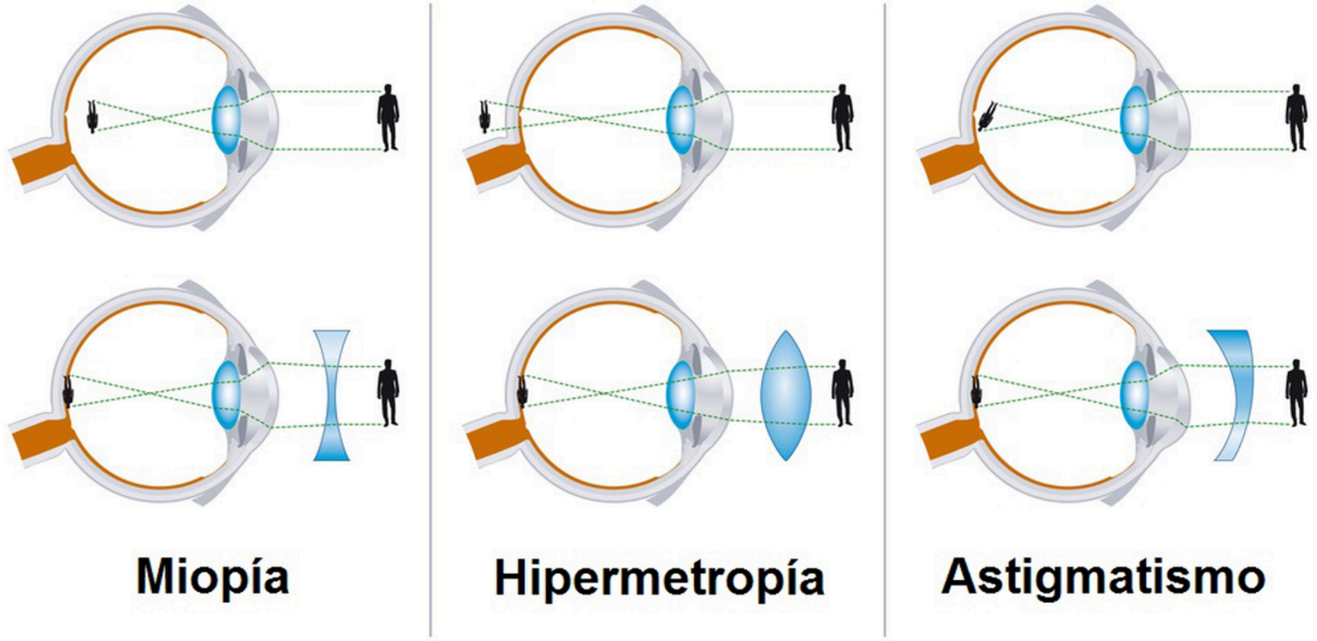
Miopia → Dioptria sempre negativa - côncava (-).

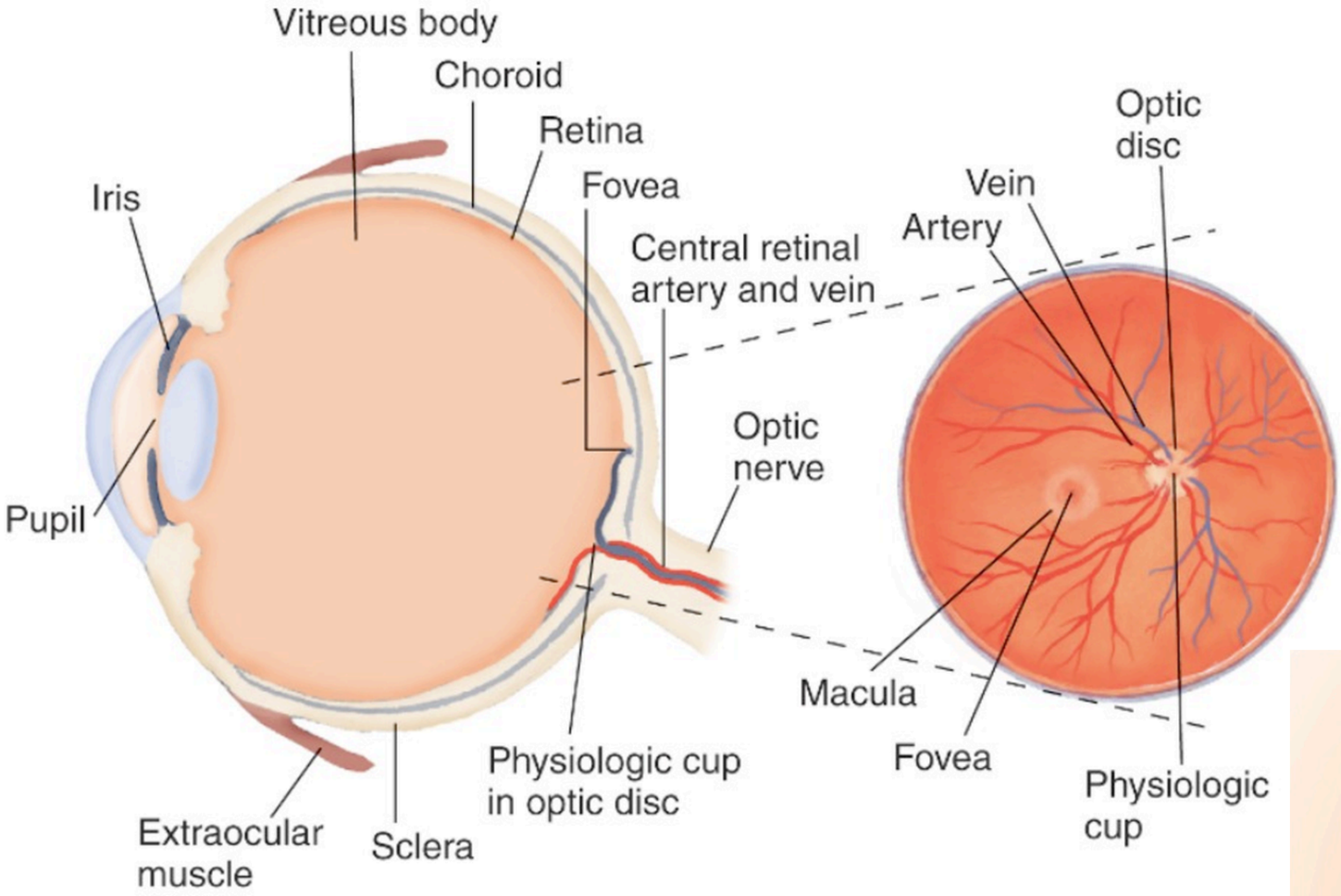
Hipermetropia → Dioptria sempre positiva - convexa (+).

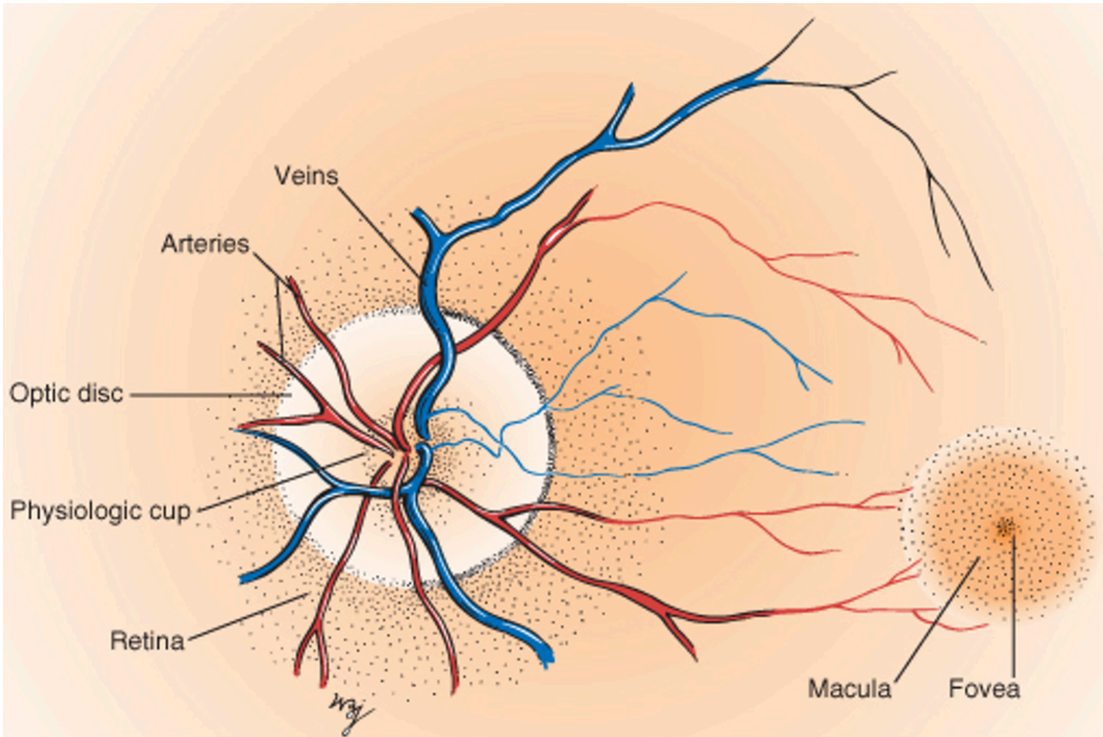
Luz verde (Anéritra) → Vasos e fibras nervosas.

Luz azul-cobalto → Câmara anterior.

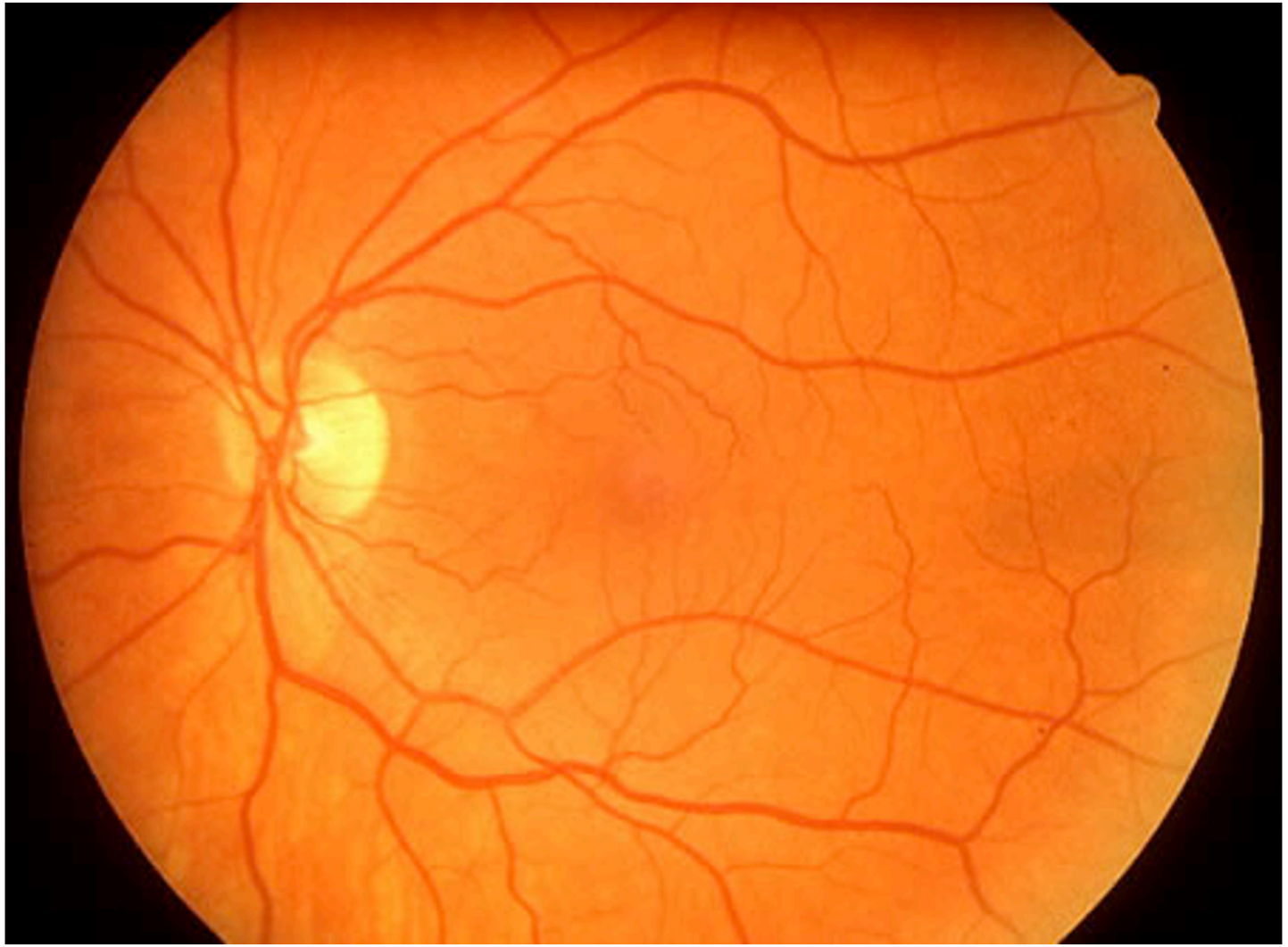





Vitreous body
Choroid
Retina
Fovea
Iris
Central retinal
artery and vein
Optic
disc
Vein
Artery
Optic
nerve
Pupil
Macula
Fovea
Physiologic
cup
Physiologic cup
in optic disc
Extraocular
muscle
Sclera

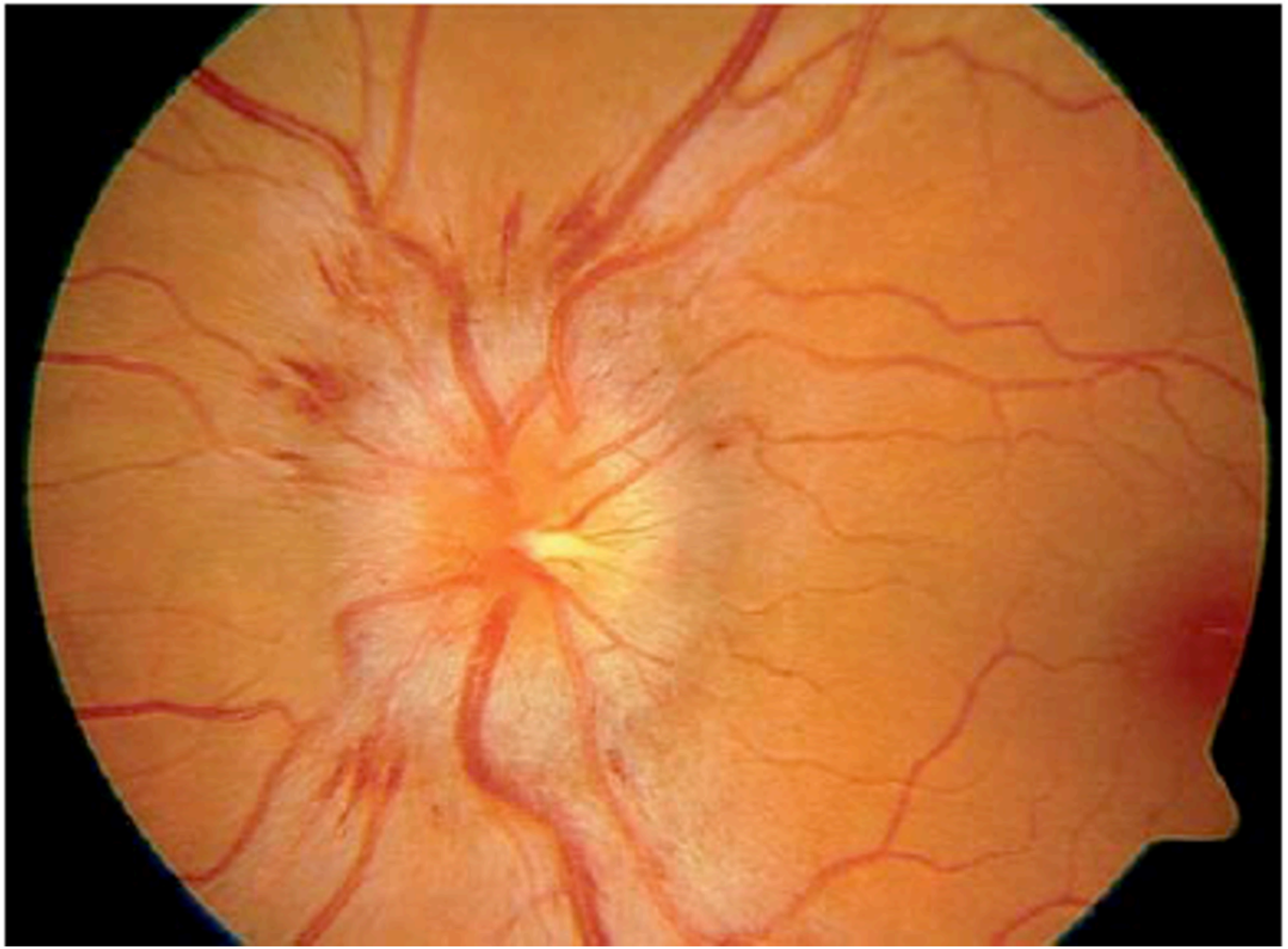

Veins
Arteries
Optic disc
Physiologic cup
Retina
Macula
Fovea

Fundo de Olho Normal



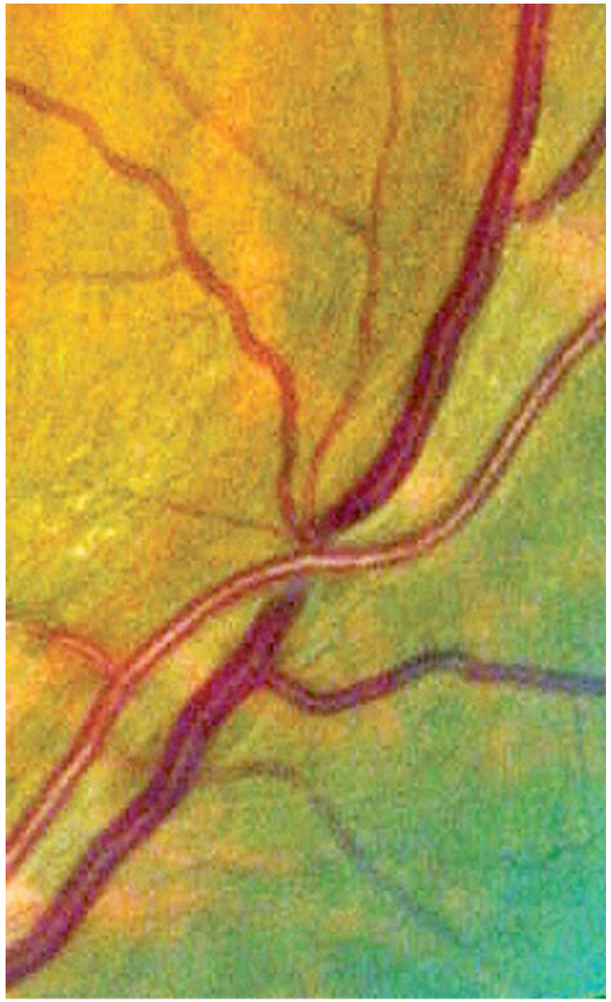
Papiledema - edema do disco óptico na Hipertensão Intracraniana (bilateral)

Edema de Papila - edema do disco óptico sem hipertensão intracraniana (outras etiologias)



Sinal de Salus





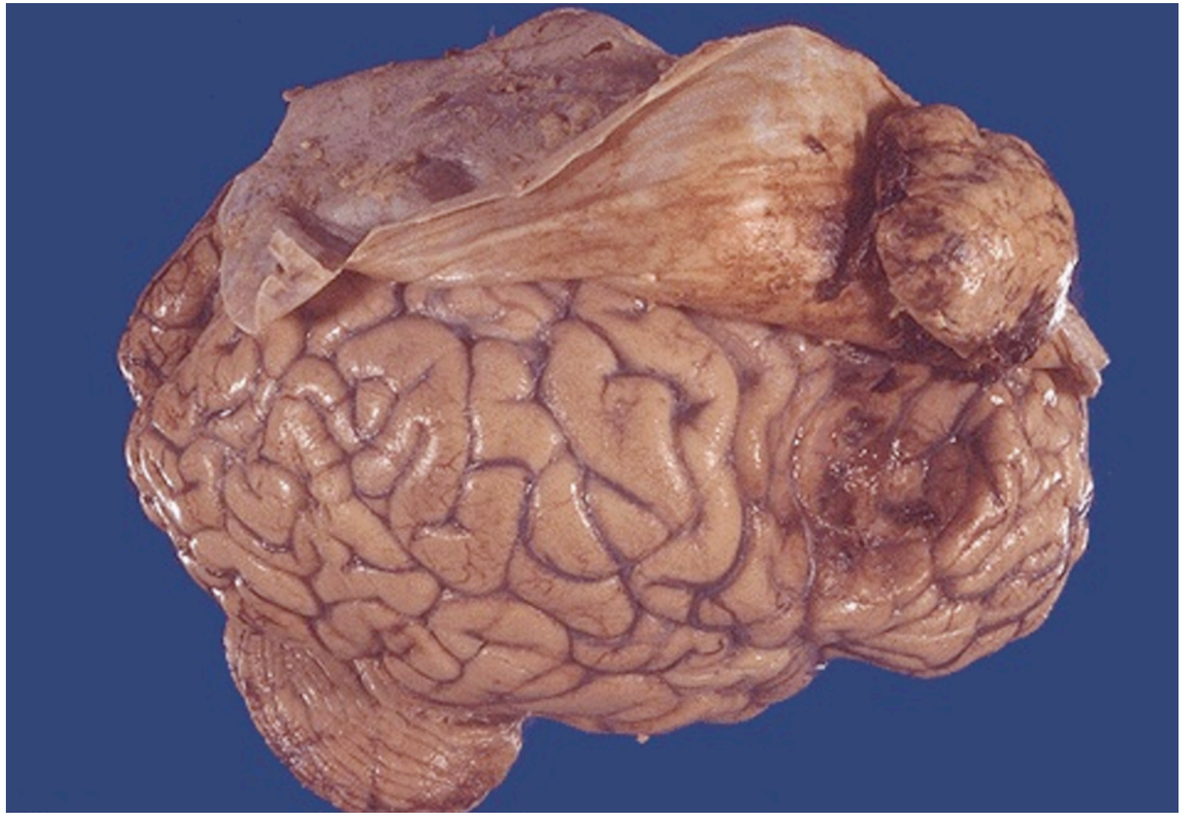
Quadrantanopsias

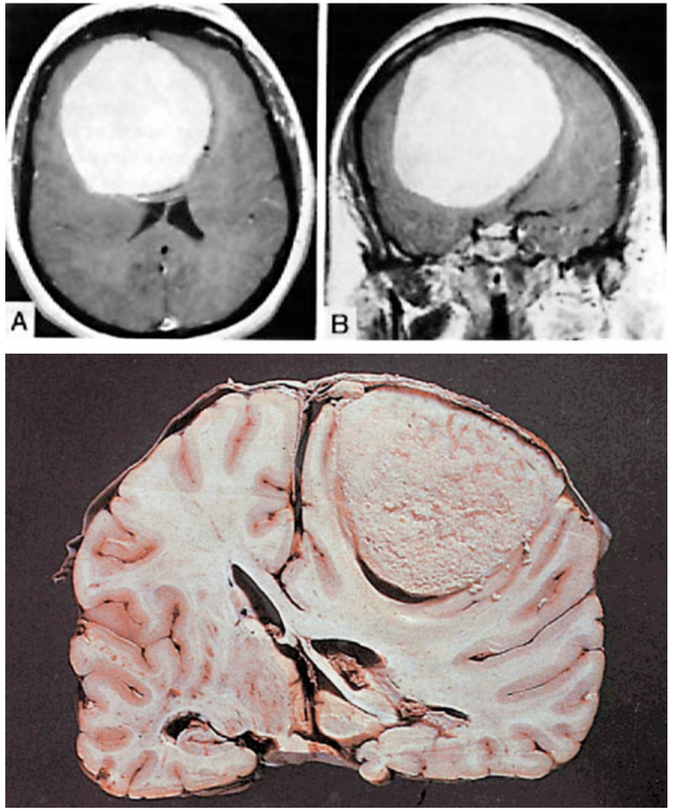
Radiação Óptica de Gratiolet

- Lobo temporal anterior (Alça de Mayer) → campos visuais superiores → Quadrantanopsia homônima superior → “pie in the sky”.
- Lobo parietal superior → campos visuais inferiores → Quadrantanopsia homônima inferior → “pie in the floor”.
- Perda visual homônima → ocorre no mesmo lado nos dois olhos.
- Perda visual heterônima → ocorre nos lados opostos nos dois olhos.
- Defeito congruente → mesmo tamanho nos dois olhos.
- Defeito incongruente → um lado pior que o outro olho.

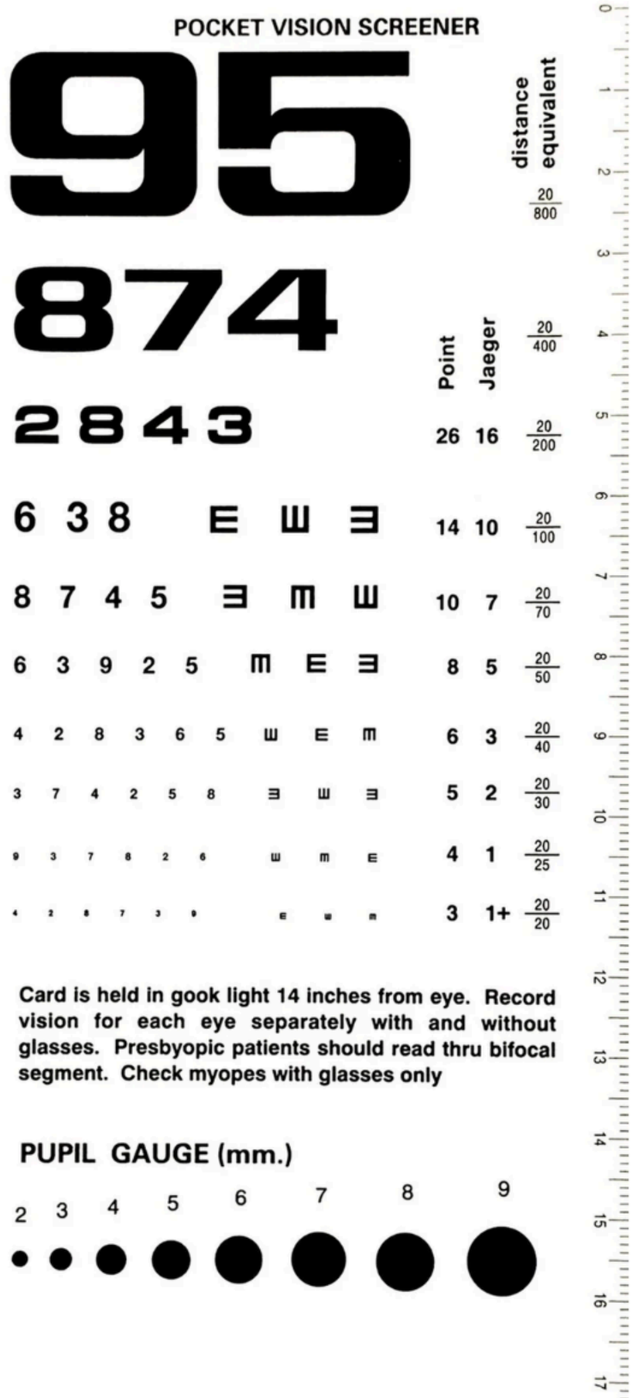
Sd. Foster-Kennedy

- Anosmia ipsilateral ao tumor
- Atrofia óptica ipsilateral ao tumor
- Papiledema contralateral ao tumor
- Meningeoma da goteira olfatória

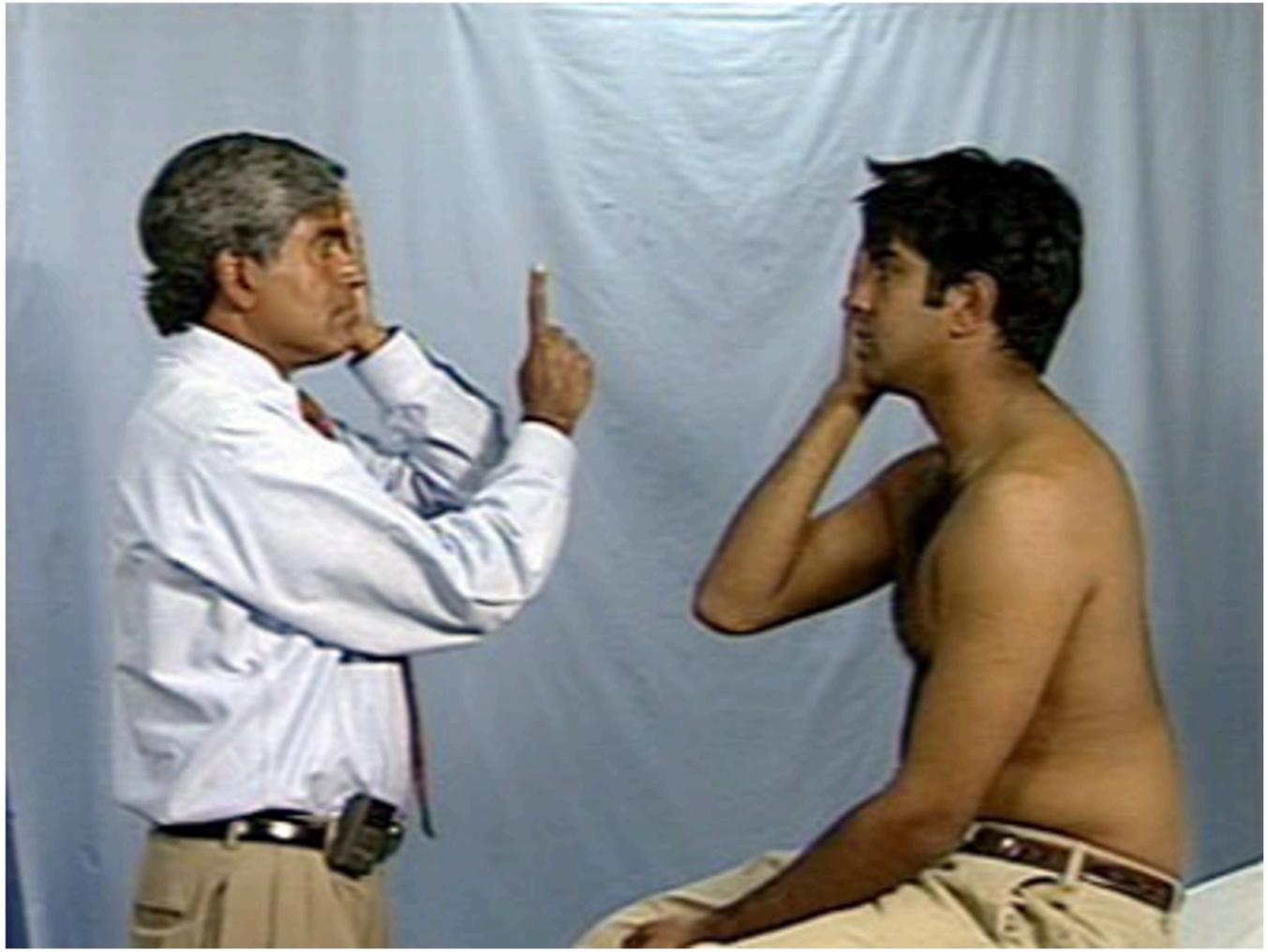




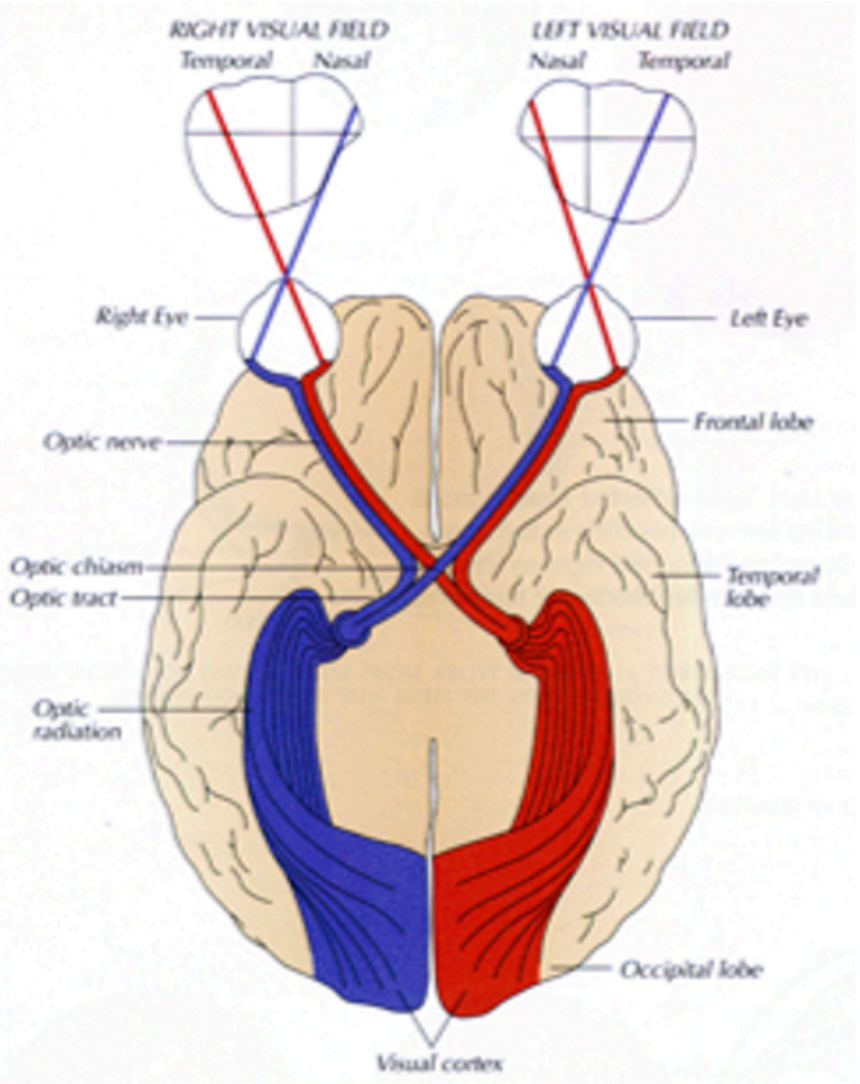
Cartão de Rosenbaum

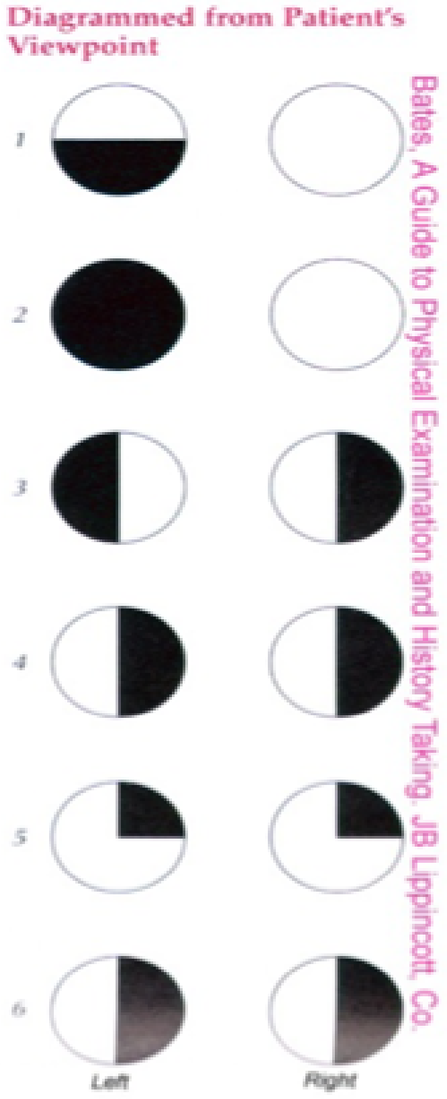


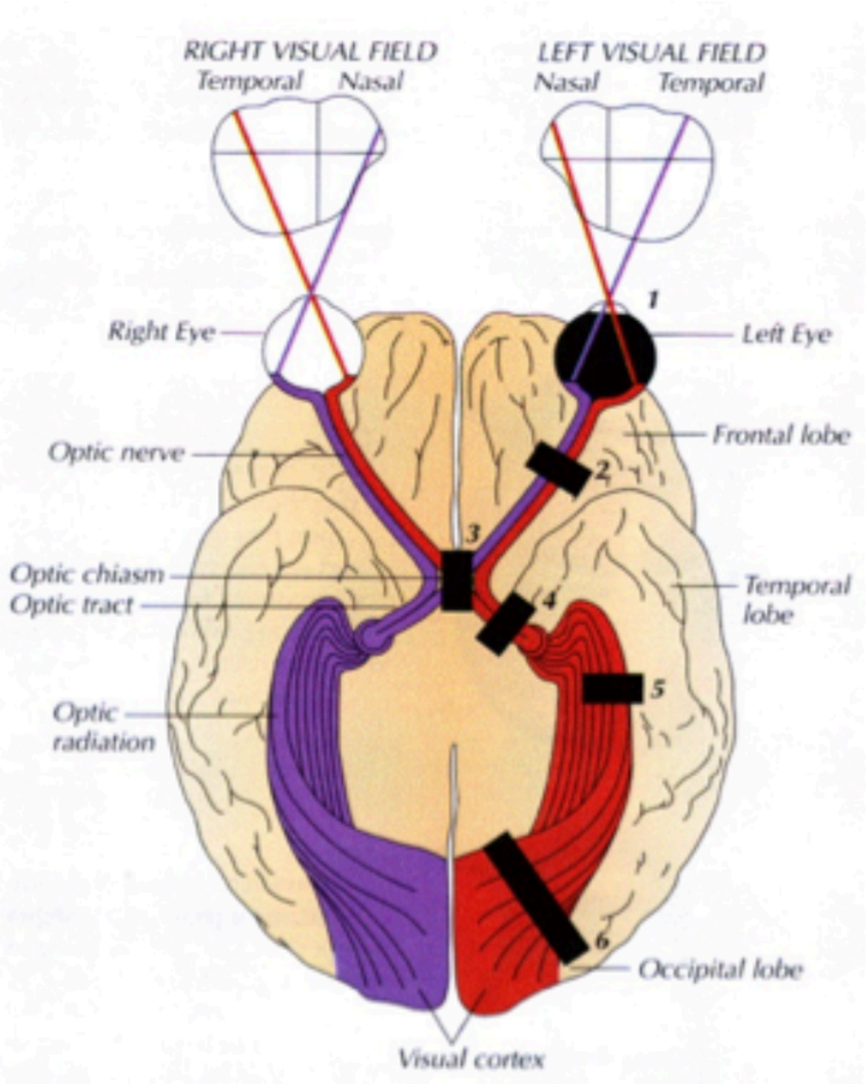
Teste de Confrontação



Campos Visuais



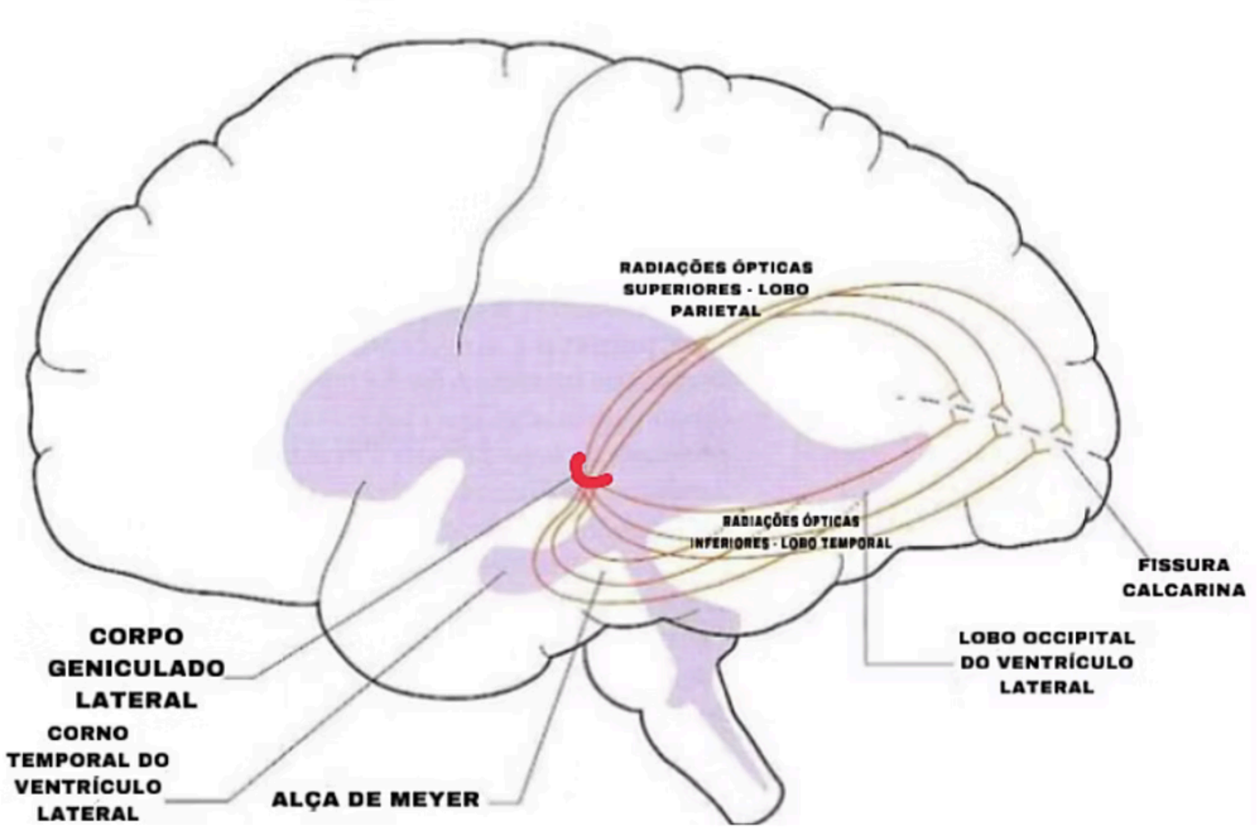




Vias Ópticas

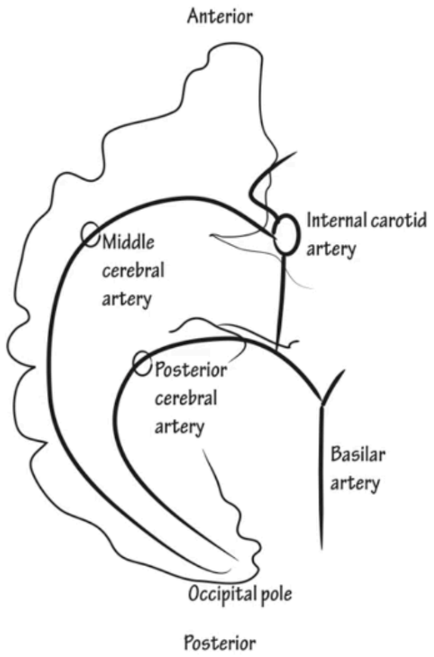
Campo visual inferior – Fibras Superiores - Lobo Parietal (Fascículo Superior da Radiação Óptica) - Quadrantanopsia homônima inferior.

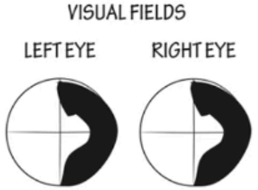
Campo visual superior – Fibras Inferiores - Lobo Temporal (Fascículo Inferior da Radiação óptica - Alça de Mayer) – Quadrantanopsia homônima superior.

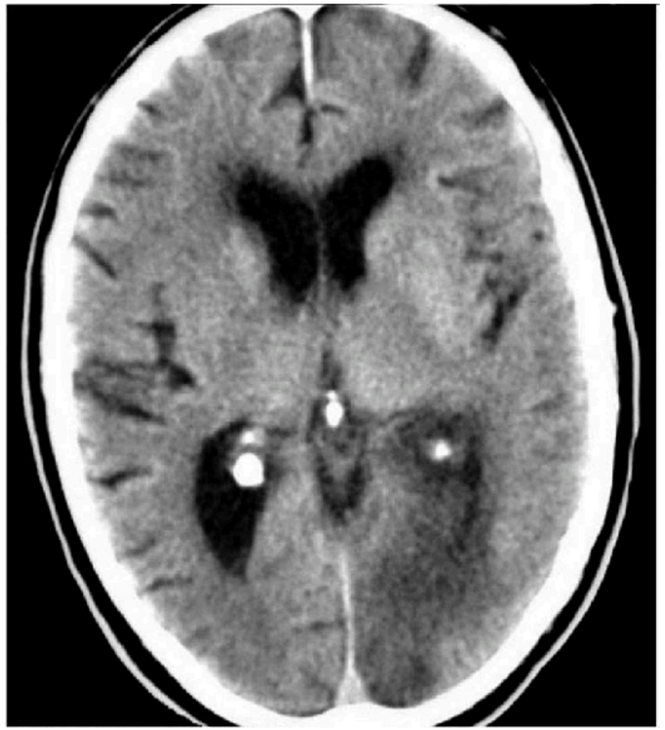


Vias Ópticas

Trato Óptico – Hemianopsia homônima contralateral.
Lobo Occipital – Hemianopsia homônima contralateral com preservação macular.

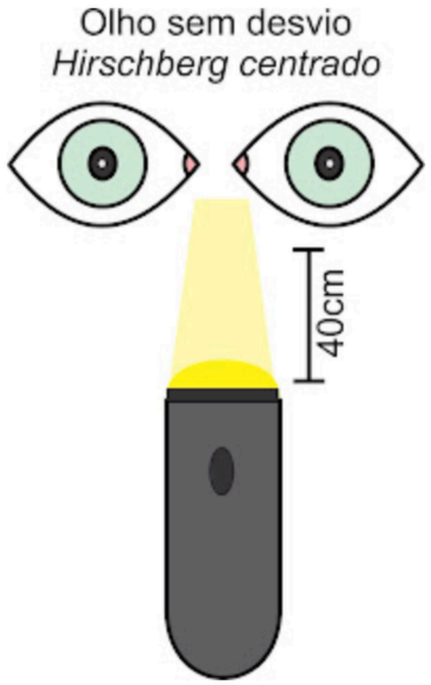


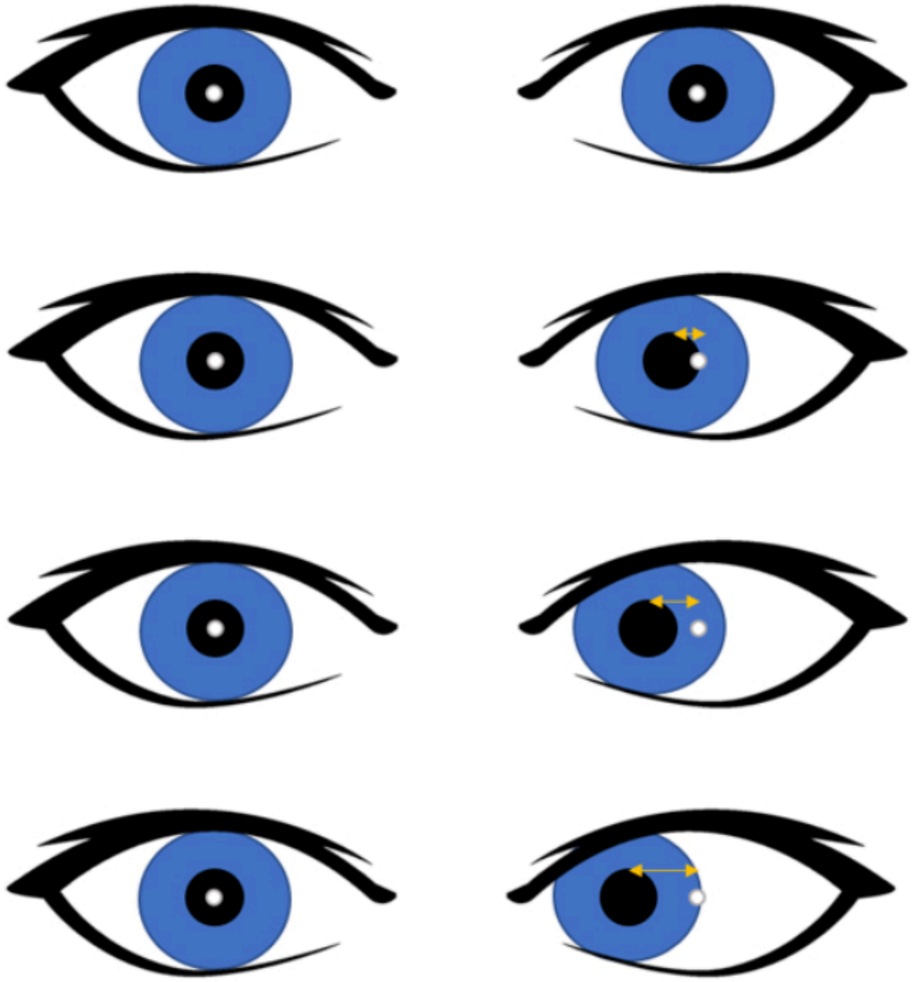




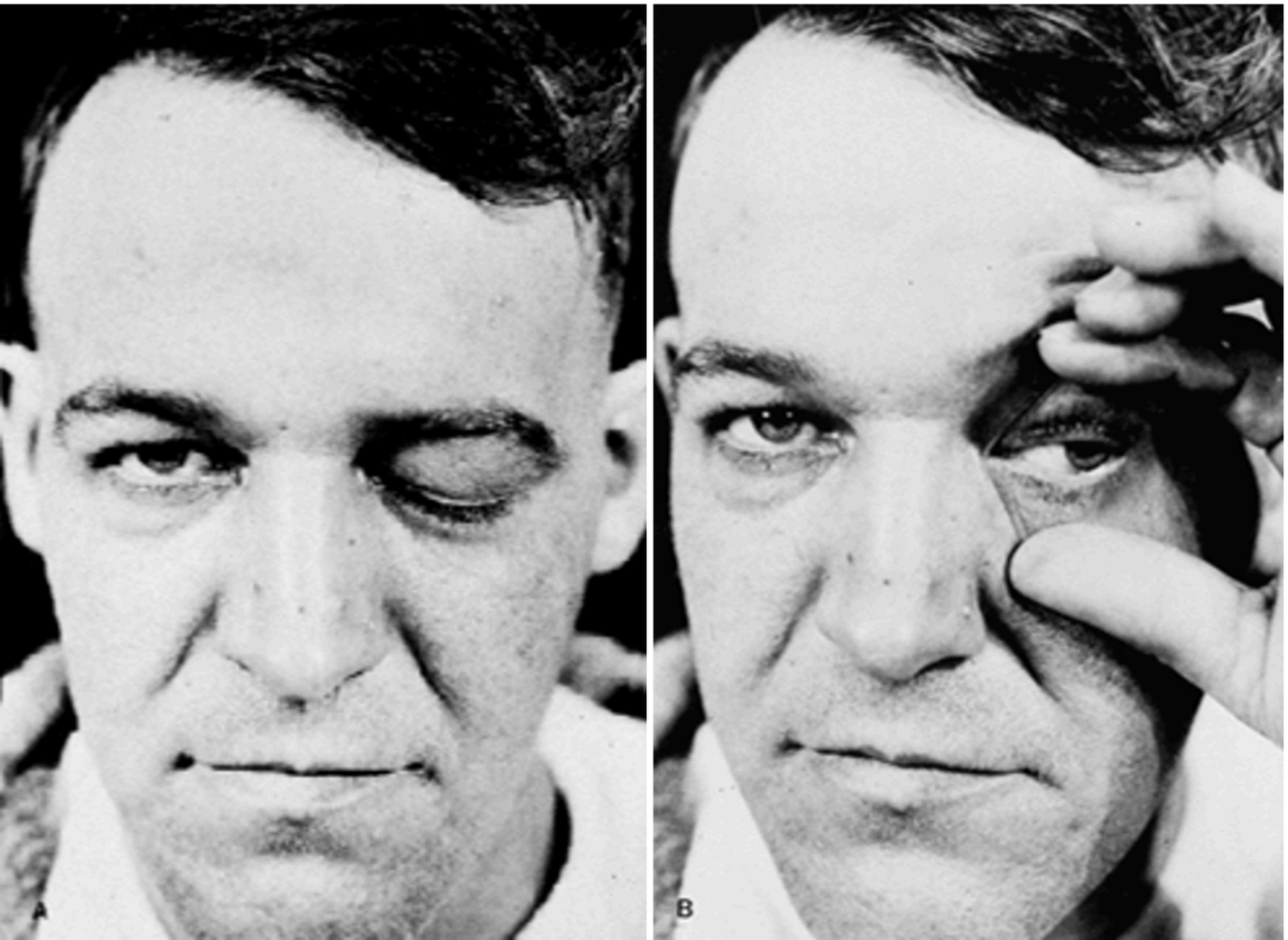
Teste de Hirschberg

Alinhamento ocular pelo reflexo luminoso corneano





III Par - Oculomotor





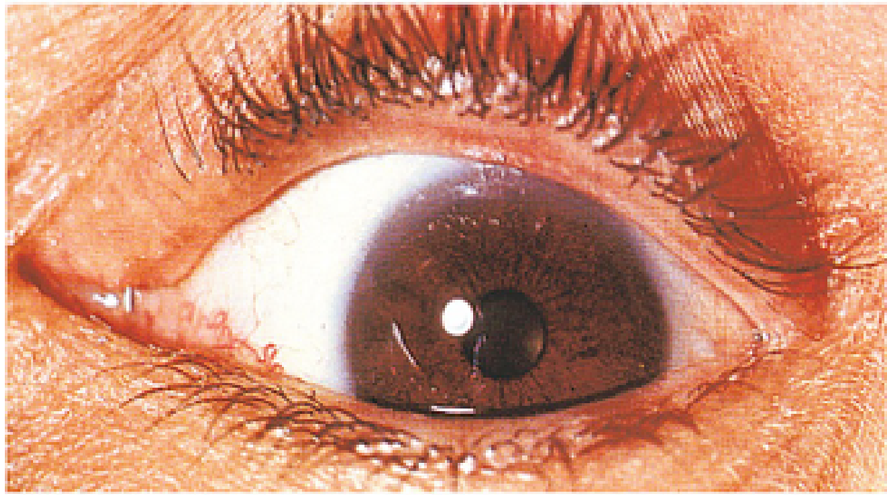


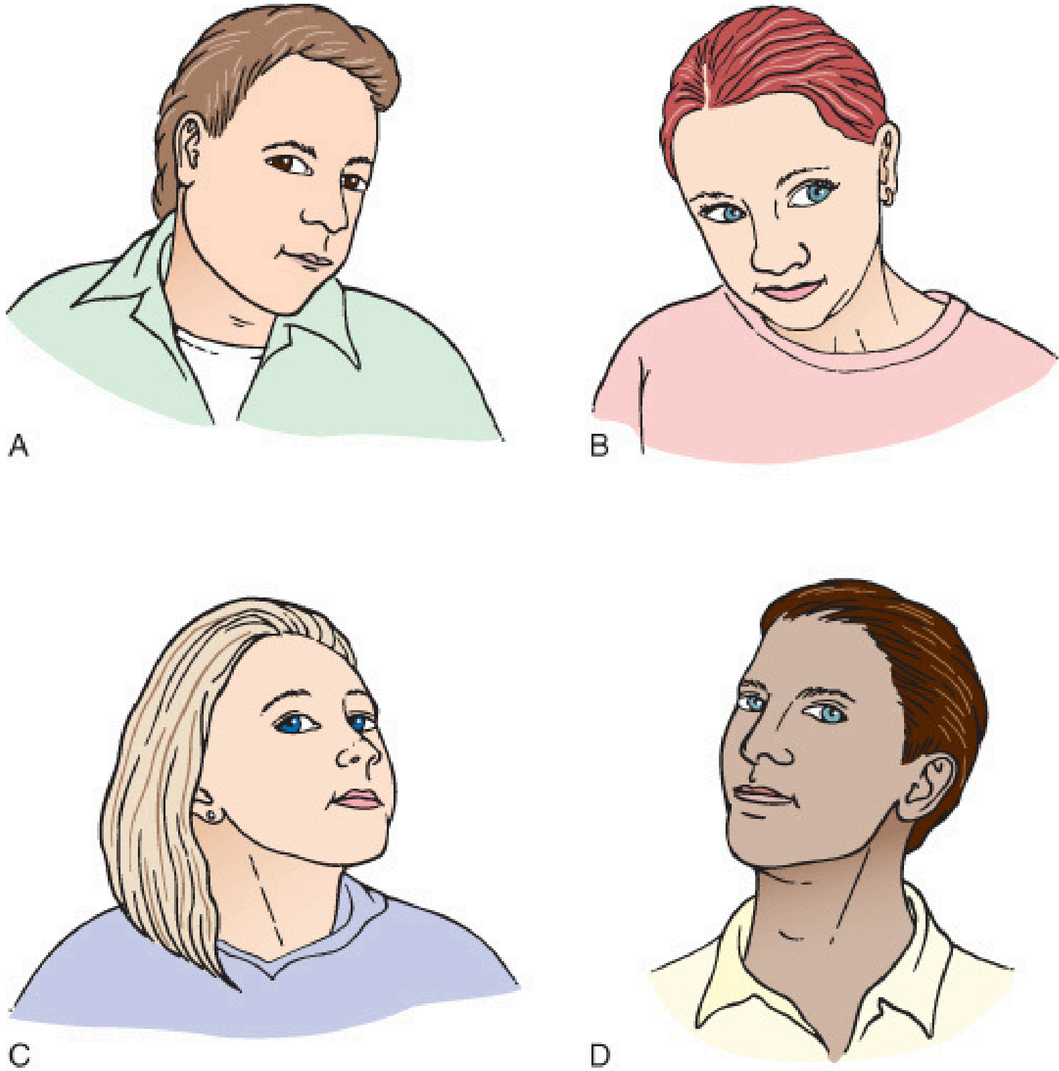
Fig. 15-22. Benedikt's syndrome. Left third-nerve palsy with pupil sparing.

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Nervo Troclear (Patético)

Sinal de Bielschowsky → paresia do m. oblíquo superior





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V Par - Trigêmeo

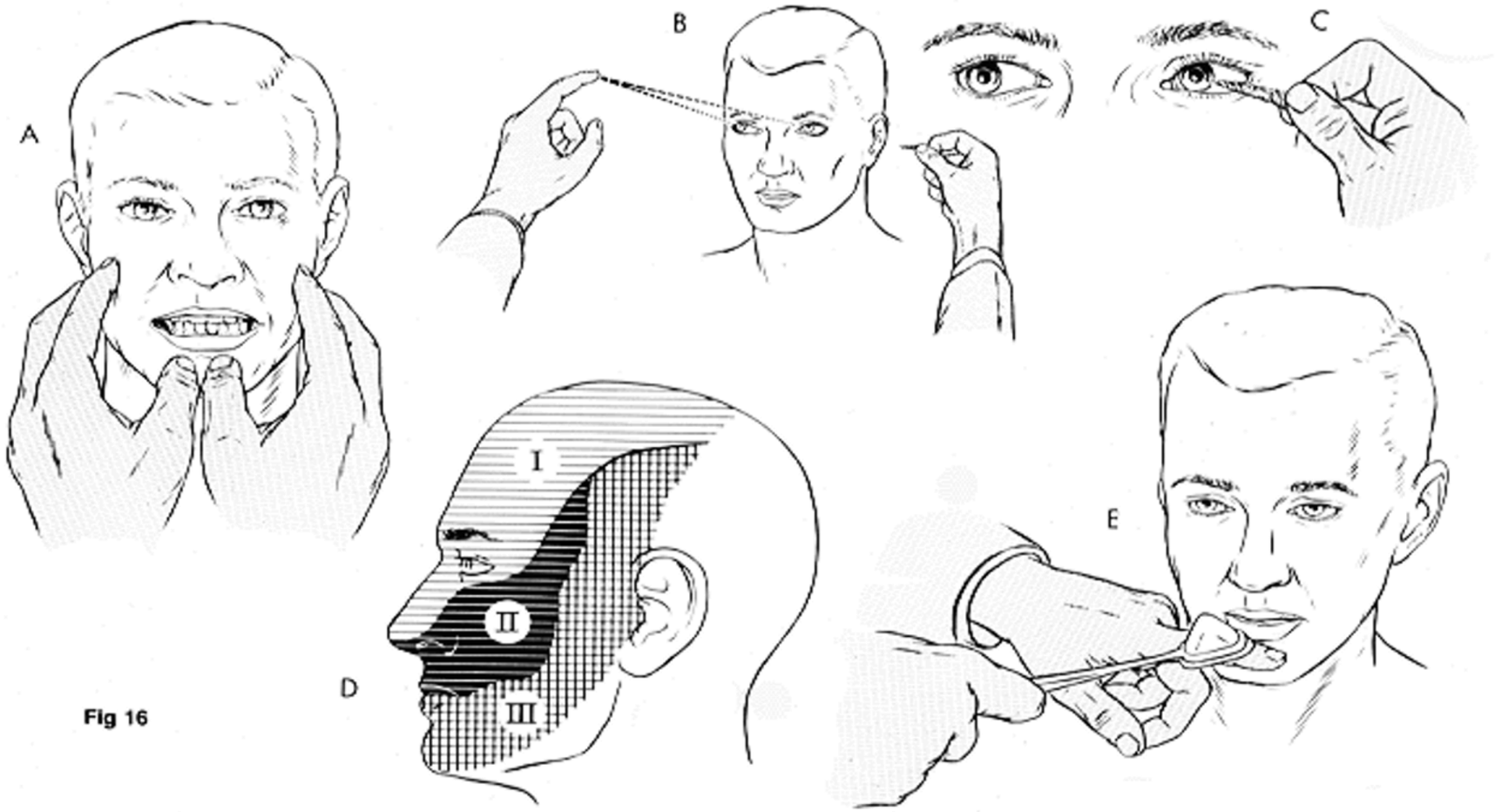


Fig 16



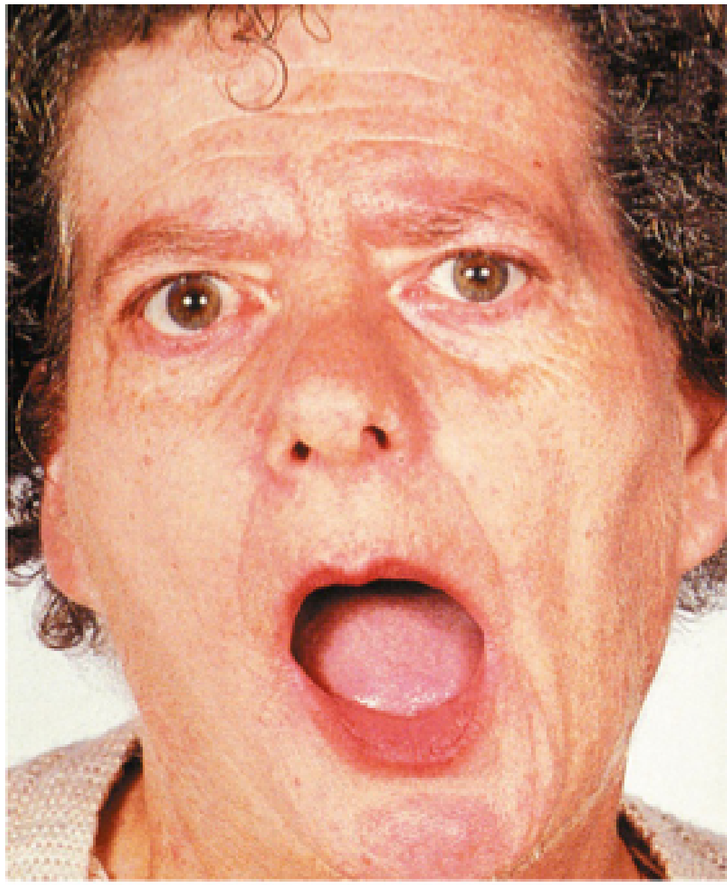
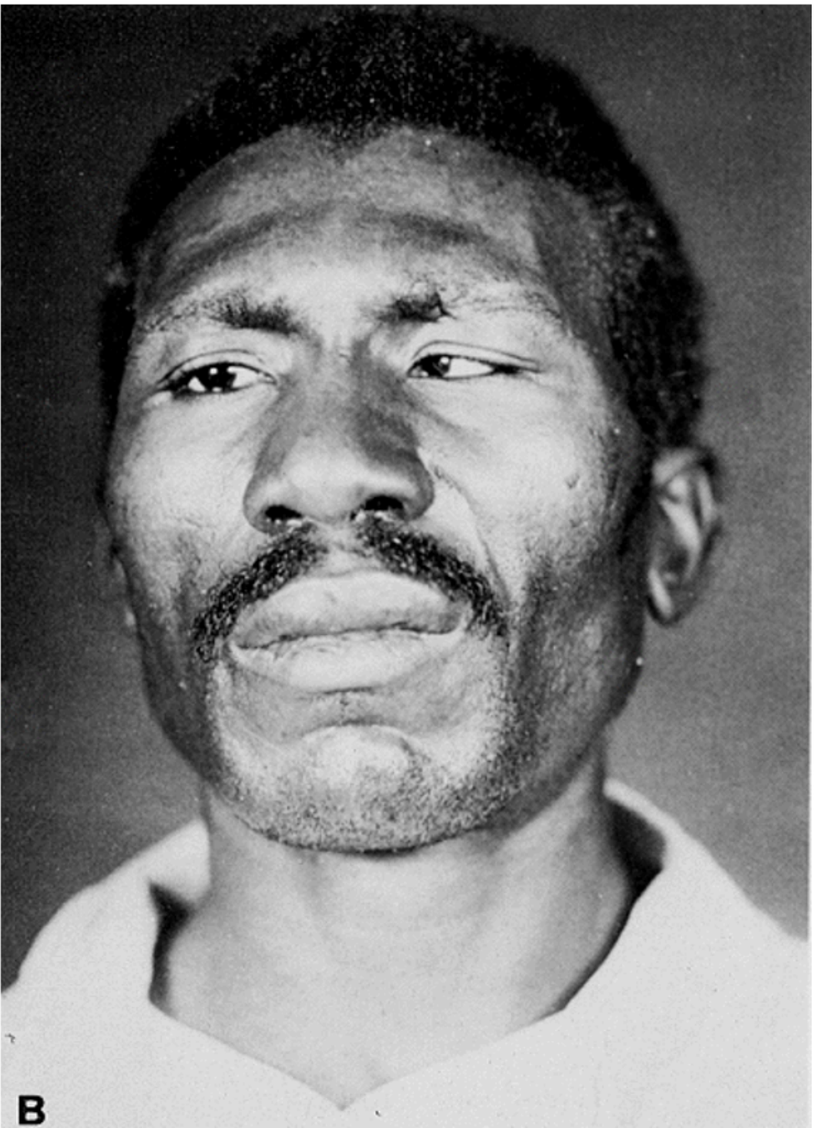
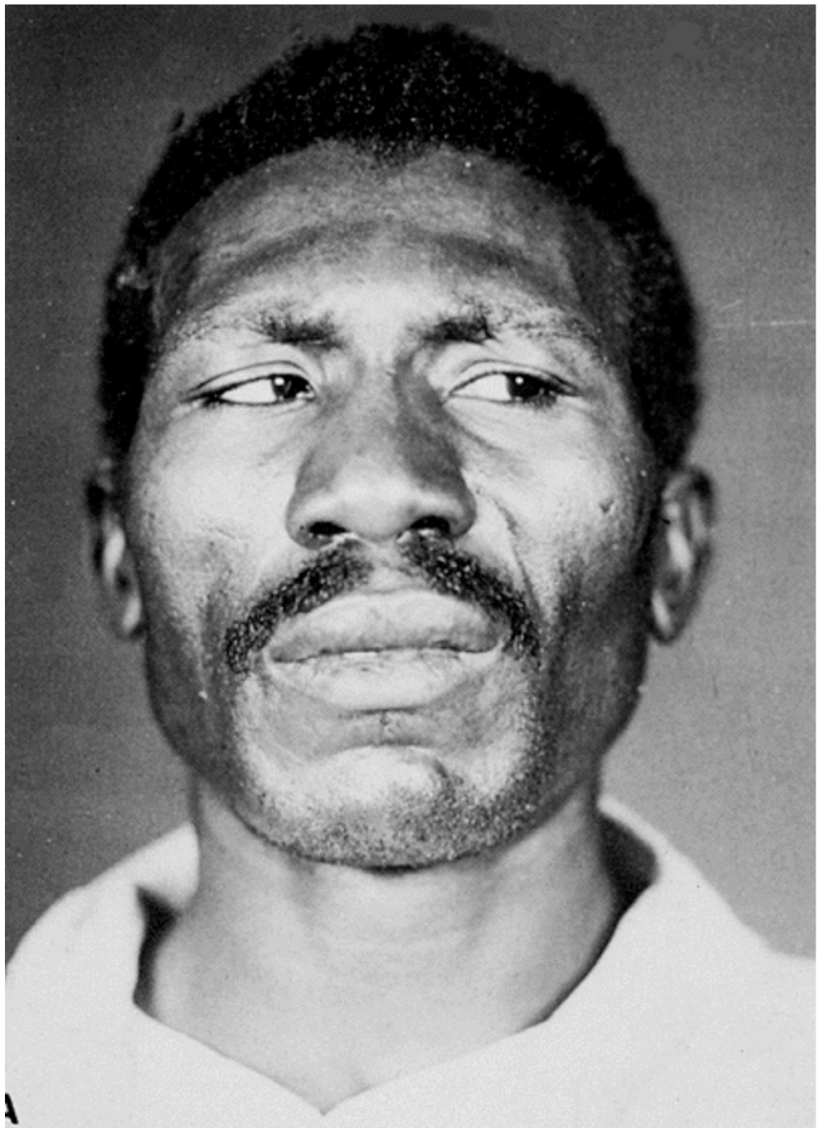


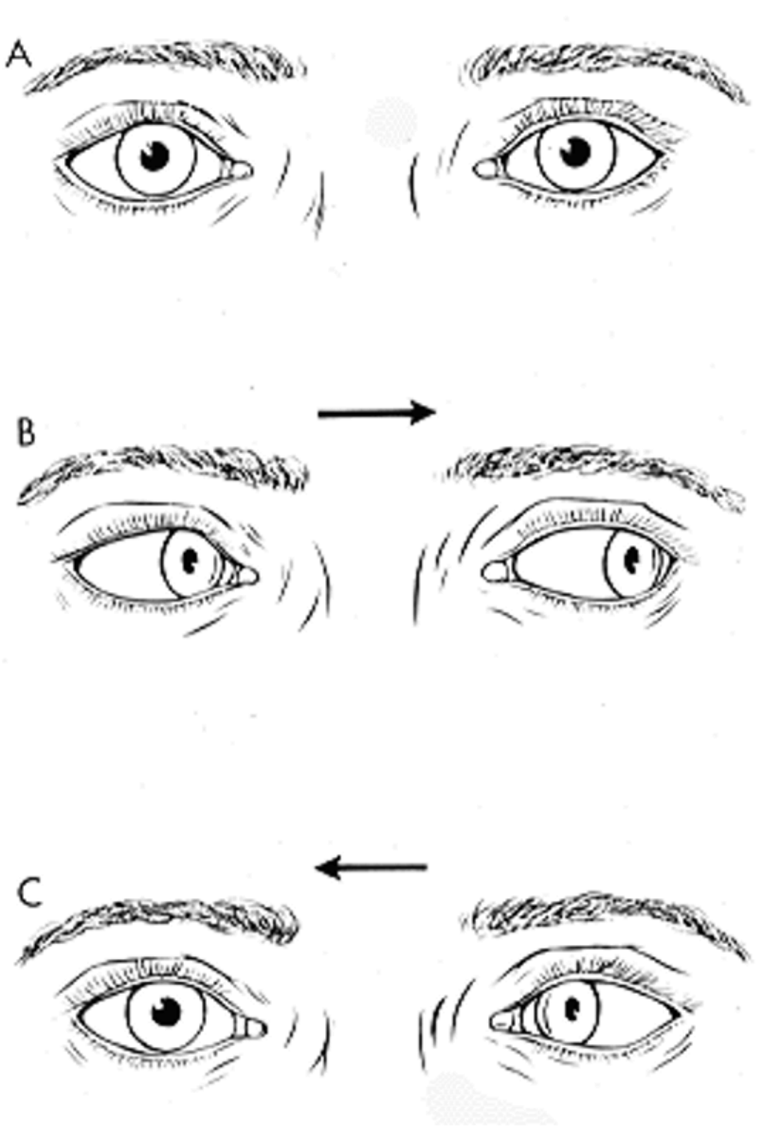
Fig. 15-51. Trigeminal lesion. Deviation of the jaw toward the left.

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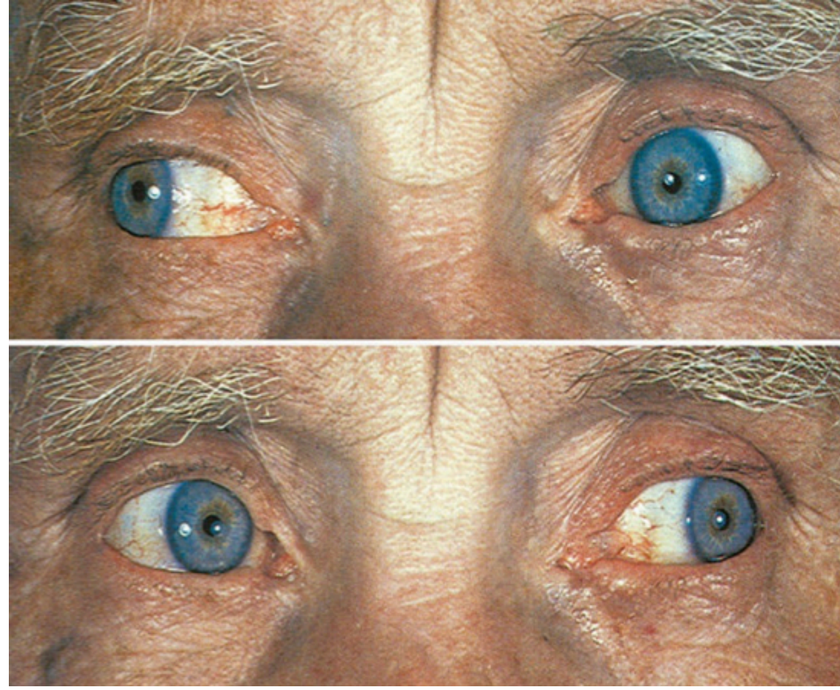
VI Par - Abducente







Movimento Ocular Conjugado Horizontal



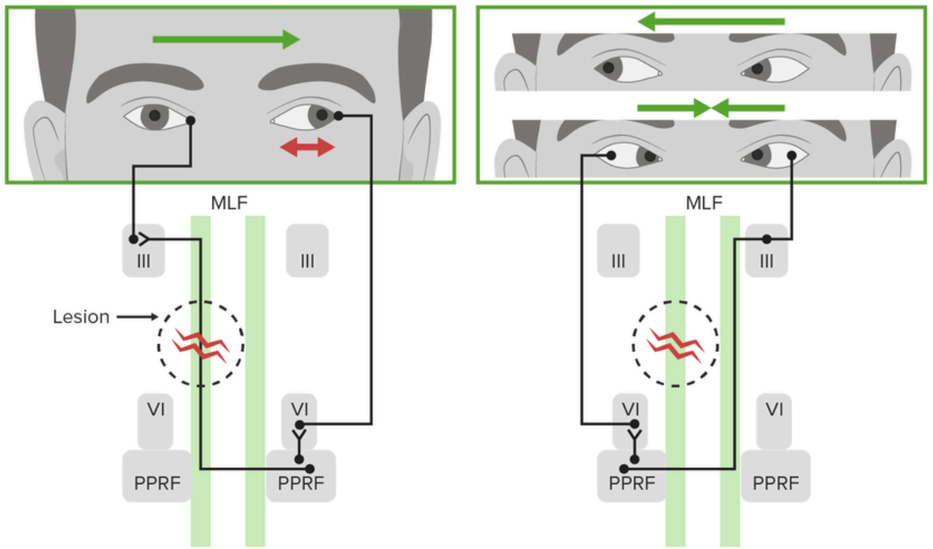
Oftalmoplegia Internuclear

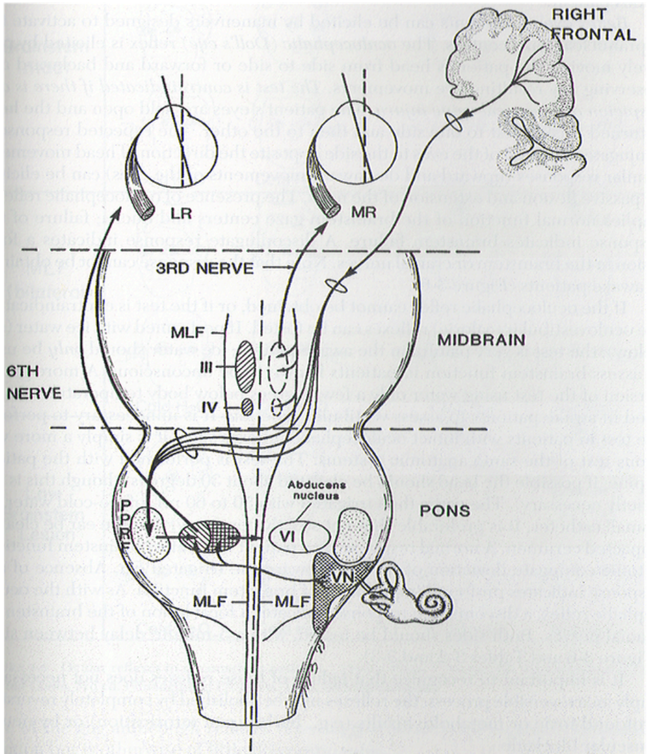
Lesão isolada do Fascículo Longitudinal Medial.

Déficit de adução do olho ipsilateral à lesão em movimentos oculares horizontais.

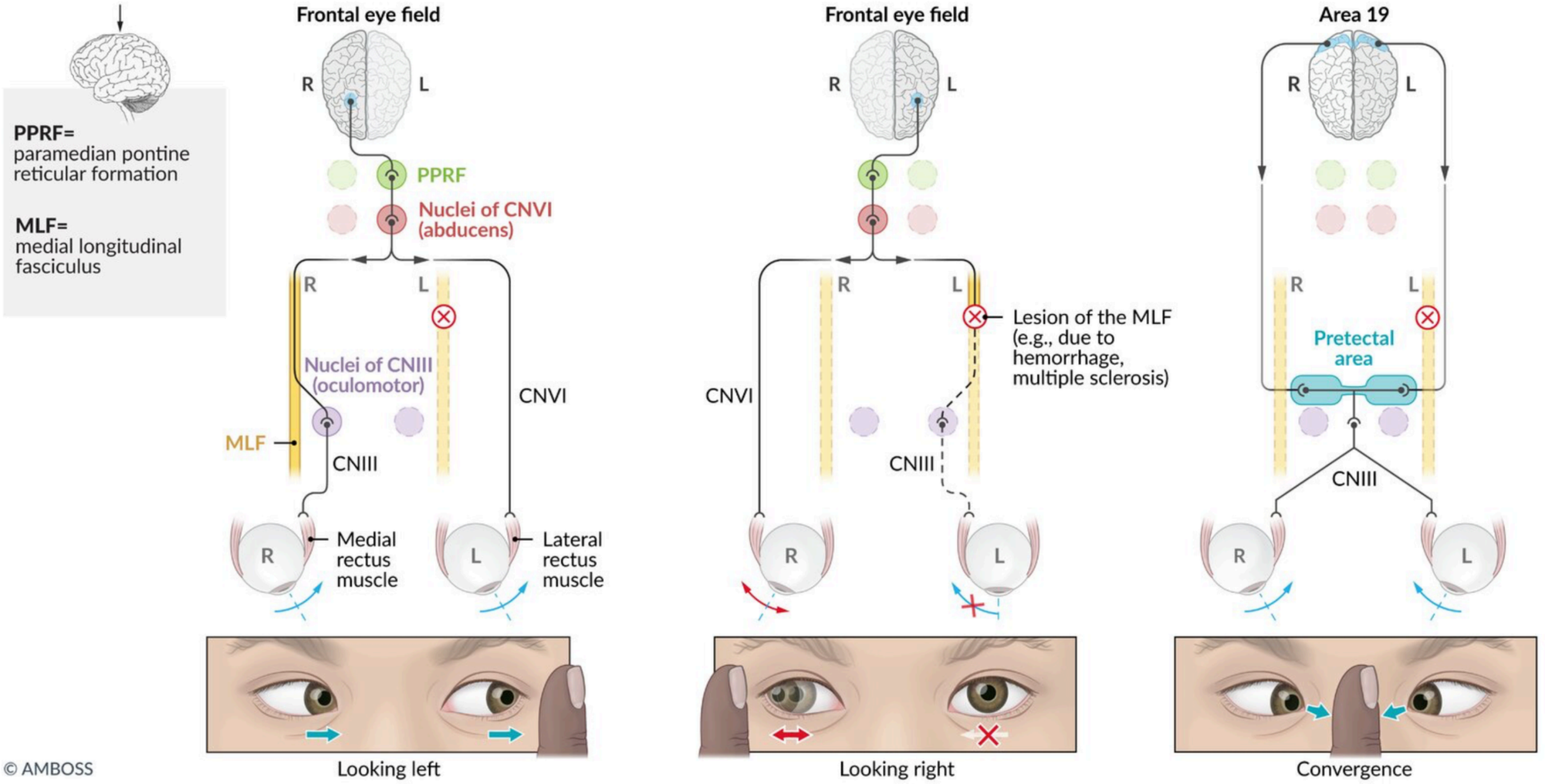
Nistagmo do olho contralateral (que abduz).

Preservação da convergência (pois o FLM não participa dessa via).



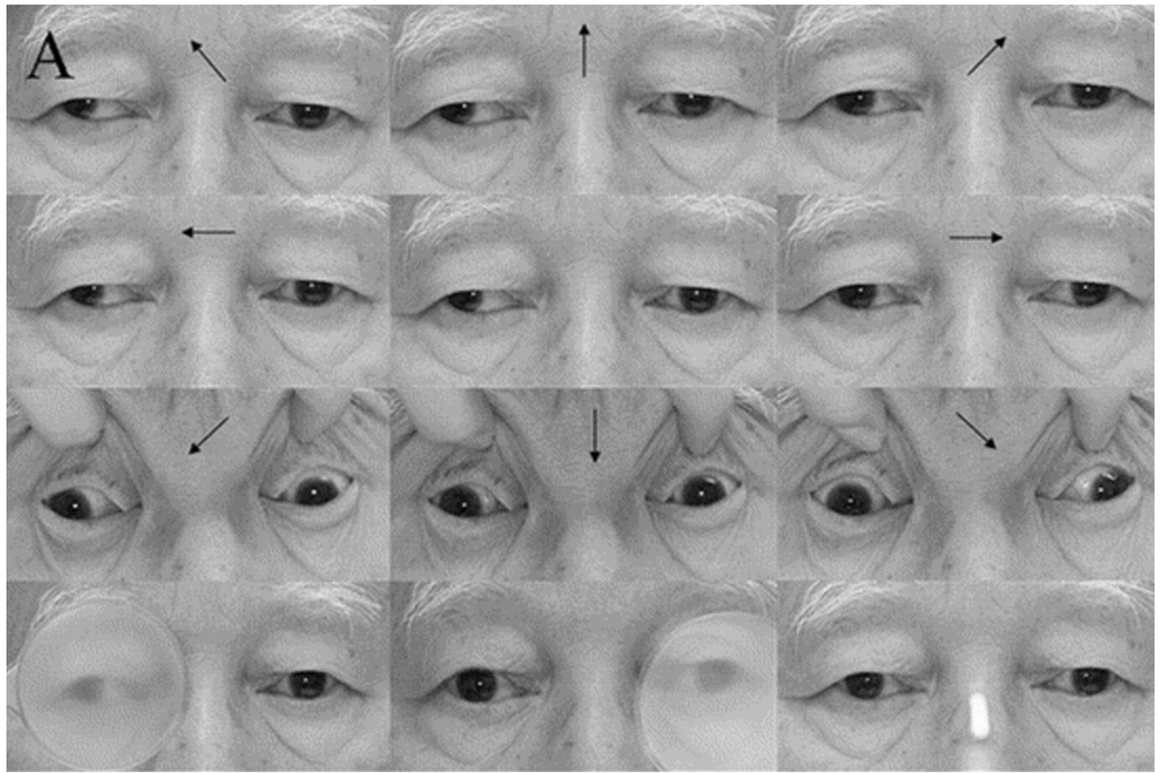


Oftalmoplegia Intermuclear



Wall-Eyed Bilateral Internuclear Ophthalmoplegia (WEBINO)

- Exotropia bilateral em posição primária do olhar (olhos voltados para fora).
- Déficit bilateral de adução.
- Nistagmo nos olhos em abdução.
- Perda da convergência.
- Nistagmo vertical evocado pelo olhar.

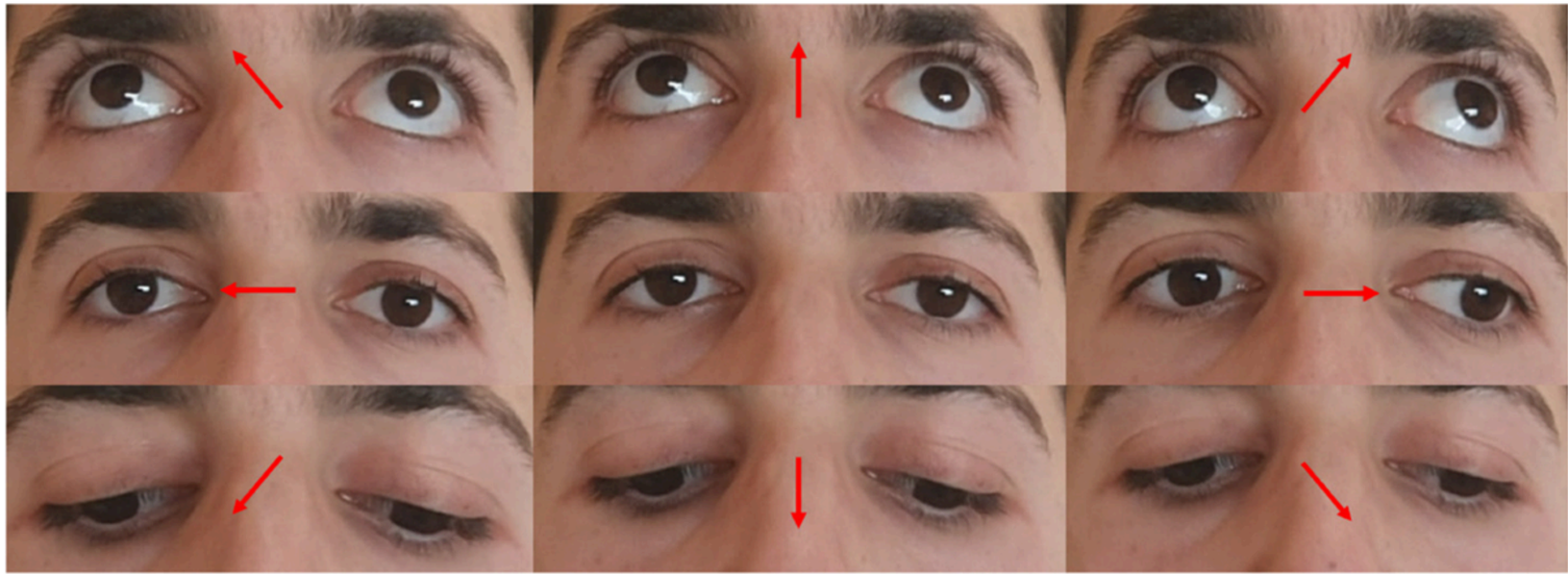


“One-and-a-Half” Syndrome

Paralisia do olhar conjugado horizontal ipsilateral (um)
Oftalmoplegia internuclear ipsilateral (meio)

- Paralisia completa do olhar horizontal para um lado.
- No olhar contralateral: limitação da adução do olho ipsilateral à lesão.
- Preservação apenas da abdução do olho contralateral.
- Movimentos verticais e convergência preservados.

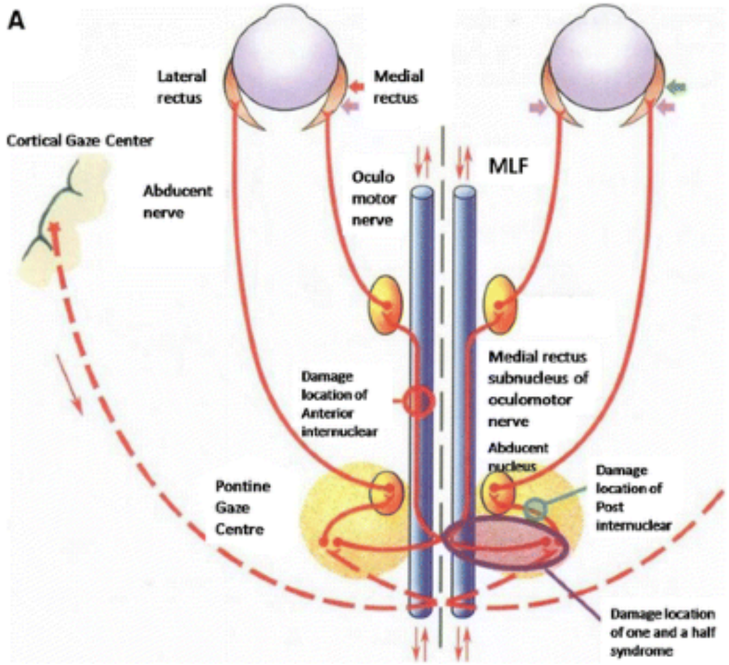
Lesão do FLM + núcleo VI → Síndrome “one-and-a-half”.

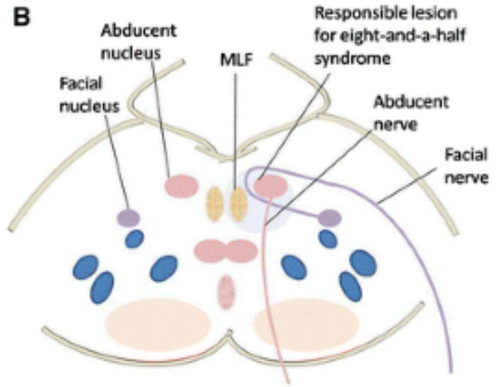


“Eight-and-a-Half” Syndrome

Combinação da síndrome do “one-and-a-half” com paralisia do nervo facial (VII) na mesma topografia pontina.
Lesão do FLM + núcleo VI + nervo VII → Síndrome “eight-and-a-half”.



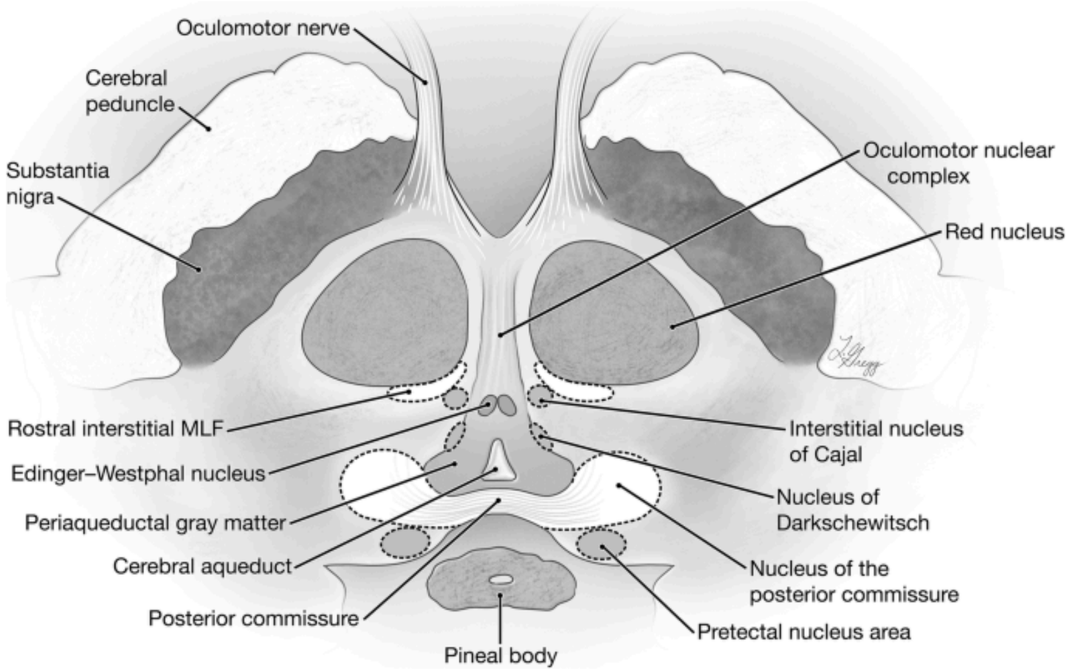




Movimento Ocular Conjugado Vertical

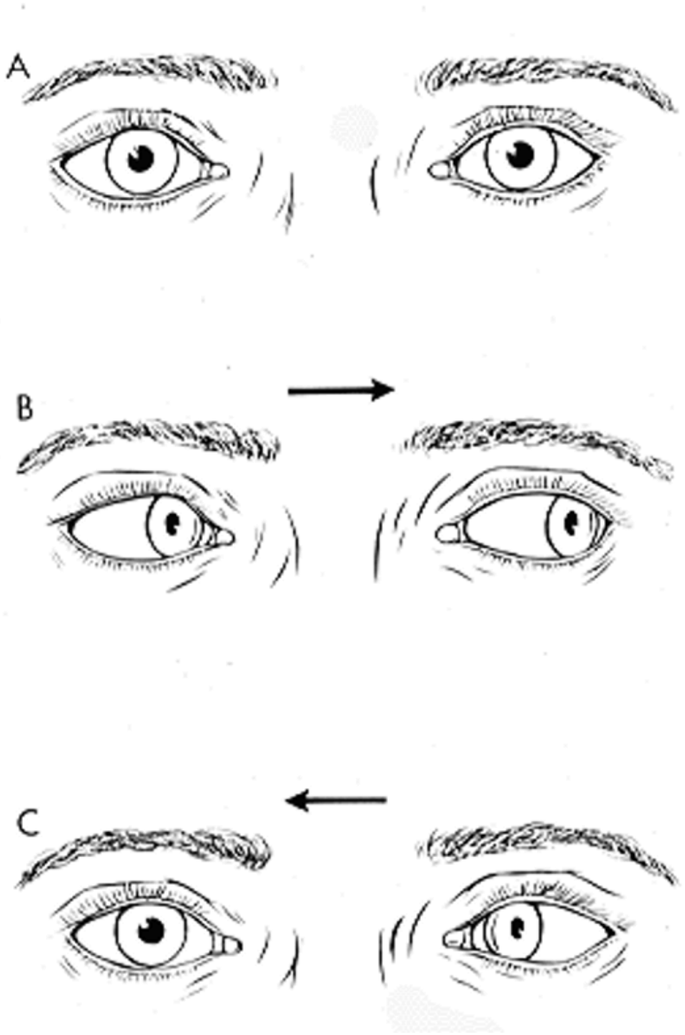
Sd. Parinaud

Núcleo intersticial do Fascículo Longitudinal Medial (N. Cajal) - Mesencéfalo





VI Par - Abducente



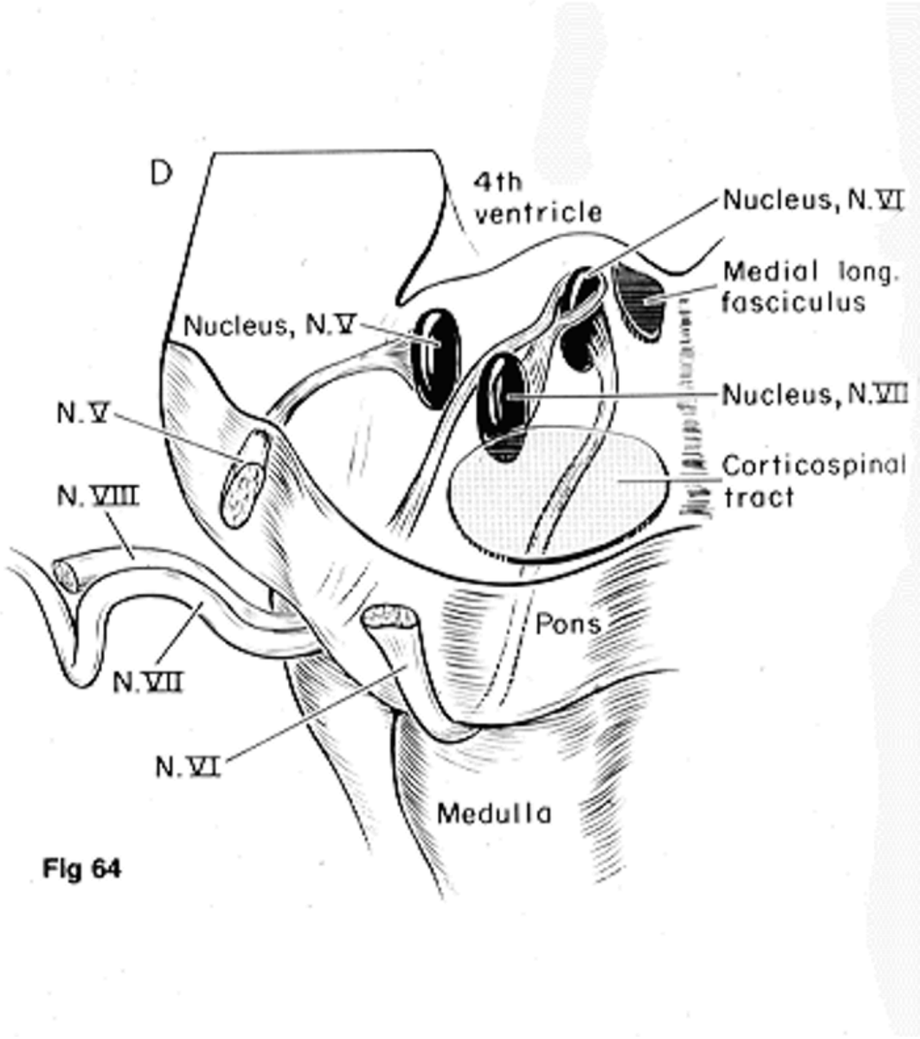


Fig 64

VII Par - Facial







VII Par - Facial

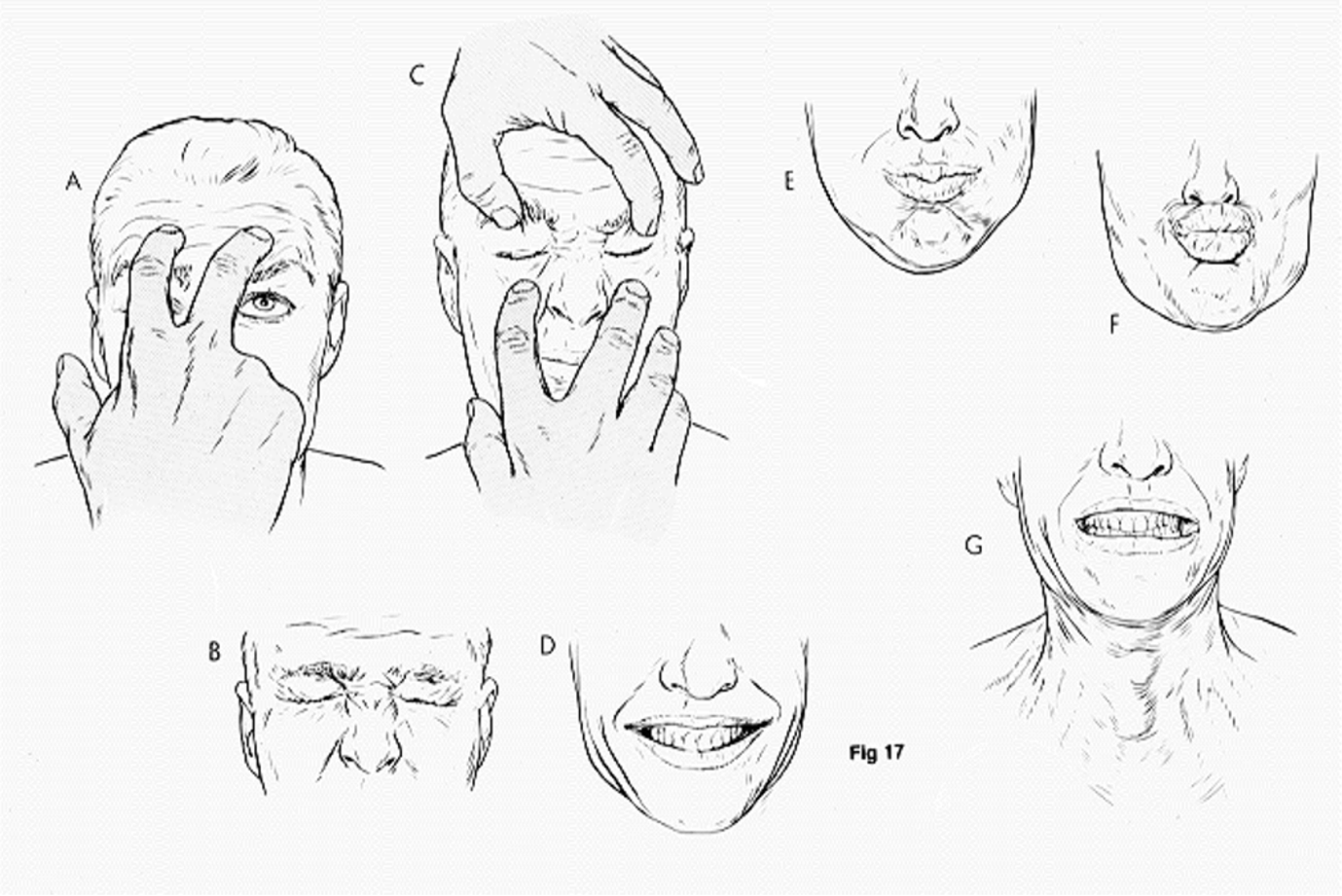
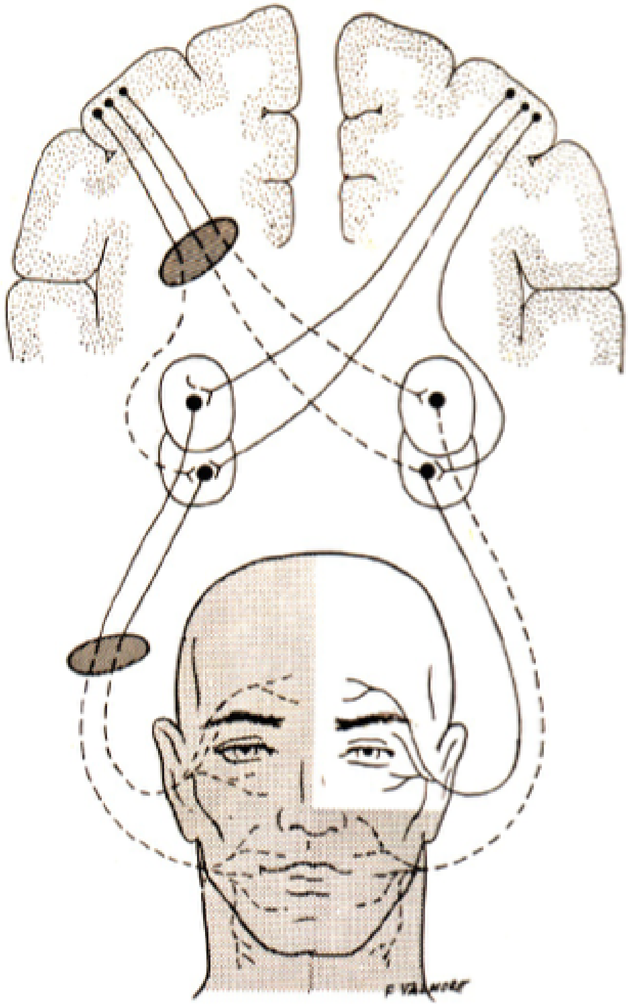
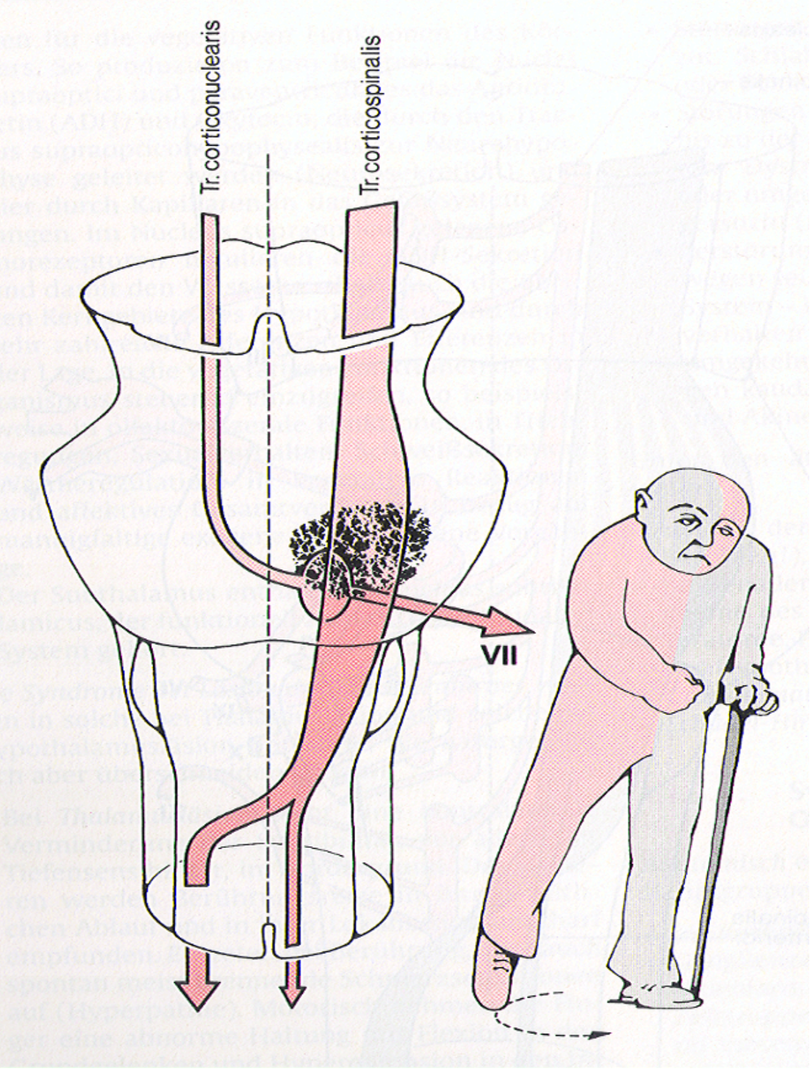
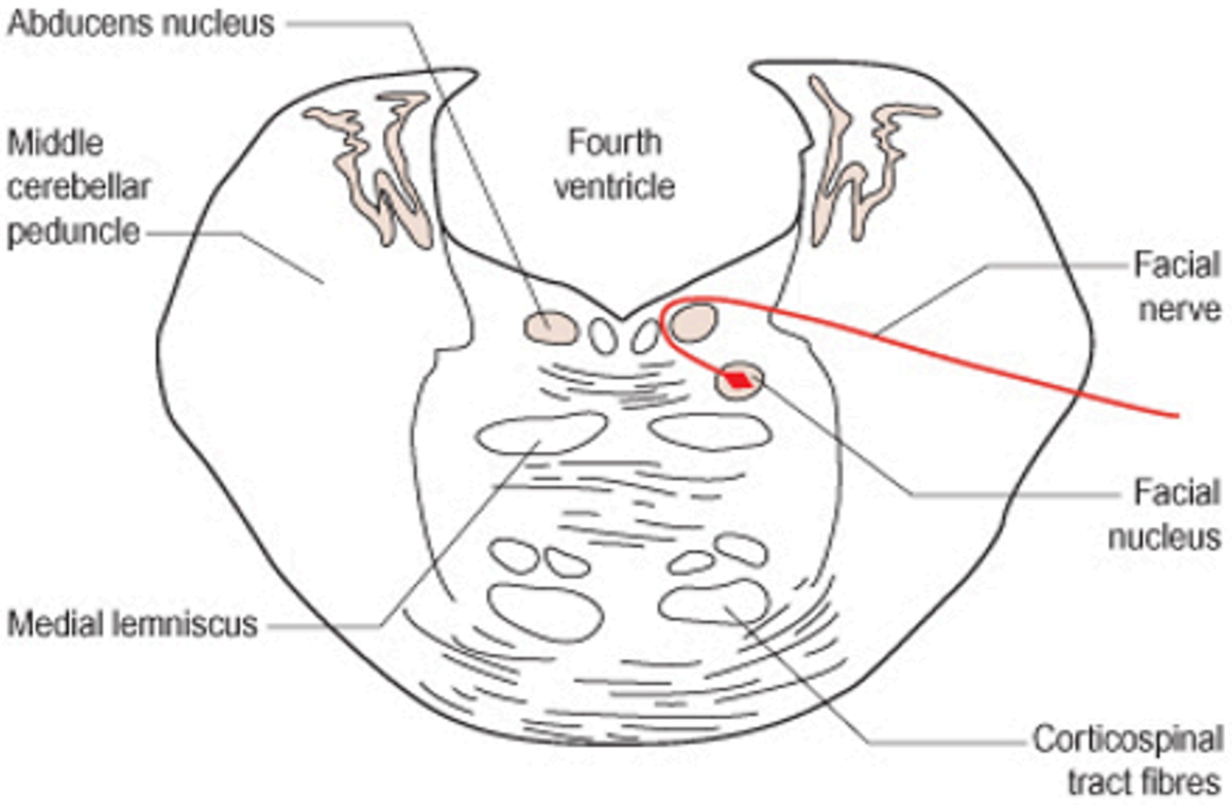


Fig 17

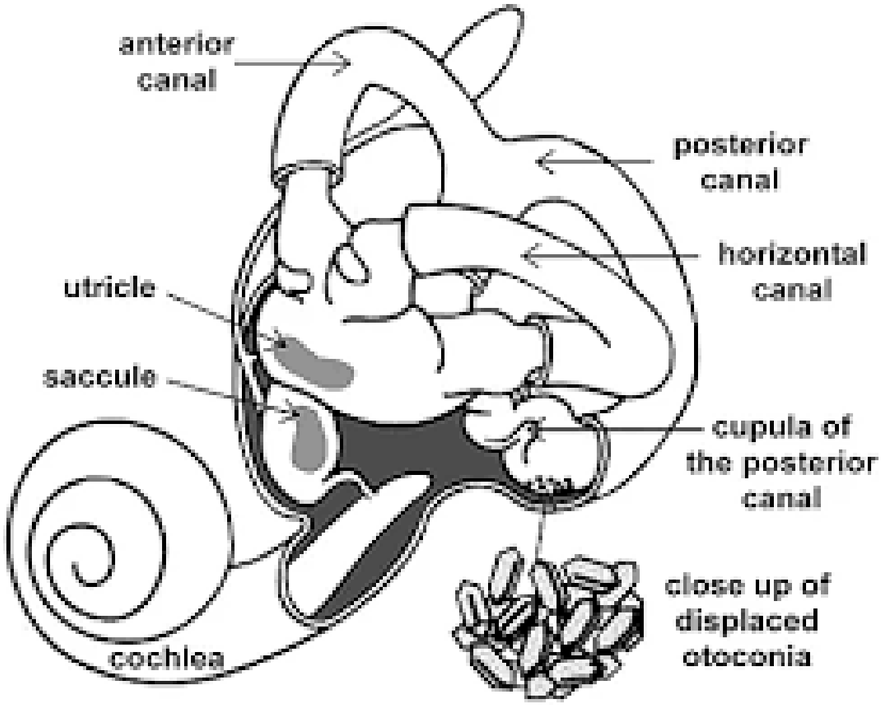


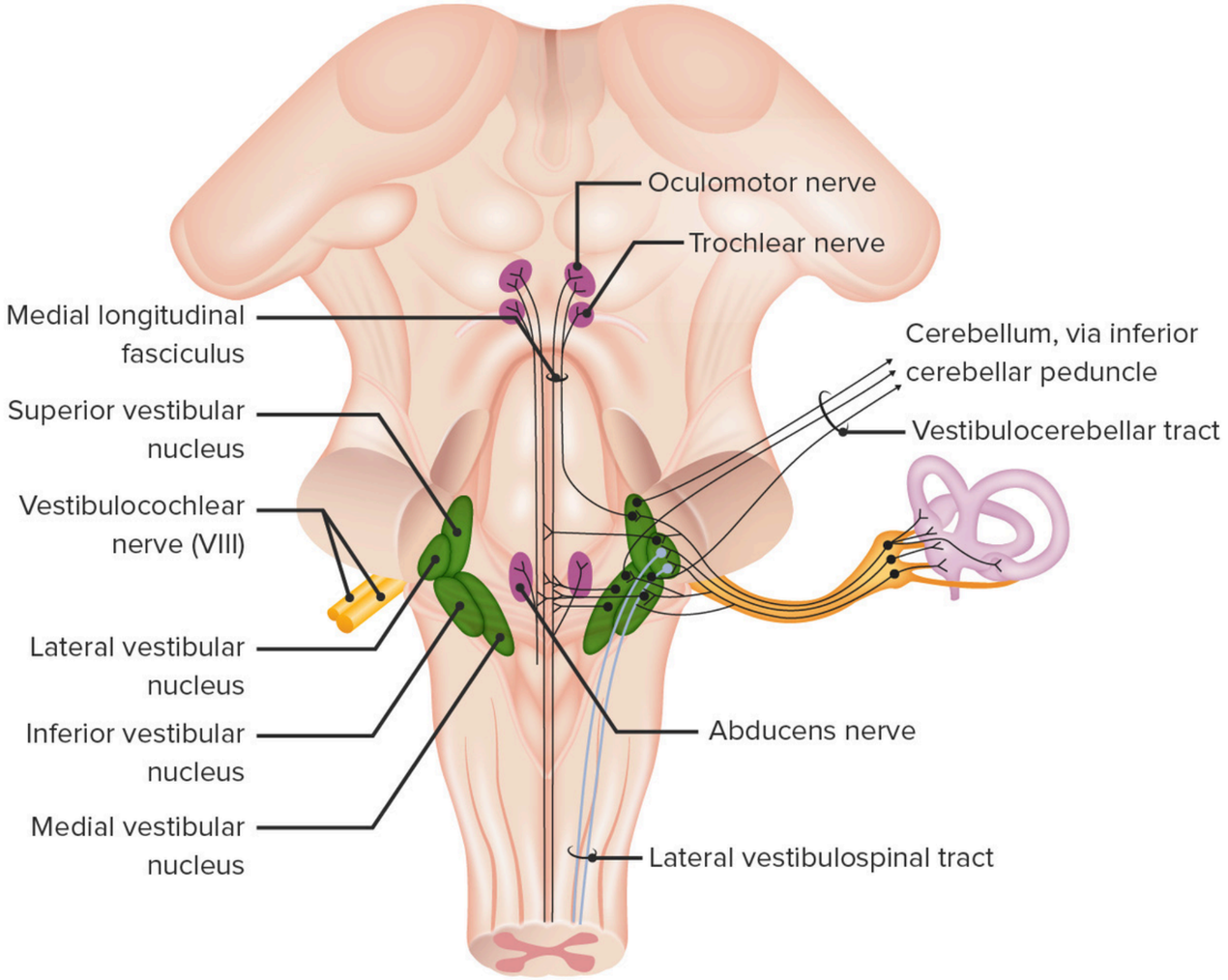
Hemiparesia Alterna





VIII Par - Vestibulococlear

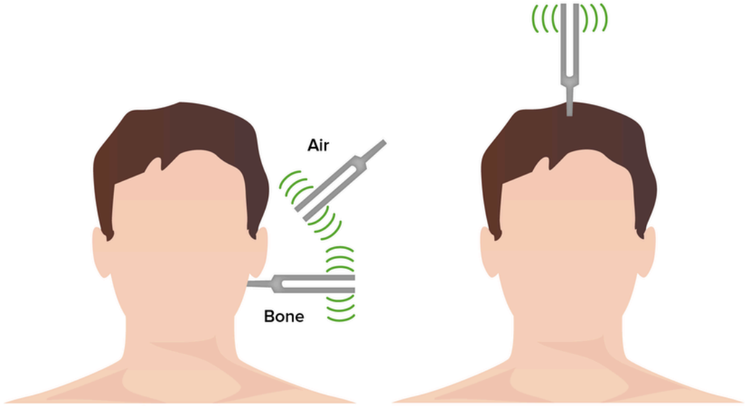




Teste de Rinne e Weber

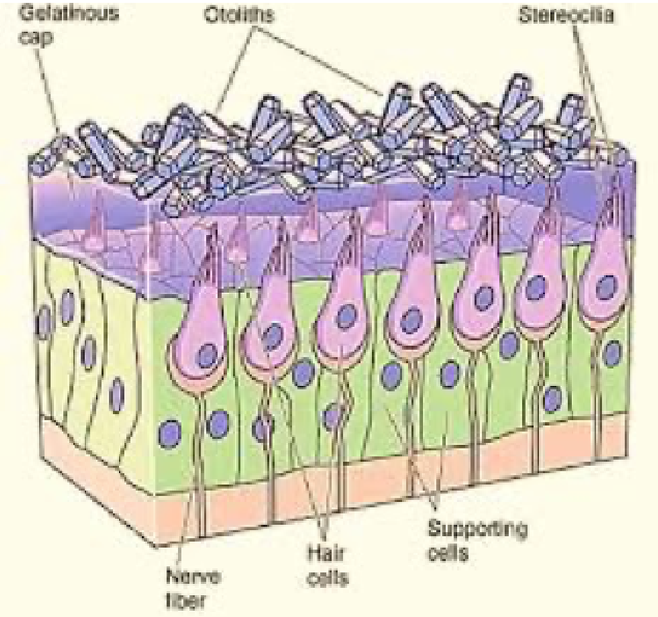
Teste de Rinne - Diapasão na mastóide do paciente - Parou de sentir a vibração? - Diapasão colocado justaposto a orelha.

Teste de Weber - Diapasão na linha média do crânio do paciente - Som lateraliza para o lado da hipoacusia condutiva ou para o lado oposto da hipoacusia neurossensorial.

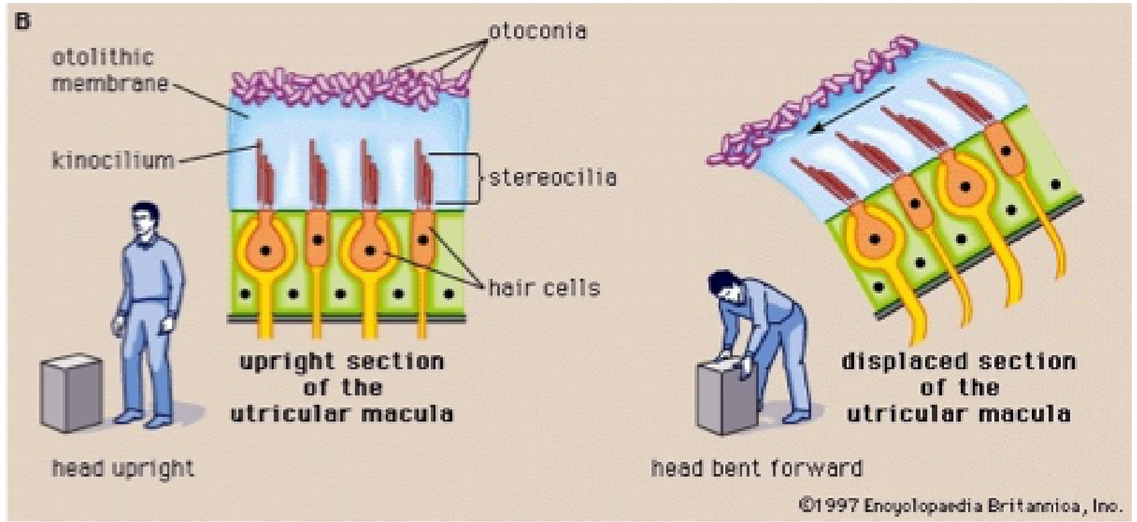


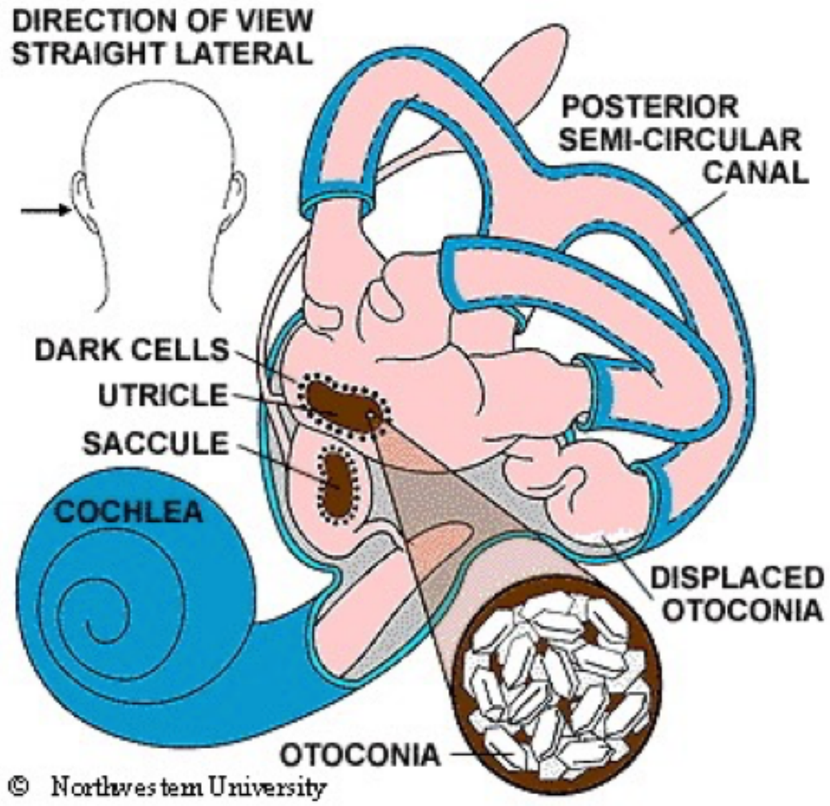
Hearing loss	Rinne test (Conduction)	Weber test (Localization)
None	Air > bone	Midline
Sensorineural		Normal ear
Conductive	Bone > air	Affected ear

Vertigem Paroxística Posicional Benigna



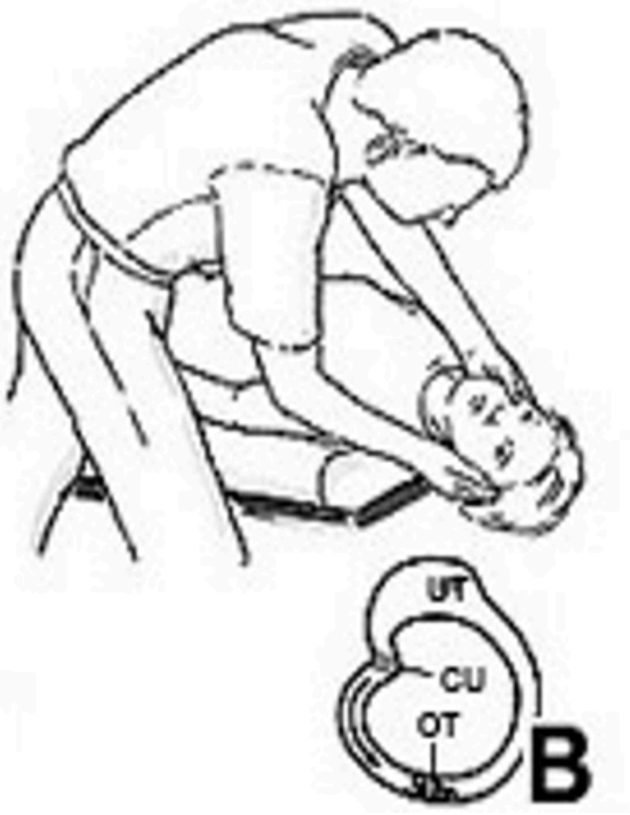
Deslocamento das otocônias para o braço longo do canal semicircular posterior





Manobra de Dix-Hallpike



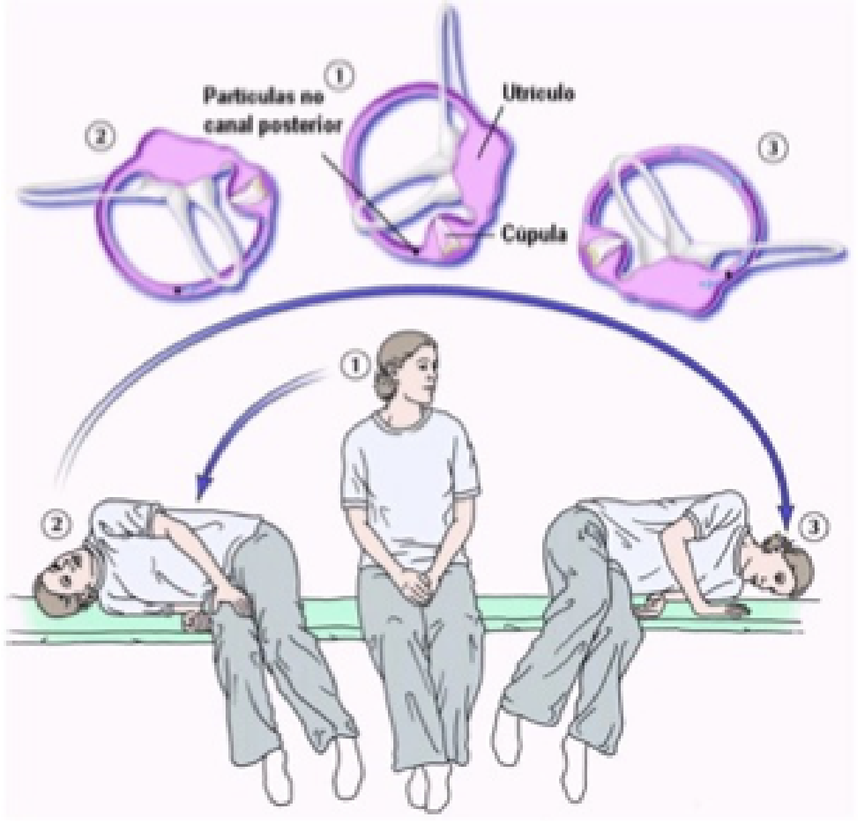


Manobra de Dix-Hallpike

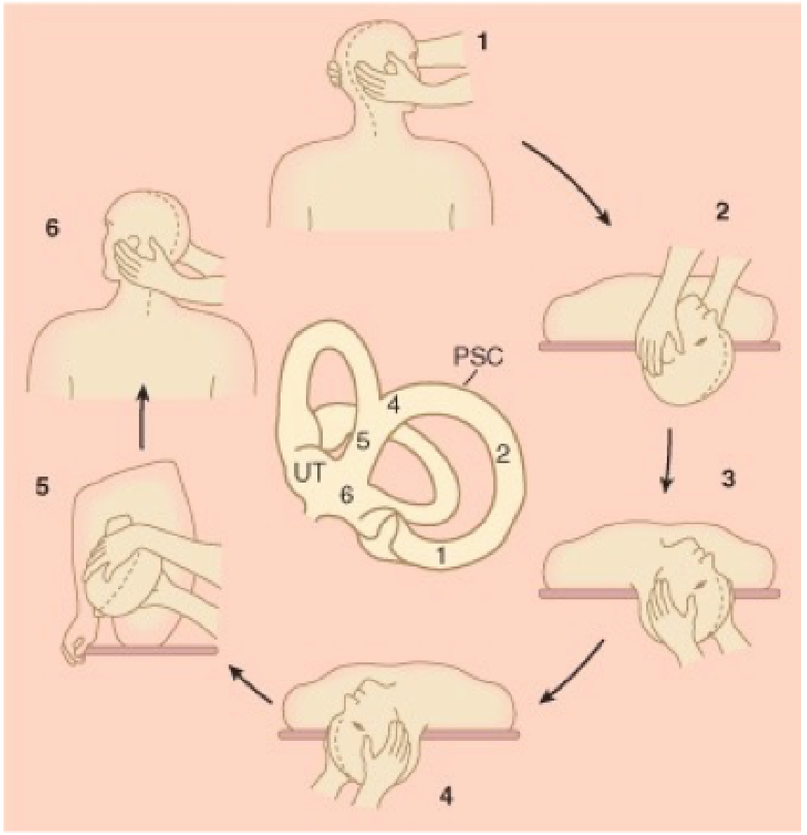
Nistágmo	Direção	Latência	Duração	Fatigabilidade
Vertigem Posicional Central	Vertical puro (upbeat/downbeat) Rotatório puro Muda direção sem mudar posição da cabeça	Ausente	> 1 minuto	Ausente
VPPB	Componente vertical para cima e rotatório para a orelha de baixo (geotrópico com inversão)	1 a 15 s	< 1 minuto	Presente

Tratamento

Manobra de Semont



Manobra de Epley



Labirintite e Neuronite Vestibular

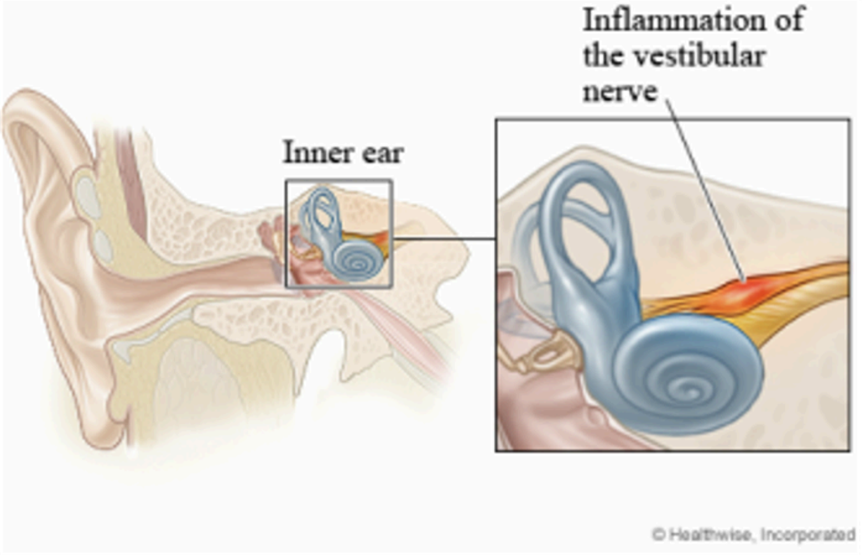
Desordem inflamatória viral ou pós-viral

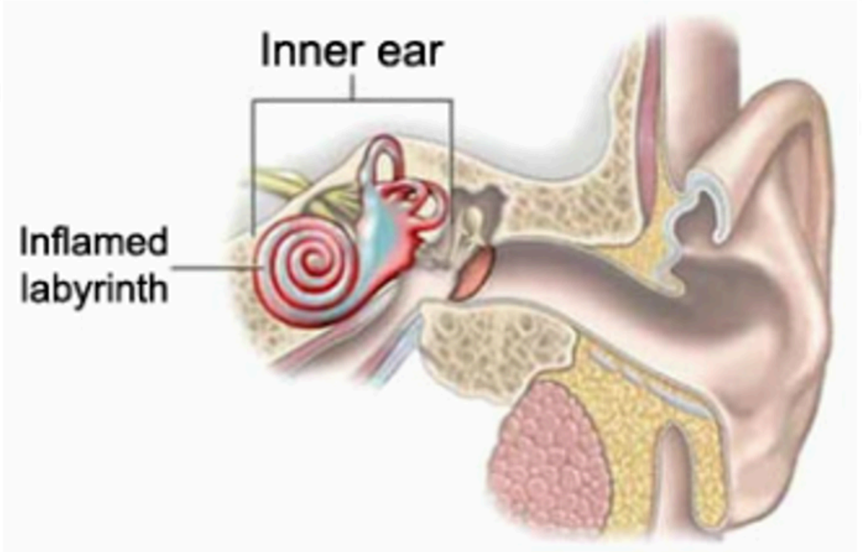
Neuronite vestibular → audição preservada.

Labirintite → hipoacusia e acúfenos ipsilaterais.

Em ambas existe nistágmo espontâneo, ao contrário da VPPB.

Tendência de queda para o lado lesado com nistágmo horizonto-rotatório para o lado hígido.



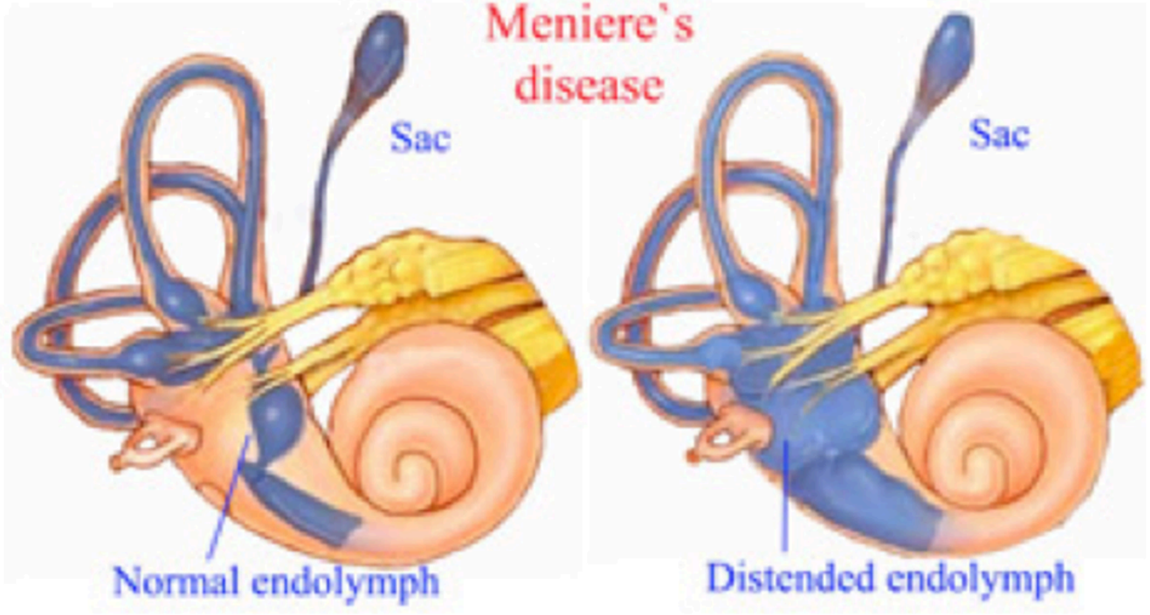


Doença de Meniére

Tríade Clássica

- Perda auditiva progressiva
- Vertigem episódica
- Tinitus (acúfenos)

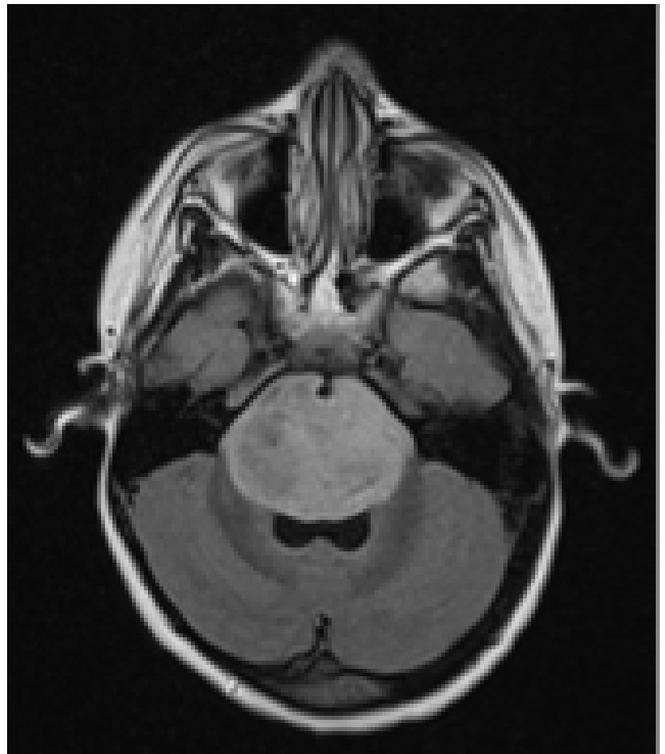
Ocorre hidropisia endolinfática do sistema labiríntico.
Os ataques vertiginosos são recorrentes e auto limitados (duram entre minutos a horas).
Ocorre tinitus, hiperacusia (Fenômeno de Tullio), sensação de plenitude auricular e hipoacusia no lado comprometido.



Vertigem Central

Vertigem contínua por horas ou dias
Nistágmo espontâneo



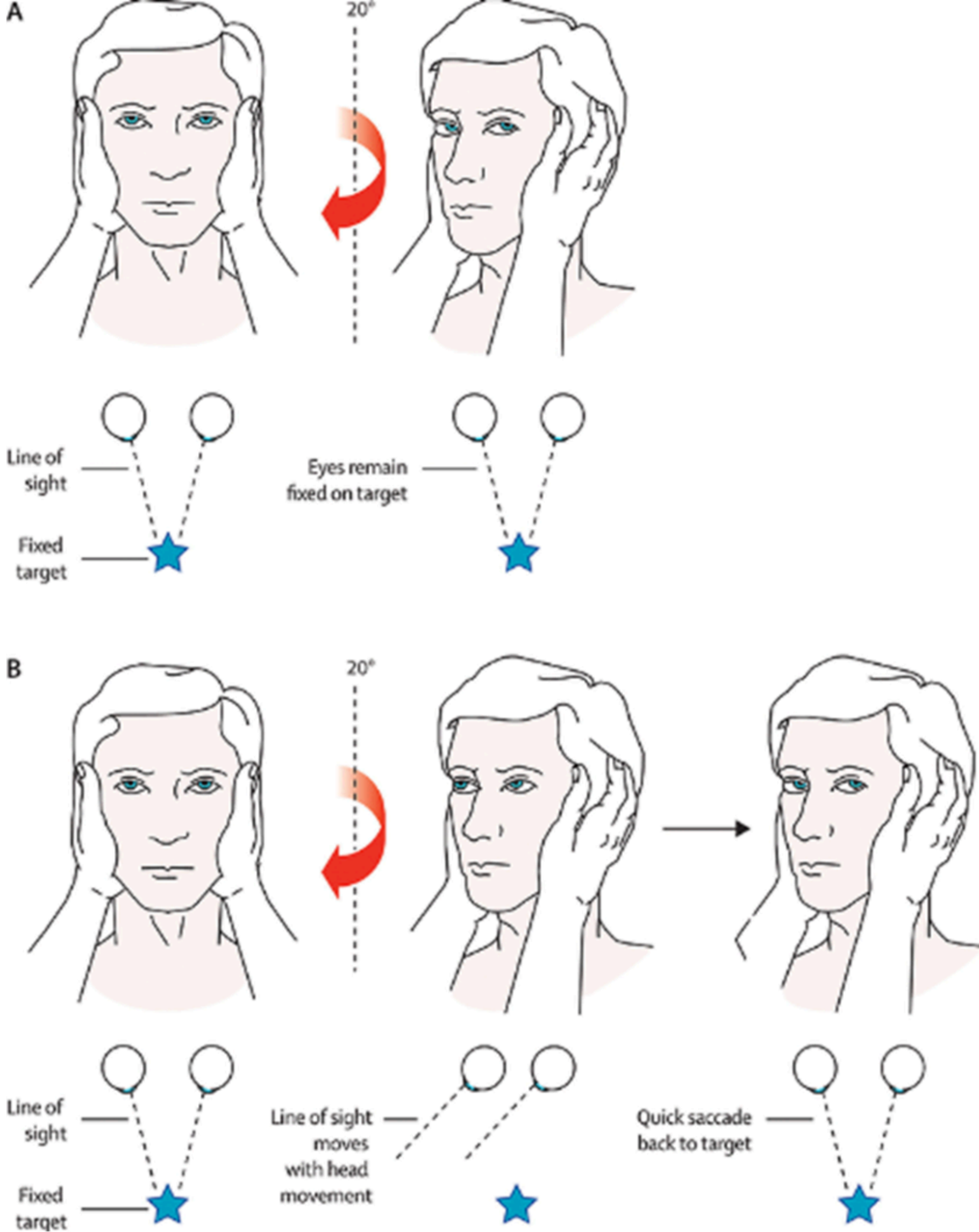




H.I.N.T.S: Head Impulse NystagmusTest of Skew

HINTS	 Head Impulse	 Nystagmus	 Test of Skew
Vertigem periférica Nevrite vestibular	+ (sacada correctiva)	unidireccional	-
Vertigem central AVC vertebrobasilar	-	multidireccional	+

Head Impulse



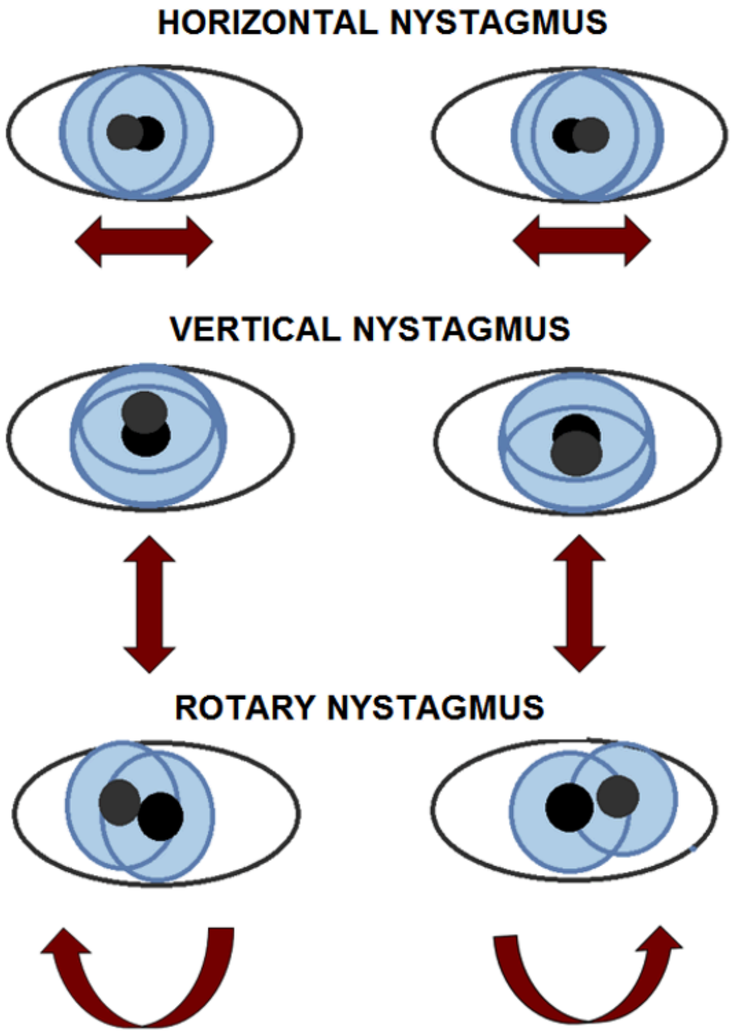
Nistágmo

O paciente é solicitado a desviar o olhar 30 graus para a esquerda e para a direita; para cima e para baixo (não usar o dedo!).

Síndromes vestibulares periféricas estão associadas a nistágmo horizontal, que bate em uma única direção.

Lei de Alexander: Nistagmo unidirecional na posição primária do olhar, que piora ao olhar para o lado da fase rápida e diminuiu com o olhar para a lado da fase lenta, sugere acometimento periférico.

Nistágmo vertical, bidirecional ou multidirecional → sugere comprometimento de cerebelo ou tronco cerebral.

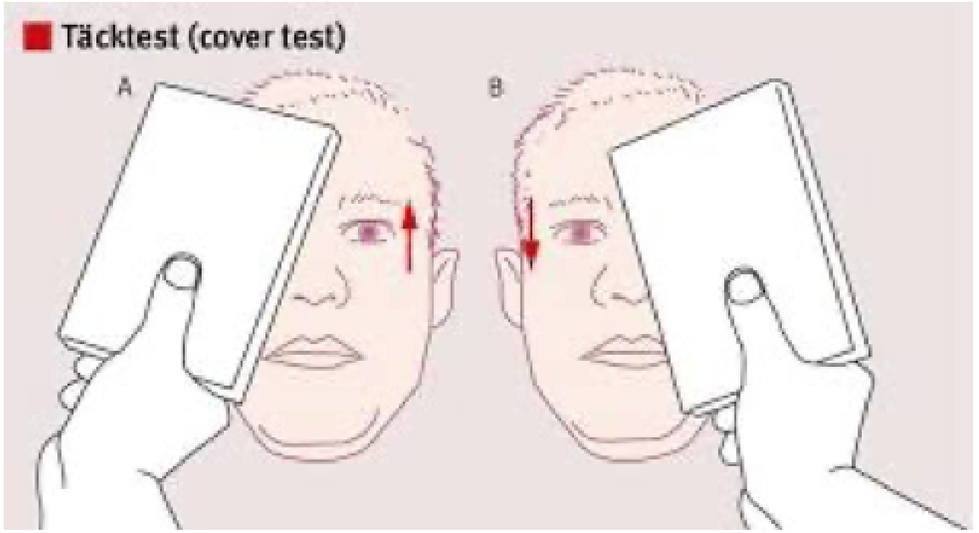


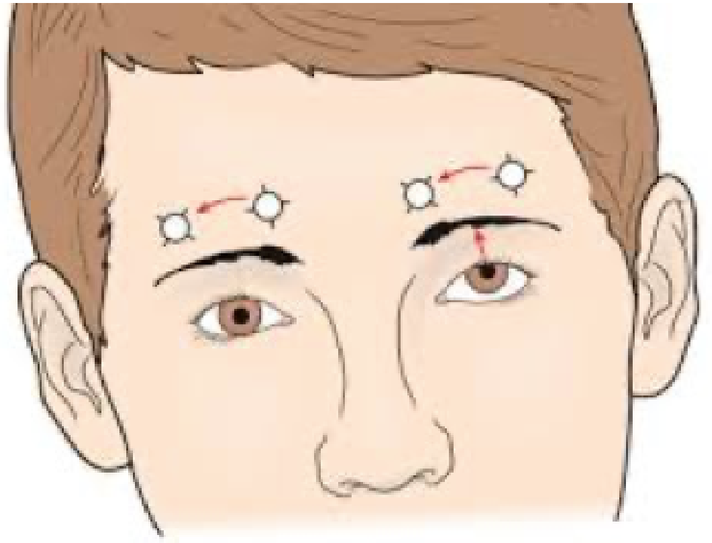
Test of Skew

O paciente olha para um ponto na face do examinador e este oclui rápida e alternadamente o olho direito e esquerdo, observando se há ou não correção do olhar verticalmente (Cover – Uncover).

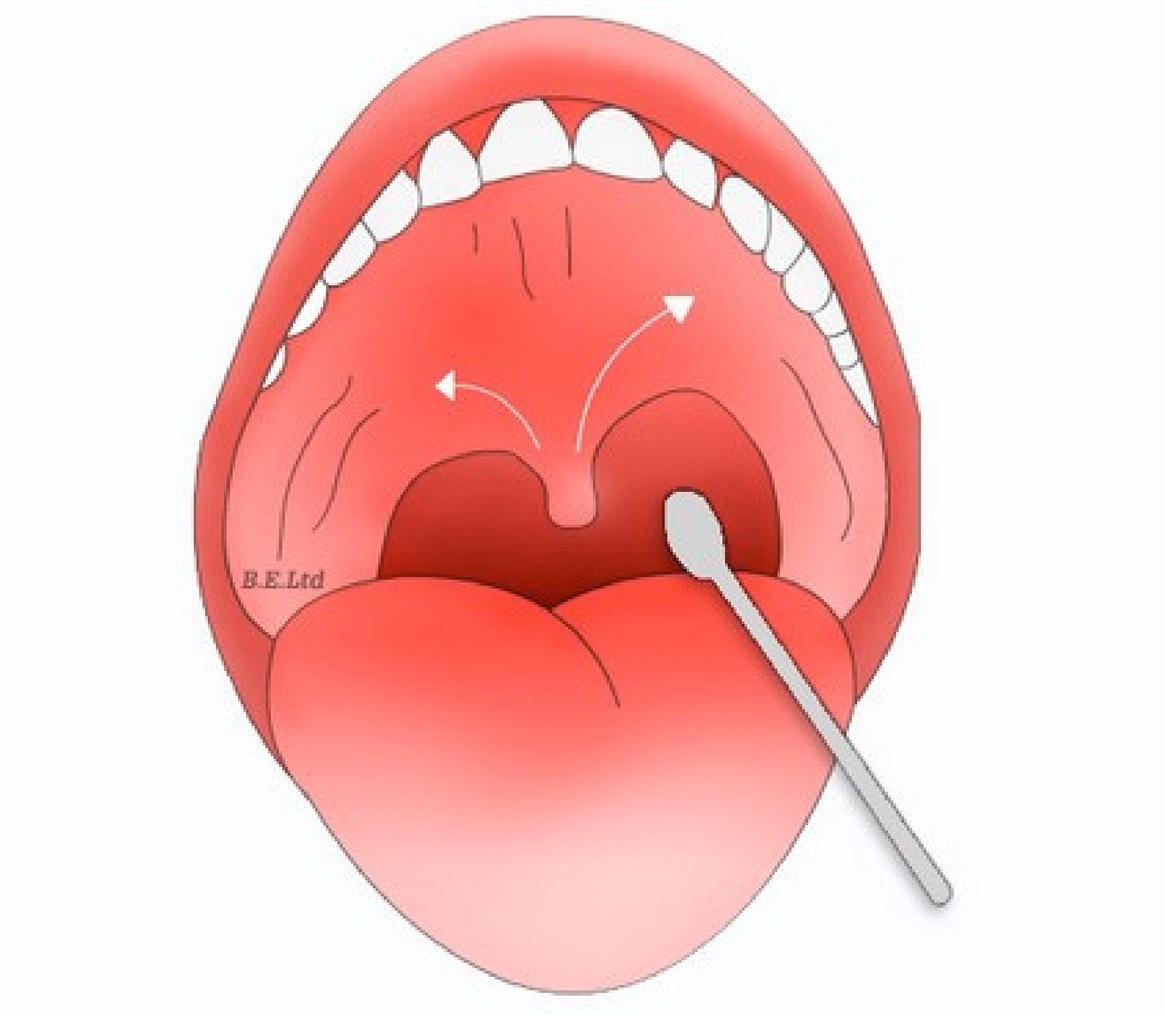
O olhar desalinhado verticalmente sugerecomprometimento central (olho hipométrico e hipermétrico).

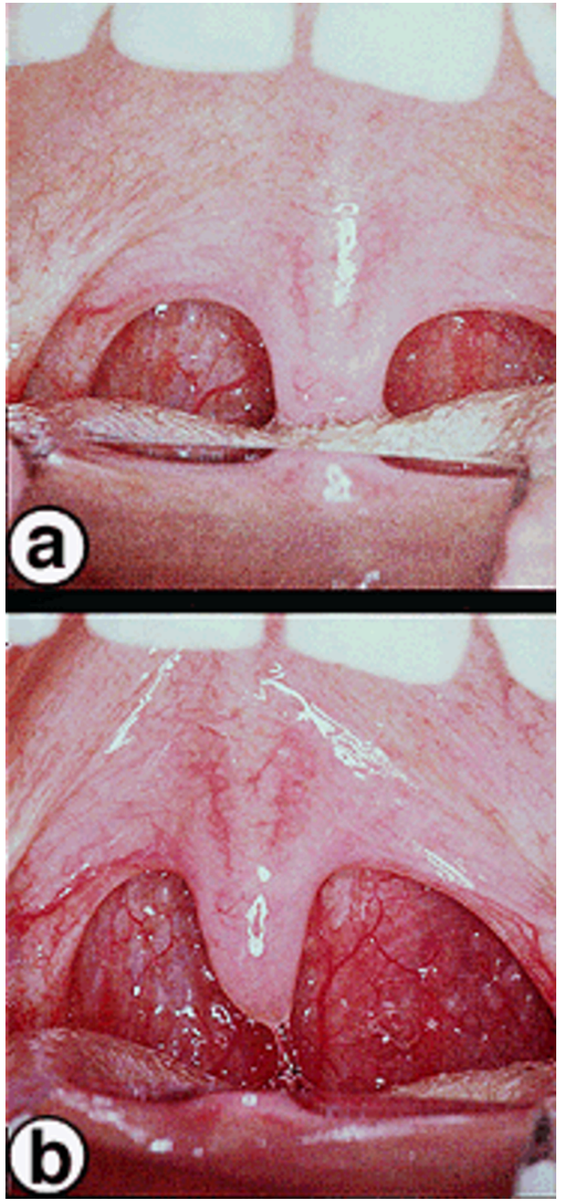
O olho hipométrico caracteriza o Test of Skew → Bulbo ipsilateral ou mesencéfalo contralateral.





XI e X Pares - Glossofaríngeo e Vago





XI Par - Espinal Acessório

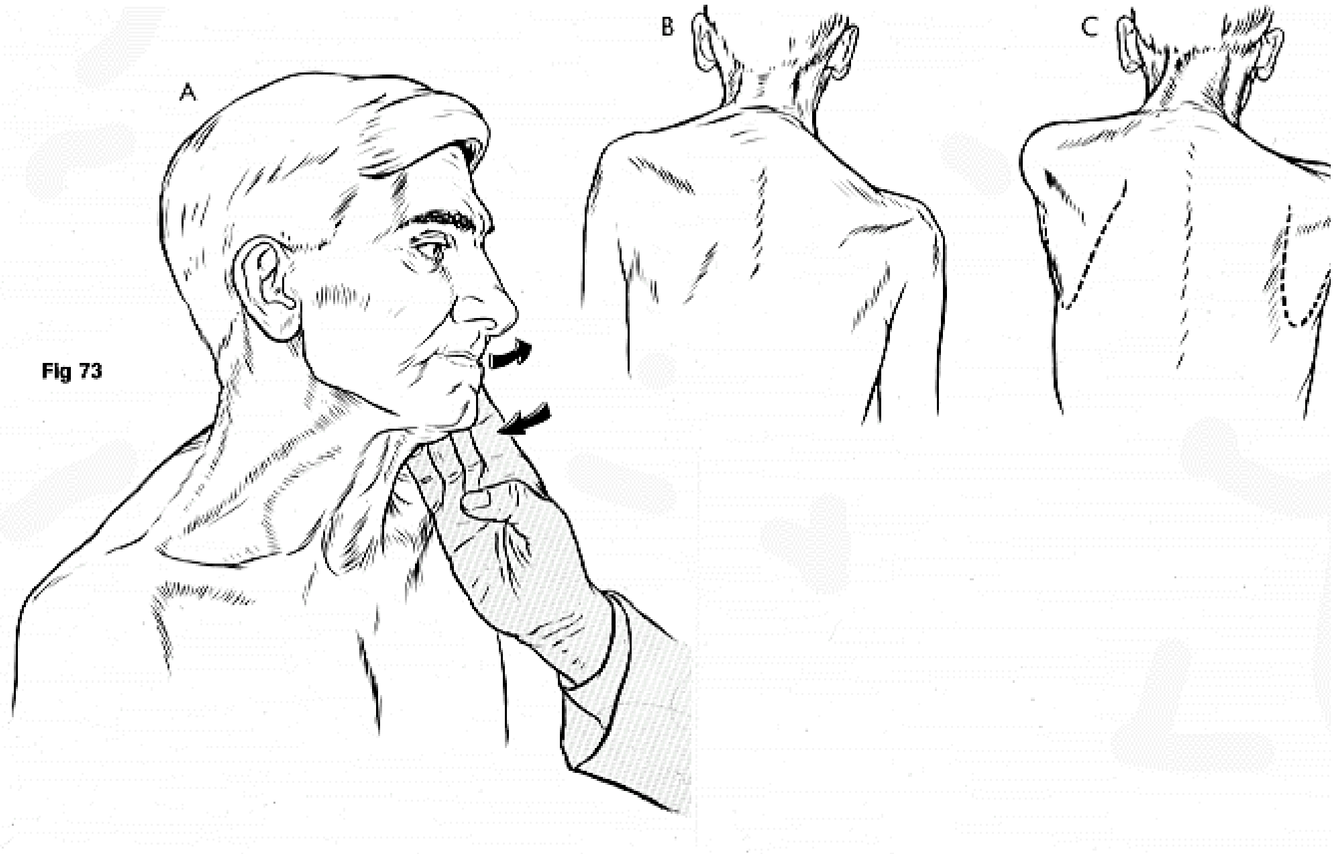
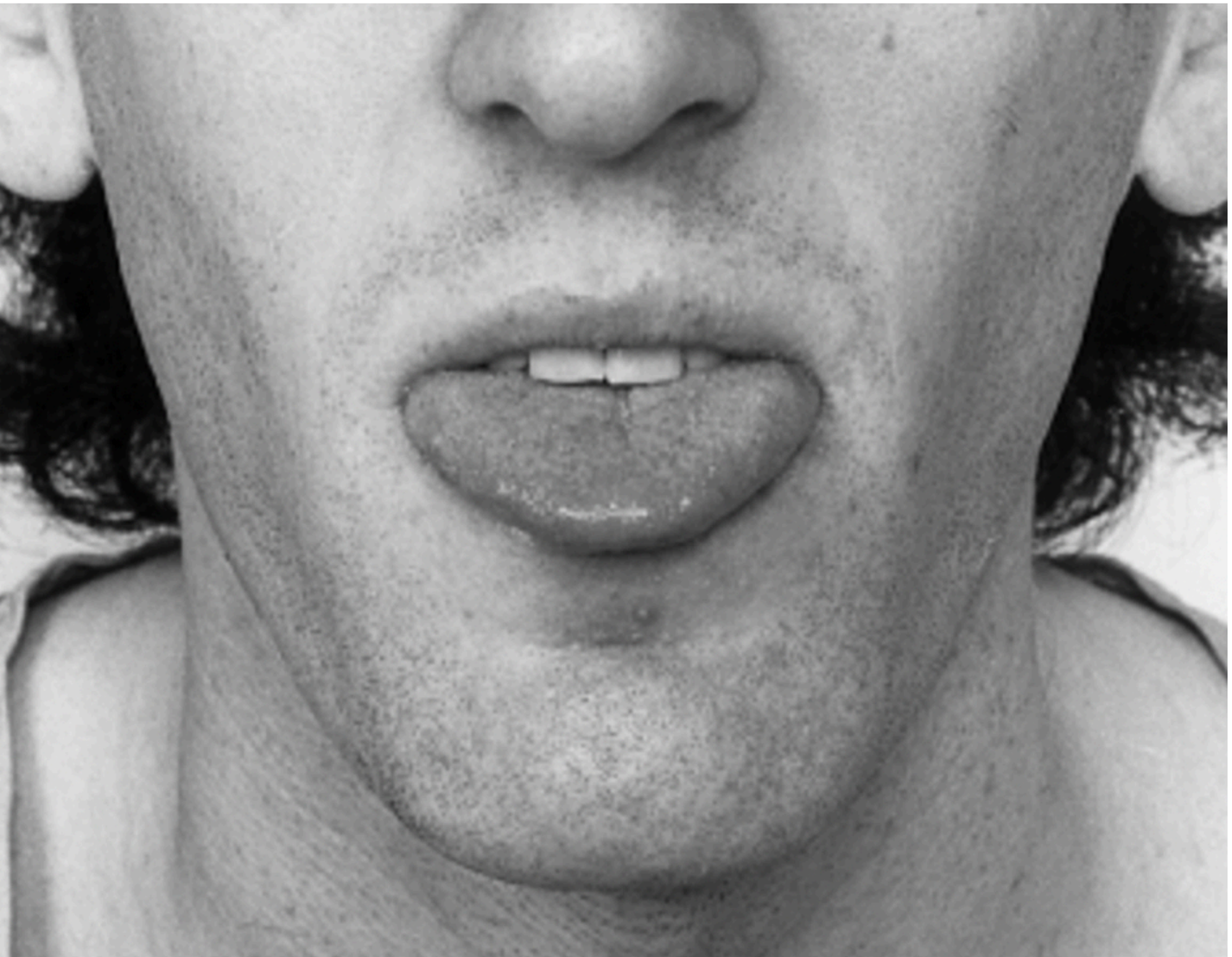


Fig 73



XII Par - Hipoglosso





Exame Neuromuscular

Graduação da Força Muscular

Grau	Características	Força Muscular em Relação ao Normal (%)
0	Não existe contração muscular	0
1	Existe contração perceptível, porém sem movimento	0 - 10
2	Movimentação quando a gravidade é eliminada	11 - 25
3	Movimentação contra a gravidade	26 - 50
4 (4-/4+)	A movimentação vence algum grau de resistência	51 - 75
5	Movimentação contra resistência máxima, sem sinais de fadiga (normal)	76 - 100

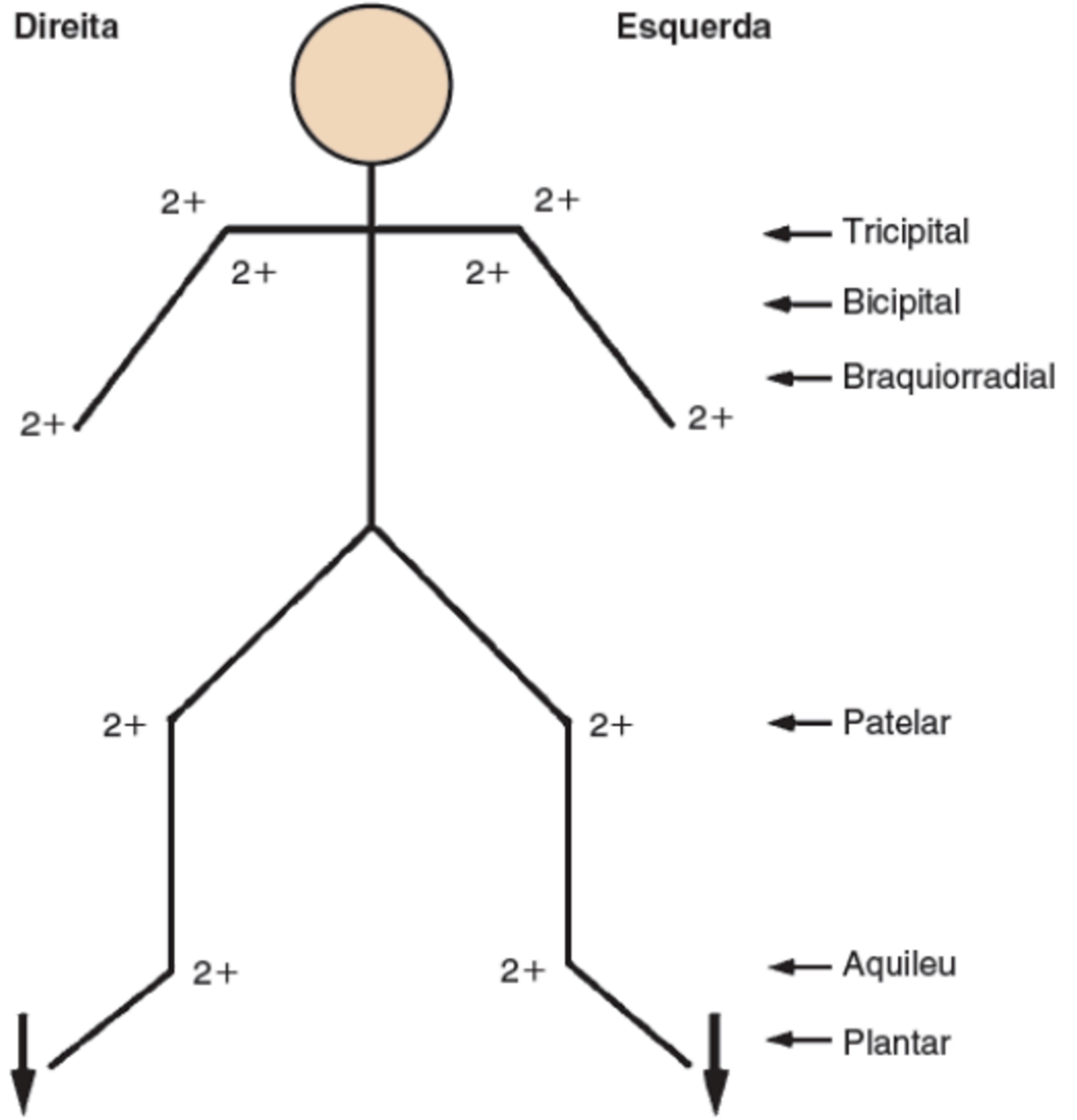
Força Muscular

Músculo	Raiz Nervosa	Nervo
Deltóide	C5/C6	Axilar
Biceps braquial	C5/C6	Musculocutâneo
Triceps braquial	C7/C8	Radial
Extensores do punho	C6/C7/C8	Radial
Extensores dos dedos	C7/C8	Radial
Flexores do punho	C7/C8/T1	Mediano
Flexores dos dedos	C8/T1	Mediano/Ulnar

Força Muscular

Músculo	Raiz Nervosa	Nervo
Quadríceps	L2/L3/L4	Femoral
Isquiotibiais	L5/S1/S2	Ciático
Tibial Anterior	L4/L5	Fibular Profundo
Extensor Longo do Hálux	L5	Fibular Profundo
Gastrocnêmio	S1/S2	Tibial

Relatório Descritivo



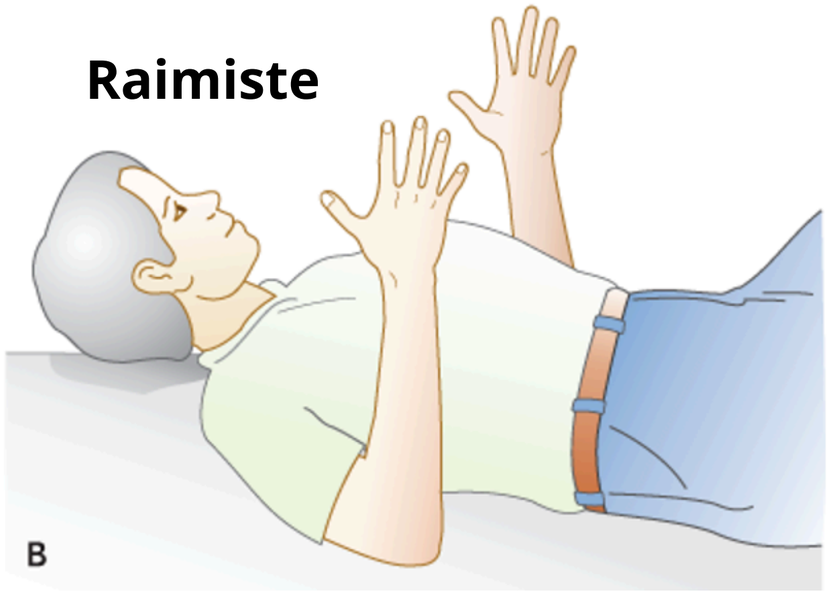
Manobras Deficitárias

Pronação



A

Raimiste



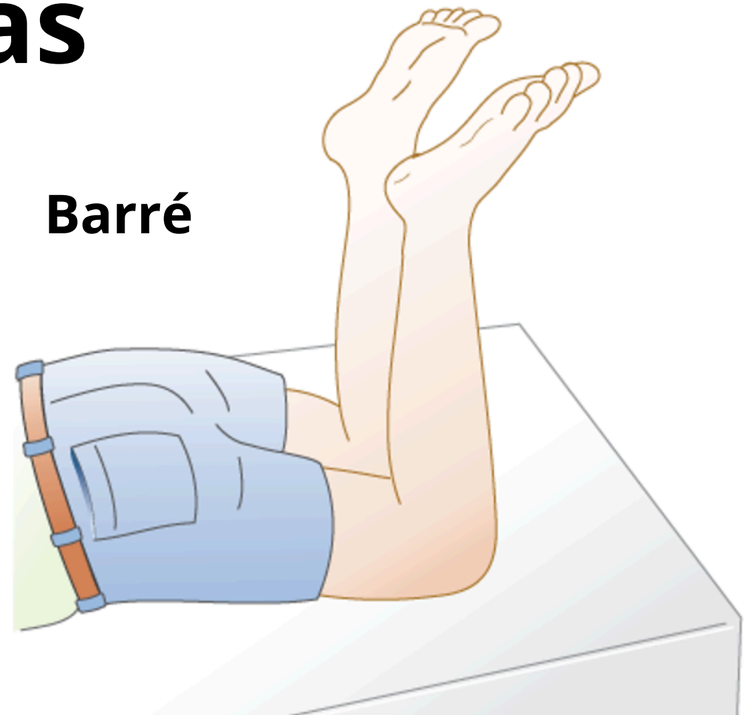
B

Mingazzini



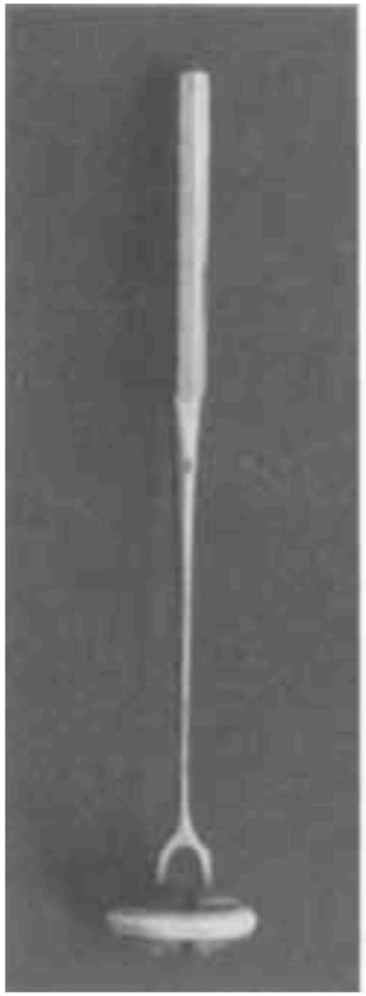
A

Barré

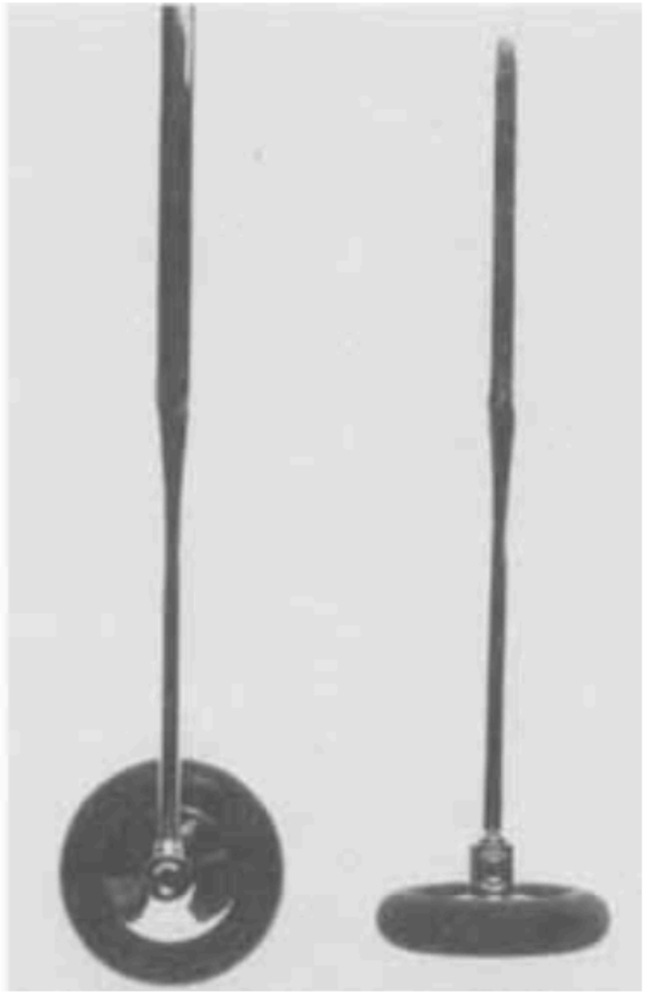


B

Reflexos Profundos



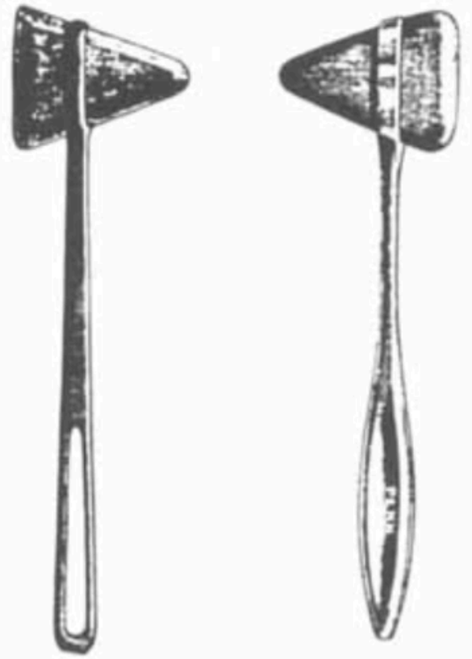
A



B



A



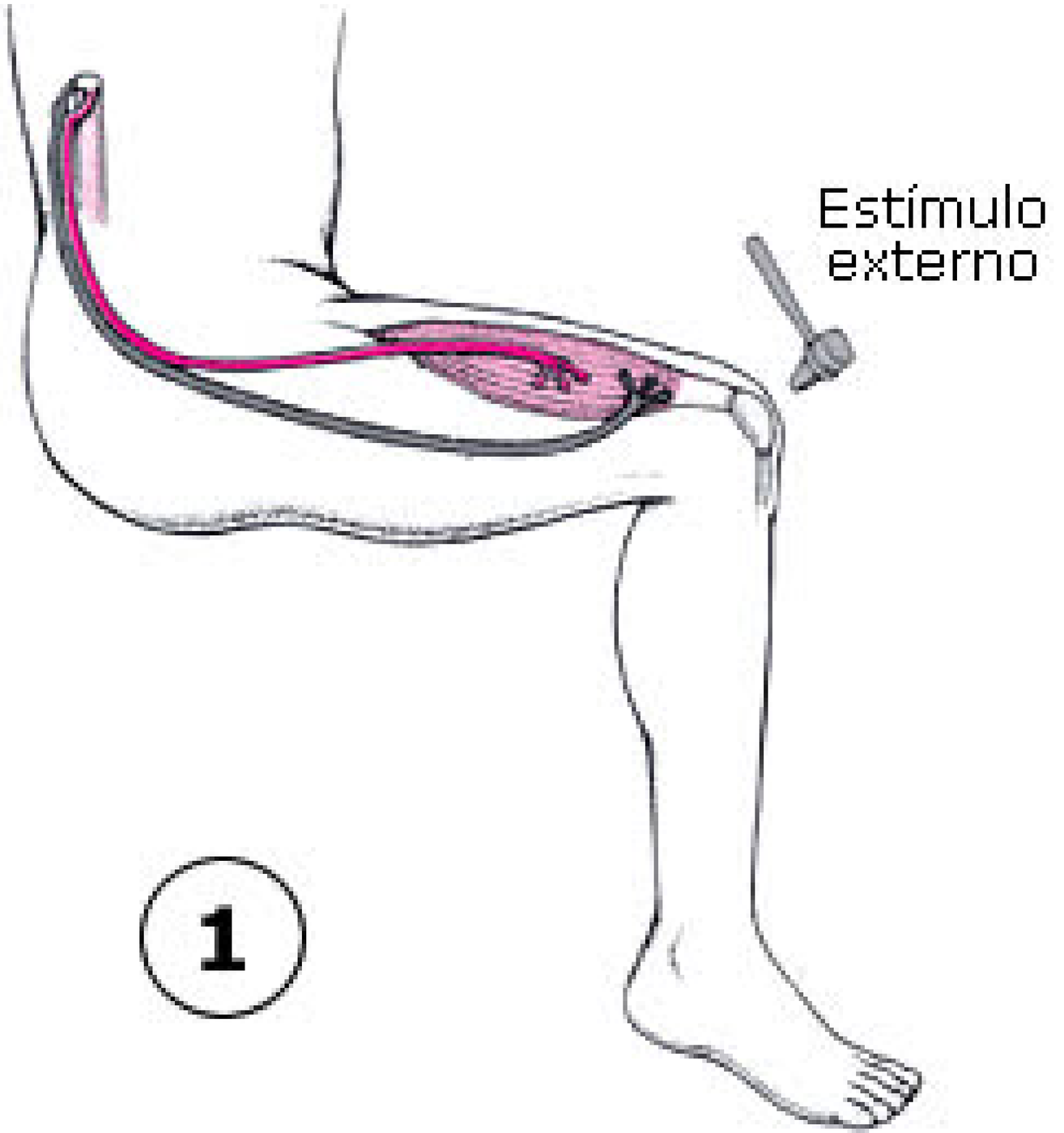
B



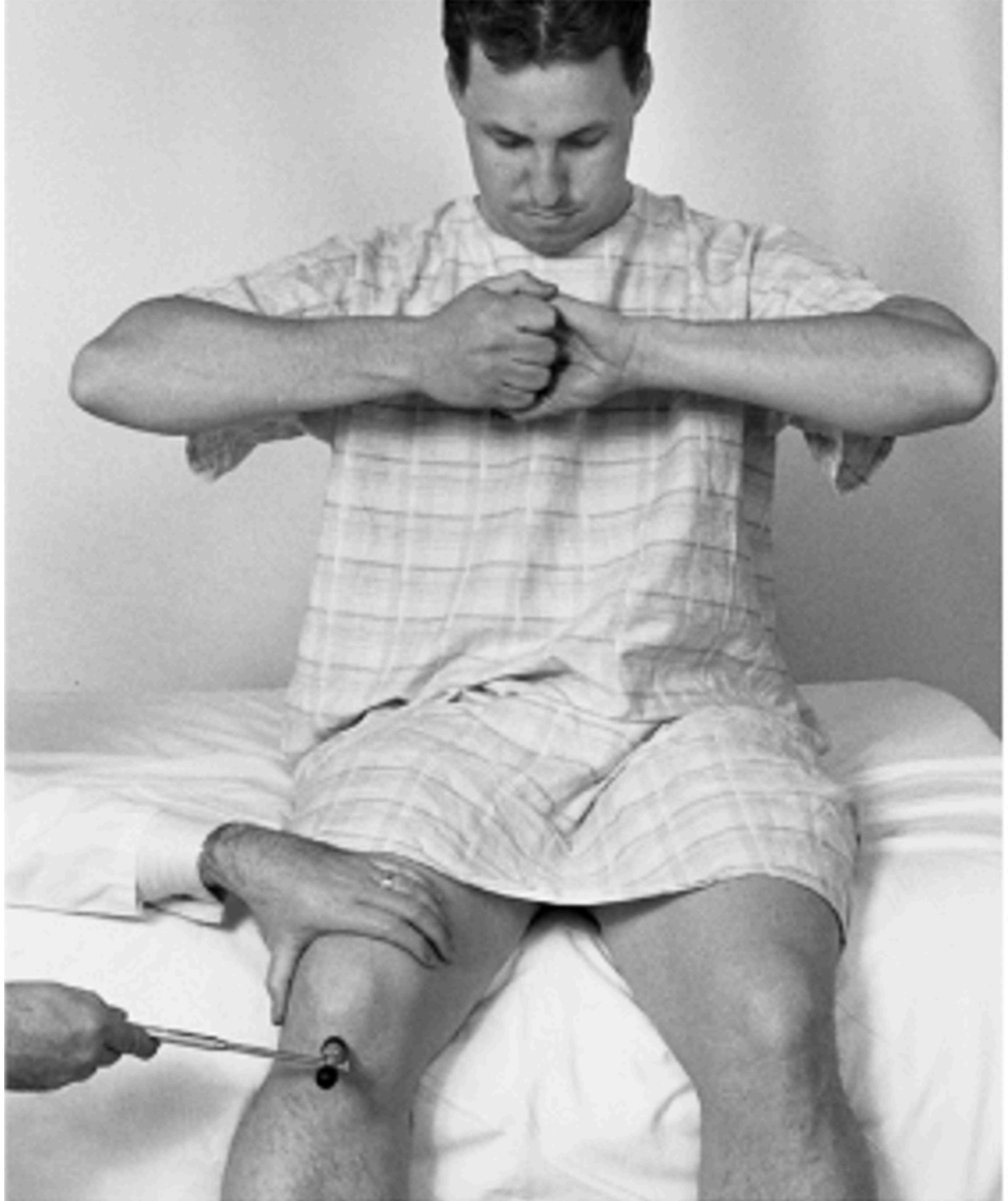
C

Figure 3. (A) John Madison Taylor (1886). (Photograph courtesy of the College of Physicians of Philadelphia); (B) Versions of the Taylor reflex hammer: left, ca 1904[36]; right, ca 1920. (From The illustrated catalog of a complete line of standard surgical instruments, *Boston: Codman & Shurtleff Inc.,* ca *1920:15). (C) American Academy of Neurology logo, incorporating the Taylor reflex hammer and a tuning fork.*




Estímulo
externo
1

Manobra de Jendrassik



Graduação dos Reflexos

Qualitativo	Quantitativo	Descrição
Ausente	0	Não é possível obter o reflexo
Diminuído	+	Conseguido com dificuldade ou o movimento da articulação é de pequena intensidade
Normal	++	Obtido com facilidade e intensidade normais
Aumentado	+++	Obtido com facilidade aumentada, sendo amplo e brusco
Exaltado	++++	Aumento da área reflexógena, sendo policinético, amplo e brusco

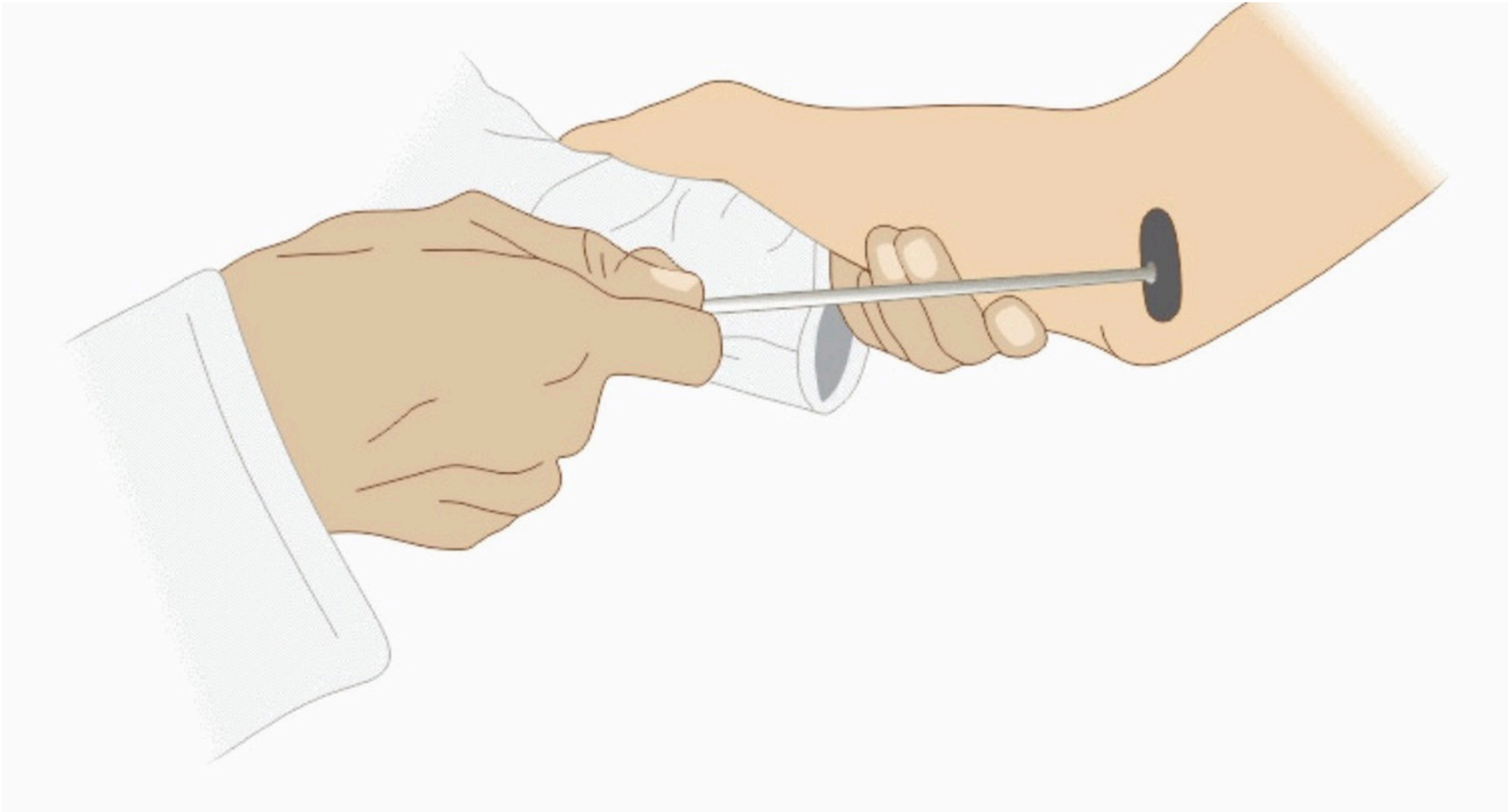
Reflexo Bicipital (C5/C6)

(N. Musculocutâneo)



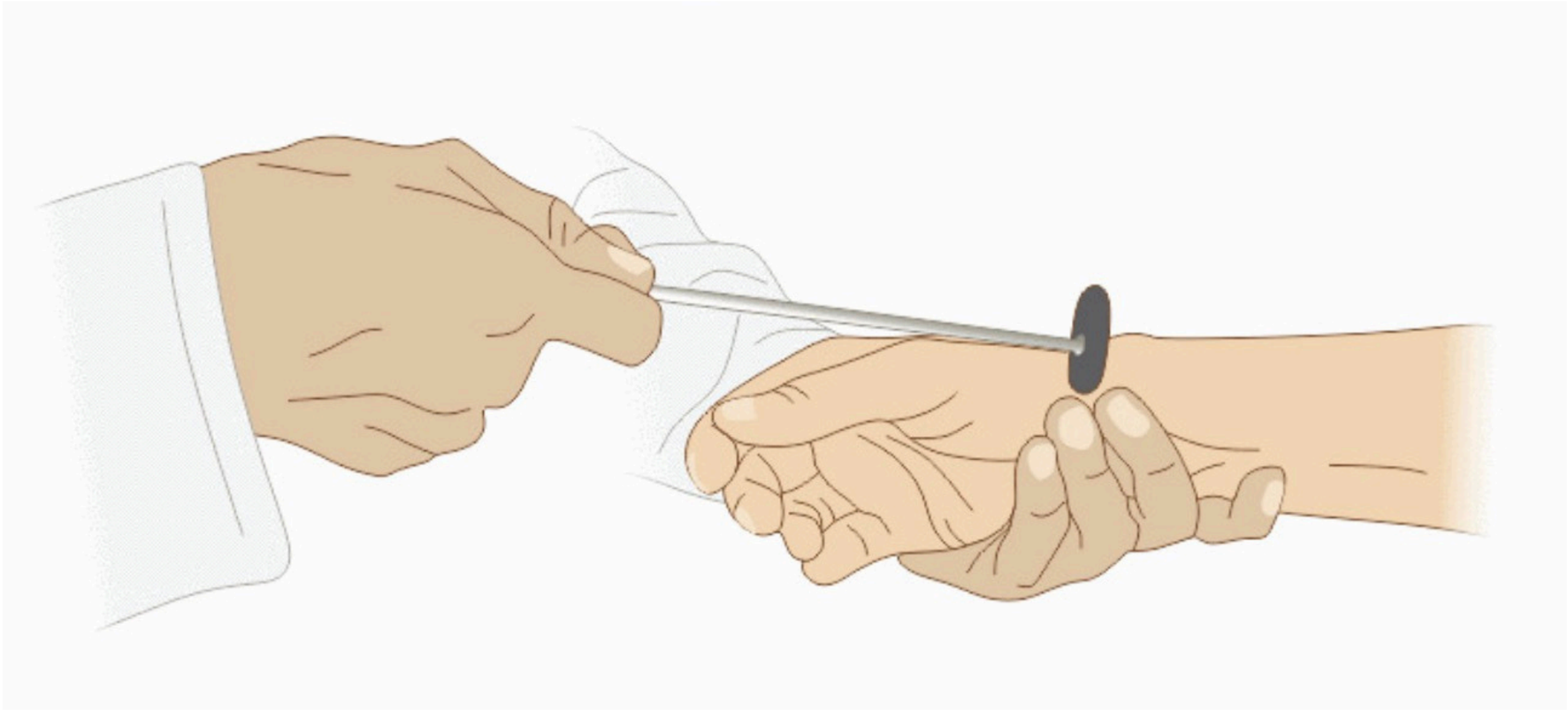
Reflexo Tricipital (C7/C8)

(N. Radial)



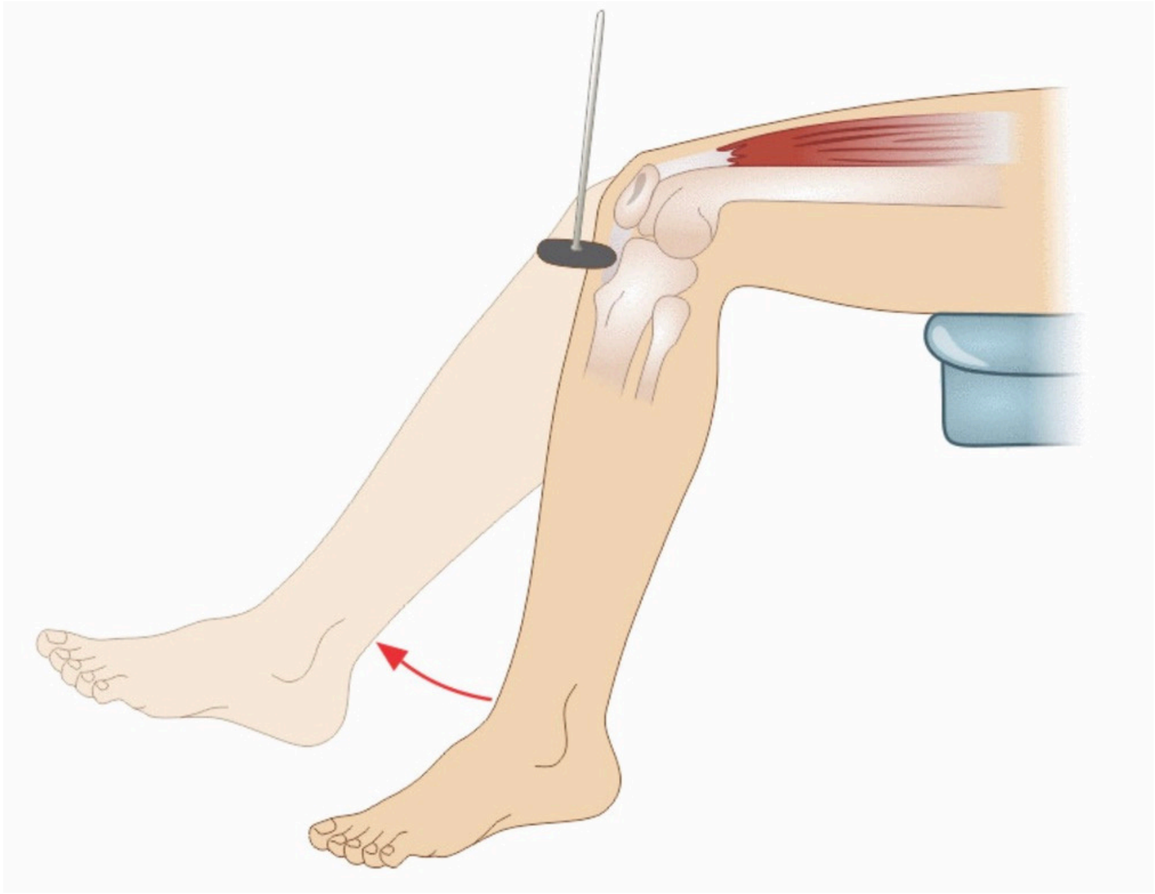
Reflexo Braquiorradial (C5/C6)

(N. Radial)



Reflexo Patelar (L2/L3/L4)

(N. Femoral)



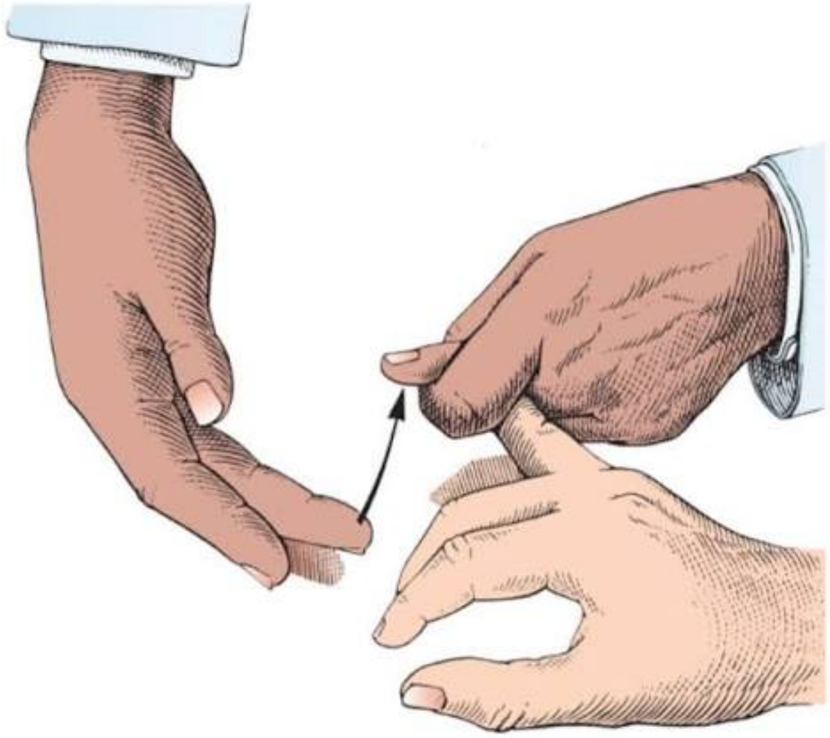
Reflexo Aquileu (S1/S2)

(N. Tibial)

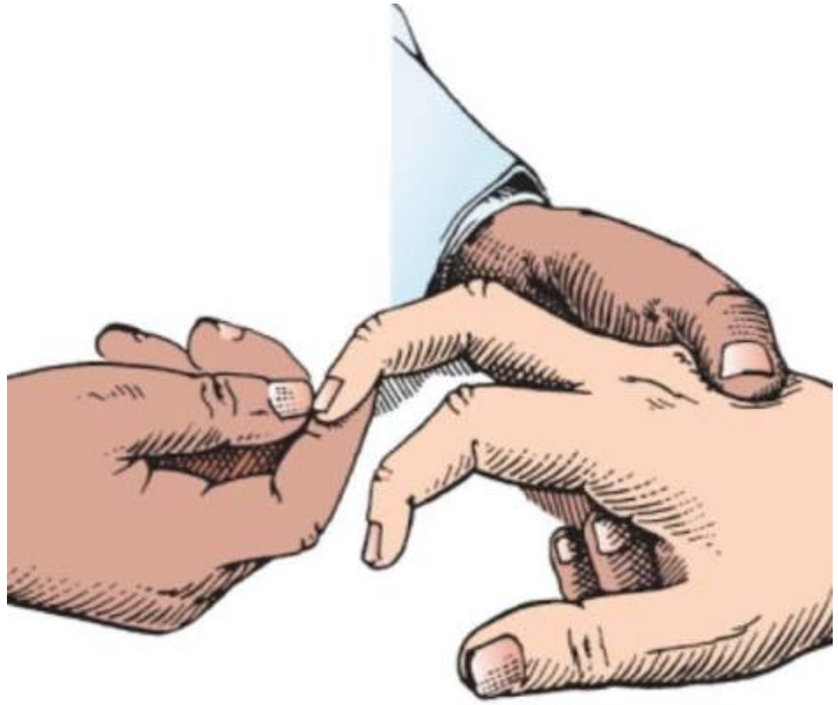


Reflexos de Hoffmann e Trömner

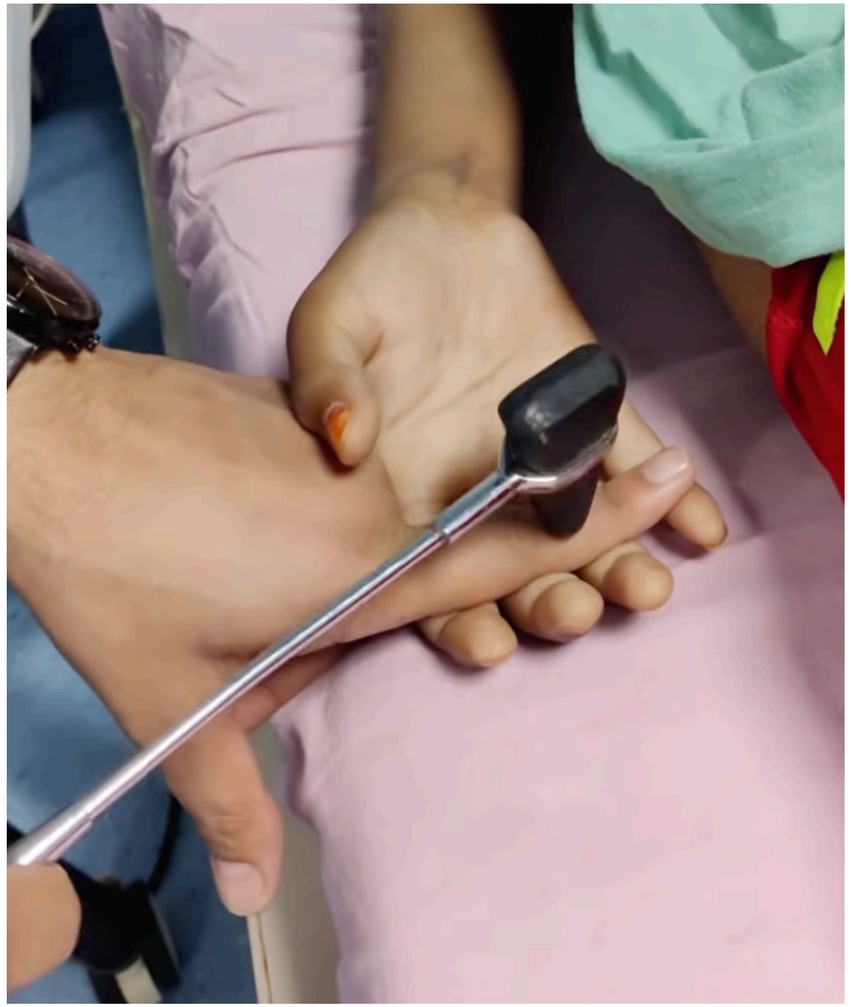
Reflexo de Hoffmann



Reflexo de Trömner



Reflexo Flexor dos Dedos (Wartenberg)

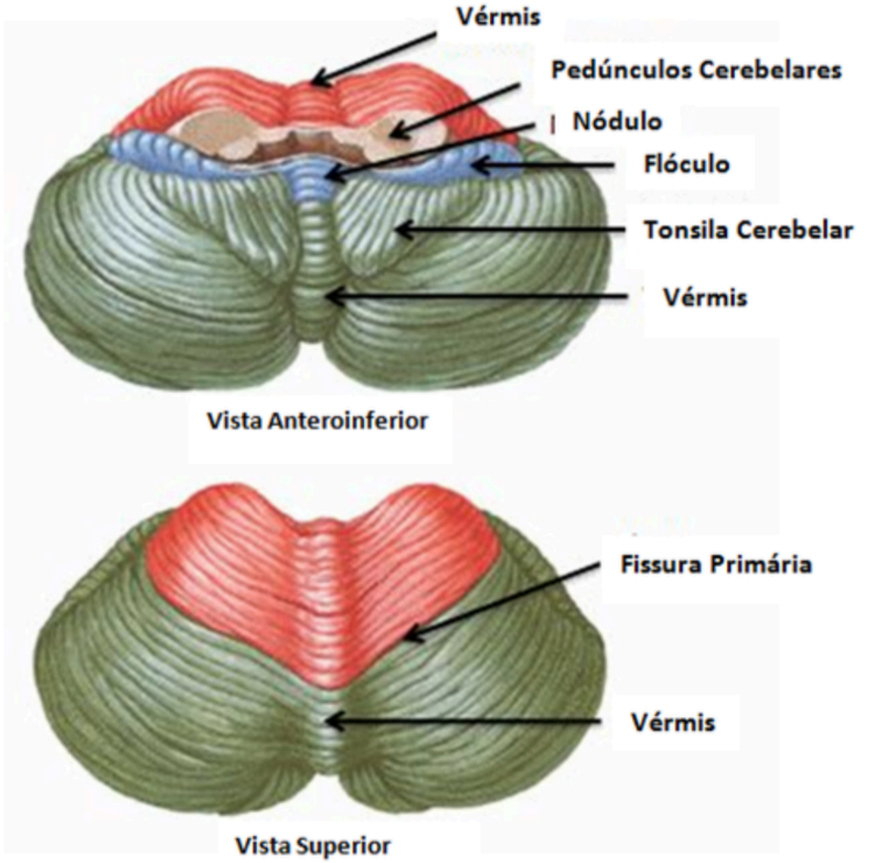


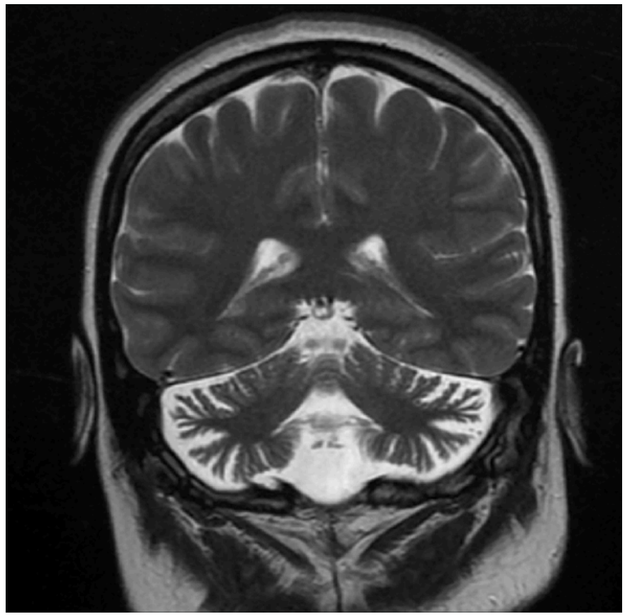
Reflexo Cutâneo-Plantar (Babinski)



Reflexo Maleolar Externo (Chaddock)

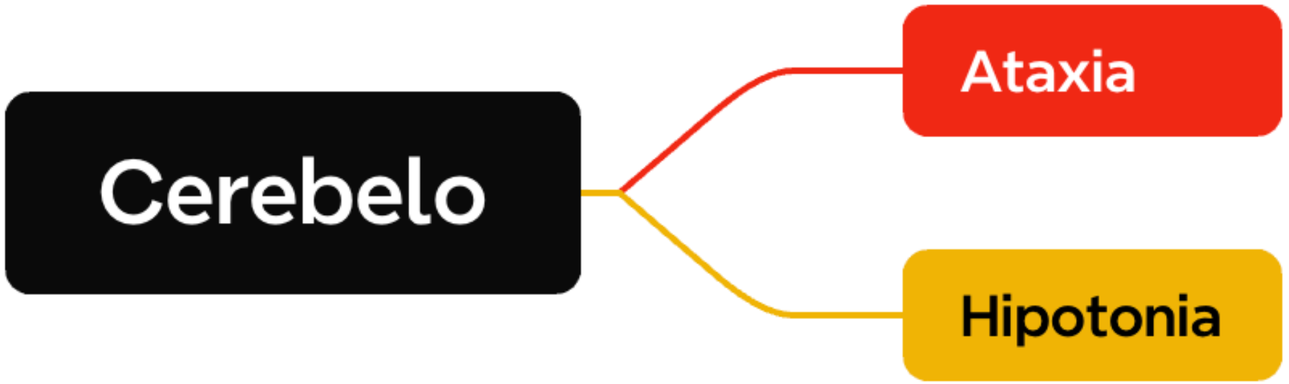



Vérmis
Pedúnculos Cerebelares
Nódulo
Flóculo
Tonsila Cerebelar
Vérmis
Vista Anteroinferior
Fissura Primária
Vérmis
Vista Superior



Cerebelo




Cerebelo
Ataxia
Hipotonia

Coordenação

Índex – nariz

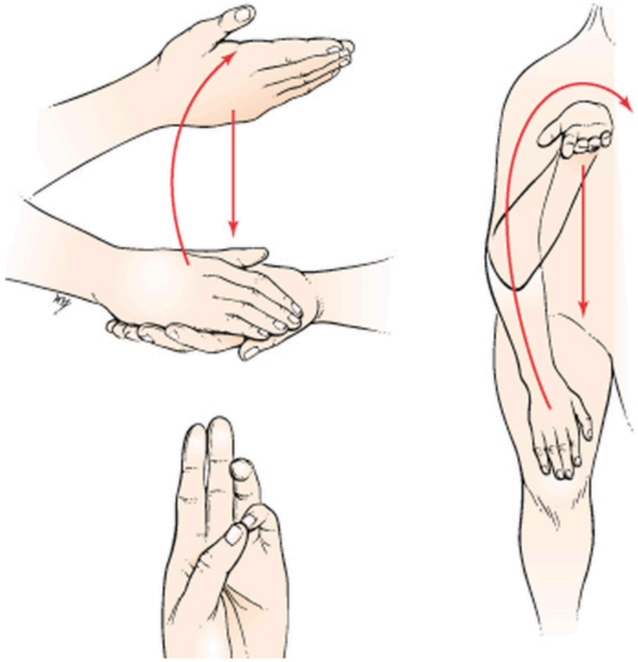
- Dismetria
- Tremor Intencional

Diadococinesia

Calcanhar – joelho

Manobra de Babinski

Prova de Stewart-Holmes (Rechaço)





Ataxia

Cerebelar

- Marcha Ebriosa

Sensitiva

- Marcha Talonante
- Sinal de Romberg

Vestibular

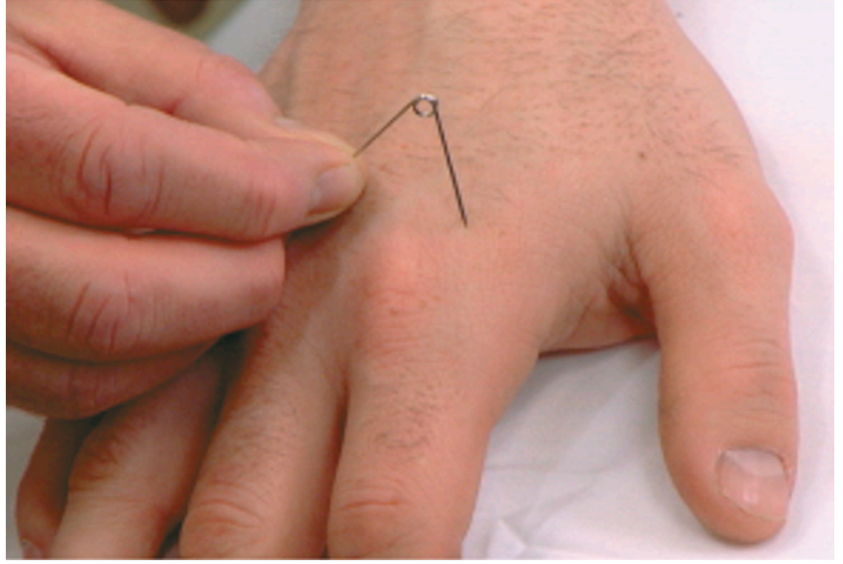
- Marcha de Babinski-Weil

Frontal

- Marcha Magnética



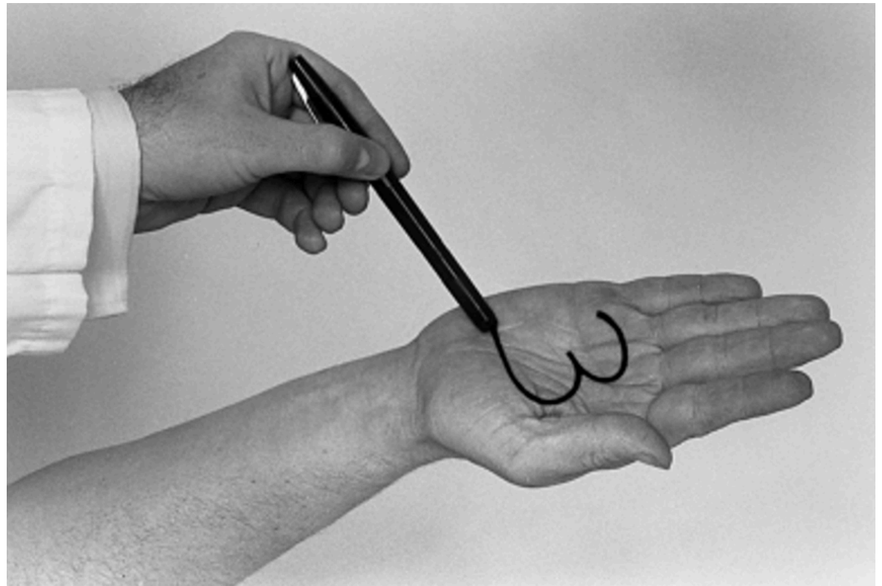






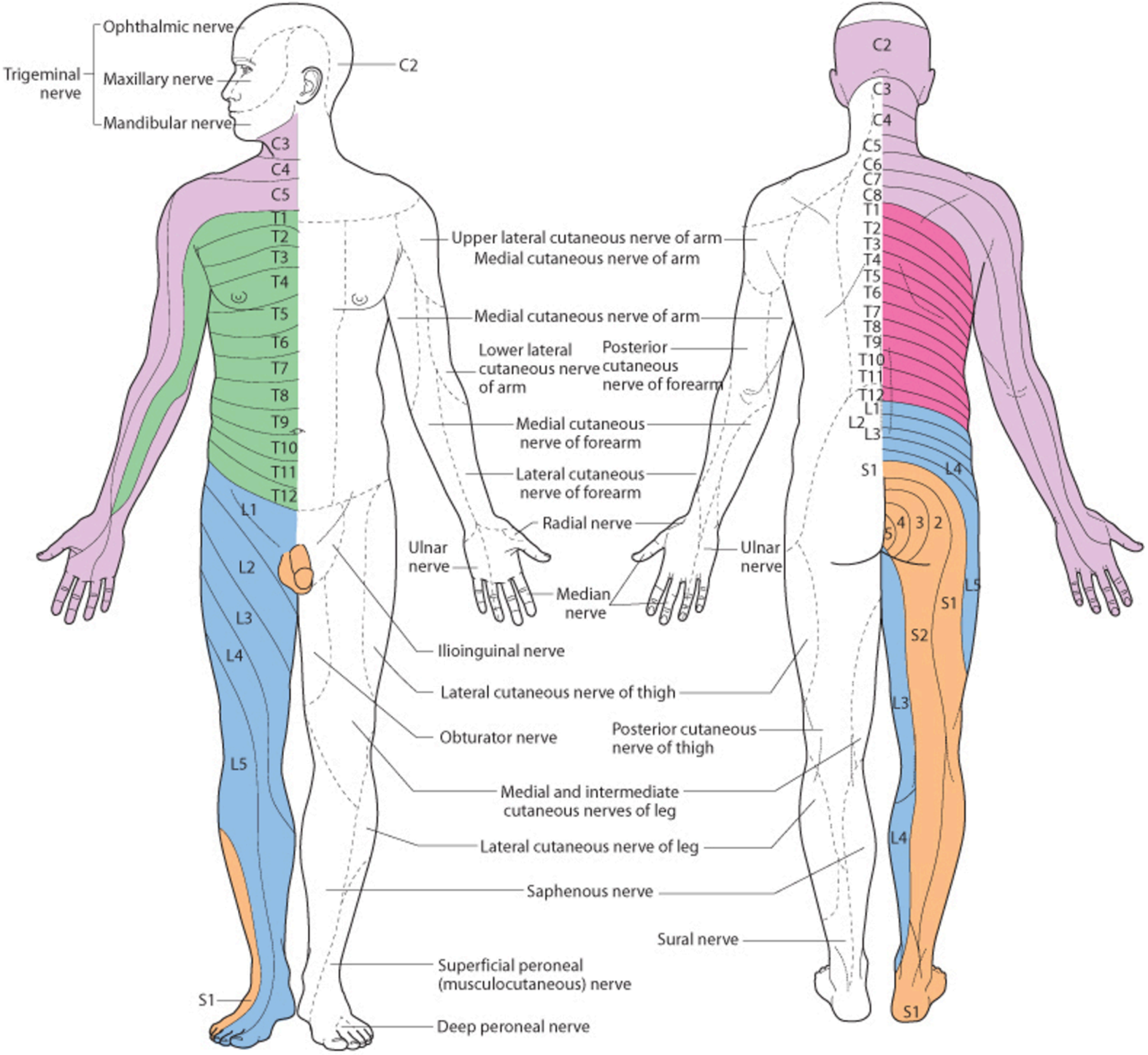
Sensibilidade







Sensibilidade



Marchas

Ebriosa (atáxia cerebelar)

Talonante ou tabética (ataxia sensitiva)

Em estrela ou lateropulsiva (ataxia vestibular)

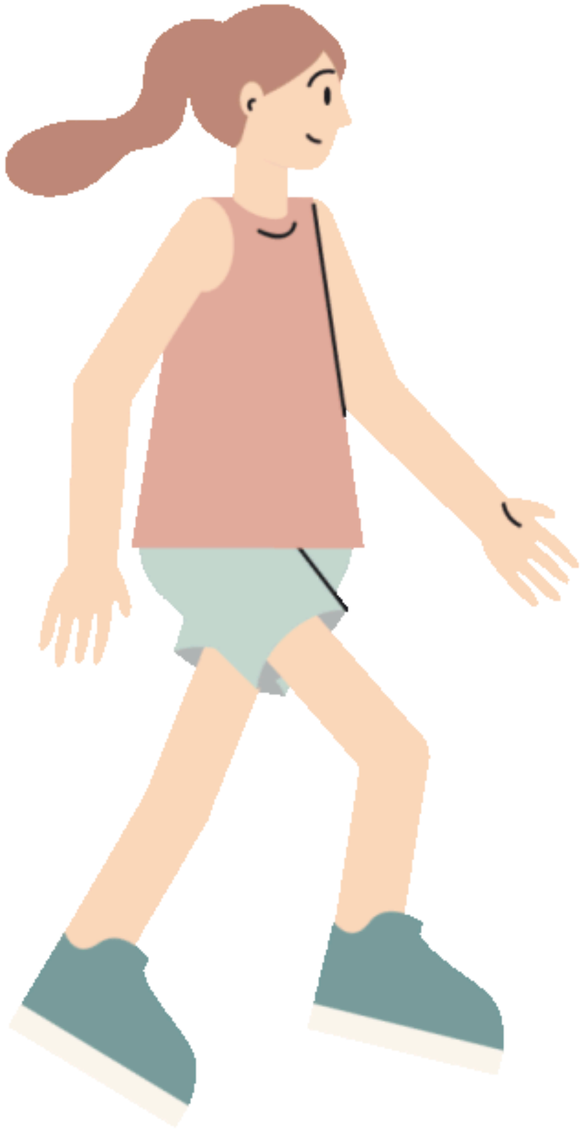
Miopática (anserina)

Polineuropática (escarvante)

Espástica (em tesoura)

Hemiparética (ceifante ou helicópode)

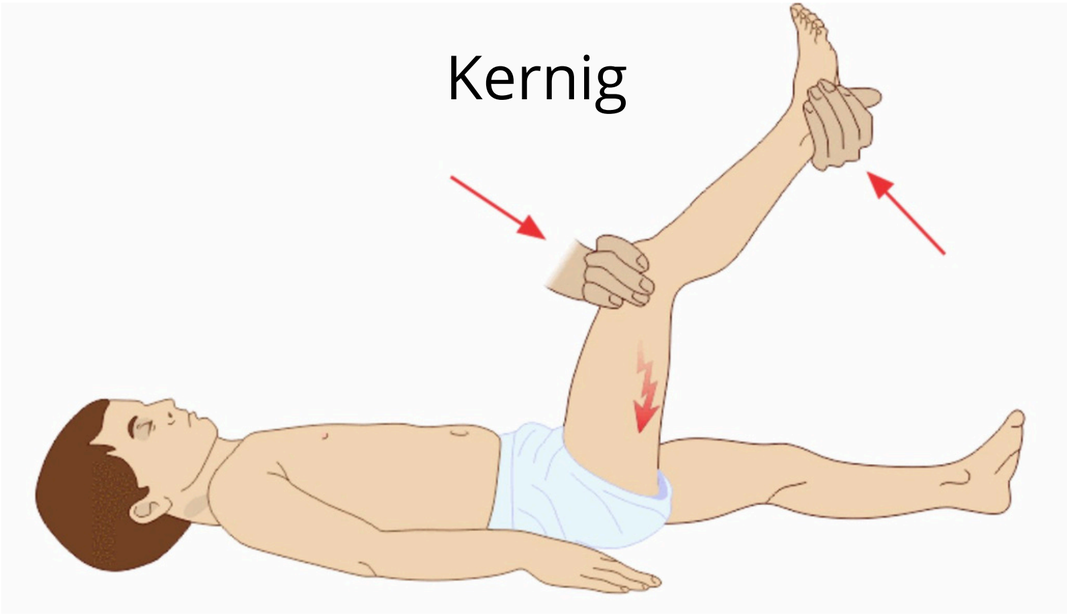
Parkinsoniana (festinante ou propulsiva)



Irritação Meningorradicular

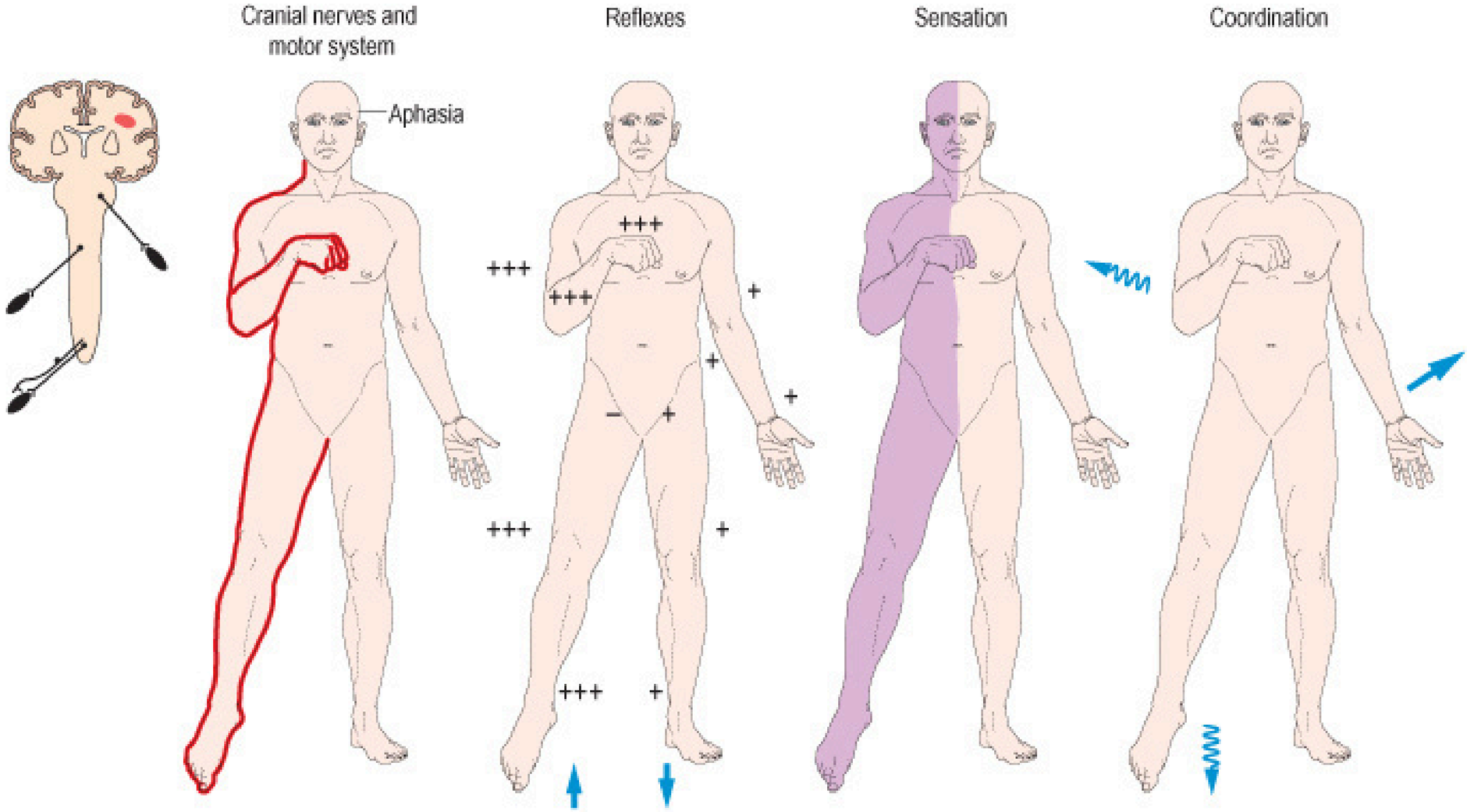


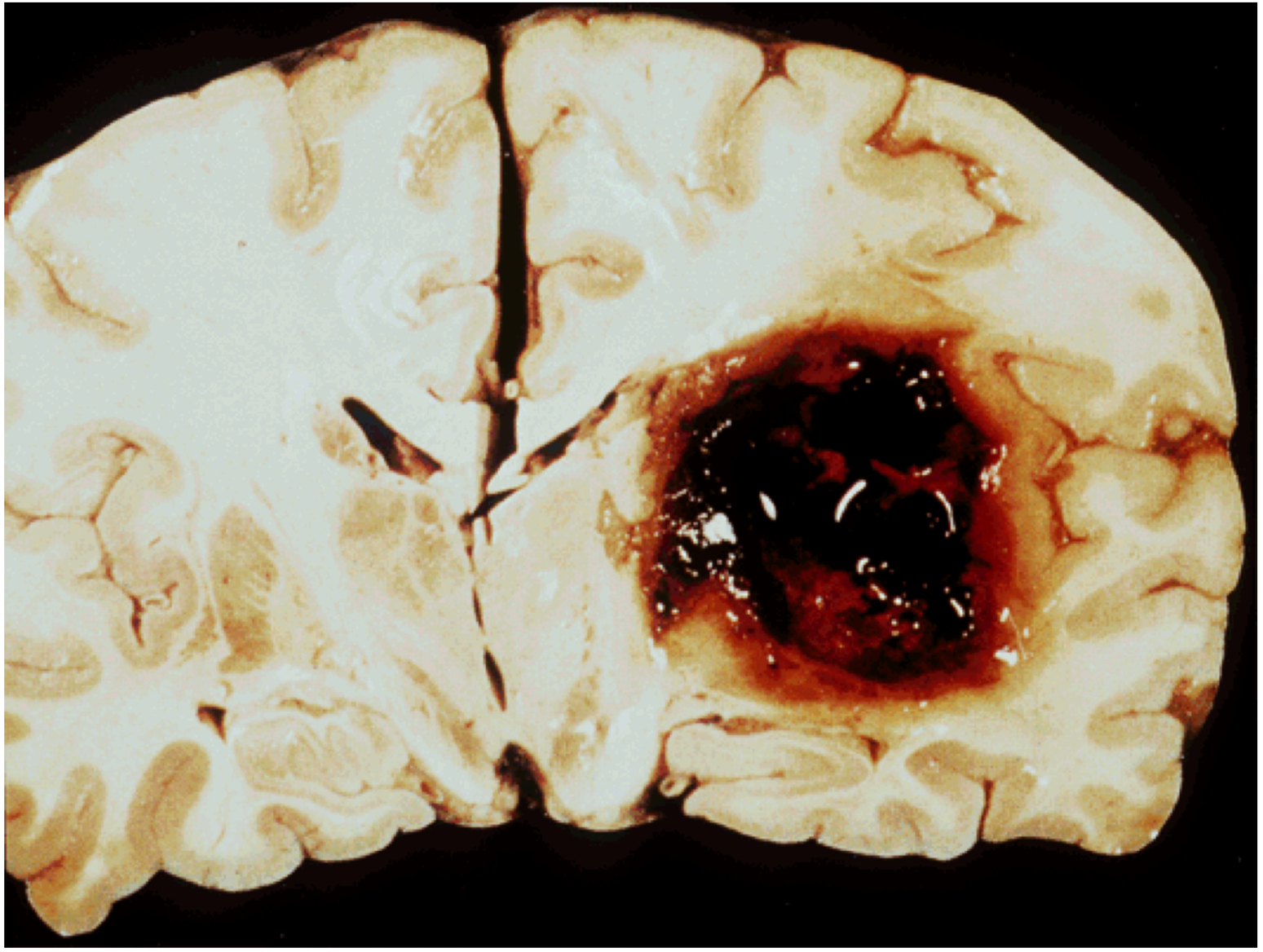


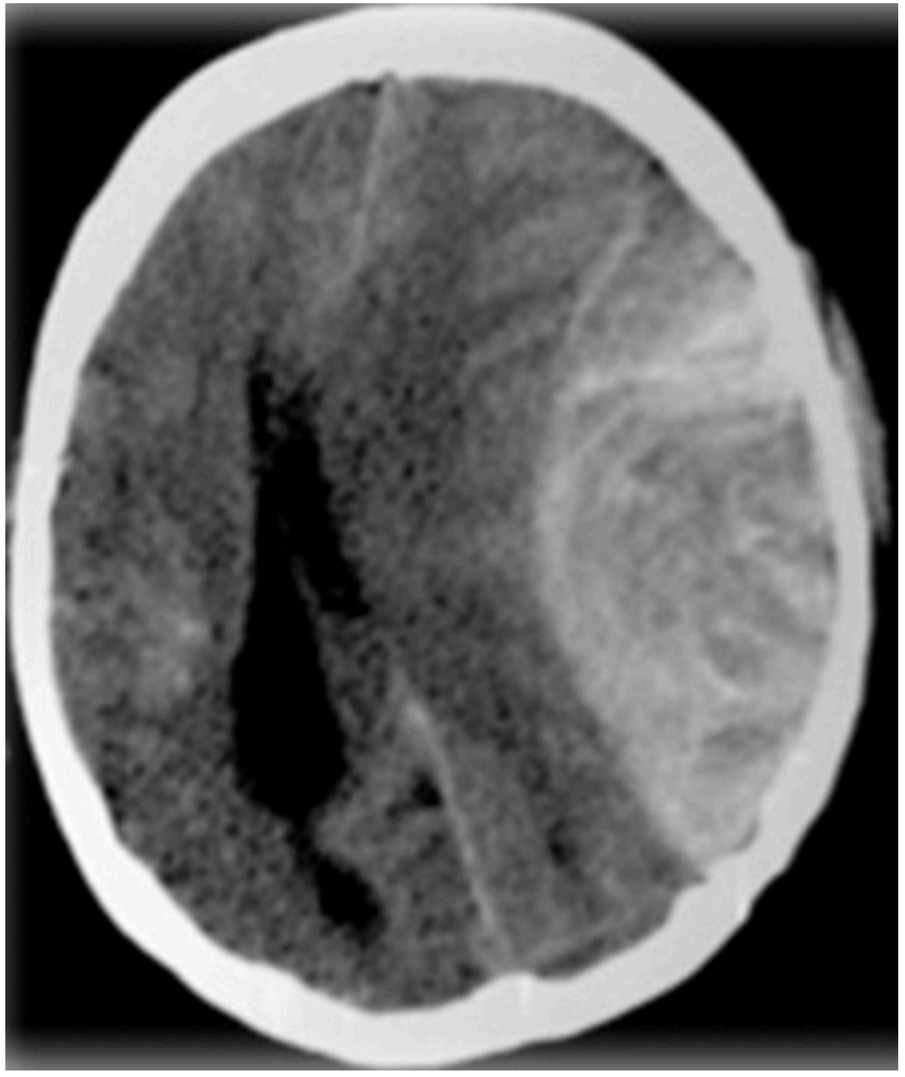


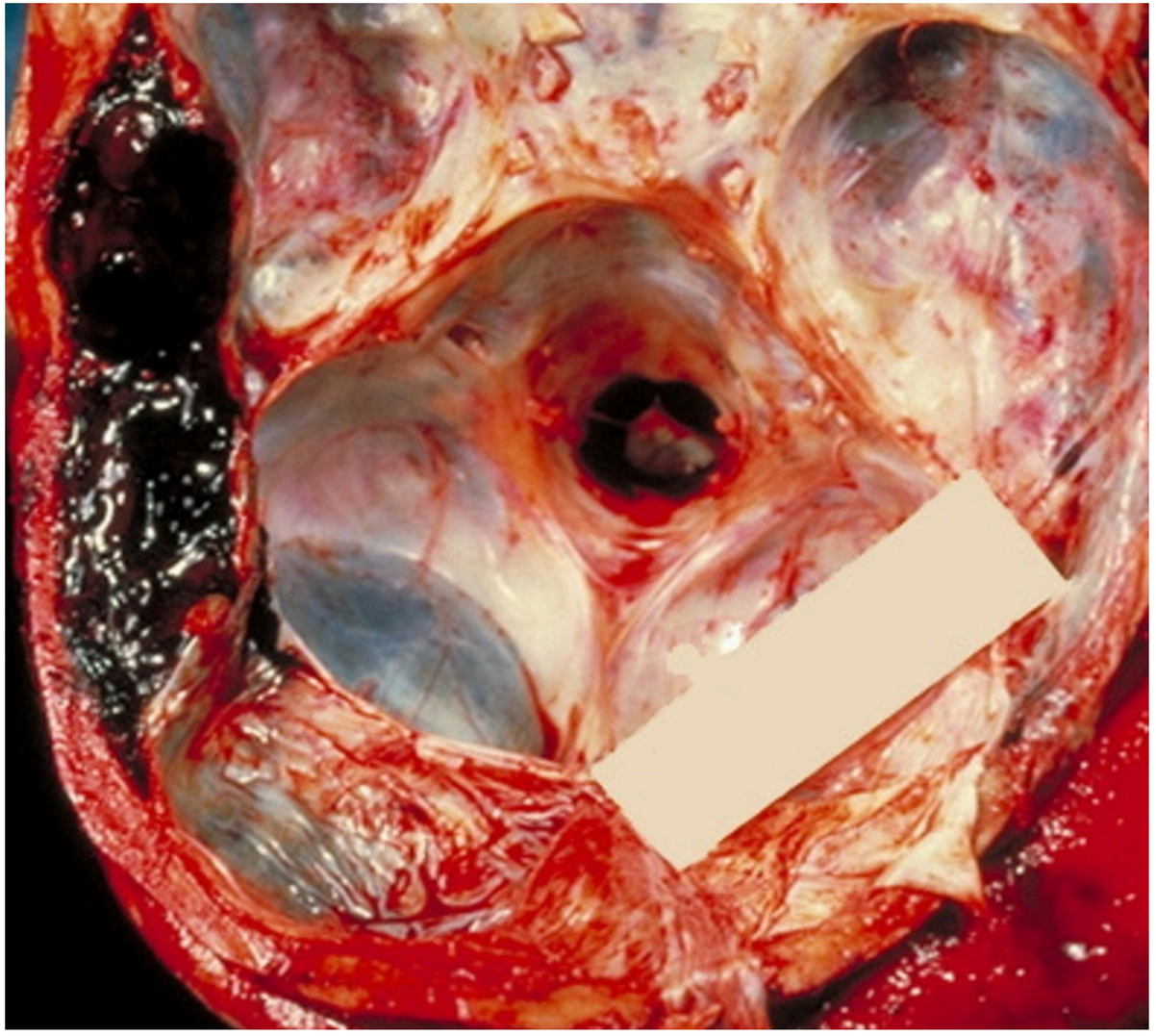
Semiologia Neurológica

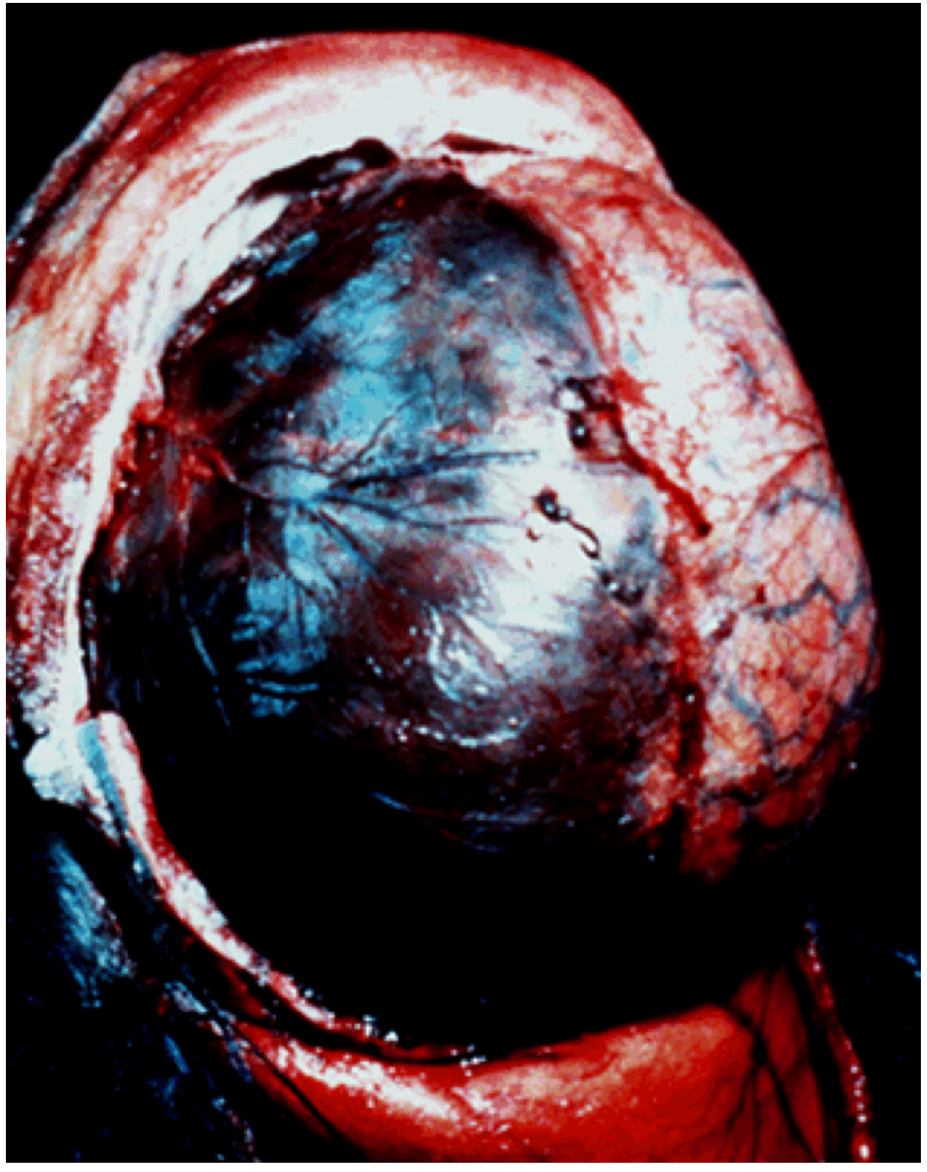
Lesão Hemisférica Cerebral

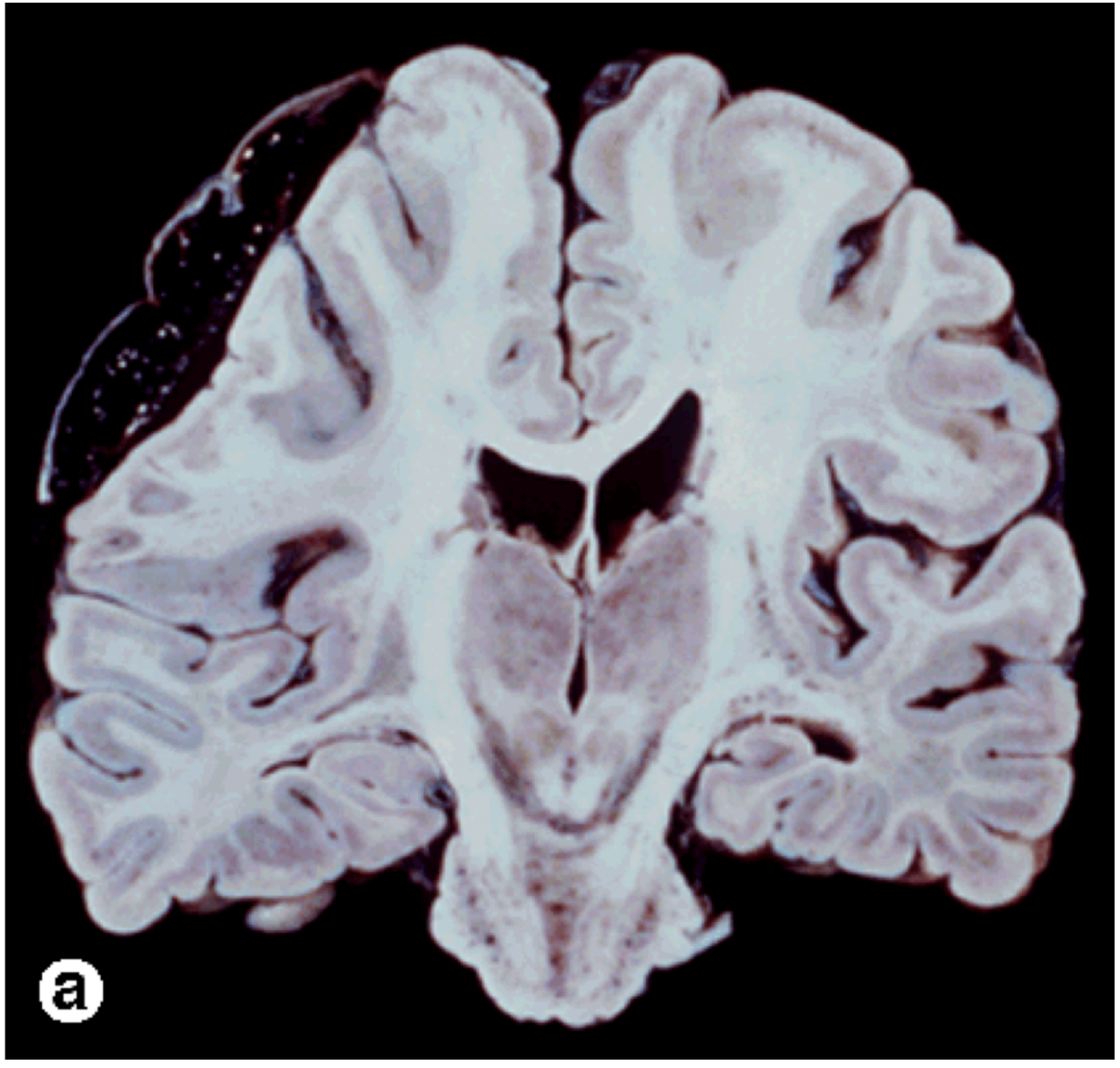


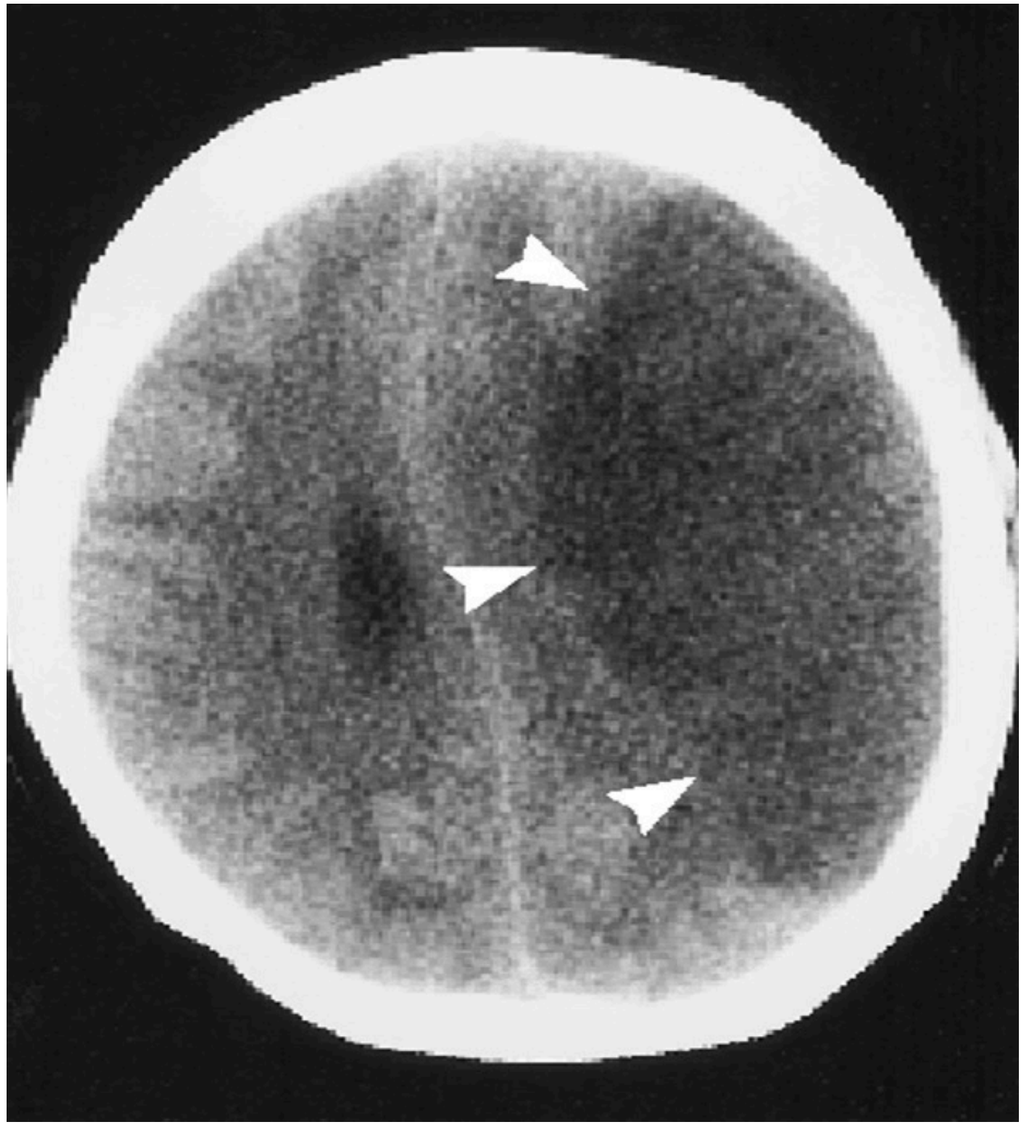


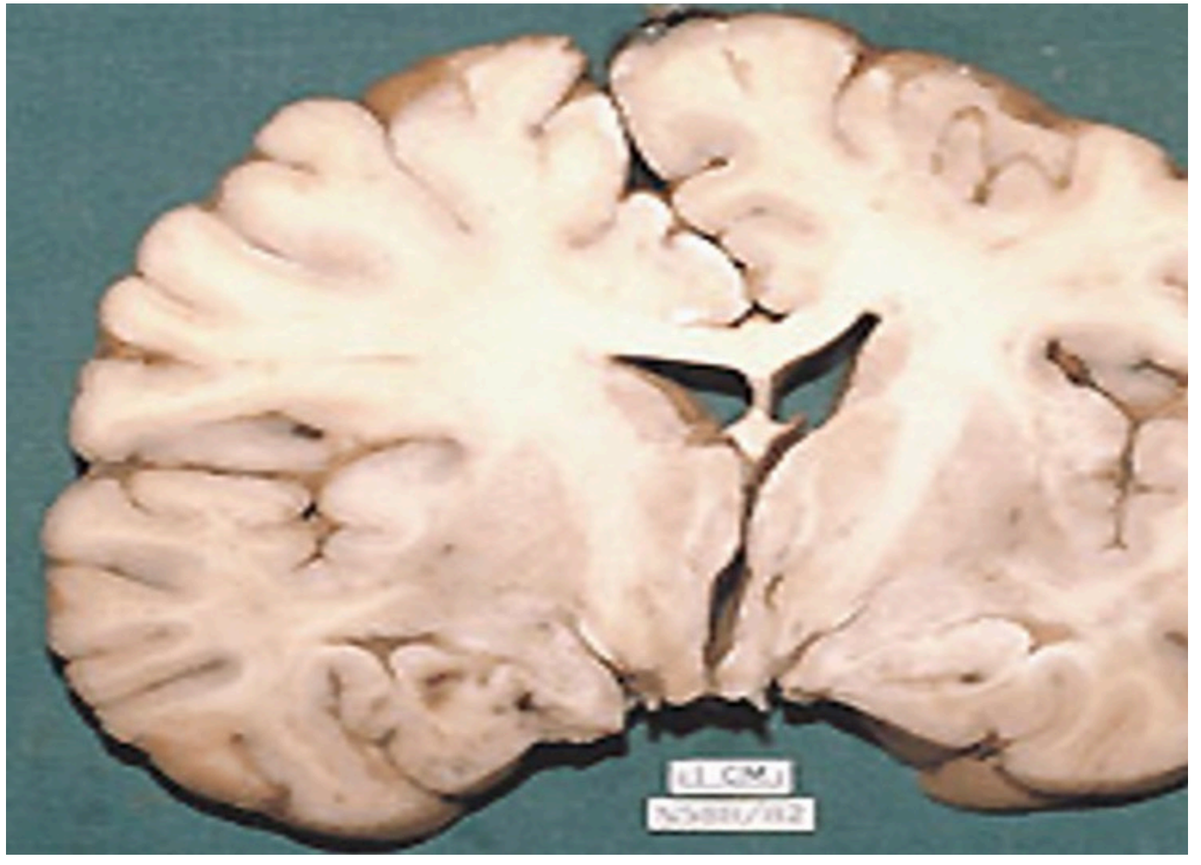






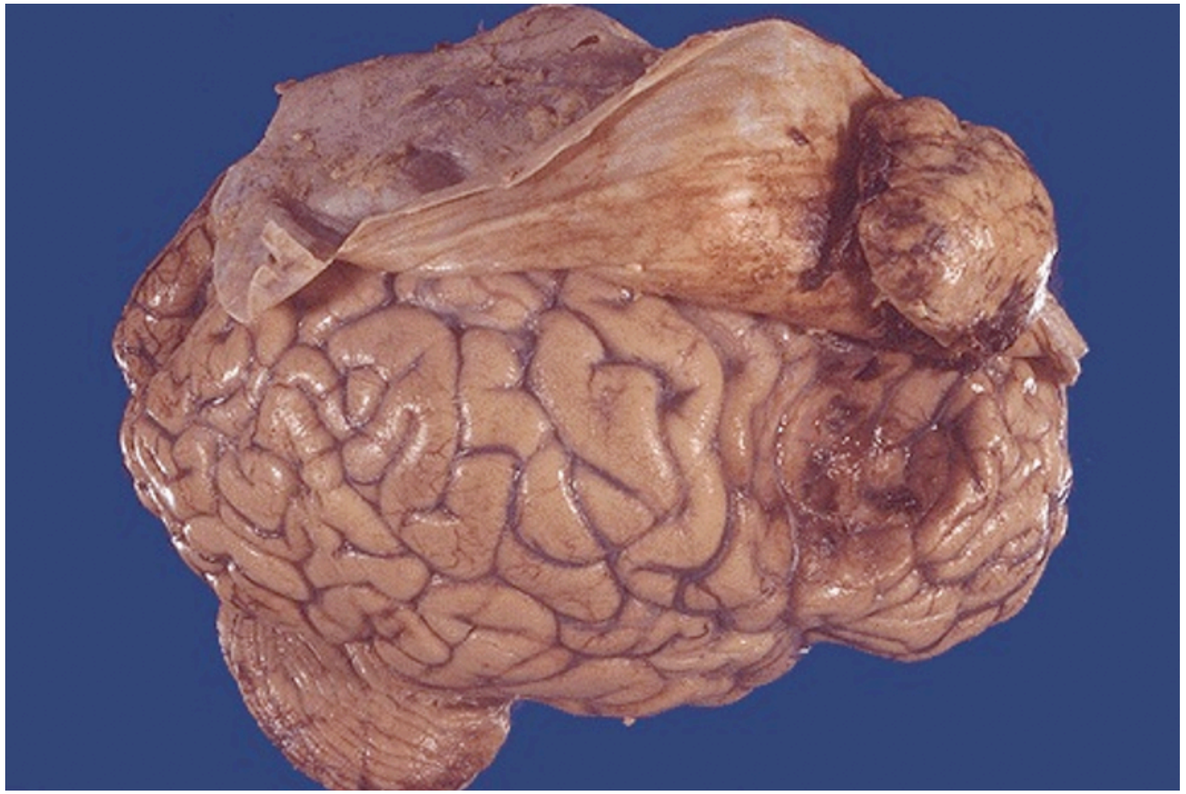

a

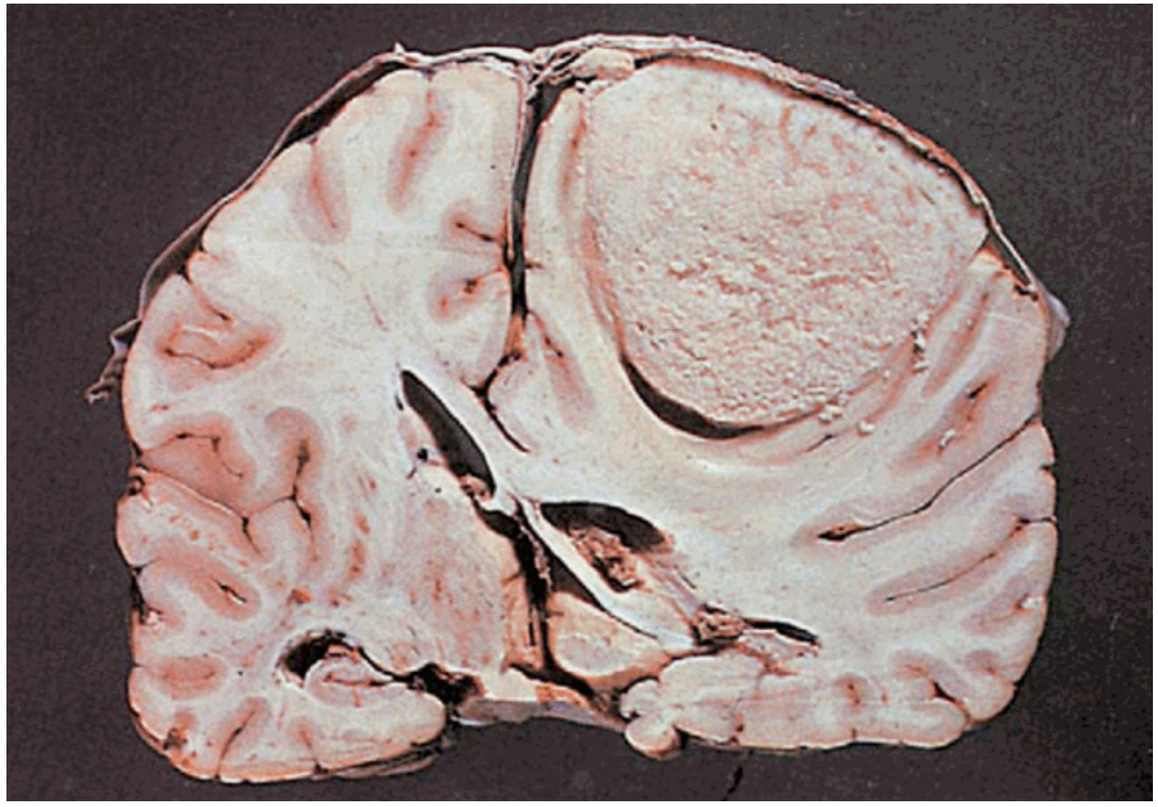



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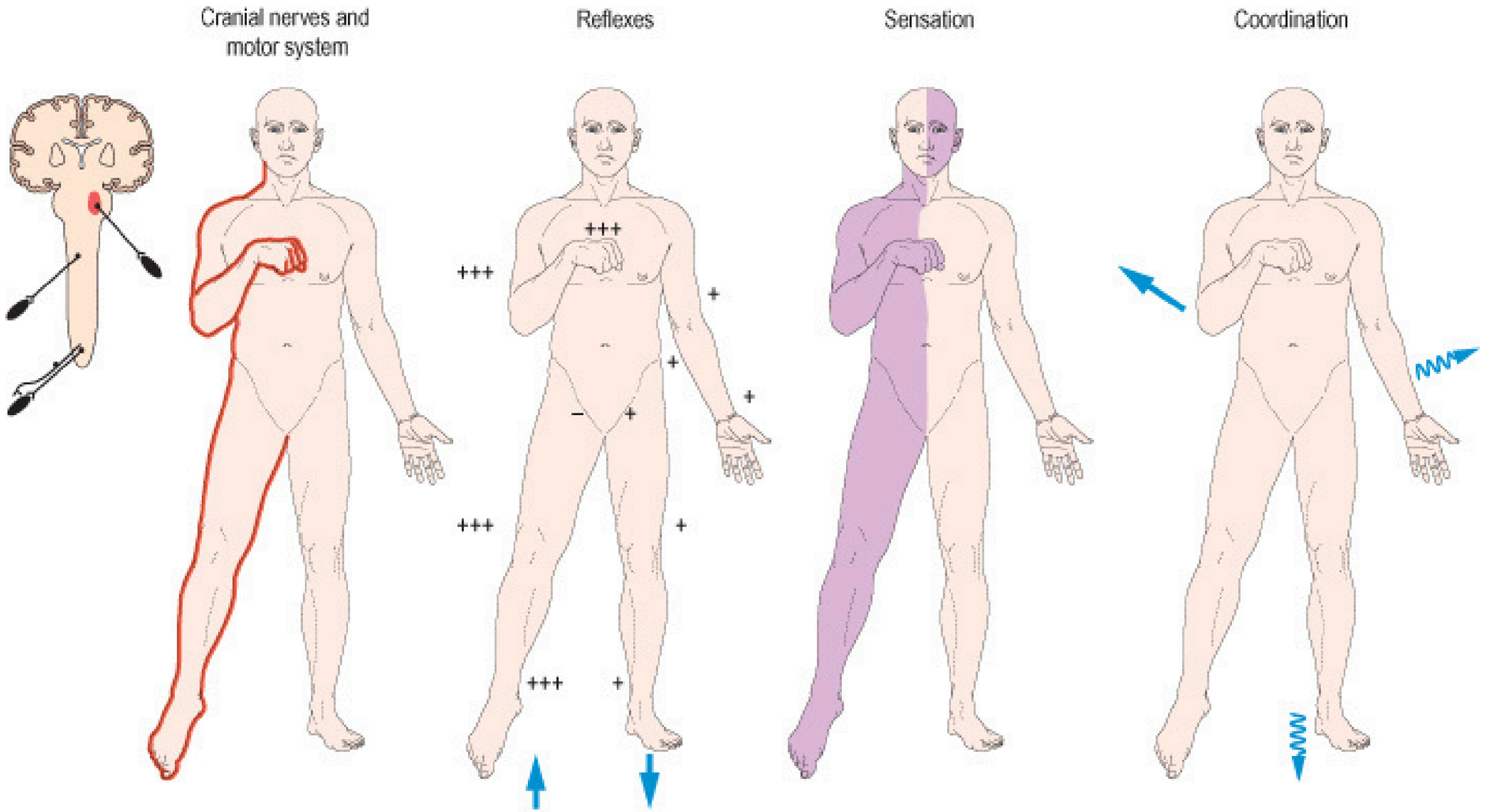






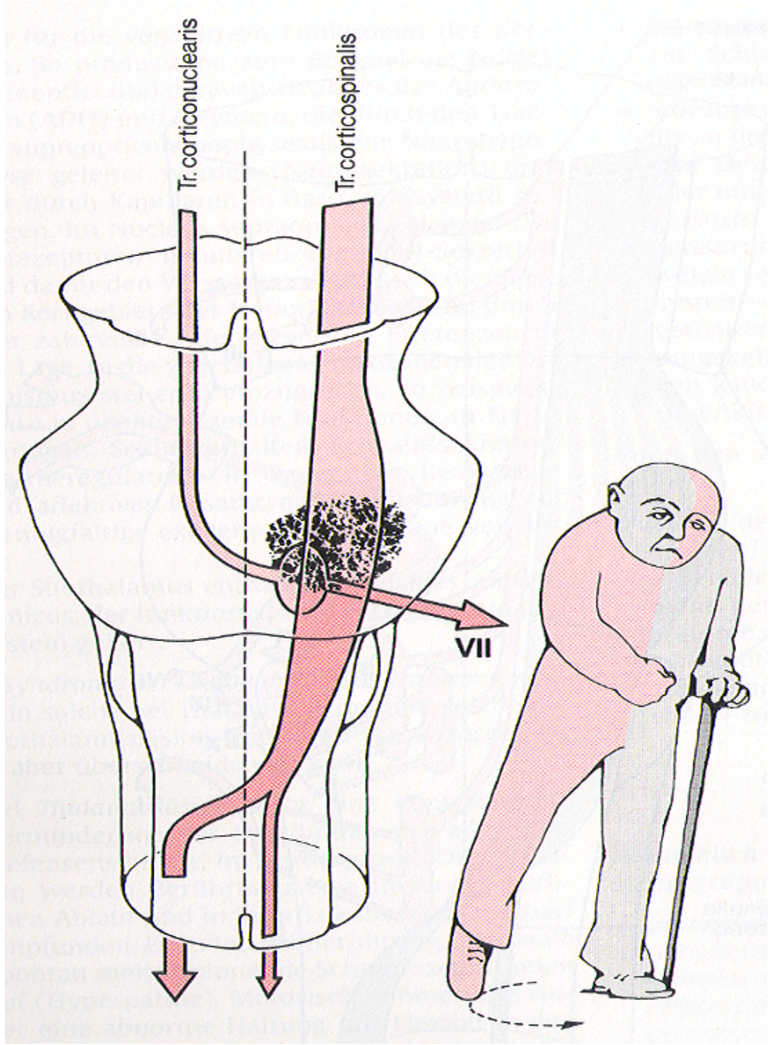


Tronco Cerebral



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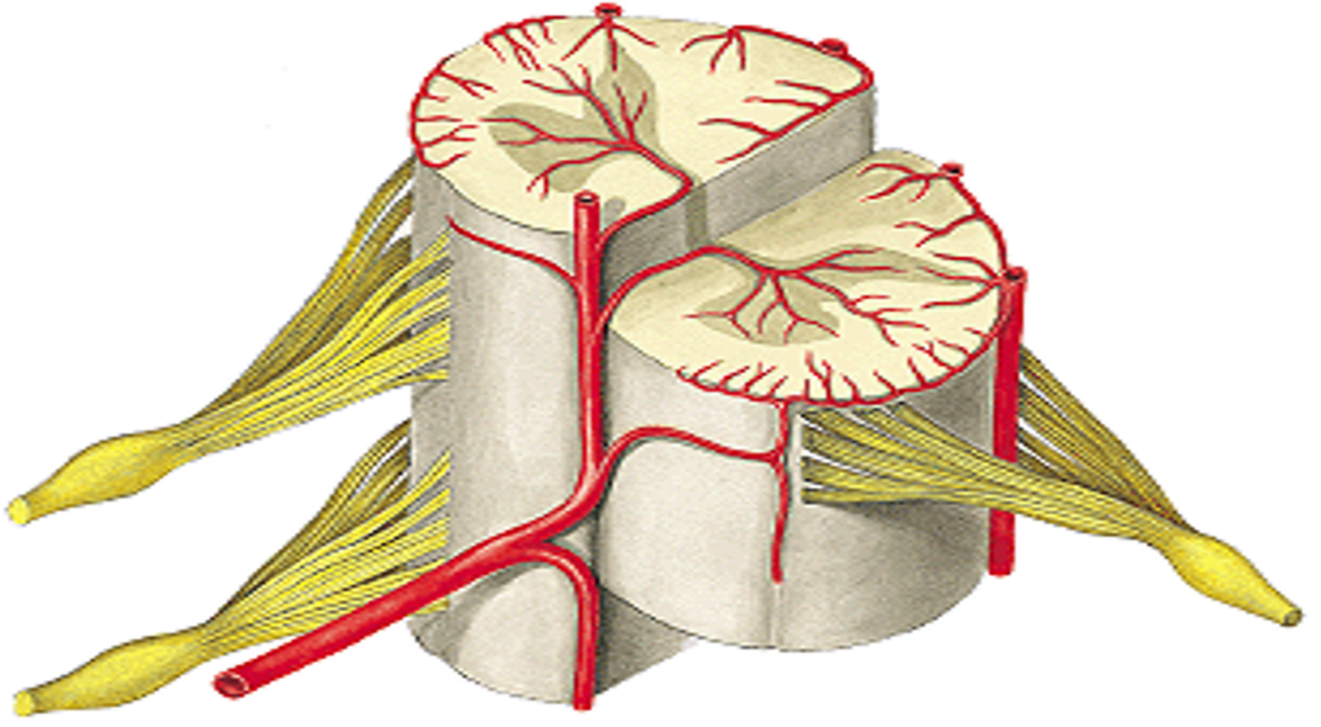
Hemiparesia Alterna



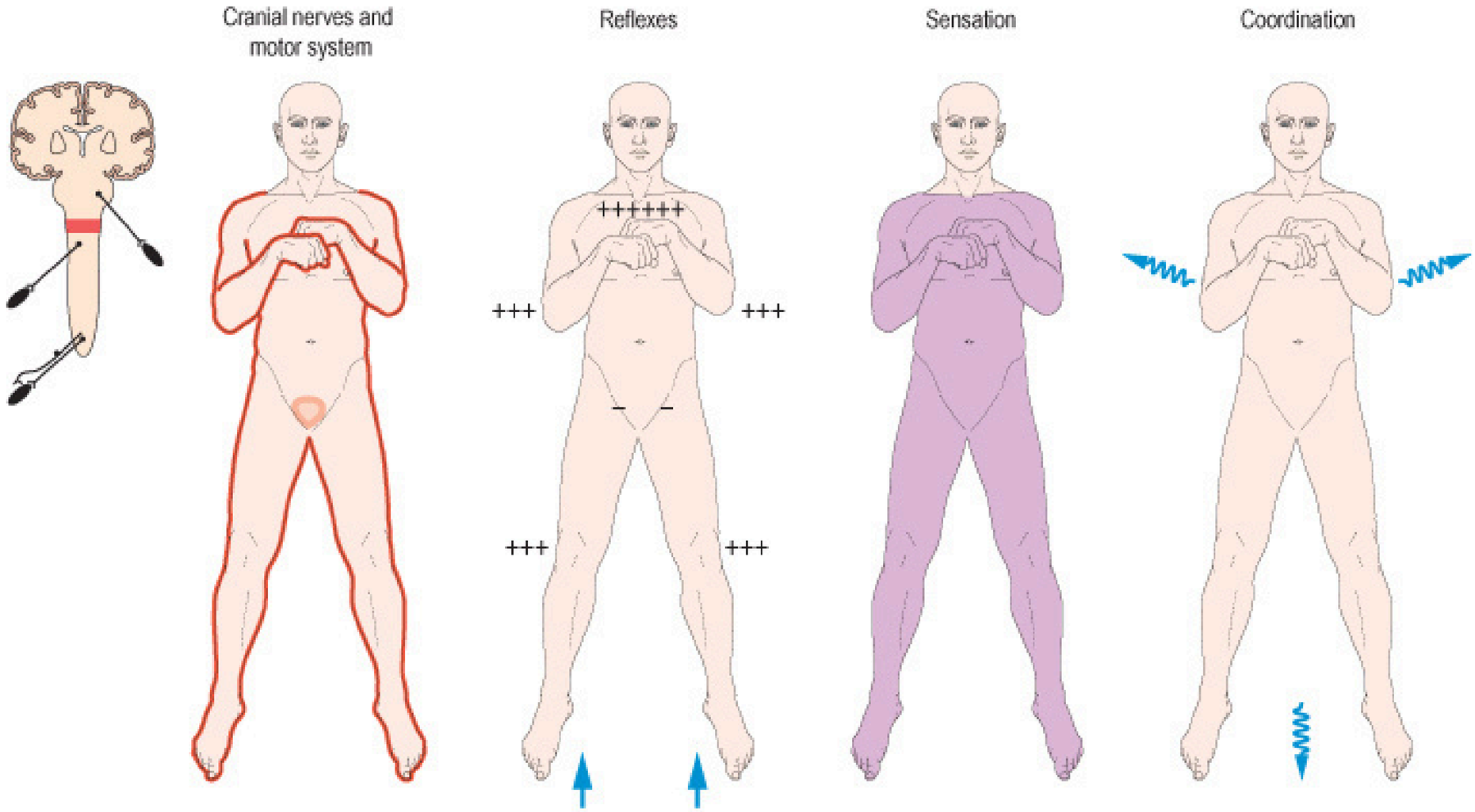








Medula Cervical Alta

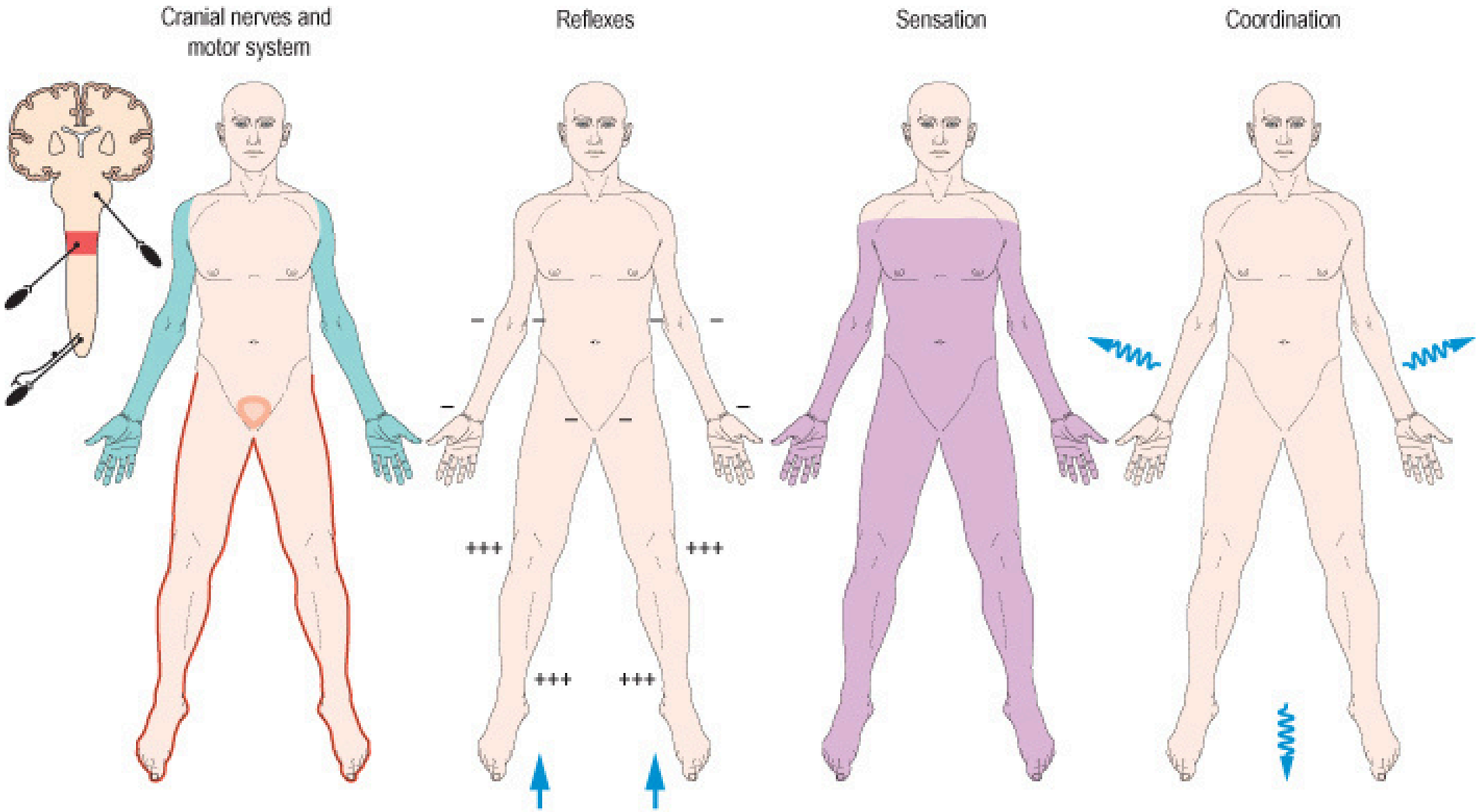


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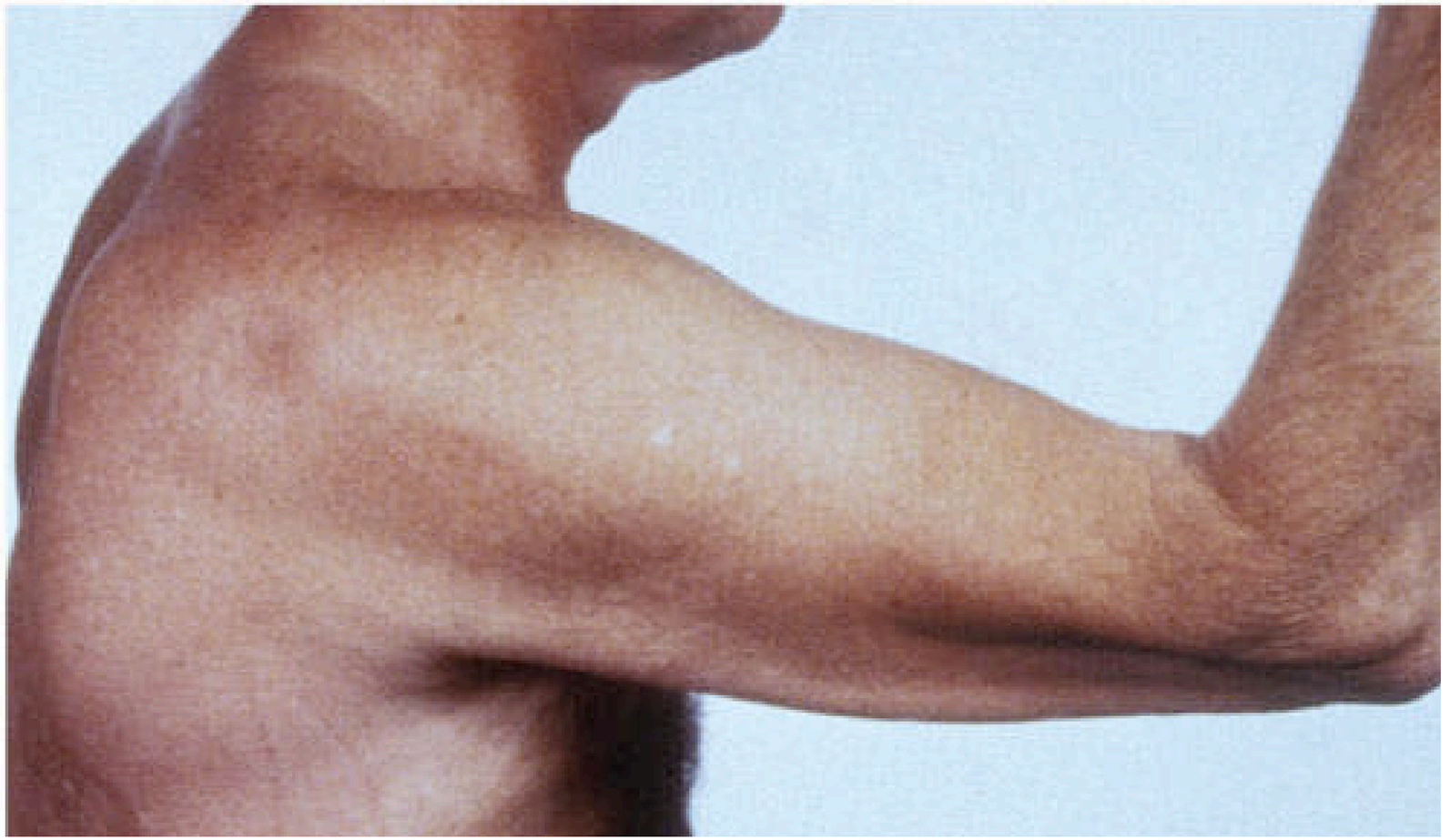
Lesão Medular Cervical Baixa



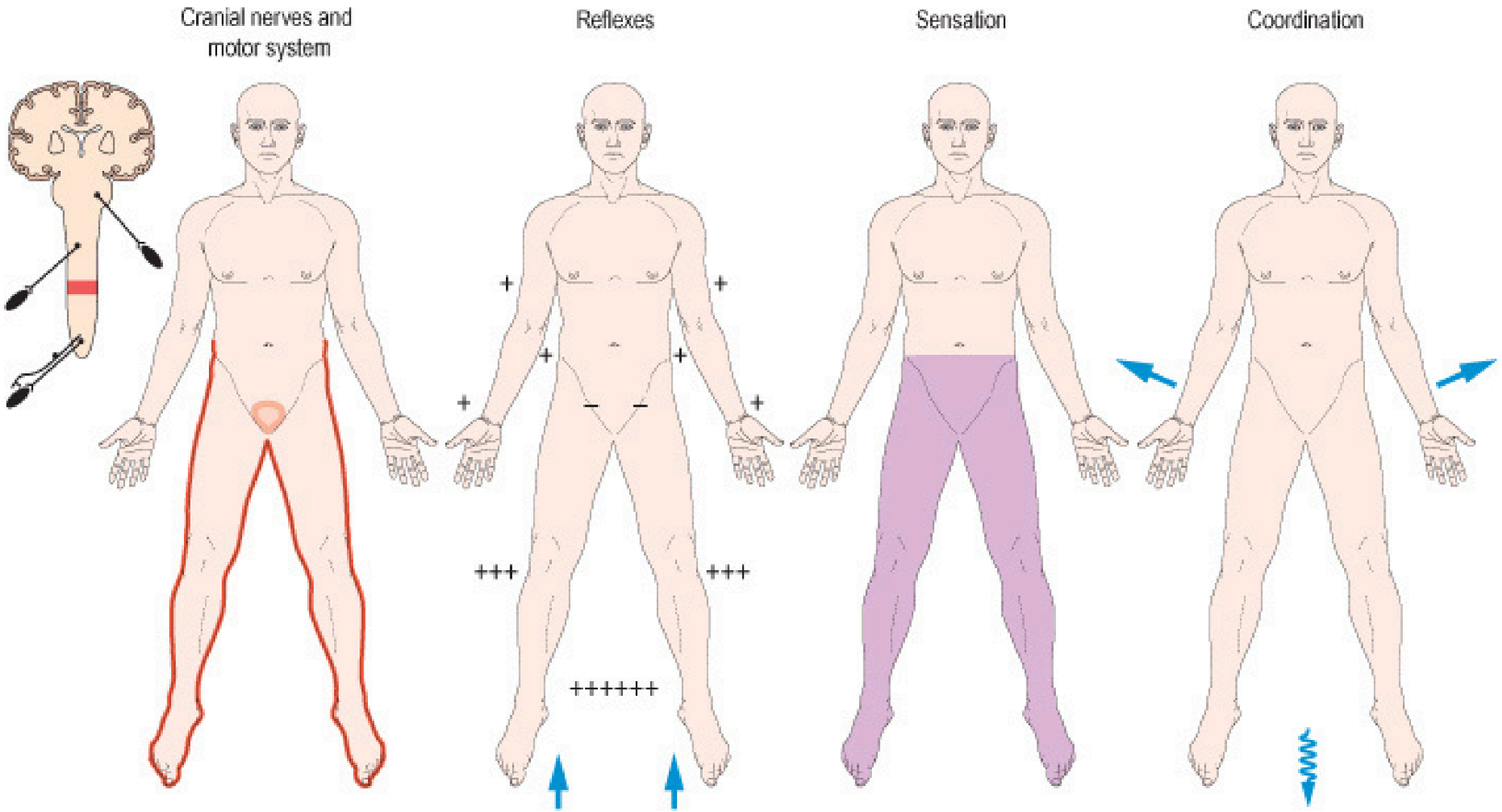
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Lesão Medular Cervical Baixa





Medula Toráxica

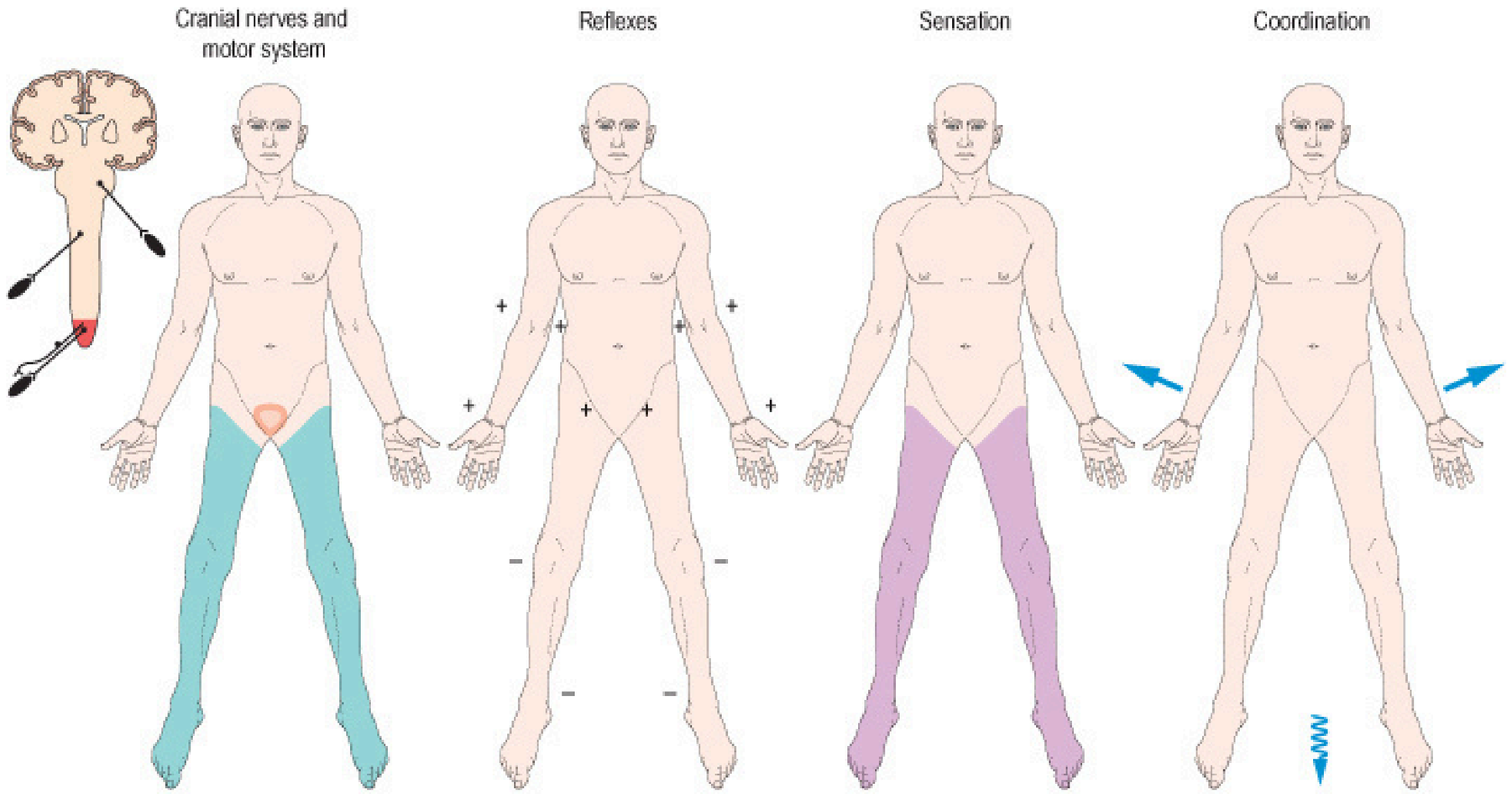


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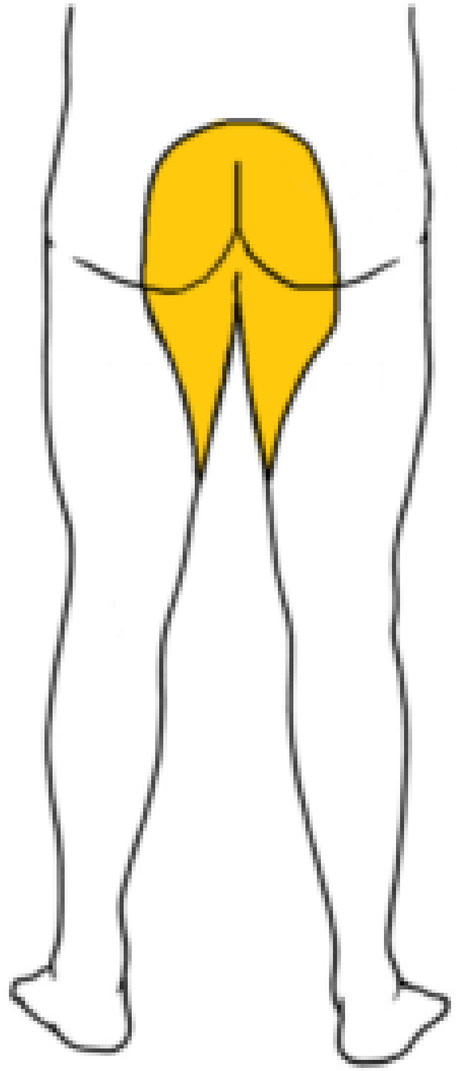
Compressão Medular



Cauda Equina



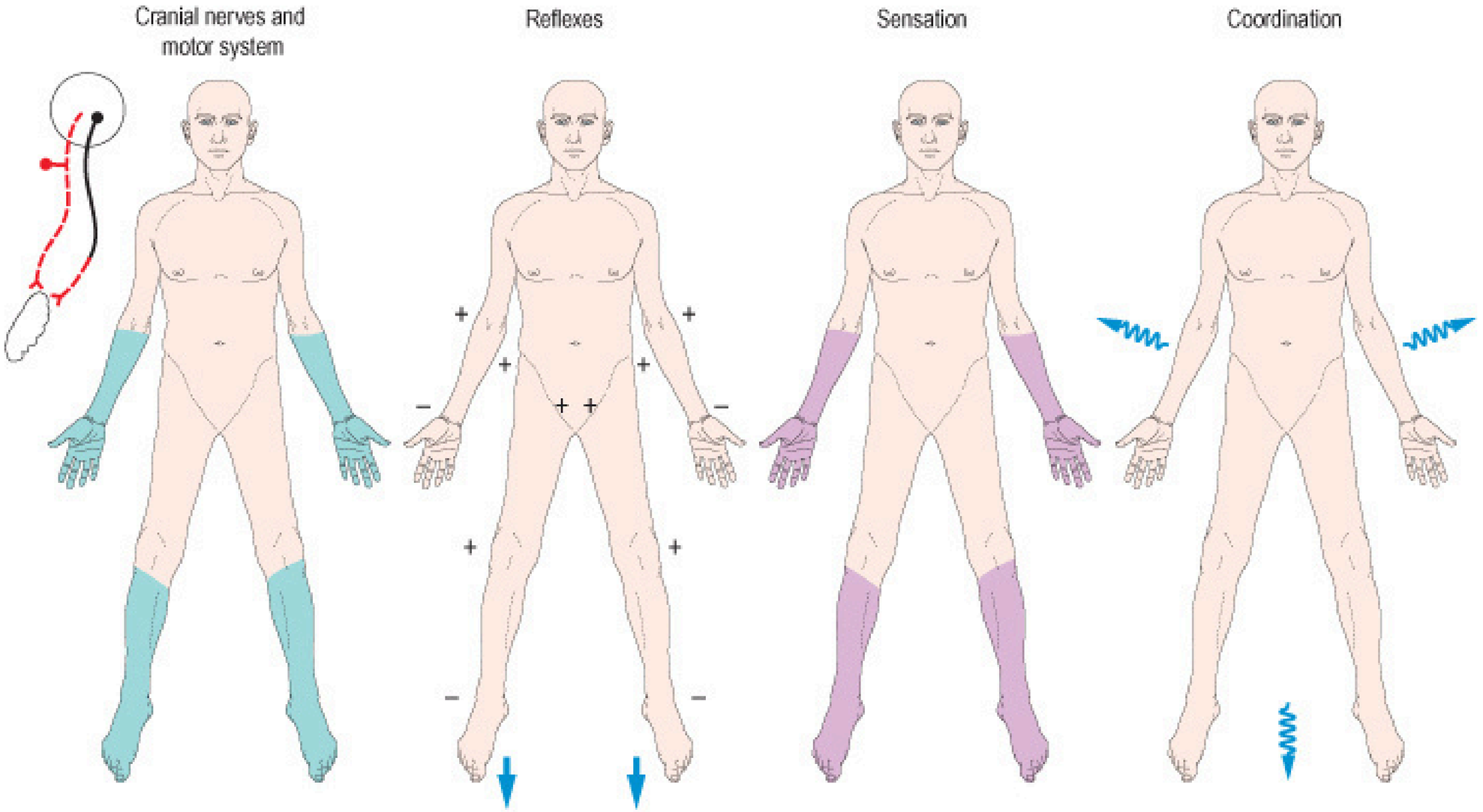
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A


B

Nervos



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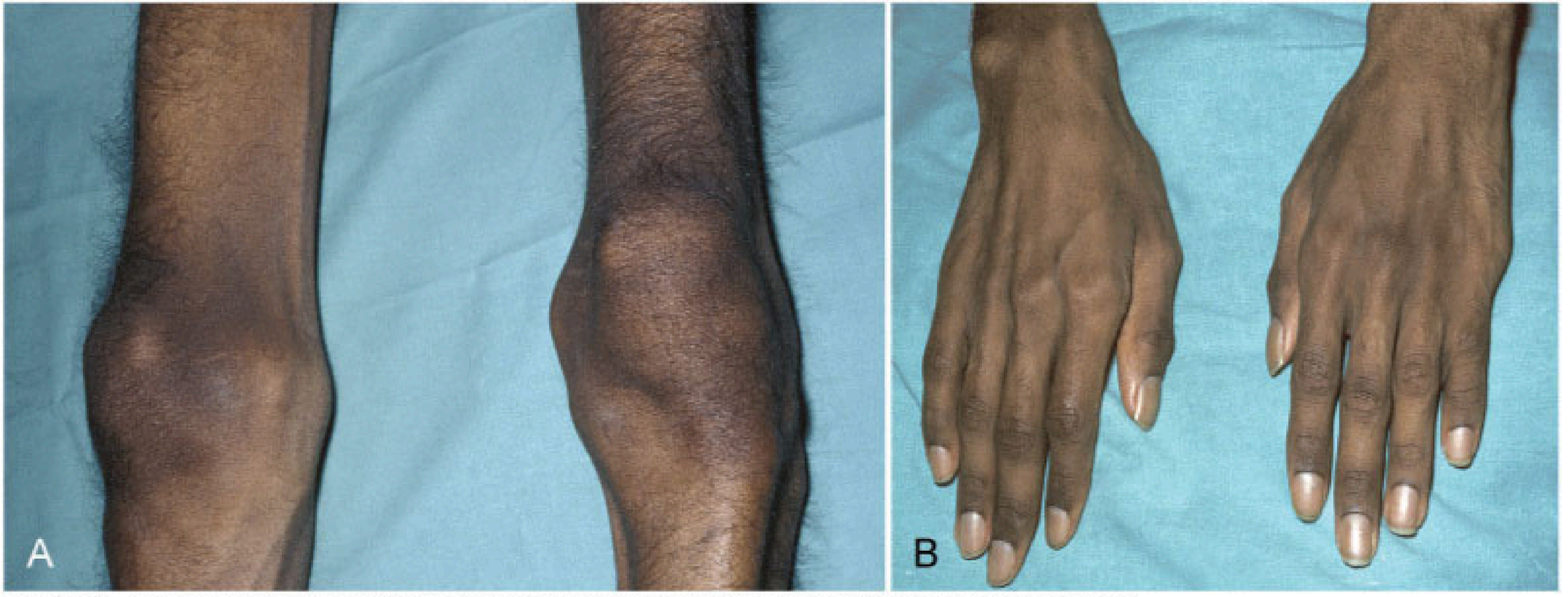
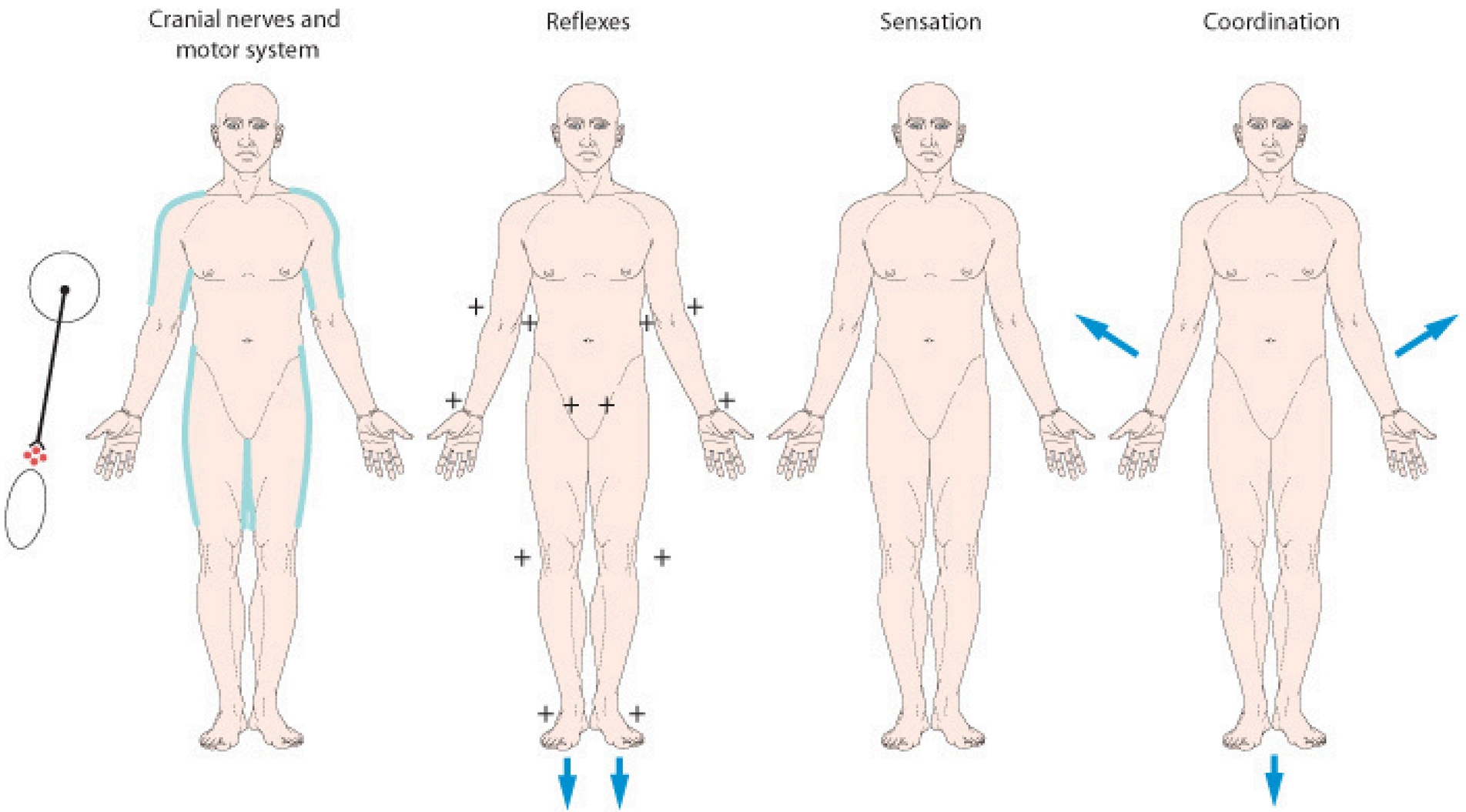


Fig. 2-53. Critical illness neuropathy. Severe wasting of the lower limbs **(A)** and the hands **(B).**

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Placa Motora



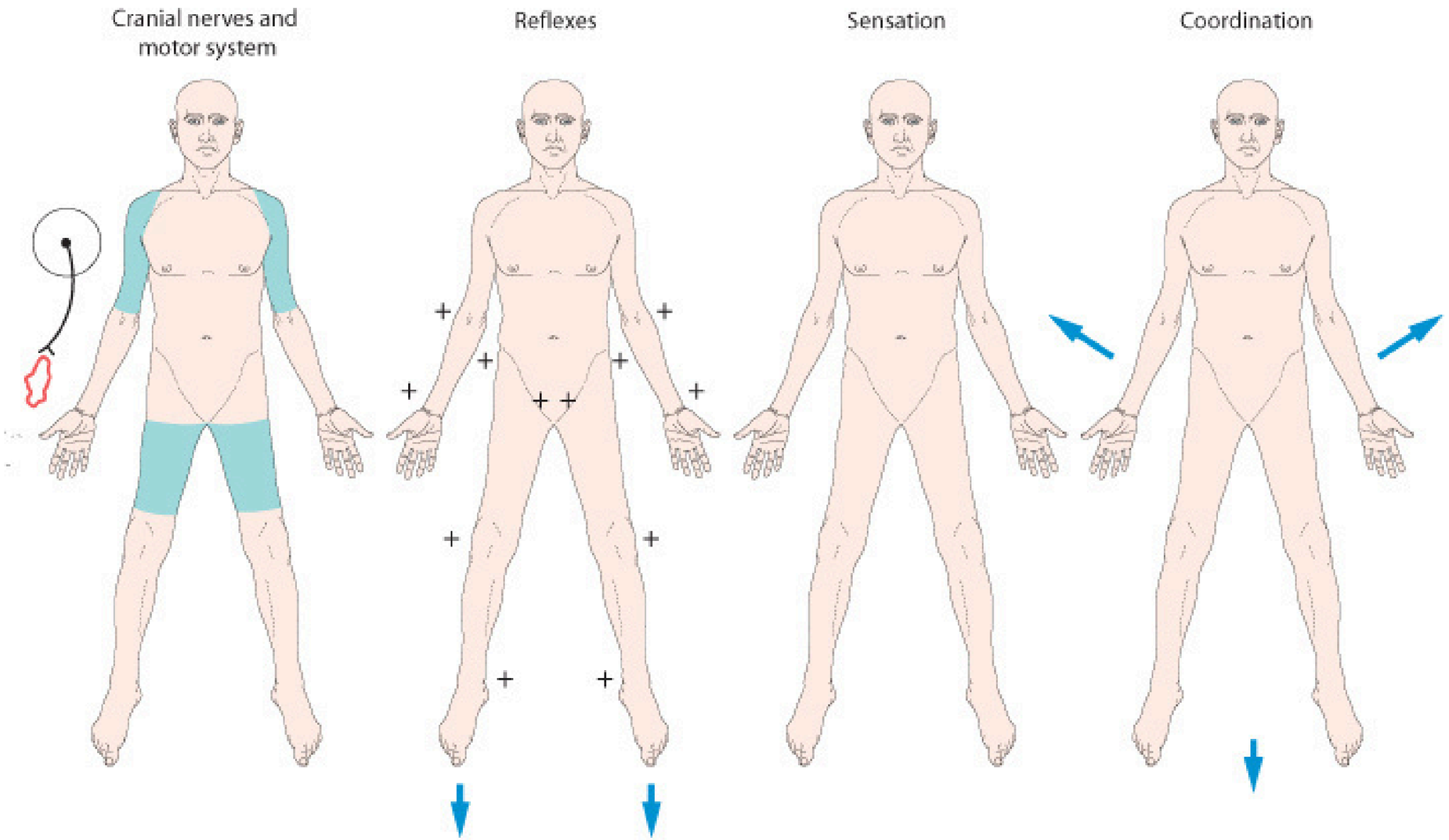
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Fig. 3-96. Tensilon test in myasthenia gravis. Facial appearance before **(A)** and after **(B)** intravenous injection of edrophonium hydrochloride, a short-acting acetylcholinesterase inhibitor.

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Músculos



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Fontes Consultadas

AULER JÚNIOR, J. O. C; YU, LUIS. **Neurologia.** 1. ed. Editora Atheneu, 2021.

GAGLIARDI, R. J; TAKAYANAGUI, O. M. **Tratado de Neurologia da Academia Brasileira de Neurologia.** 2. ed. Editora GEN Guanabara-Koogan, 2019.

BERTOLUCCI, P. H. F. et al. **Neurologia – diagnóstico e tratamento.** 3. ed. Editora Manole, 2020.

CAMPBELL, W. W; BAHRON, R.J. DeJong – **O exame neurológico.** 8° edição. Rio de Janeiro: Guanabara-Koogan, 2021.

MARTINS, C. R. et al. **Semiologia Neurológica.** Rio de janeiro: Revinter, 2017.

Referências

AULER JÚNIOR, J. O. C; YU, LUIS. Neurologia. 1. ed. Editora Atheneu, 2021.

GAGLIARDI, R. J; TAKAYANAGUI, O. M. Tratado de Neurologia da Academia Brasileira de Neurologia. 3. ed. Editora GEN Guanabara-Koogan, 2025.

BERTOLUCCI, P. H. F. et al. Neurologia – diagnóstico e tratamento. 3. ed. Editora Manole, 2020.

CAMPBELL, W. W; BAHRON, R.J. DeJong – O exame neurológico. 8° edição. Rio de Janeiro: Guanabara-Koogan, 2021.