



 **UCLouvain**

Secteur des Sciences de la santé
Faculté de Médecine
Cours WMDSANAT 1311 (BAC13)
Année académique 2010-2021

02 Décembre 2020

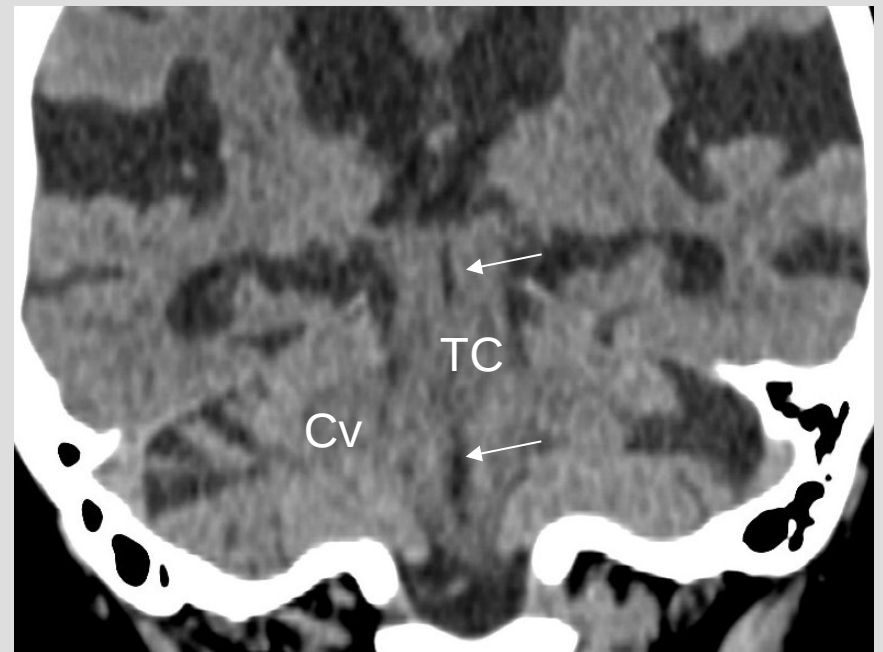
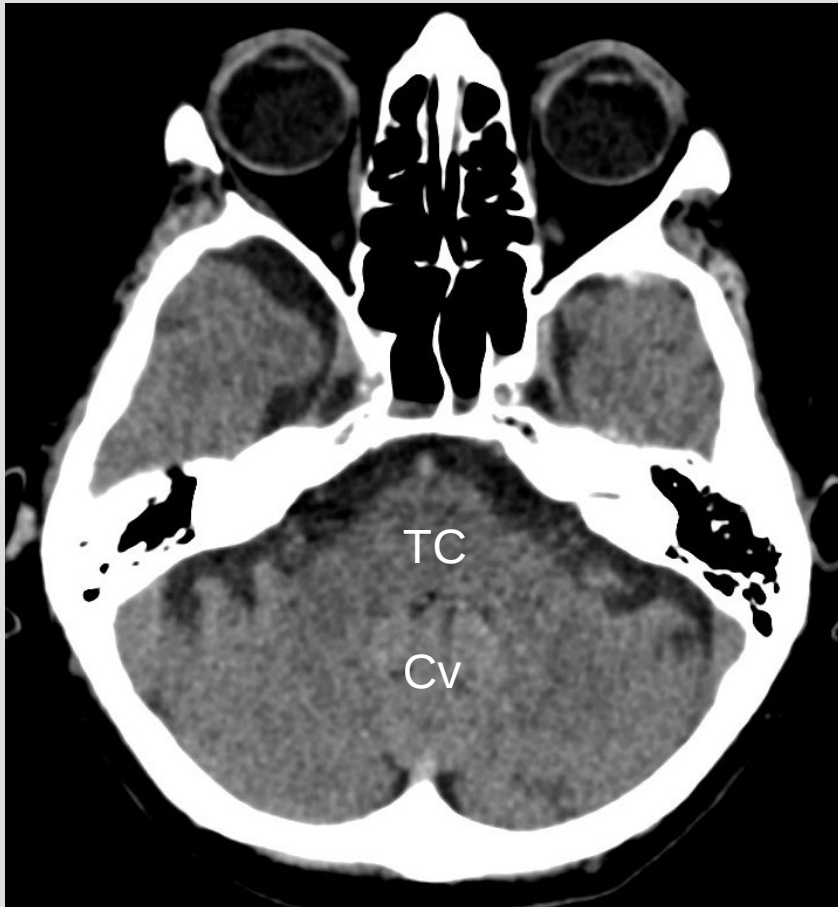
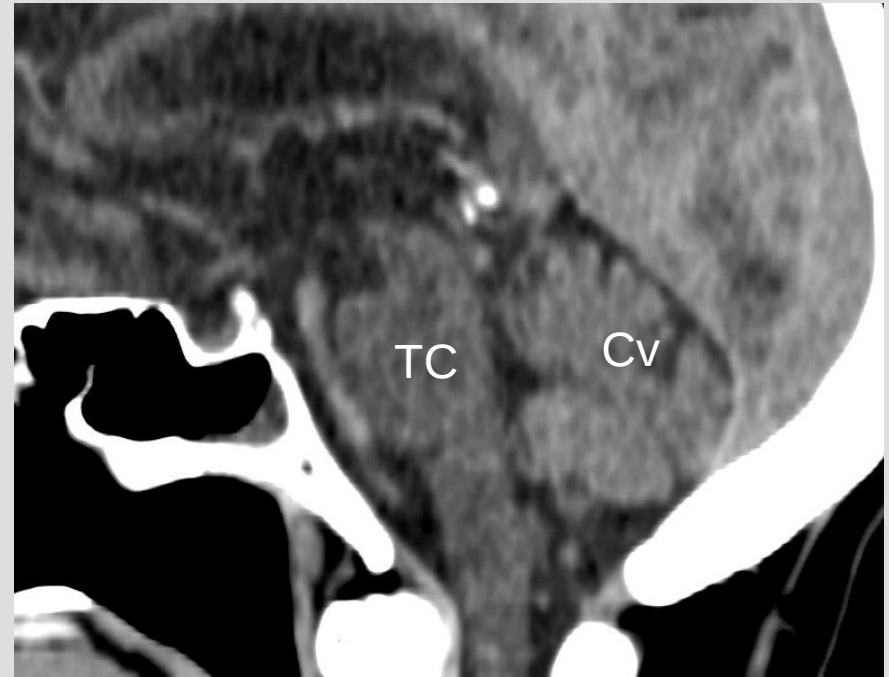
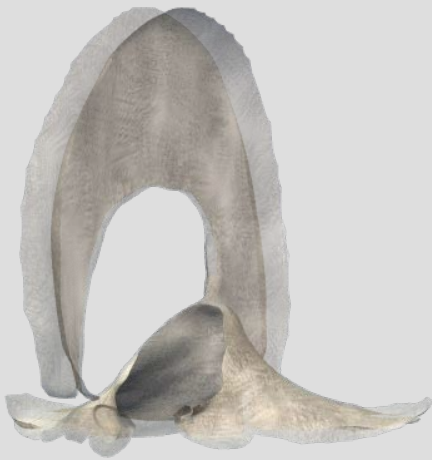
Neuroanatomie radiologique

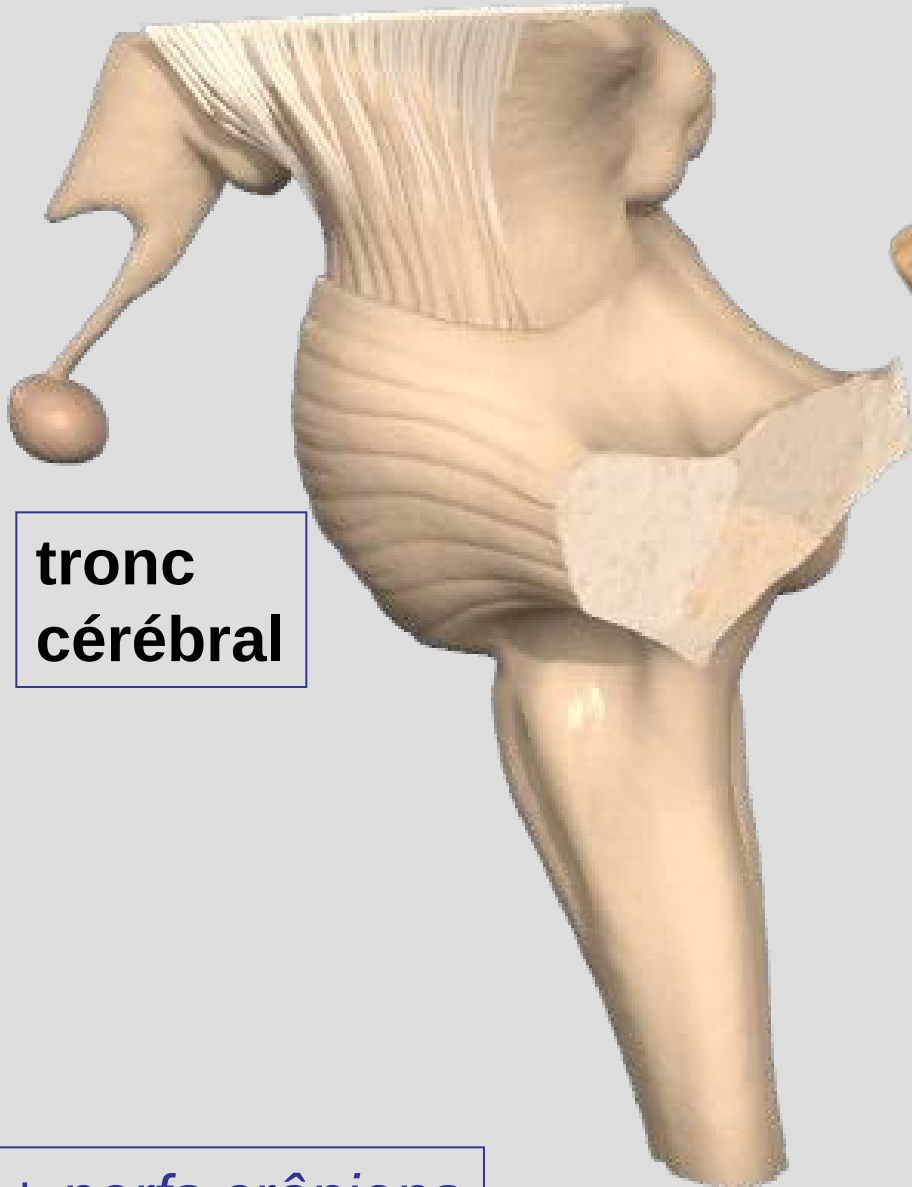
Pr. Thierry DUPREZ



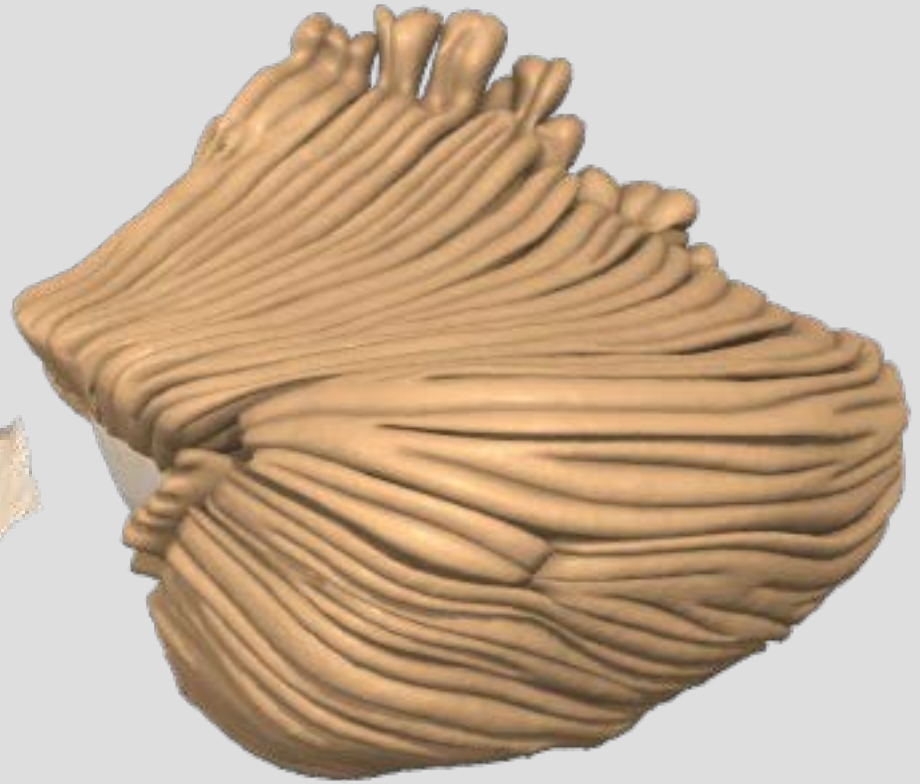
Module 5: fosse postérieure & nerfs crâniens
connectivité cérébrale

Fosse postérieure et paires crâniennes





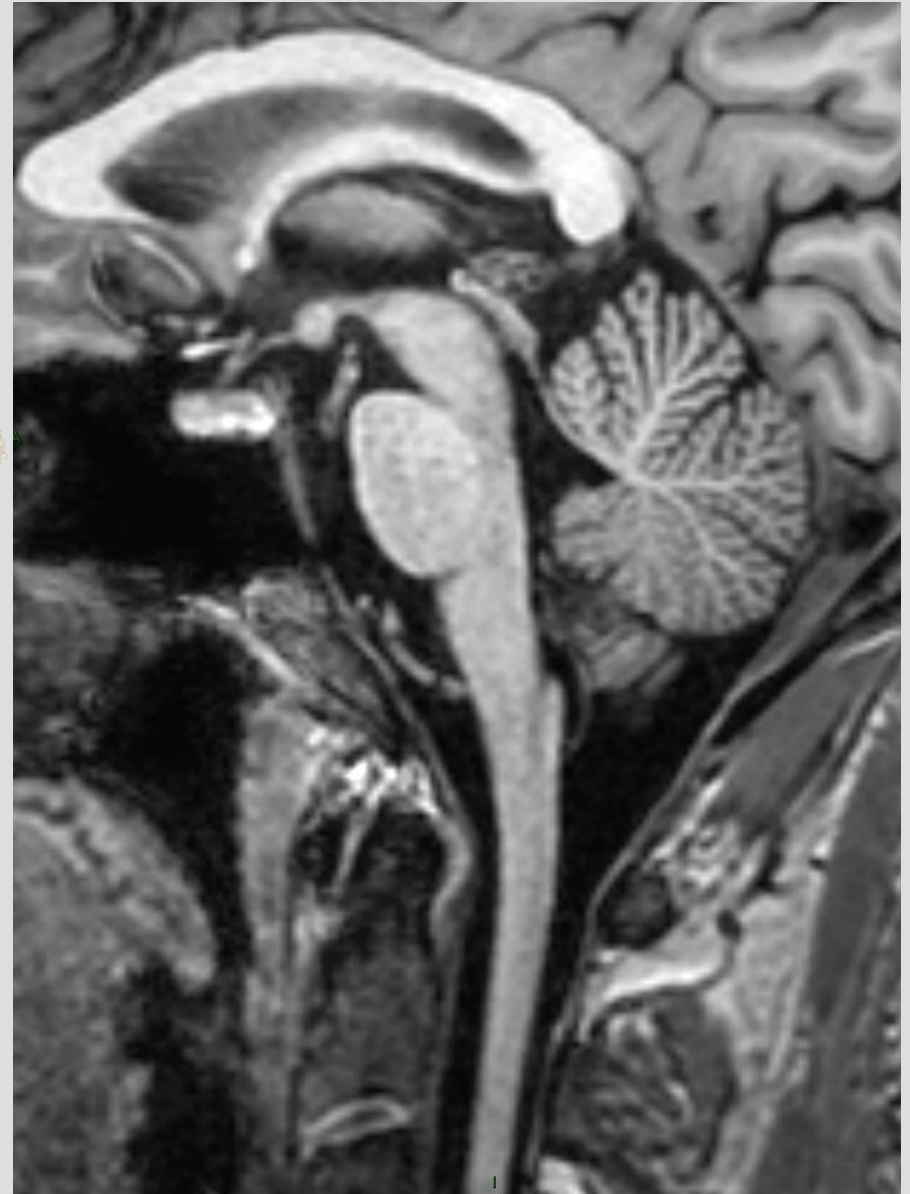
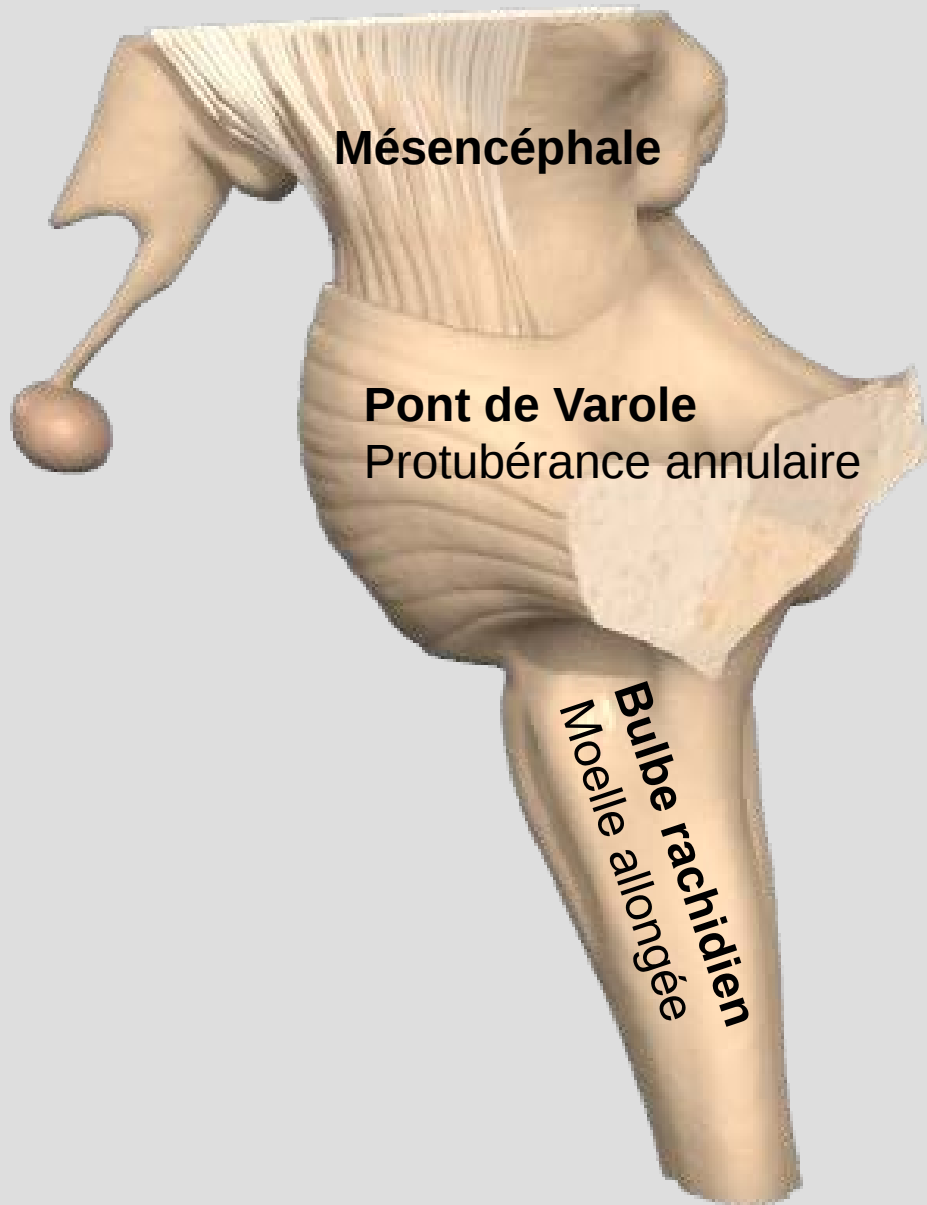
**tronc
cérébral**

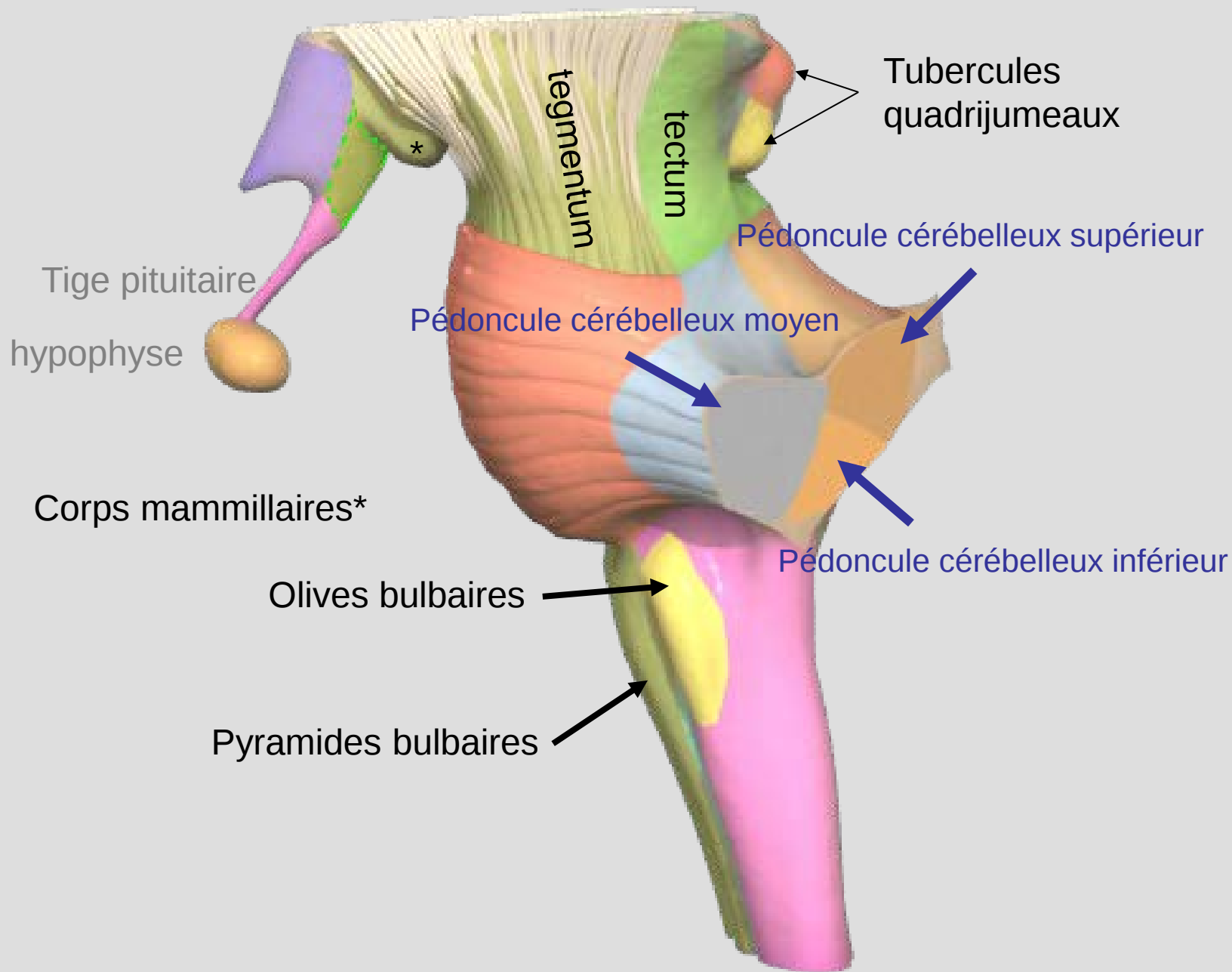


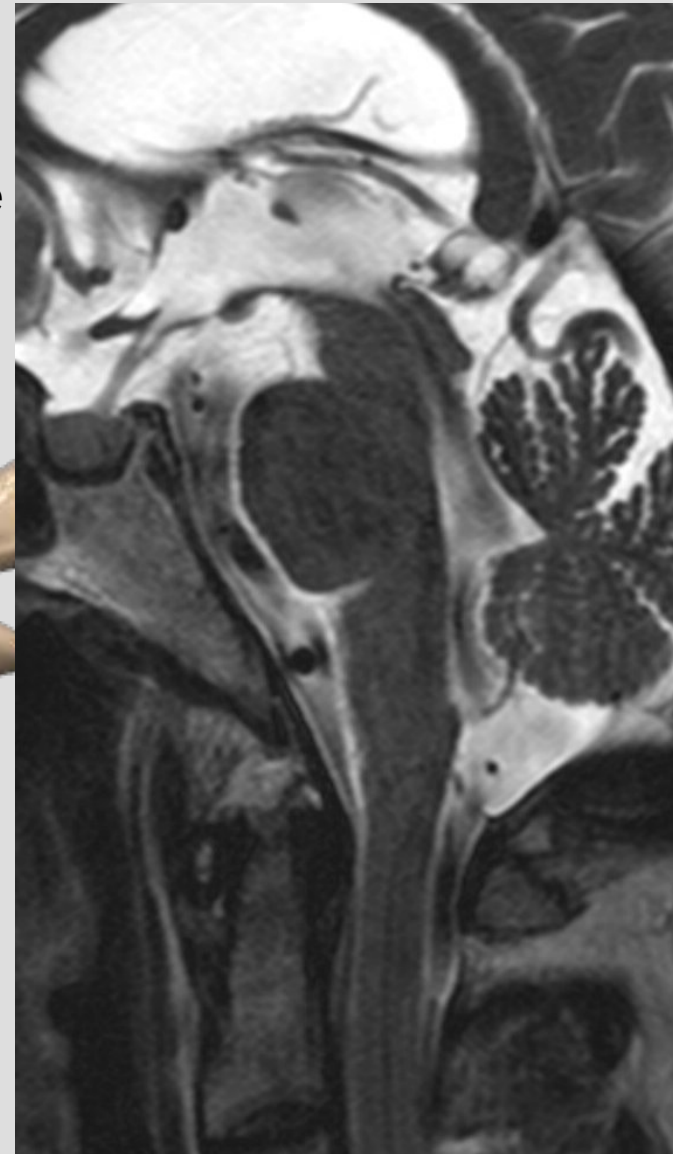
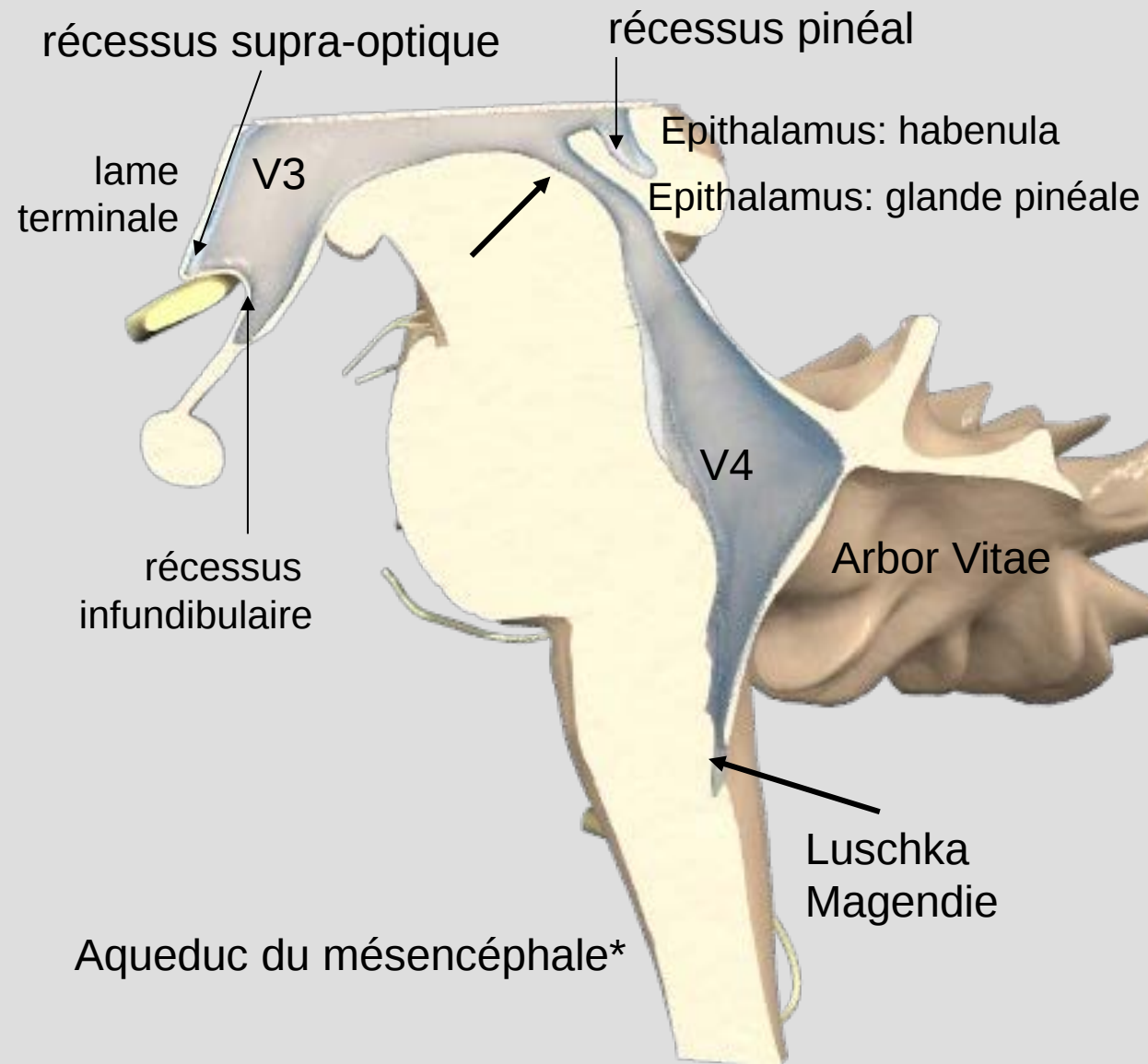
cervelet

+ nerfs crâniens

Coupe IRM sagittale médiane pondérée T1





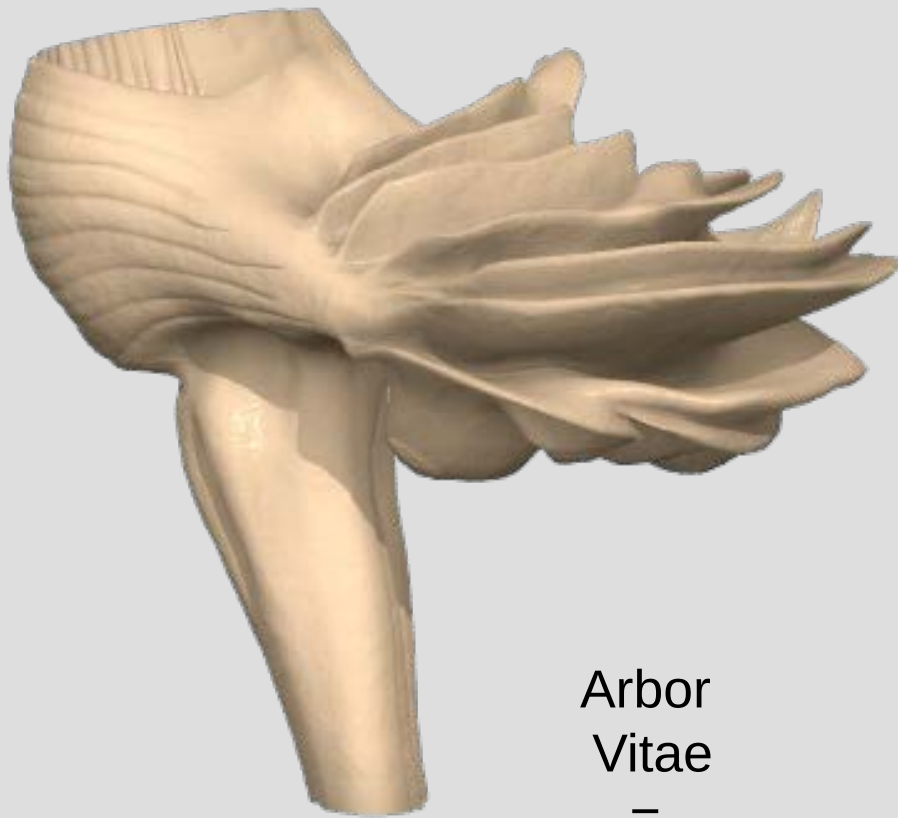




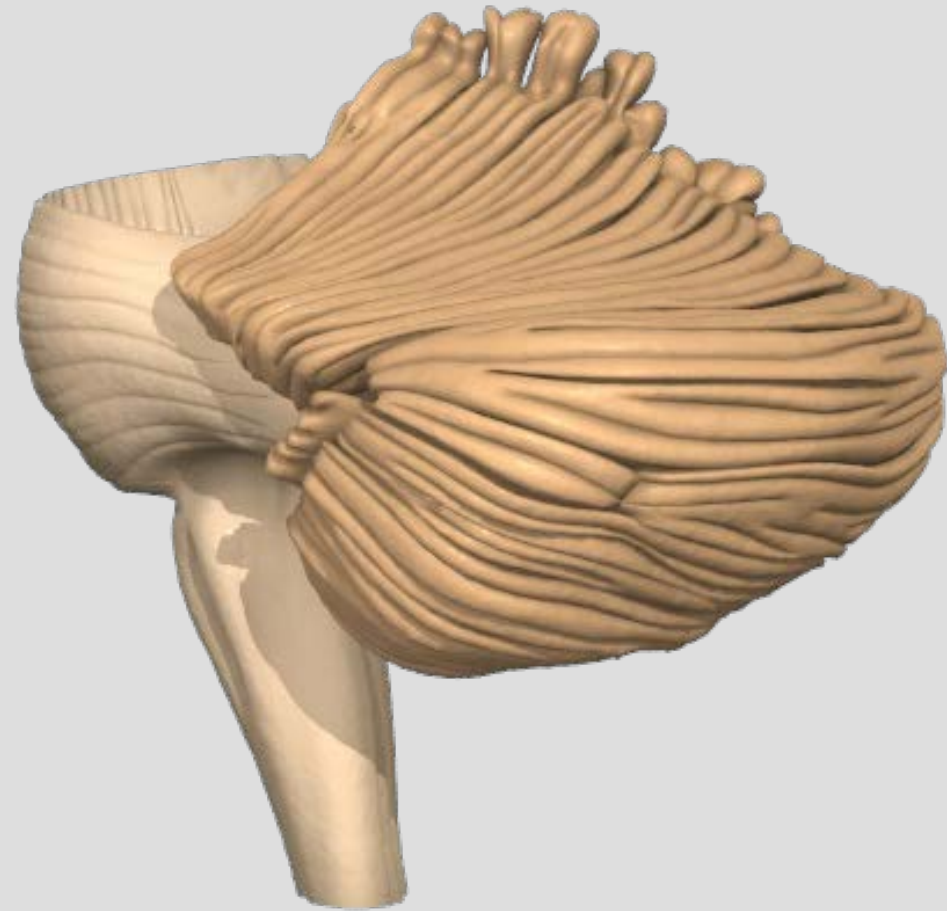
Arbor Vitae



noyau dentelé

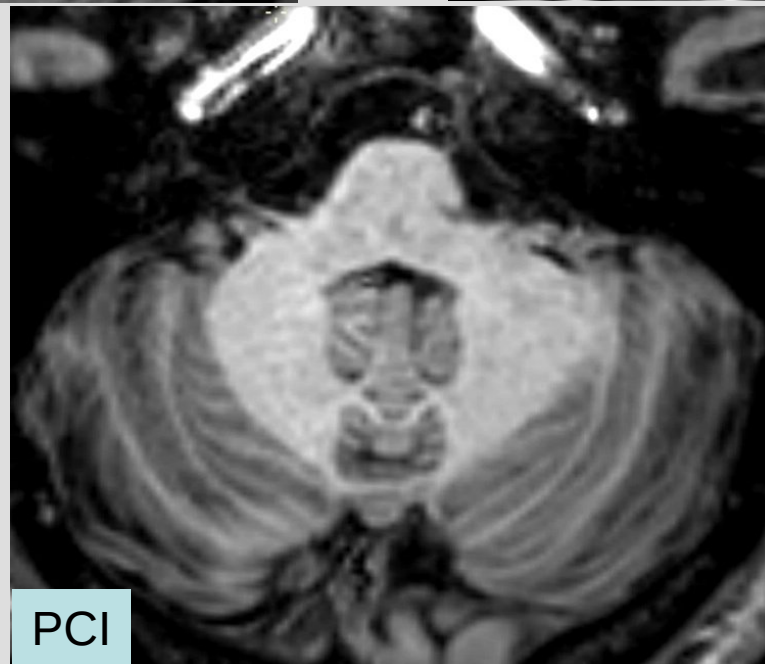
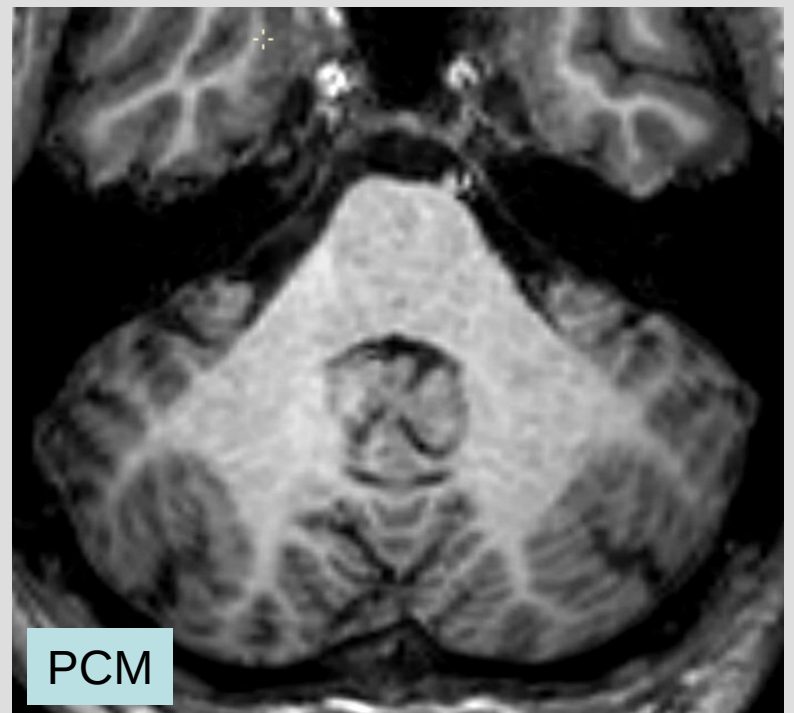
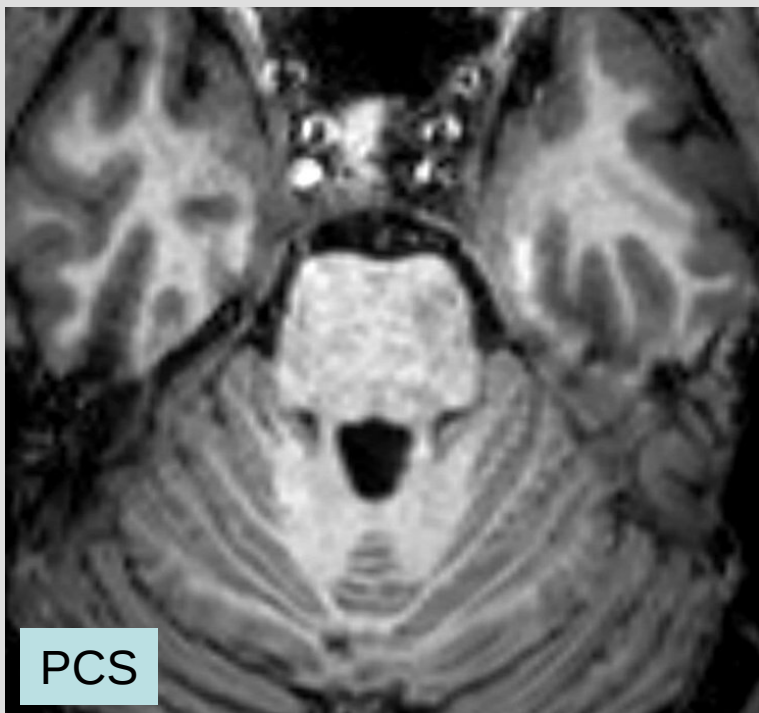


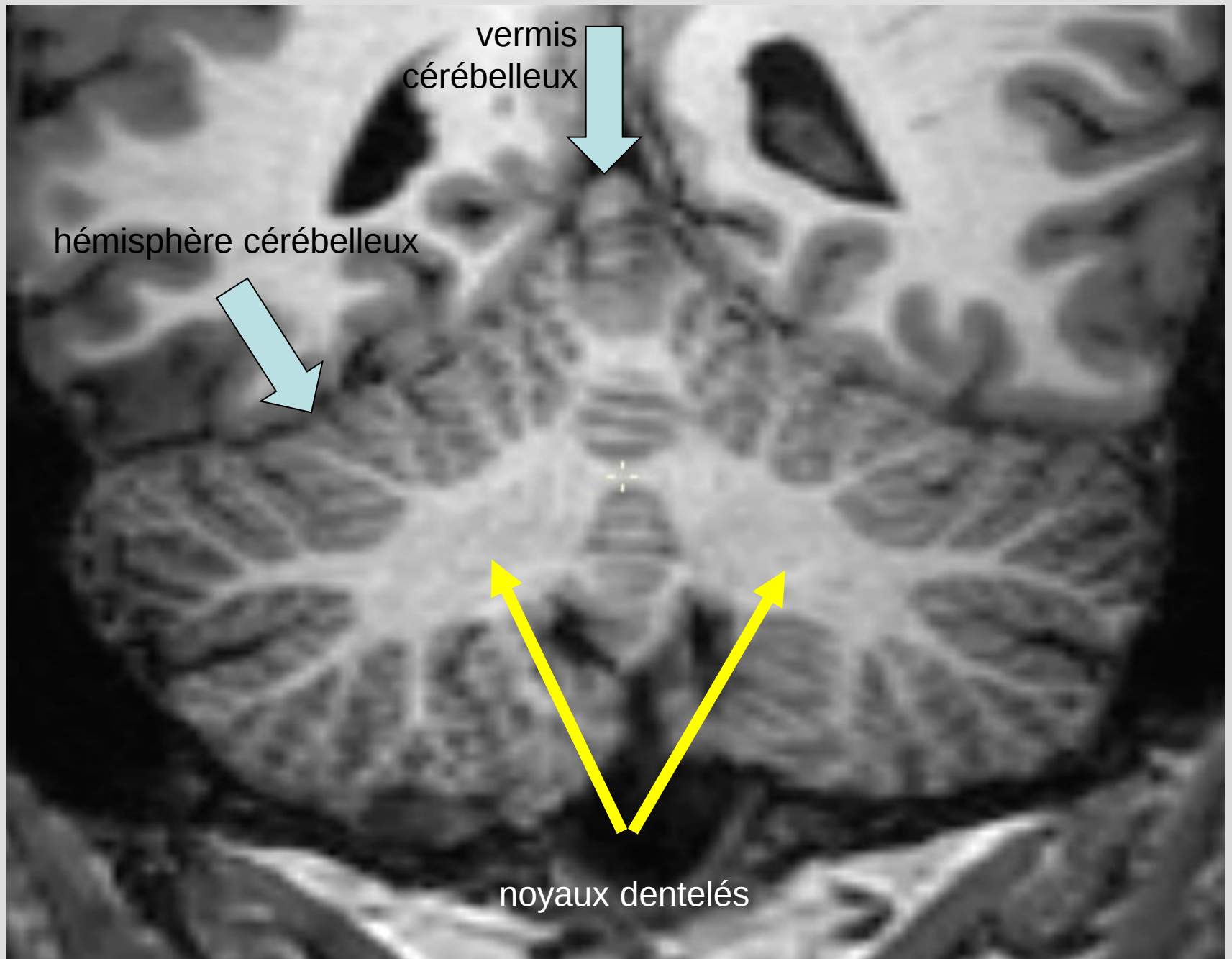
Arbor
Vitae
=
substance
blanche
cérébelleuse

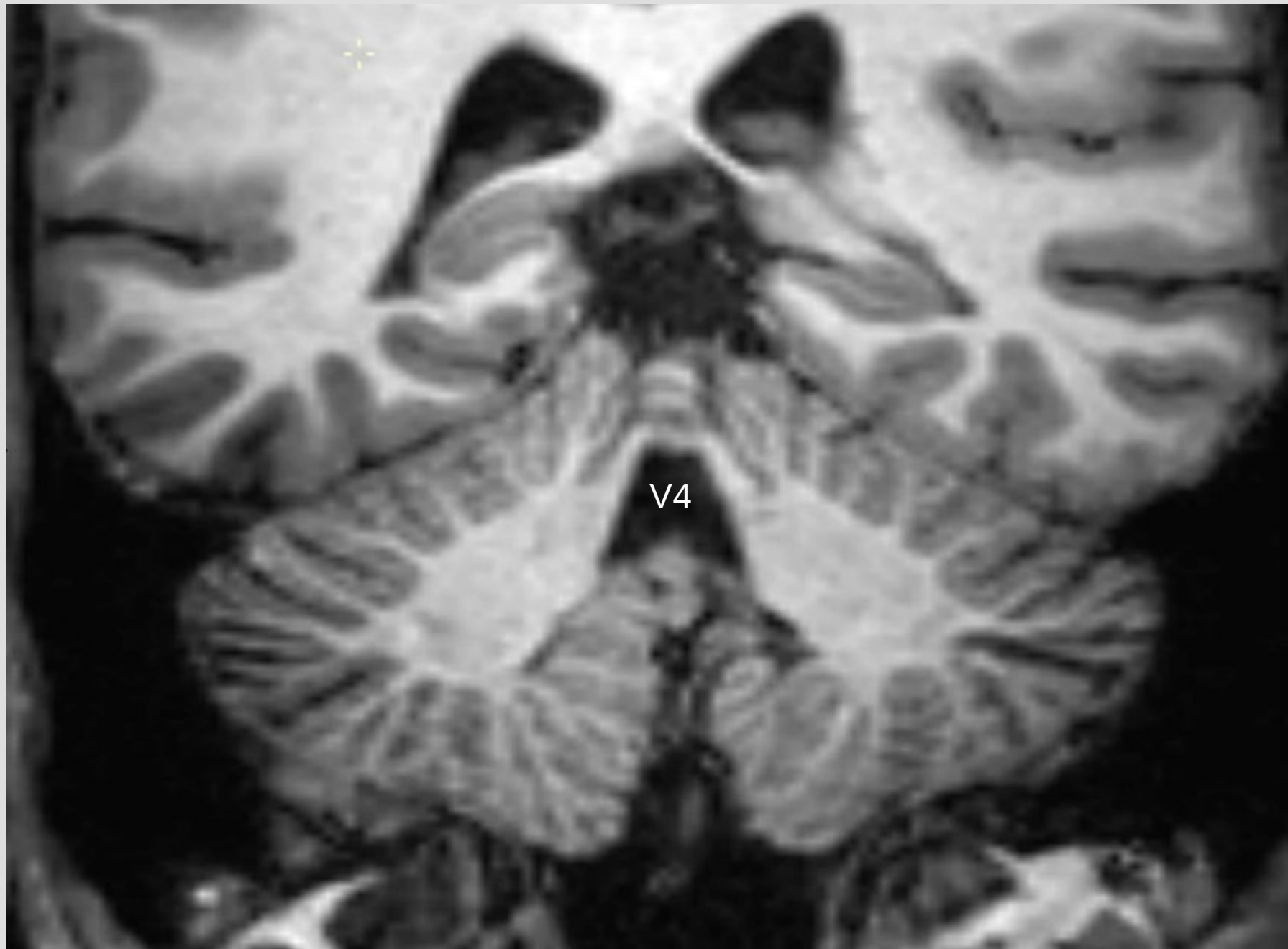


corticalité grise
(foliation)

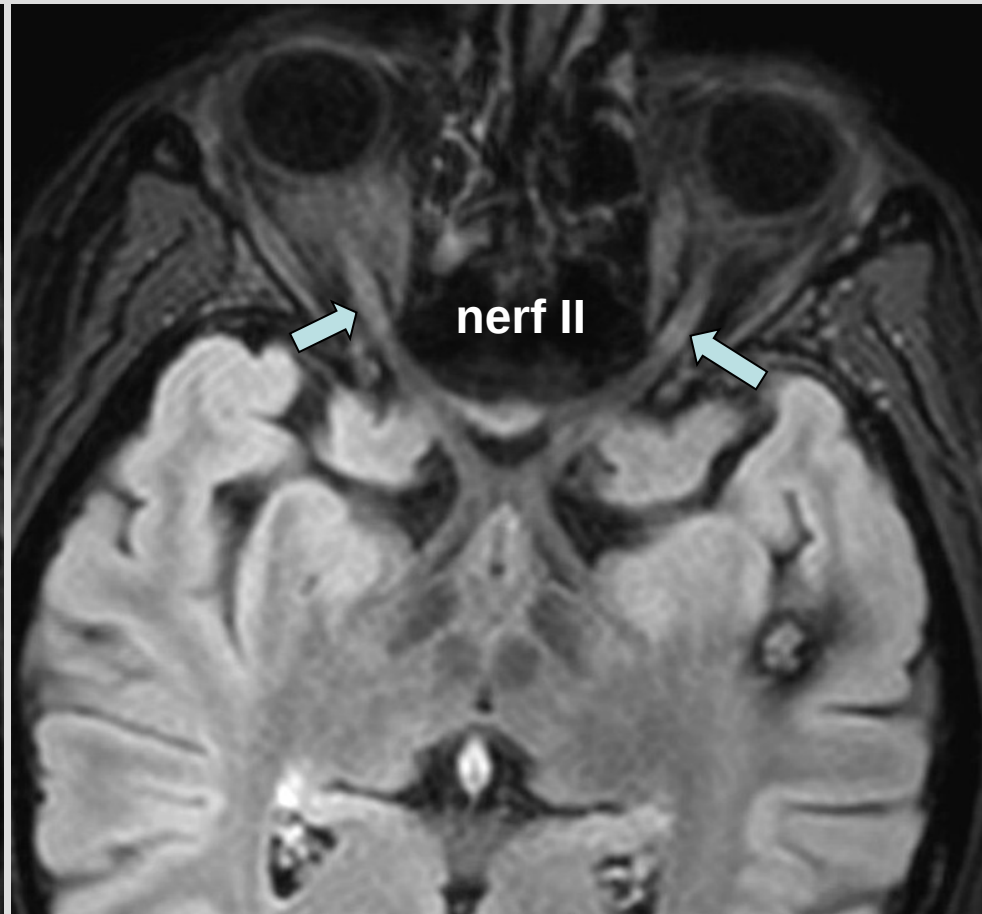
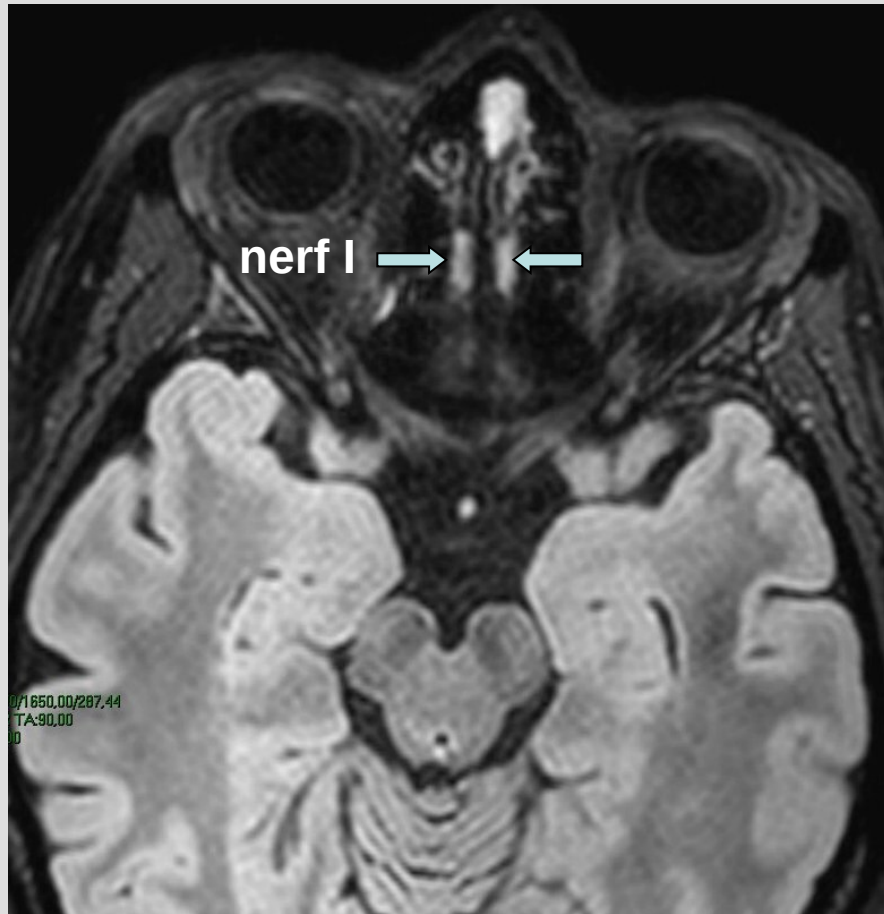


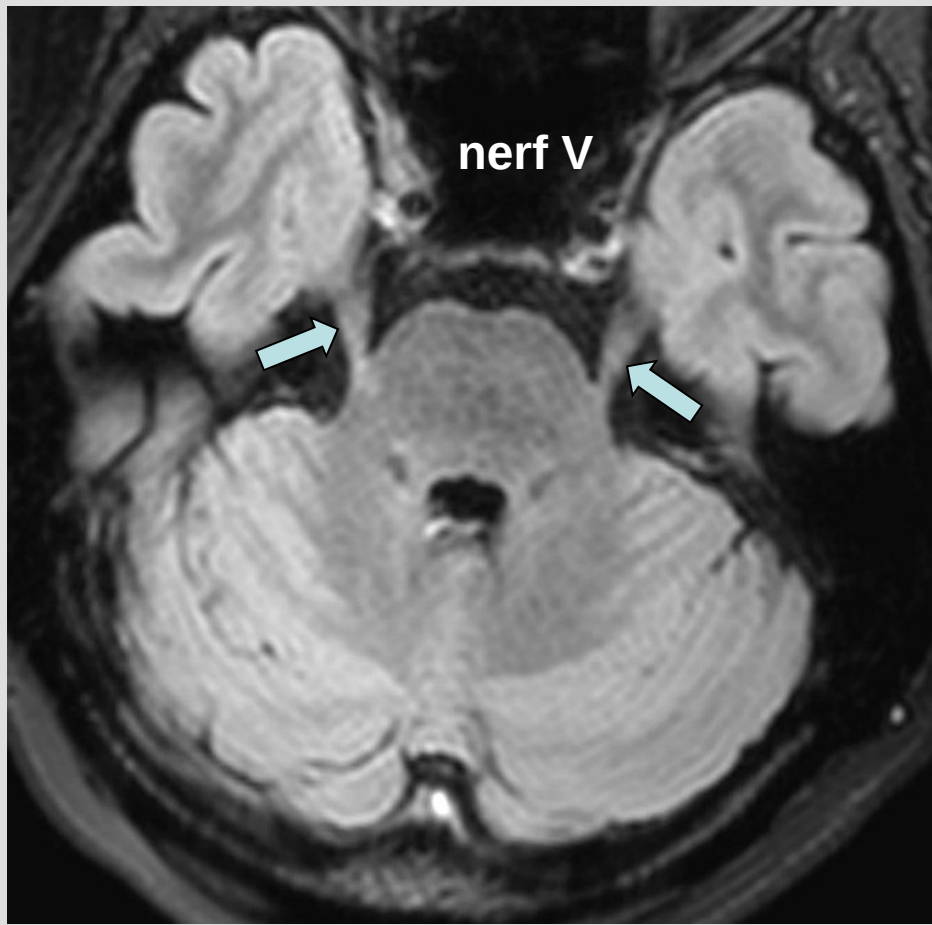
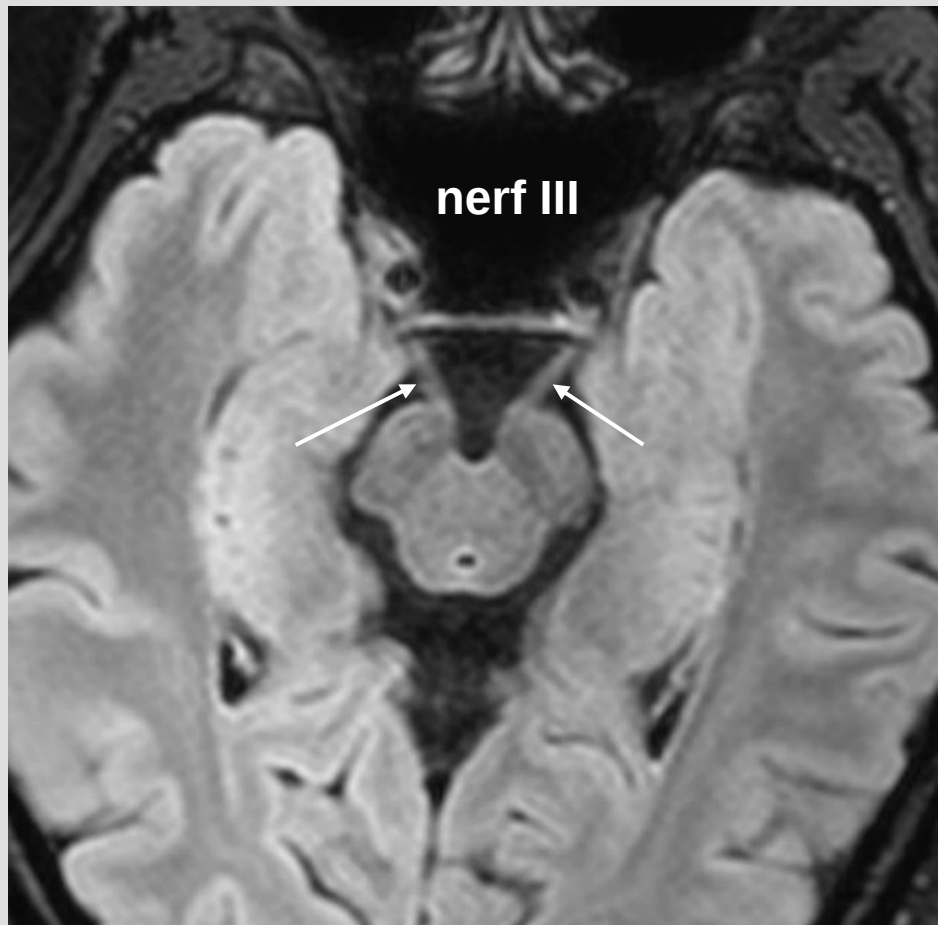




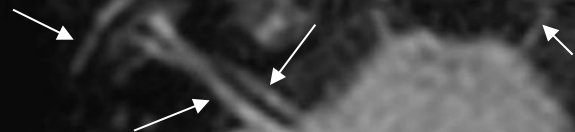


Nerfs crâniens

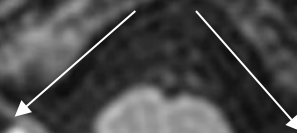


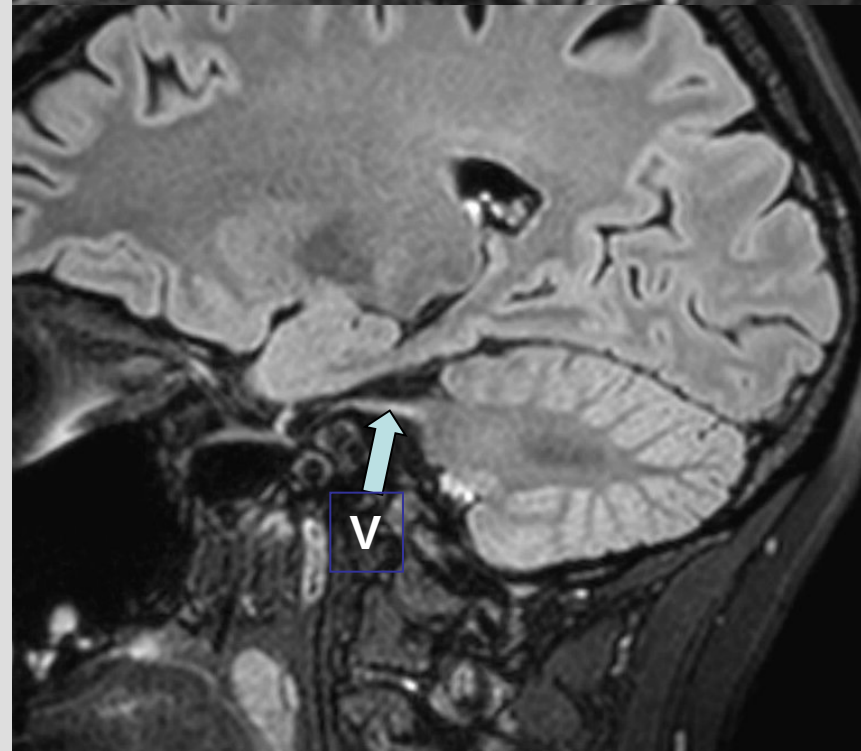
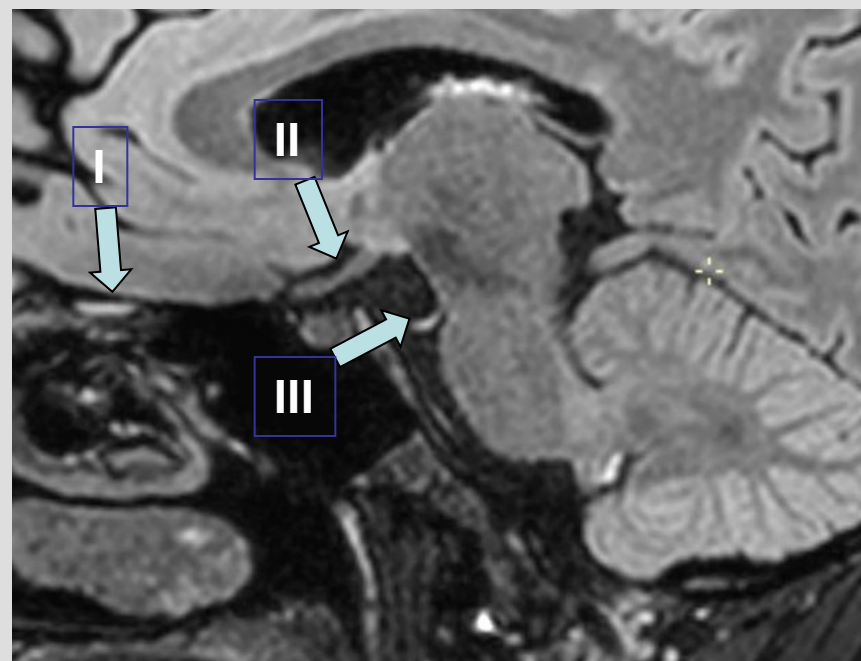
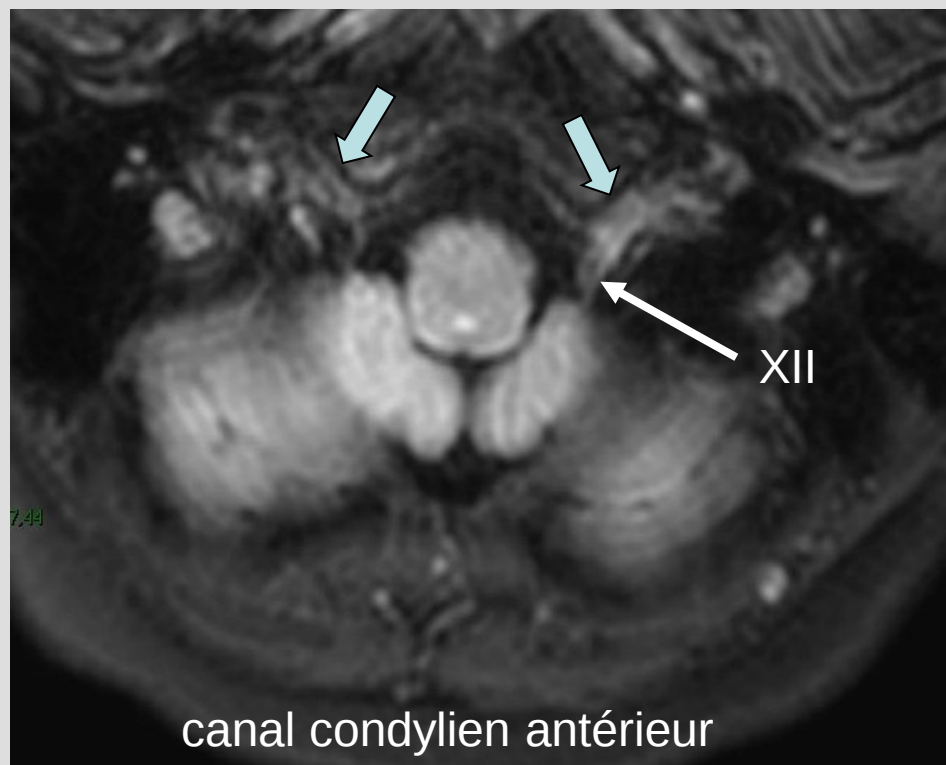


nerfs VII & VIII



nerfs 'mixtes' (IX,X,XI)





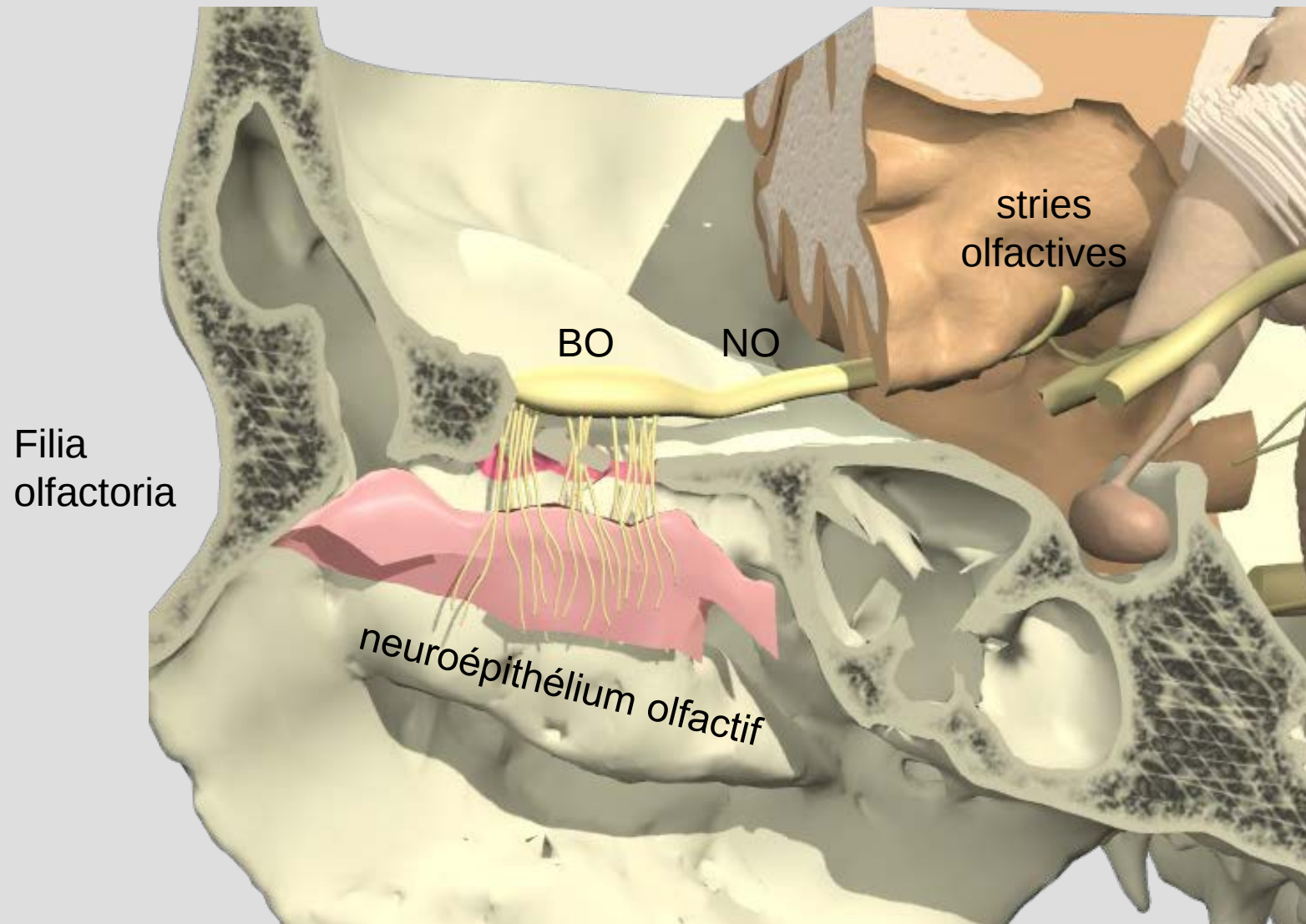
Paires crâniennes

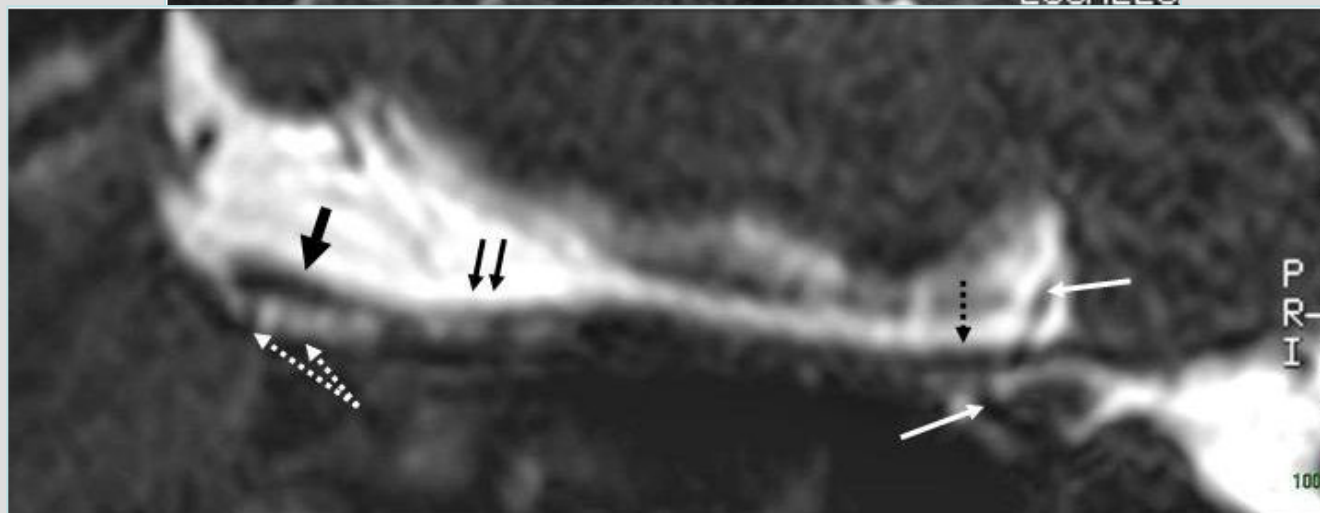
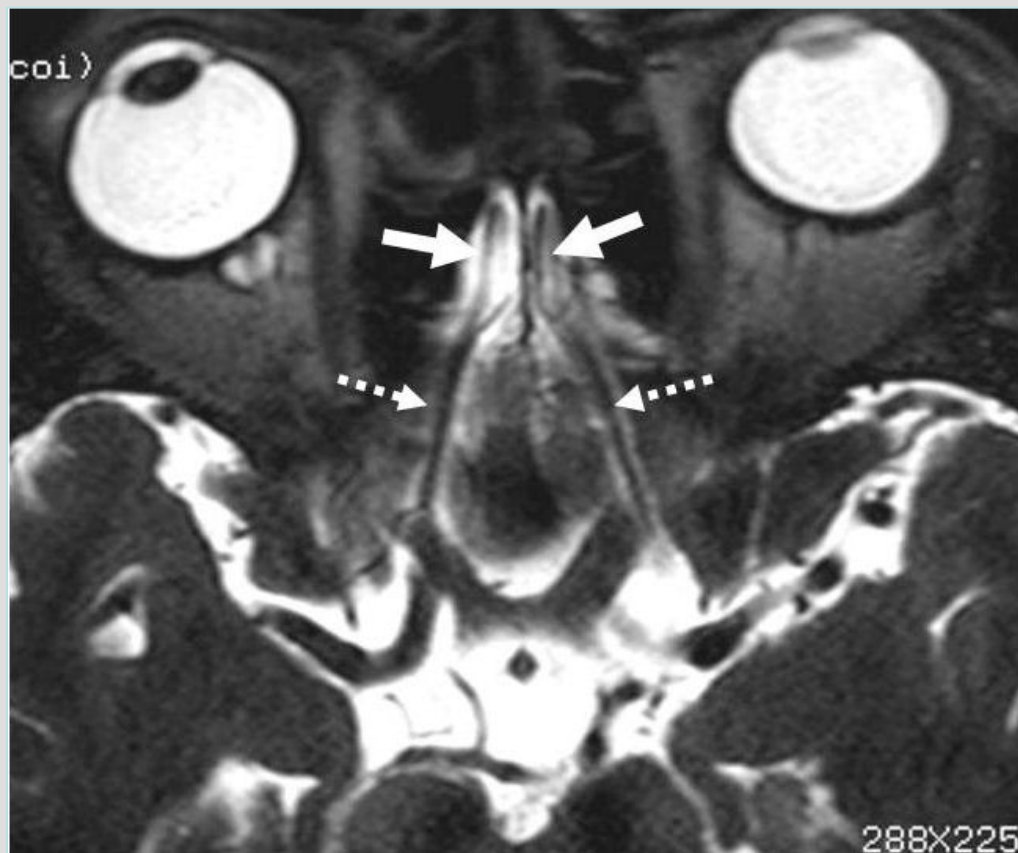
1. Modalités sensorielles

- * olfaction: nerf I
- * vision: nerf II
- * goût: nerfs I,V,IX,X
- * audition: nerf VIII
- * équilibre: nerf VIII

Olfaction

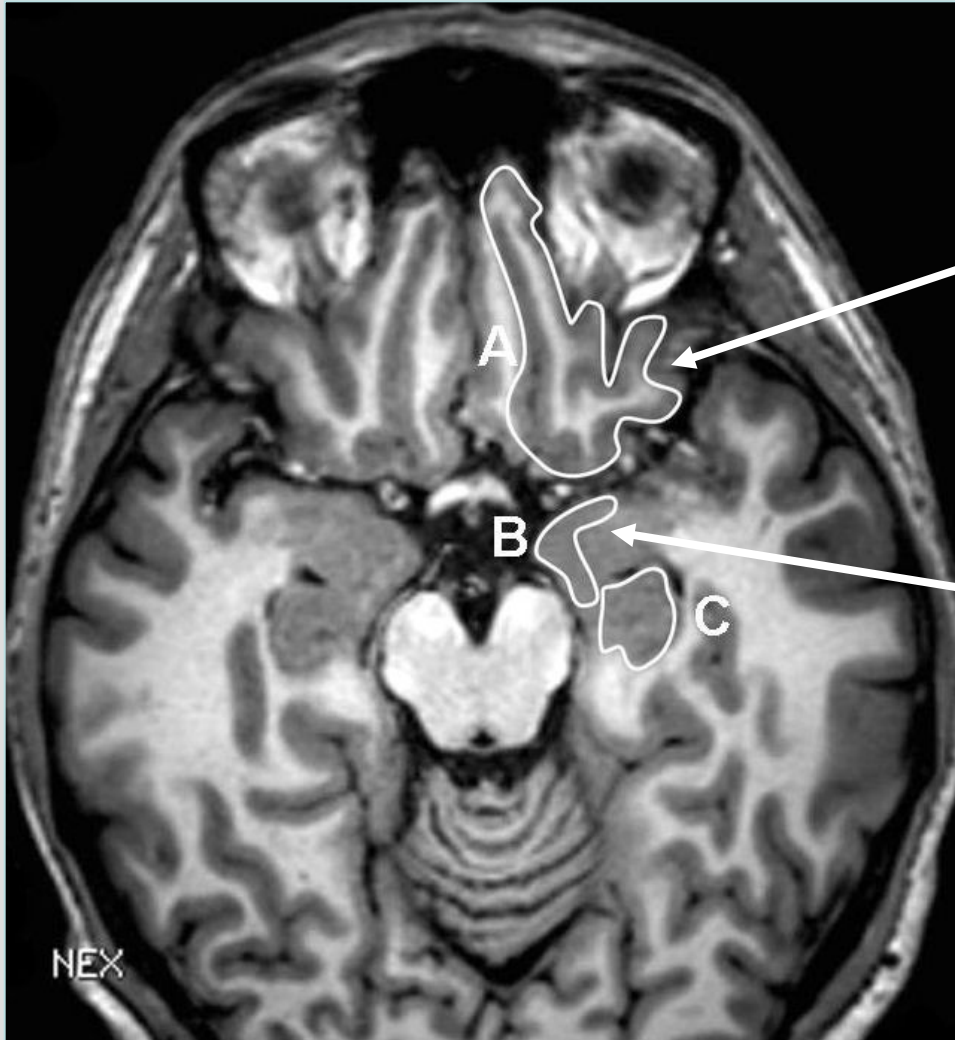
Nerf I *nerf olfactif*





A. Orbitofrontal olfactory cortex
(from MD thalamic nucleus)

Projections centrales

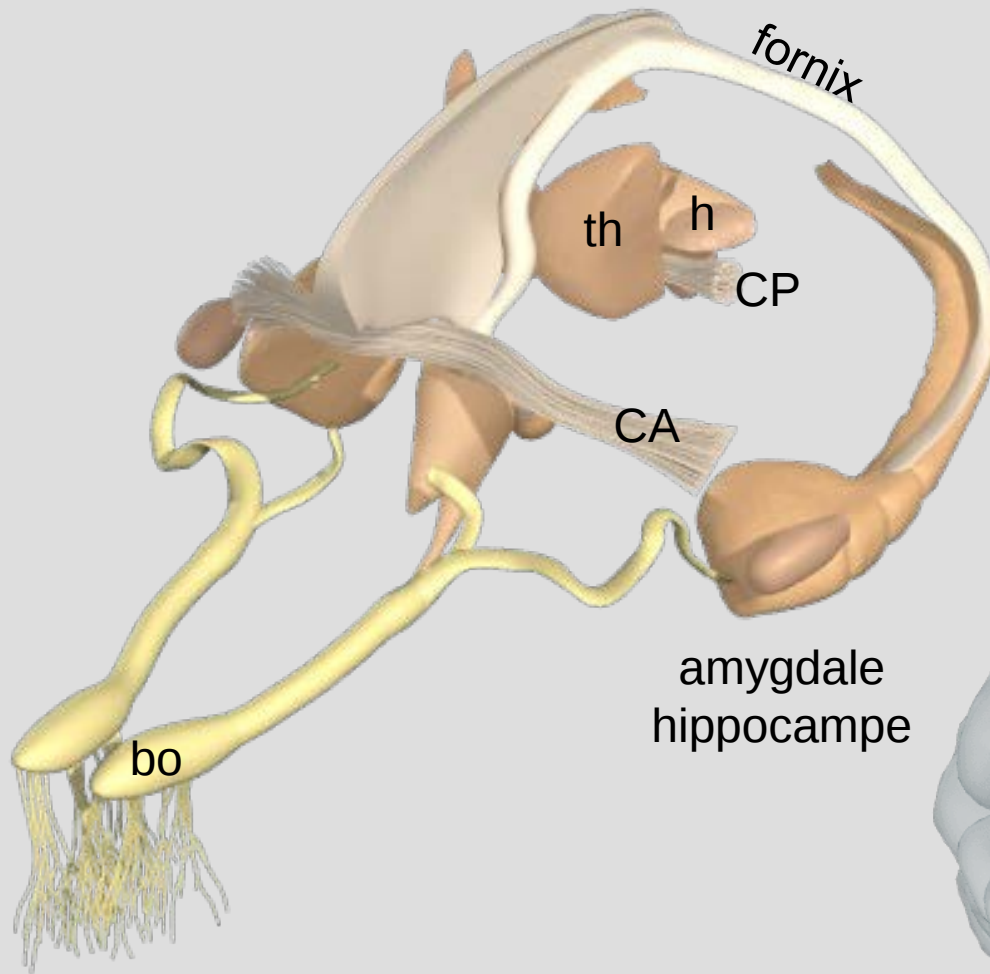


néocorticales

paléocorticales

B. piriform/periamygdaloid cortex:
primary olfactory cortex

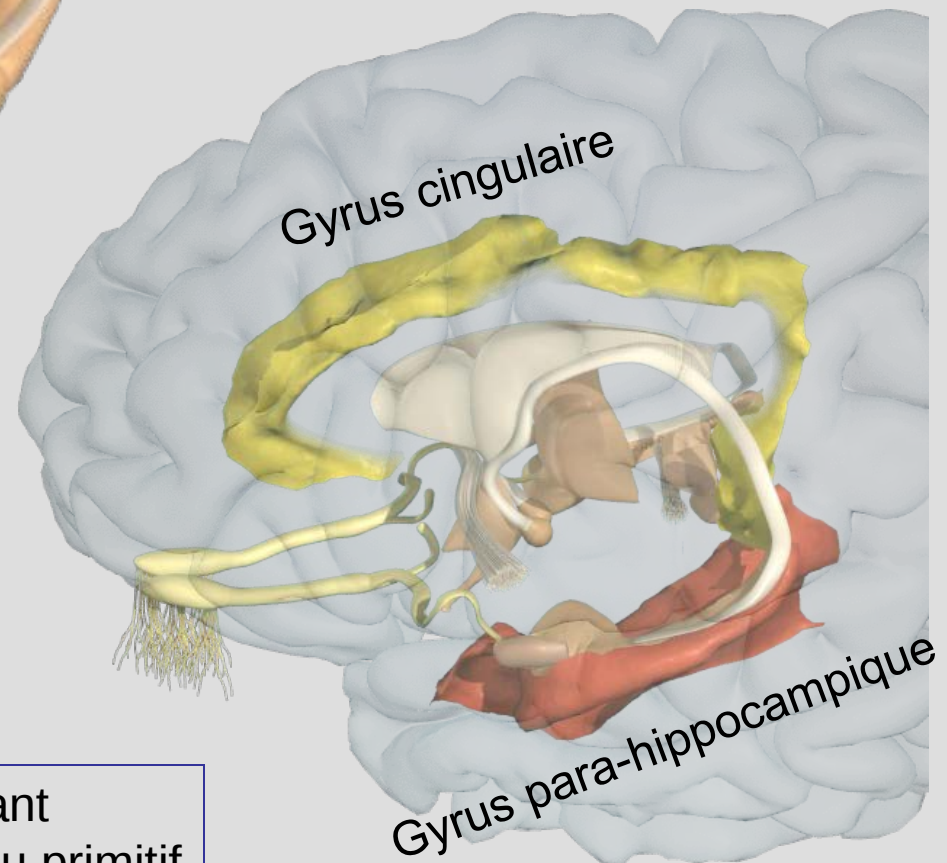
C. Entorhinal cortex:
secondary olfactory cortex



Nerf olfactif

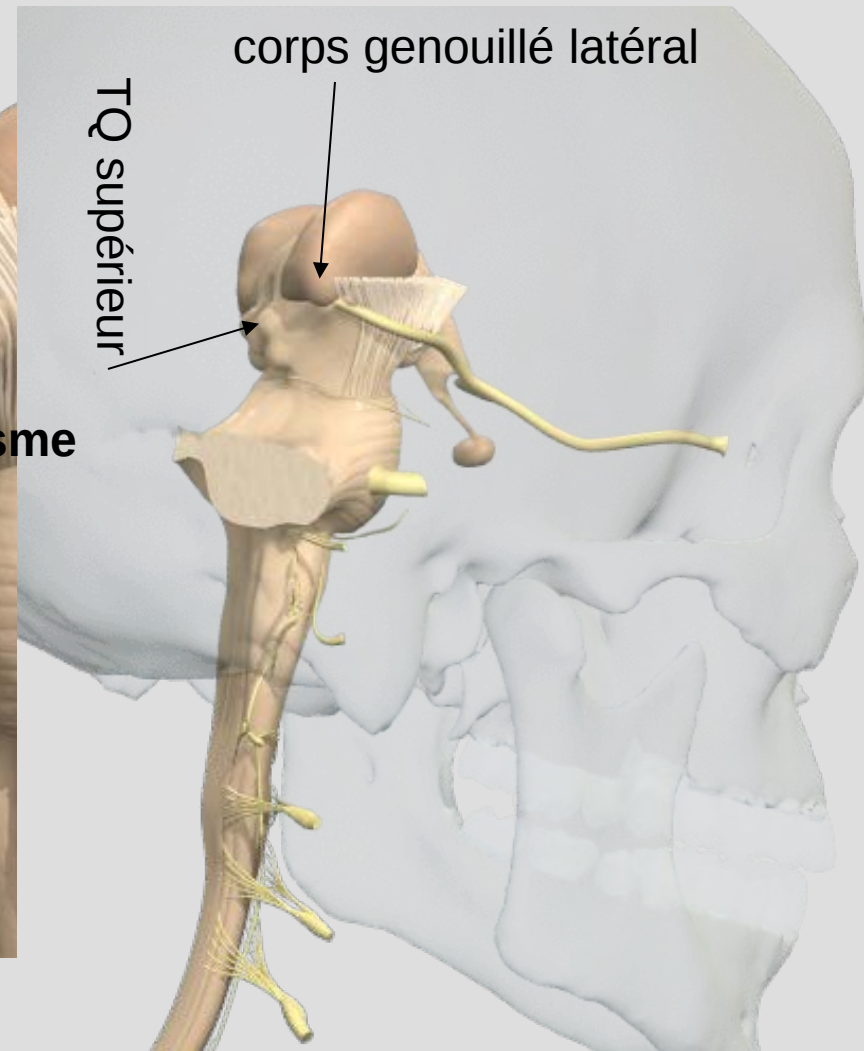
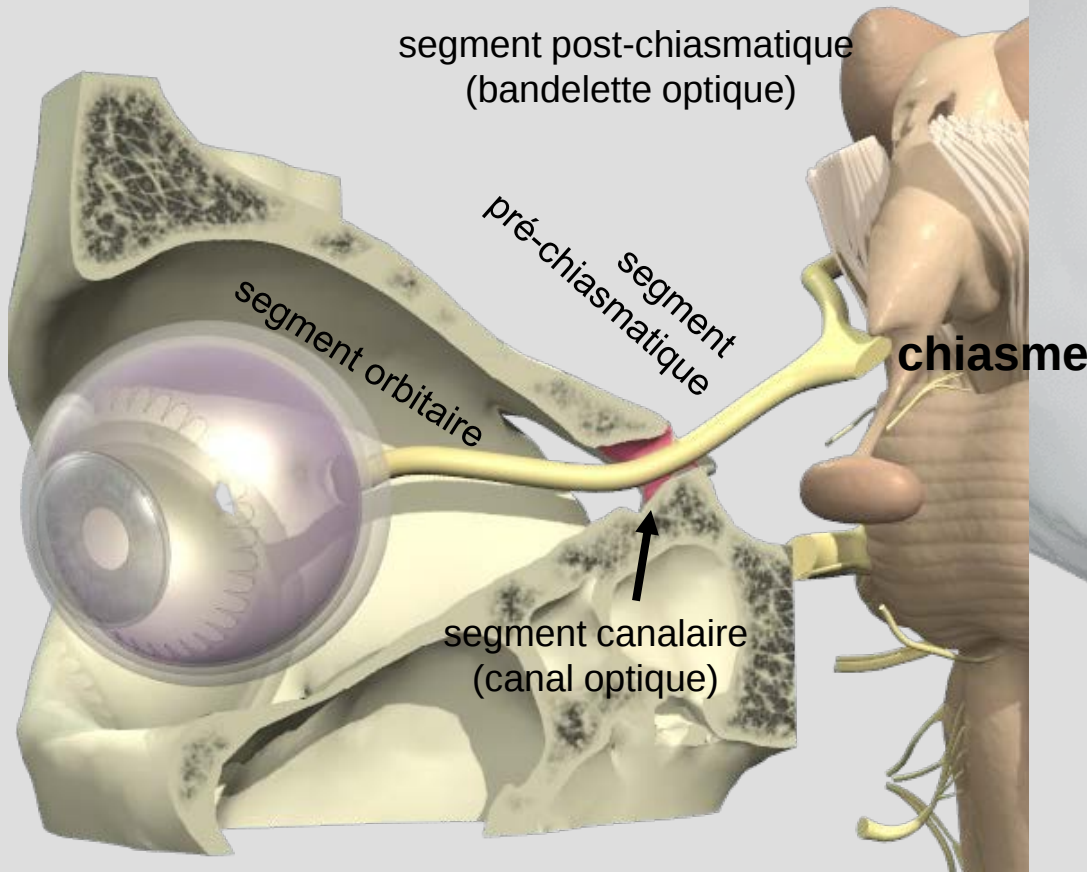
Olfaction = seule modalité sensorielle ayant des connexions centrales avec le cerveau primitif

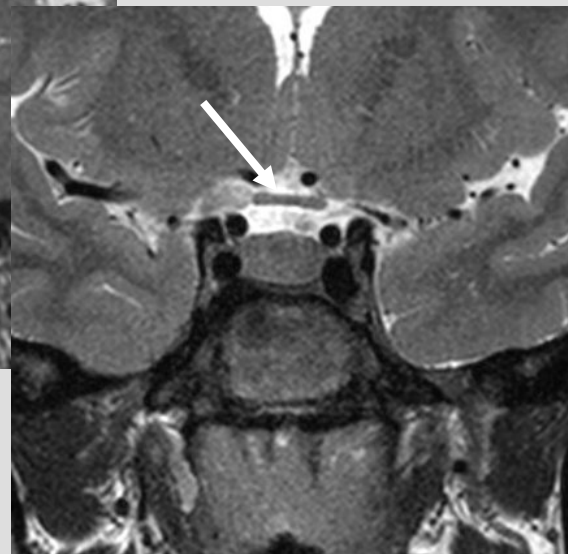
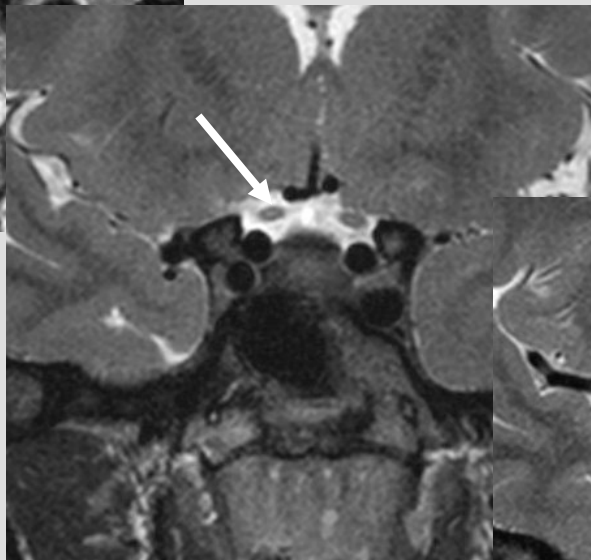
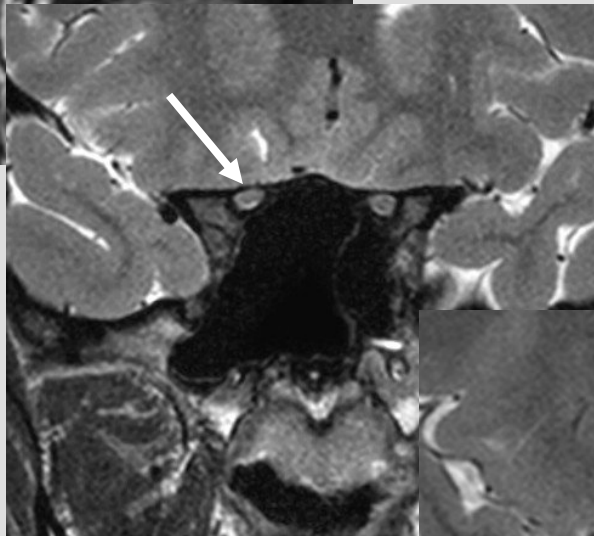
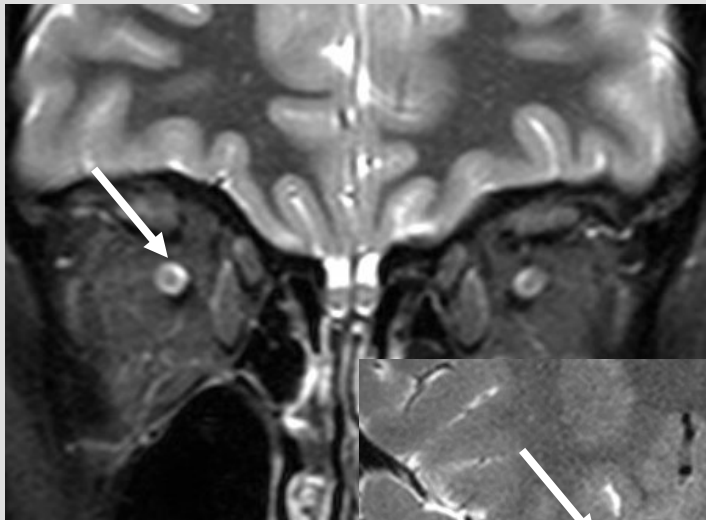
Cerveau primitif Système limbique

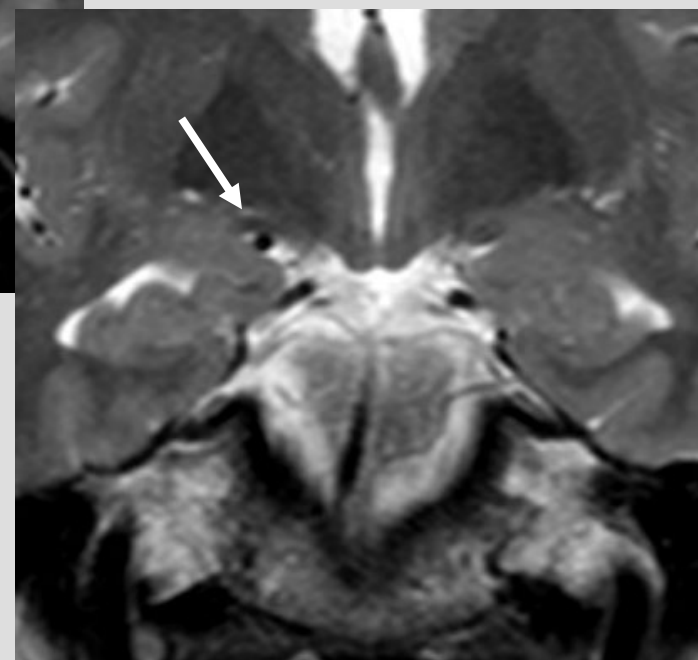
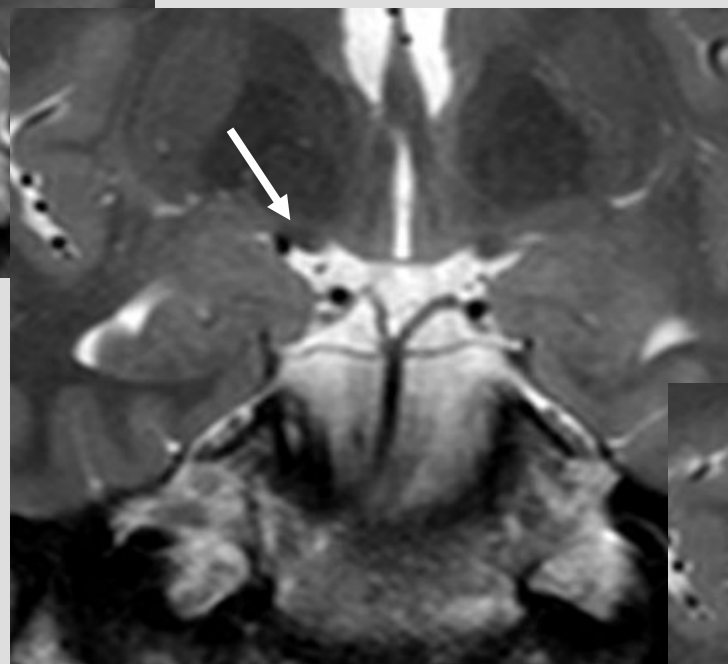
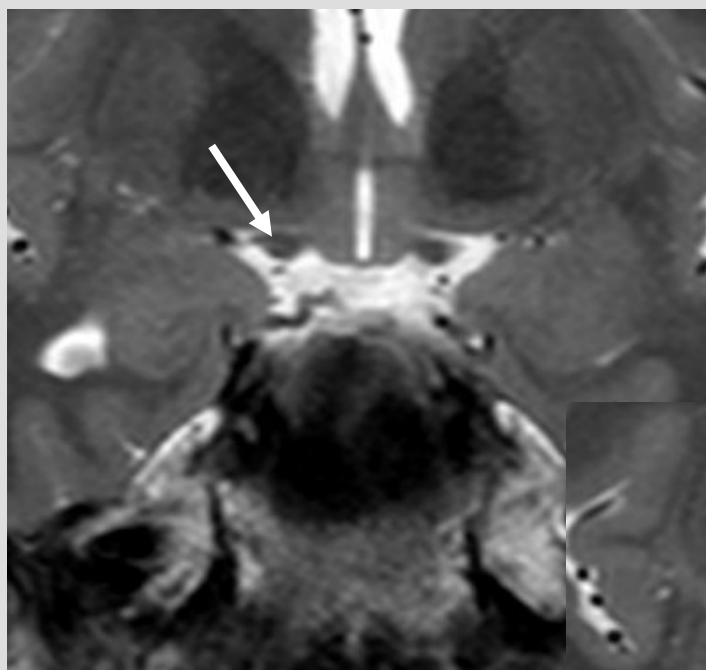


Vision

Nerf II *nerf optique*

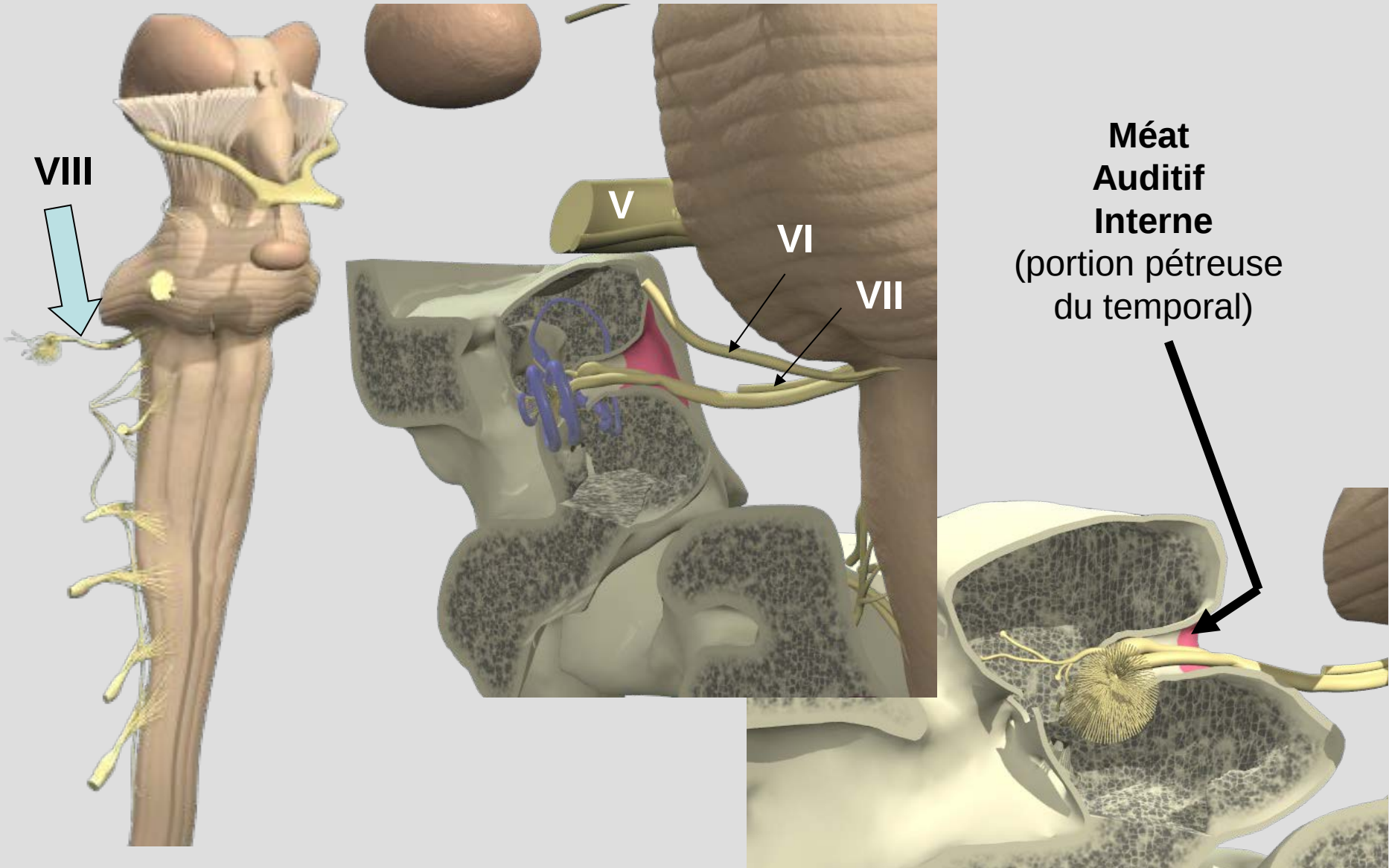




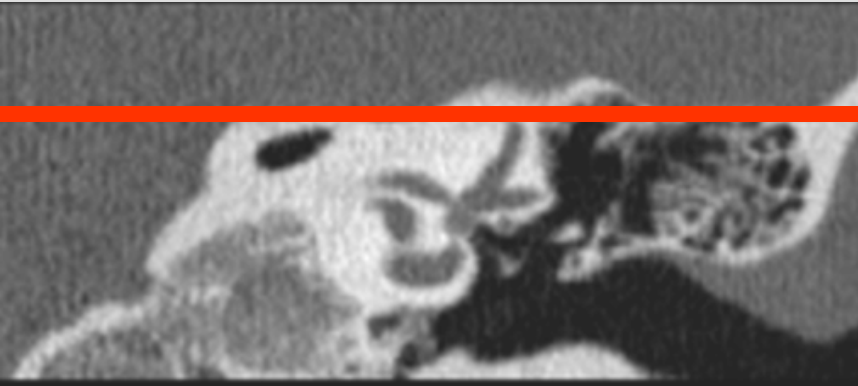


Audition - équilibre

Nerf VIII *nerf vestibulo-cochléaire*



Canal semi circulaire supérieur



Canal semi circulaire supérieur

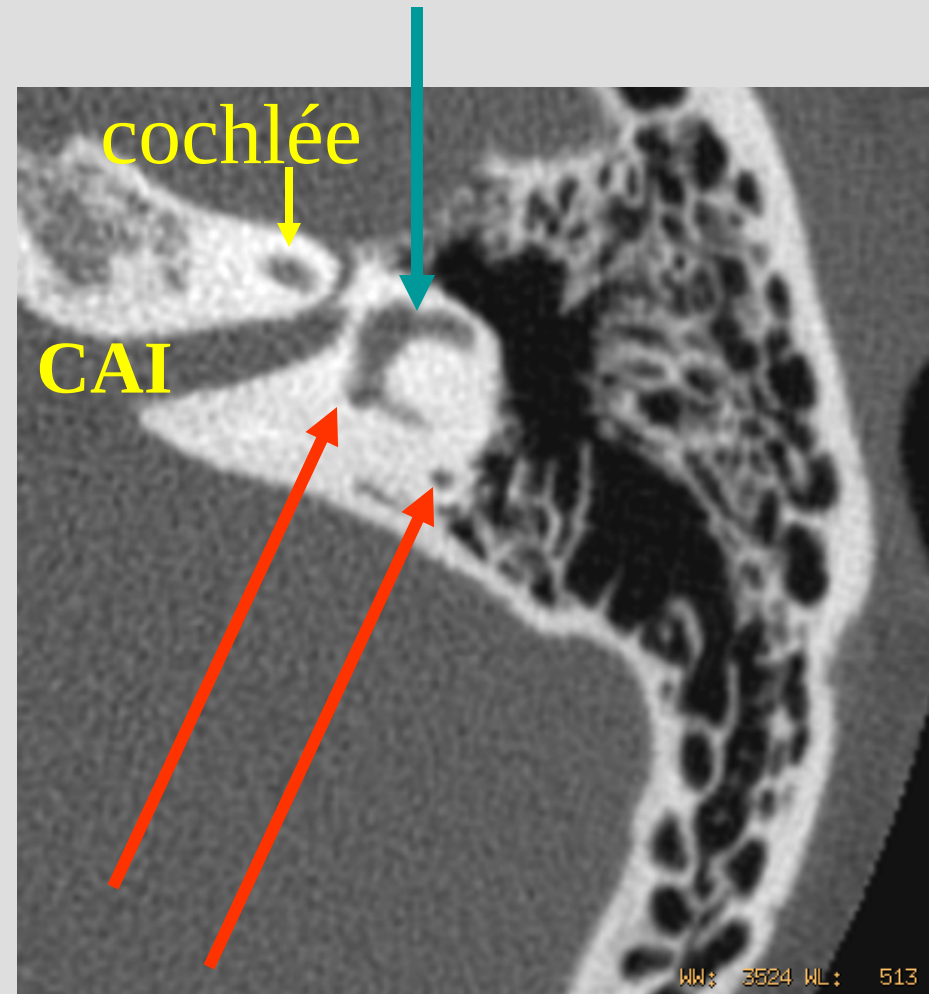
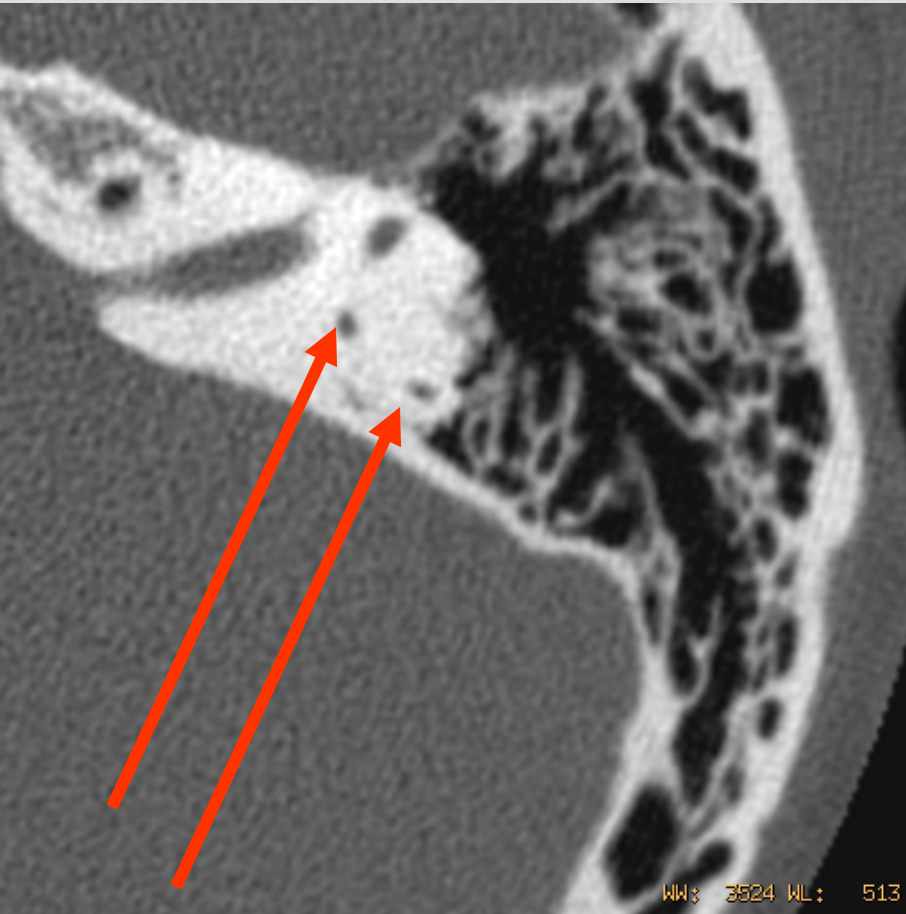


Canal semi circulaire supérieur



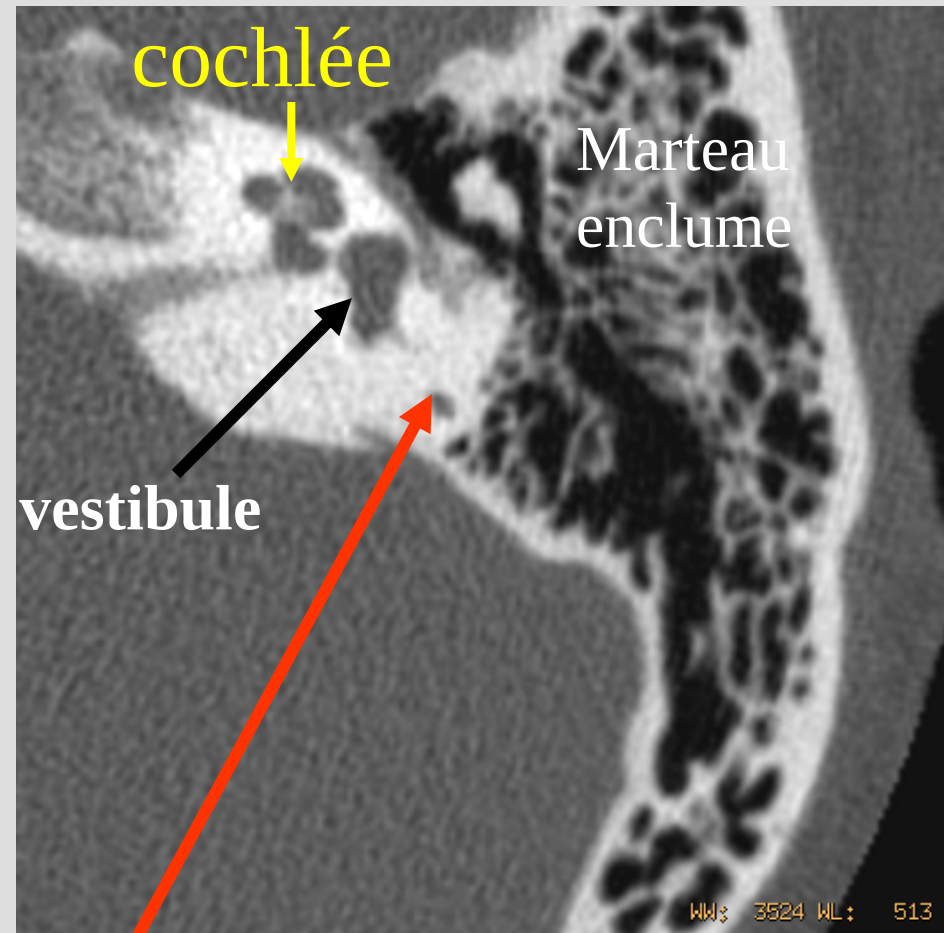
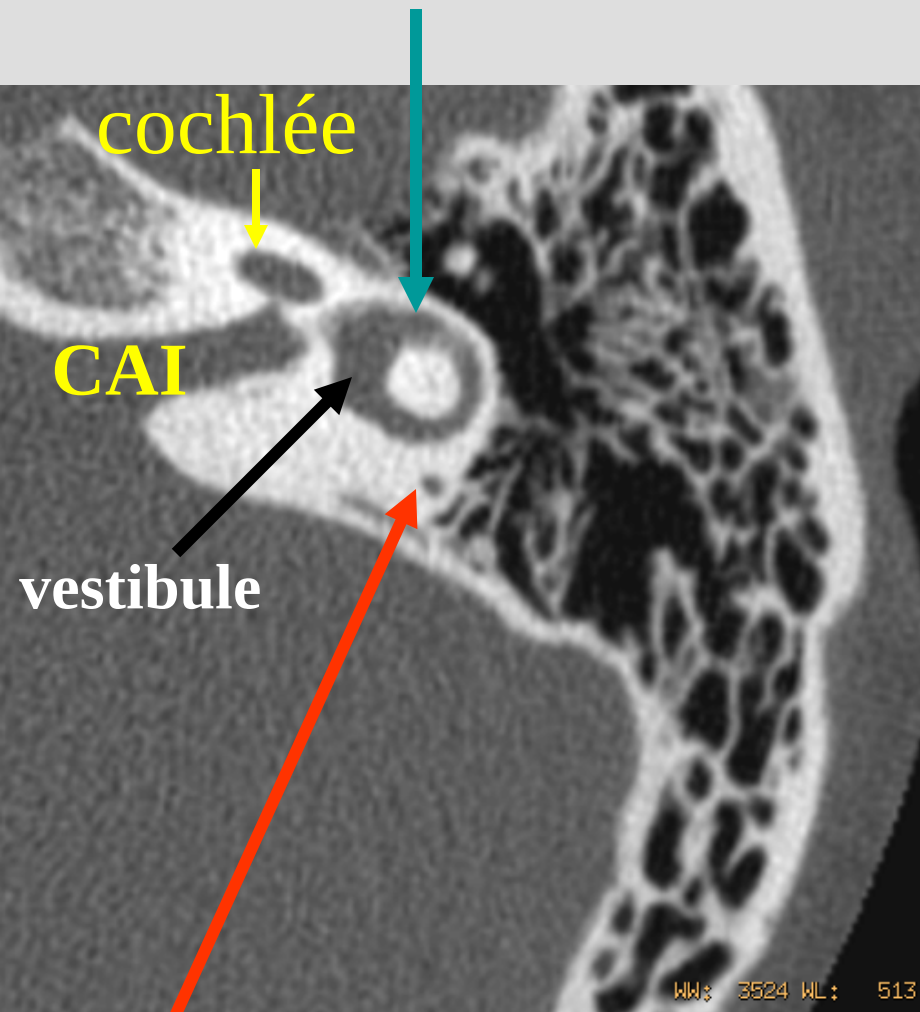
Canal semi circulaire postérieur

Canal semi circulaire latéral ou externe



Canal semi circulaire postérieur

Canal semi circulaire latéral ou externe

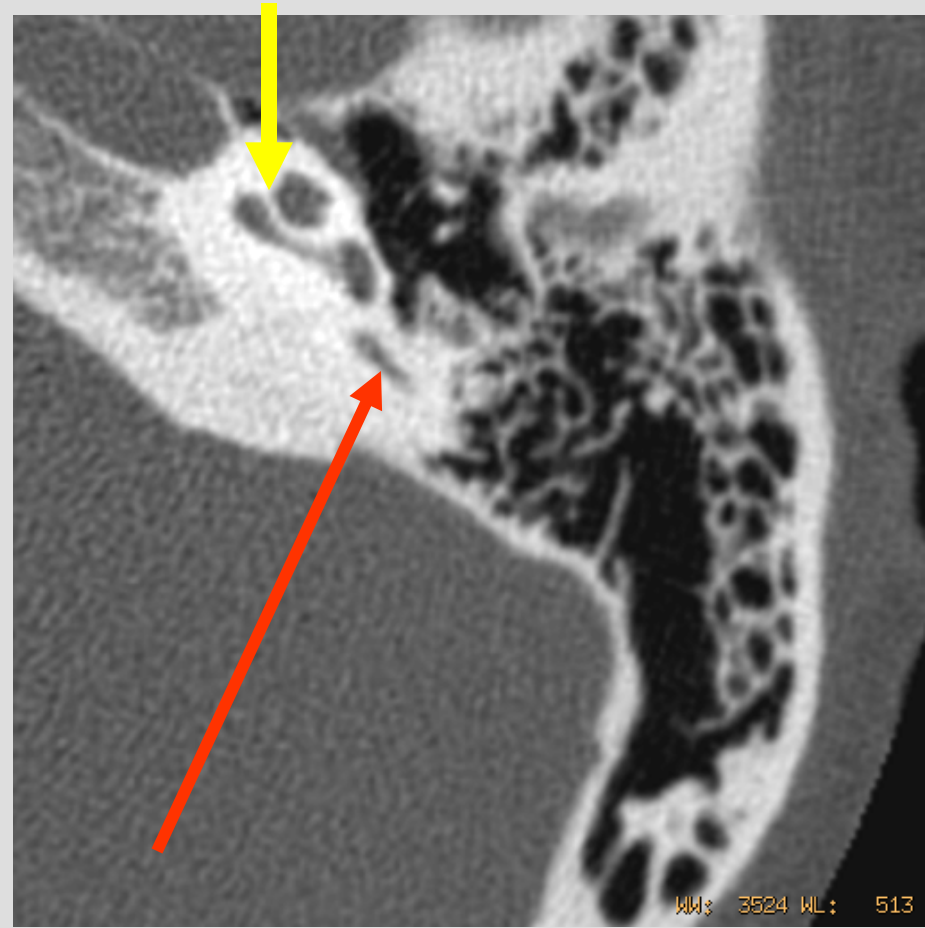


Canal semi circulaire postérieur

cochlée



cochlée



Canal semi circulaire postérieur

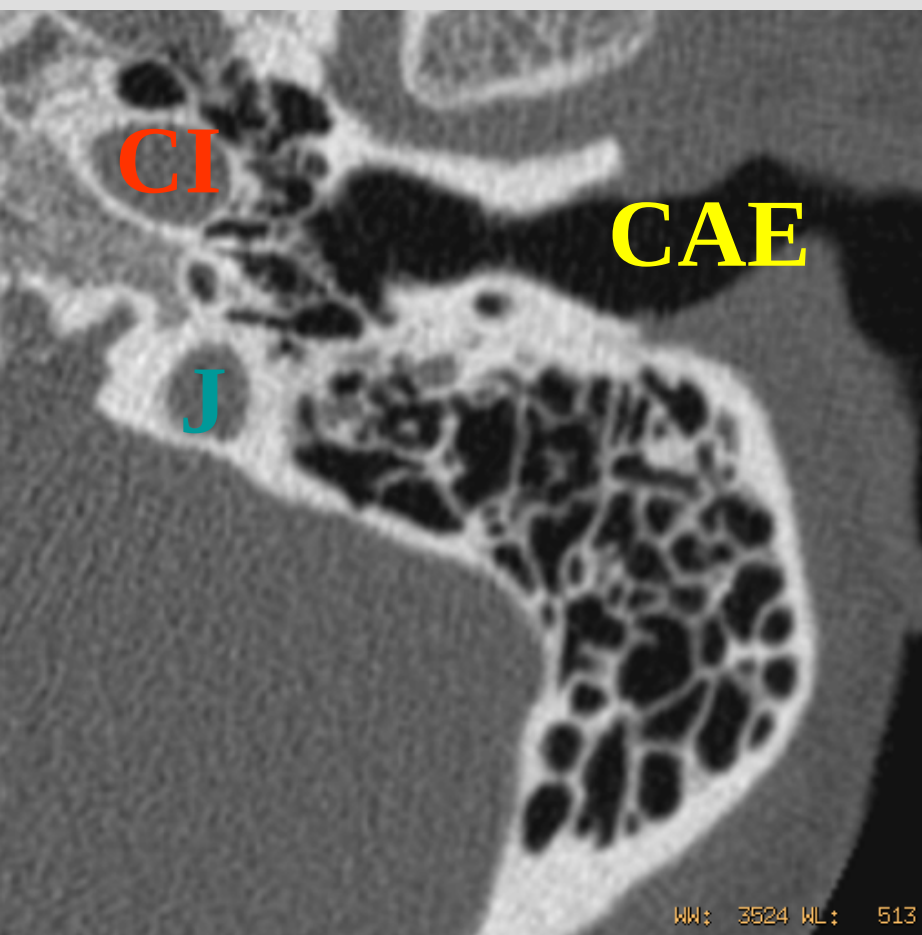
cochlée



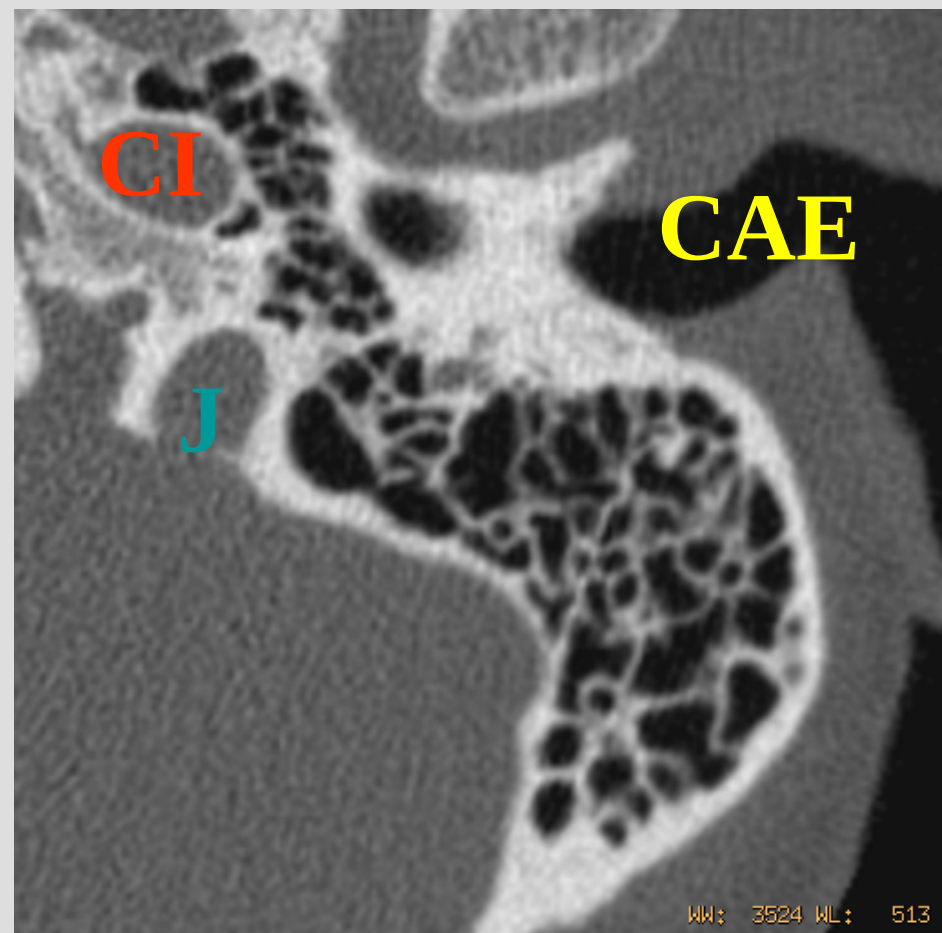
cochlée

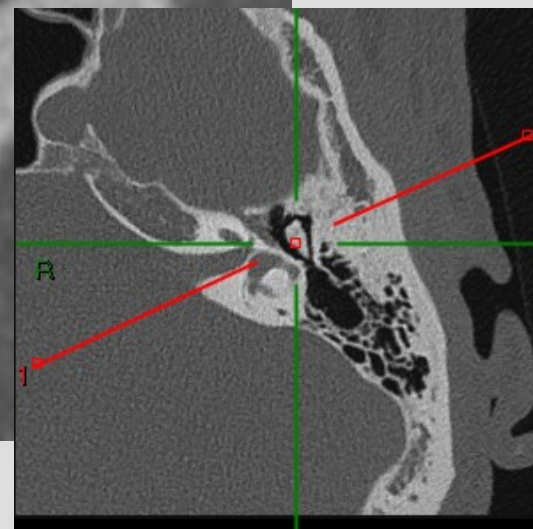
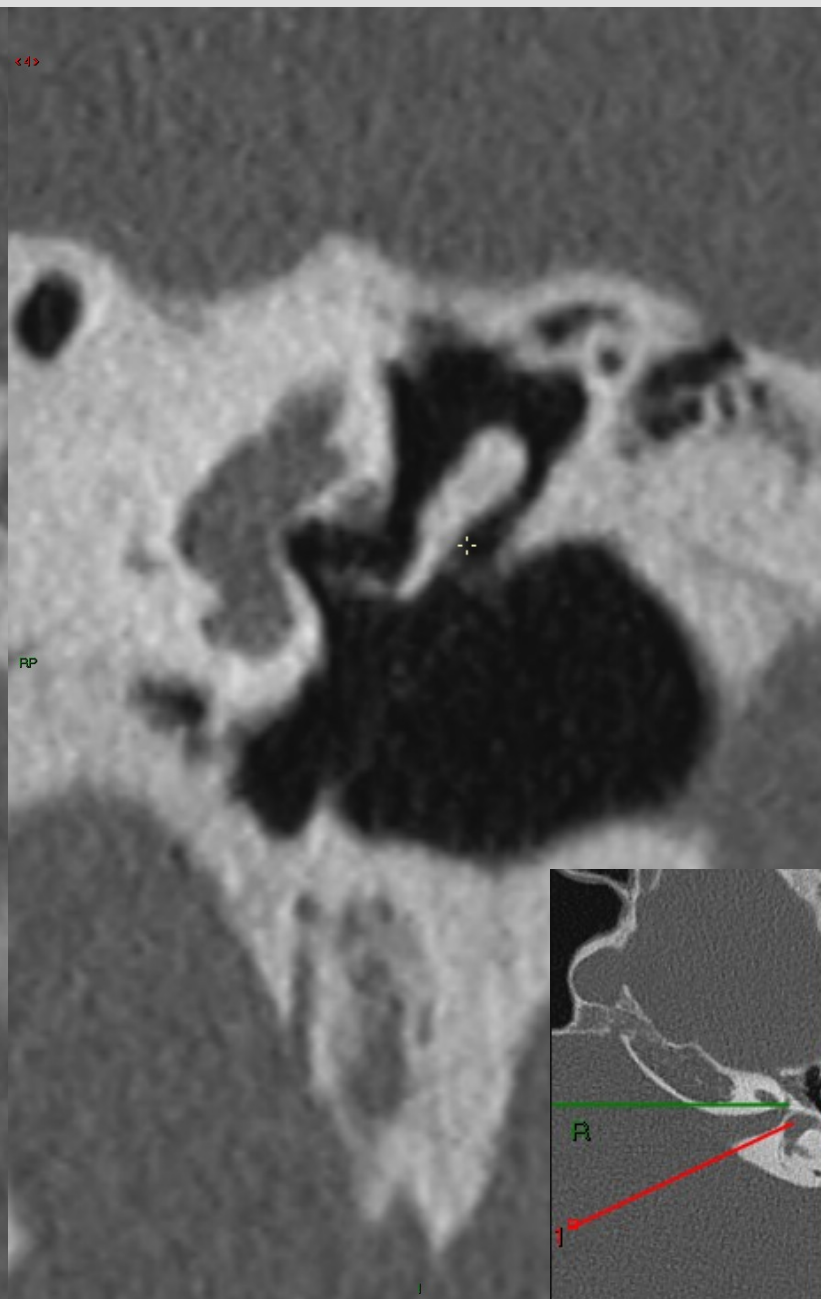
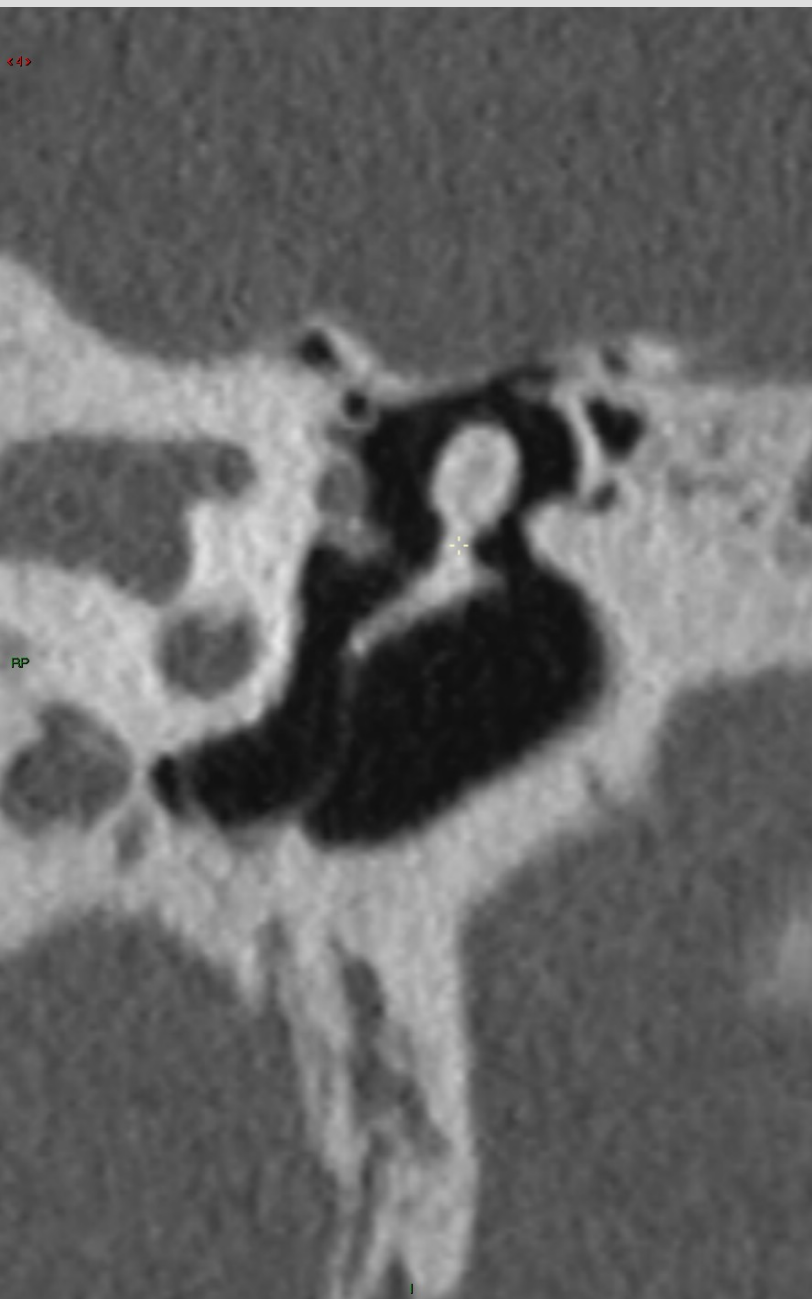


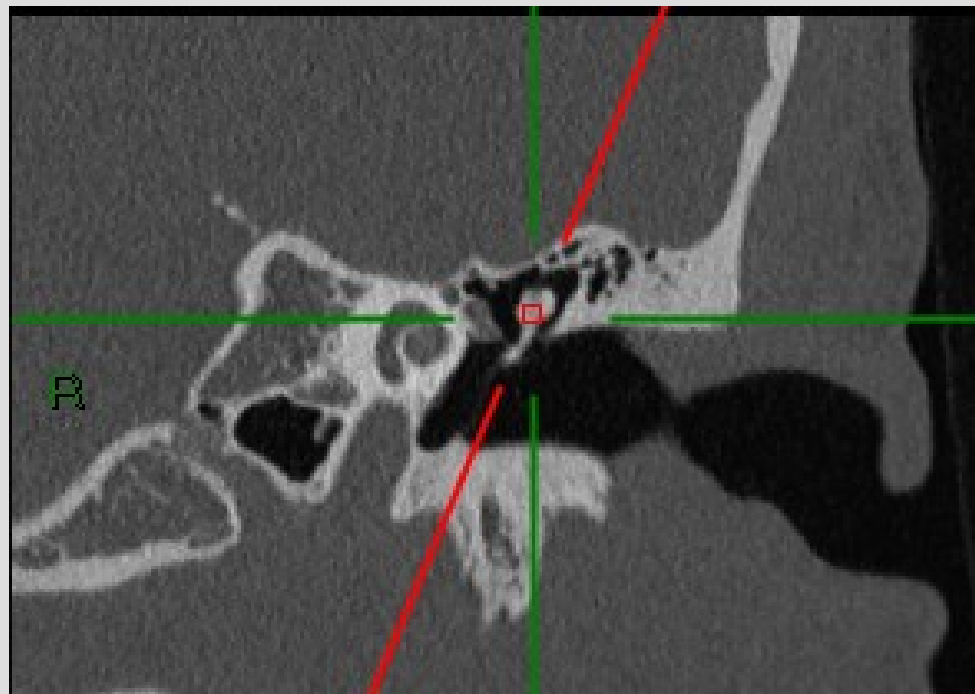
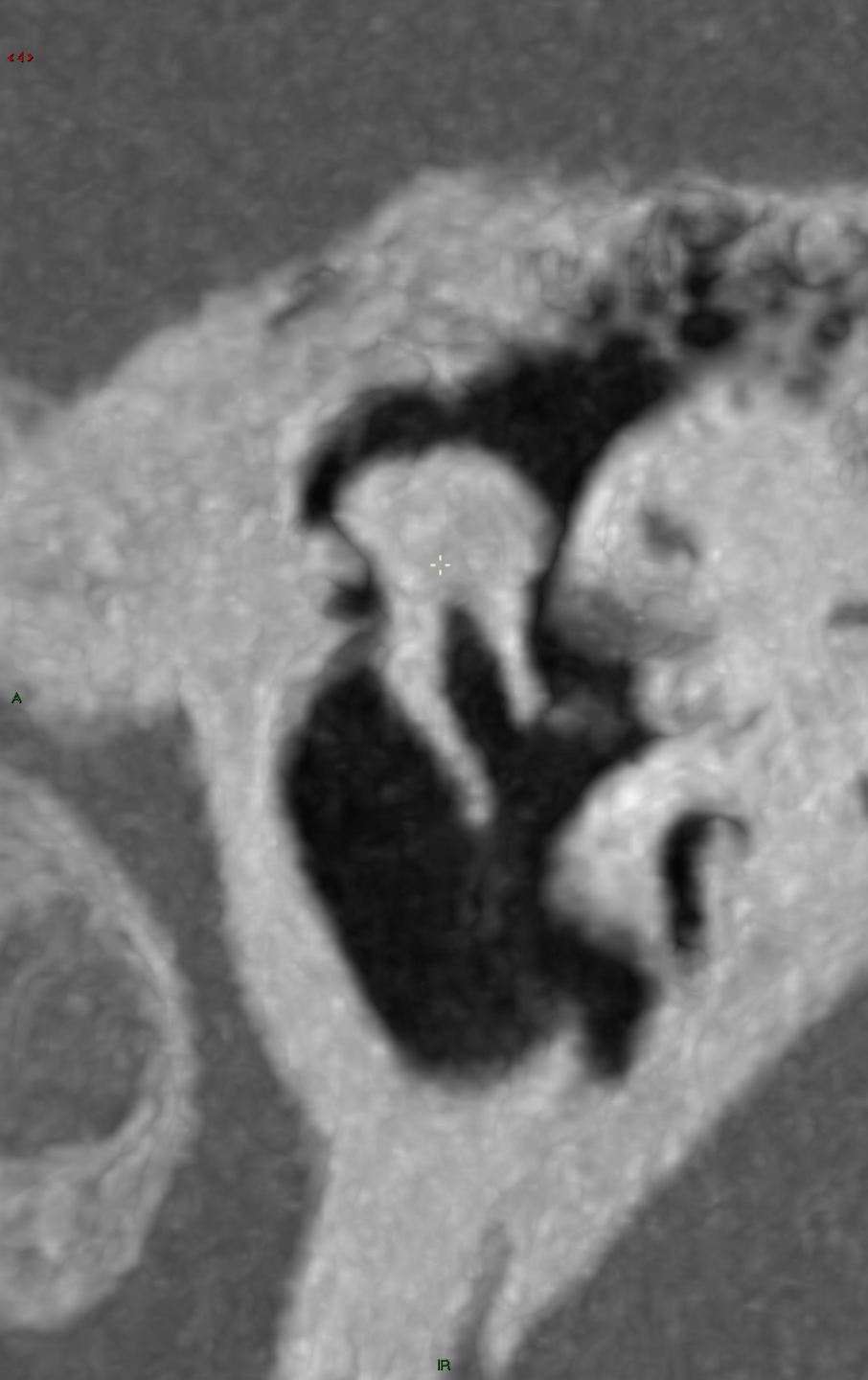
ATM



ATM

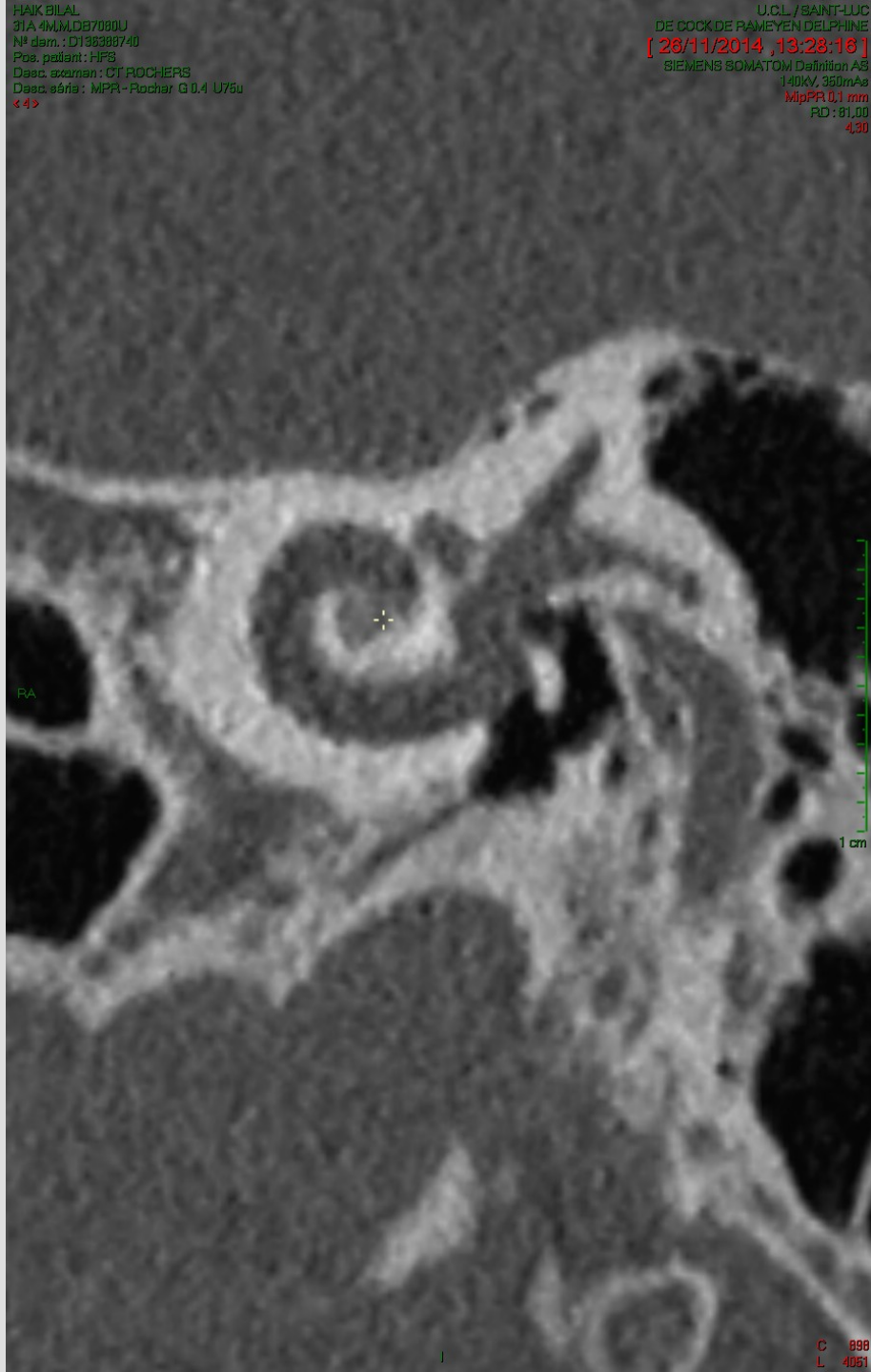




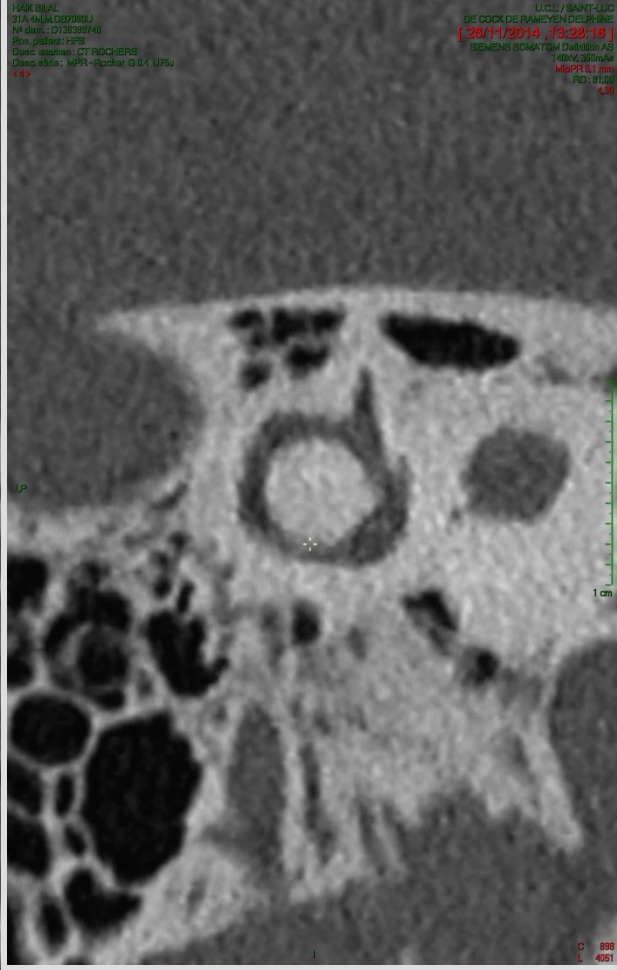
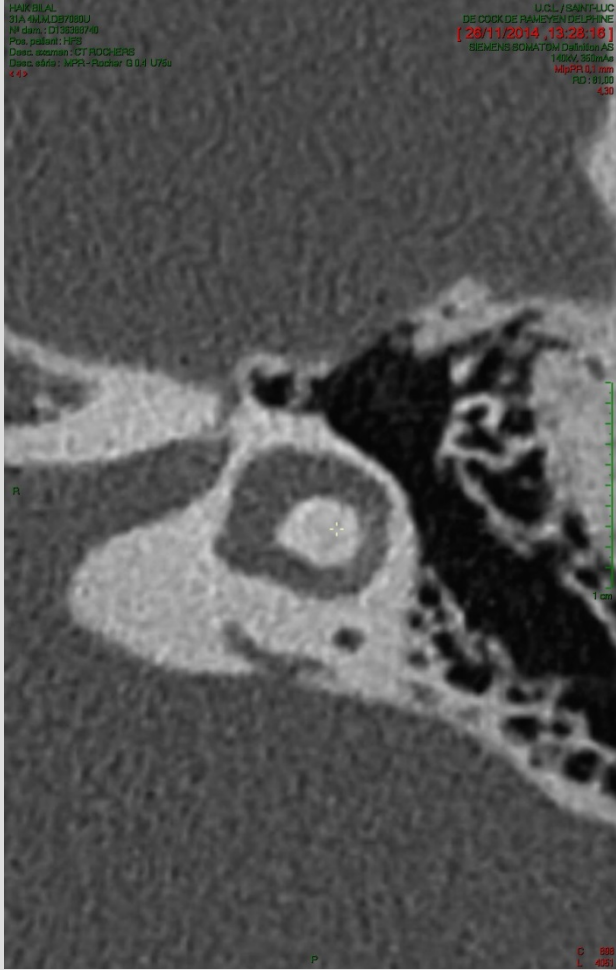


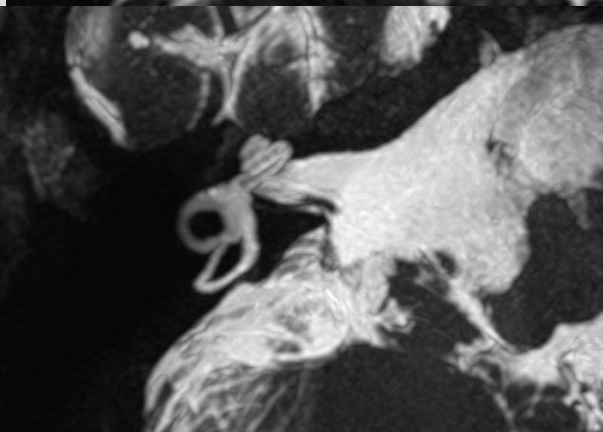
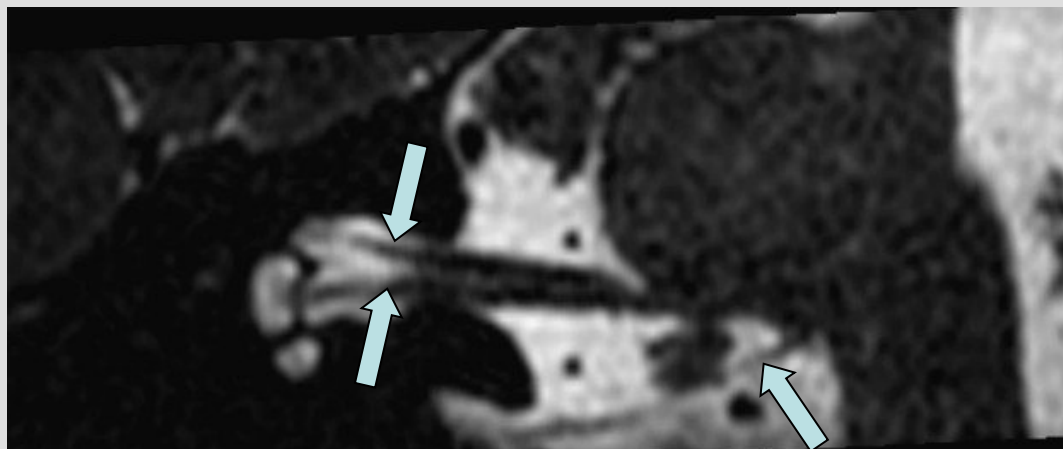
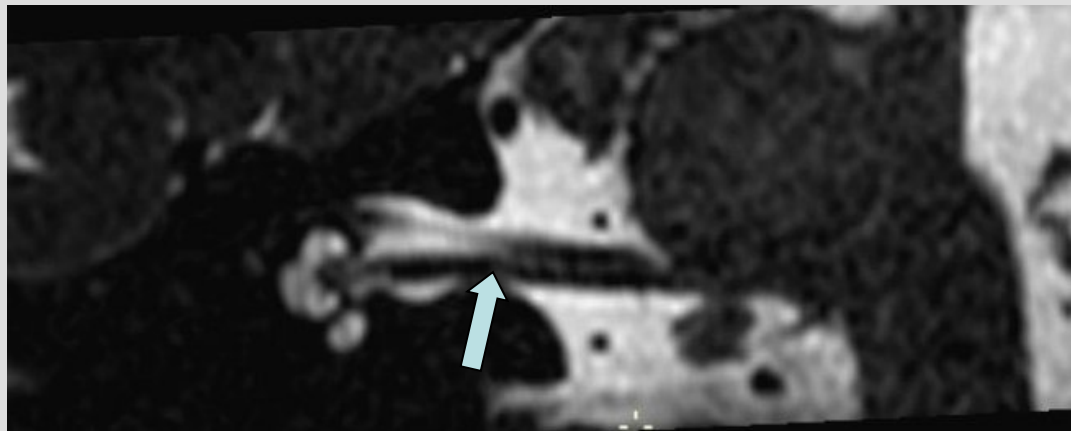
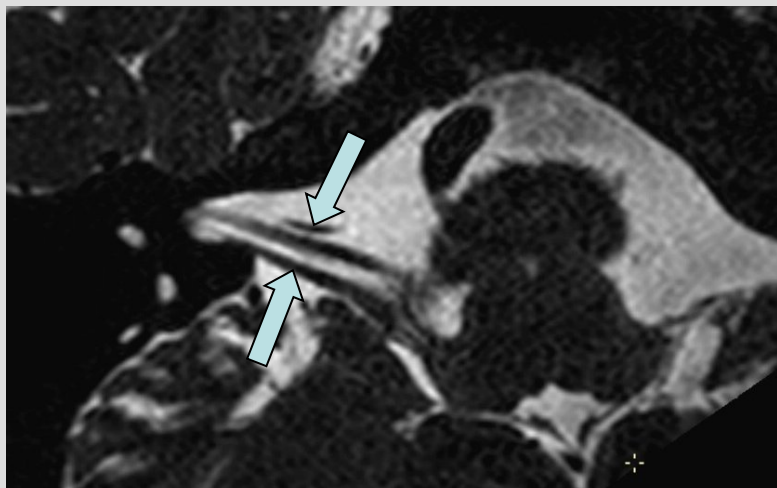
HAK BILAL
31A 4M.MDB7000U
N° don. : D136388740
Pos. patient: HF3
Dose examen: CT ROCHERS
Dose série: MPR-Rocher G 0.4 U75u
< 4 >

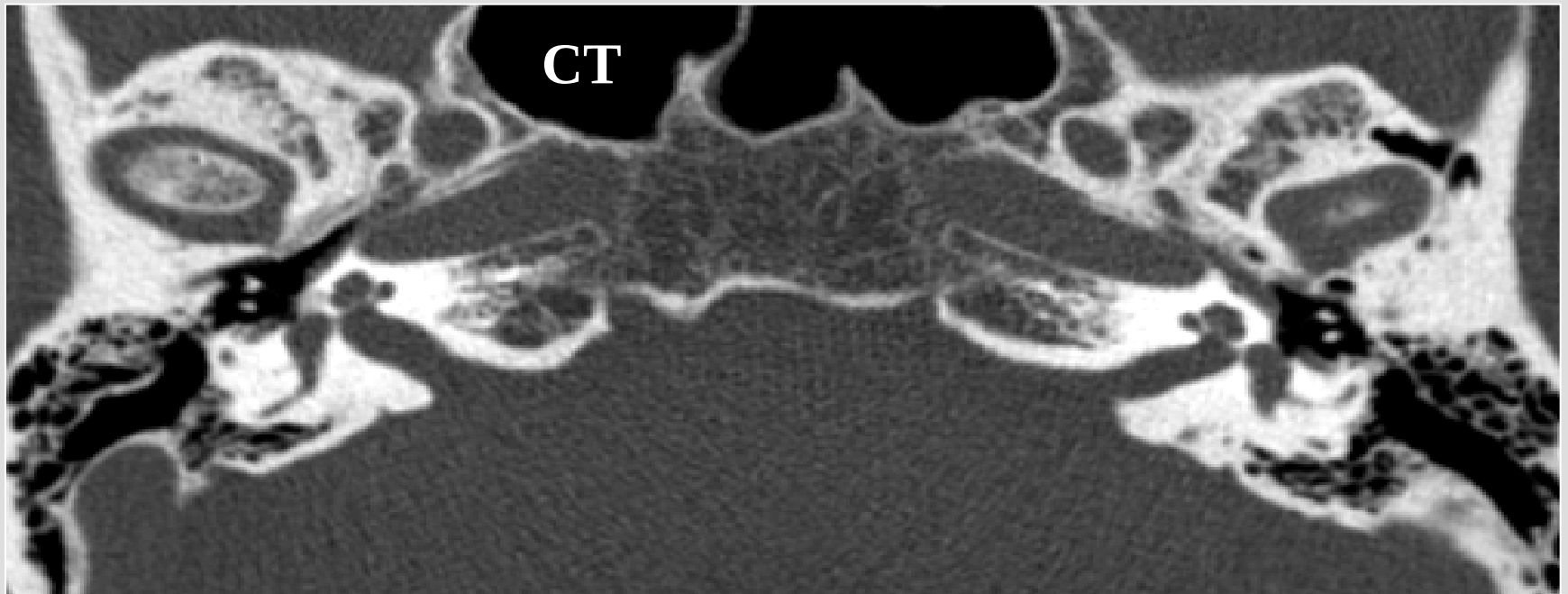
U.C.L. / SAINT-LUC
DE COCK DE RAMEYEN DELPHINE
[28/11/2014, 13:28:18]
SIEMENS SOMATOM Definition AS
140KV, 350mAs
MipPR 0.1 mm
RD: 81,00
4,30



C 998
L 4961







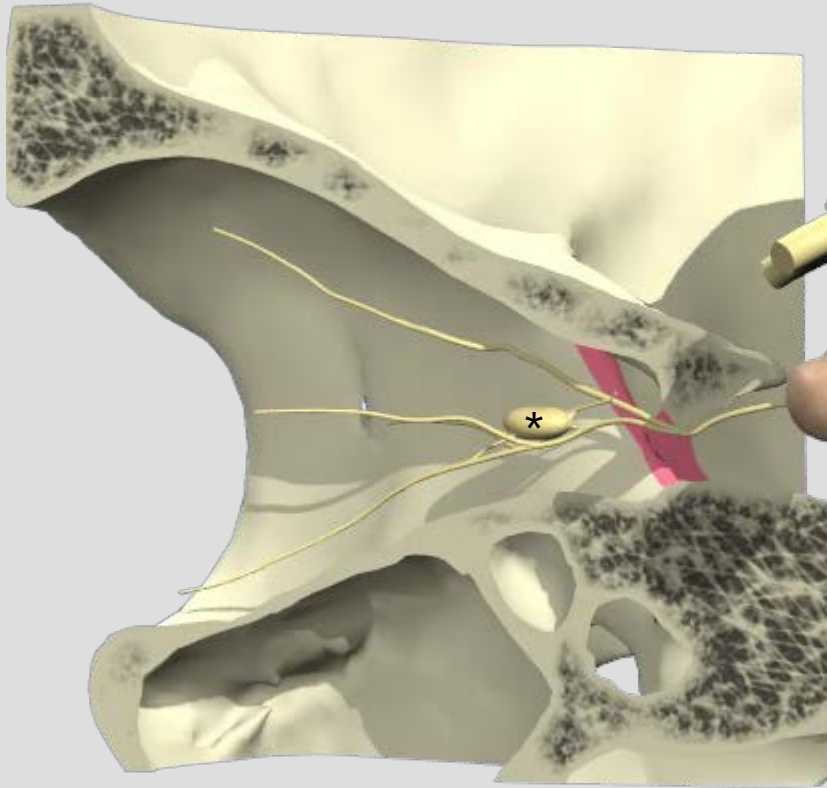
Paires crâniennes

2. Fonction motrice

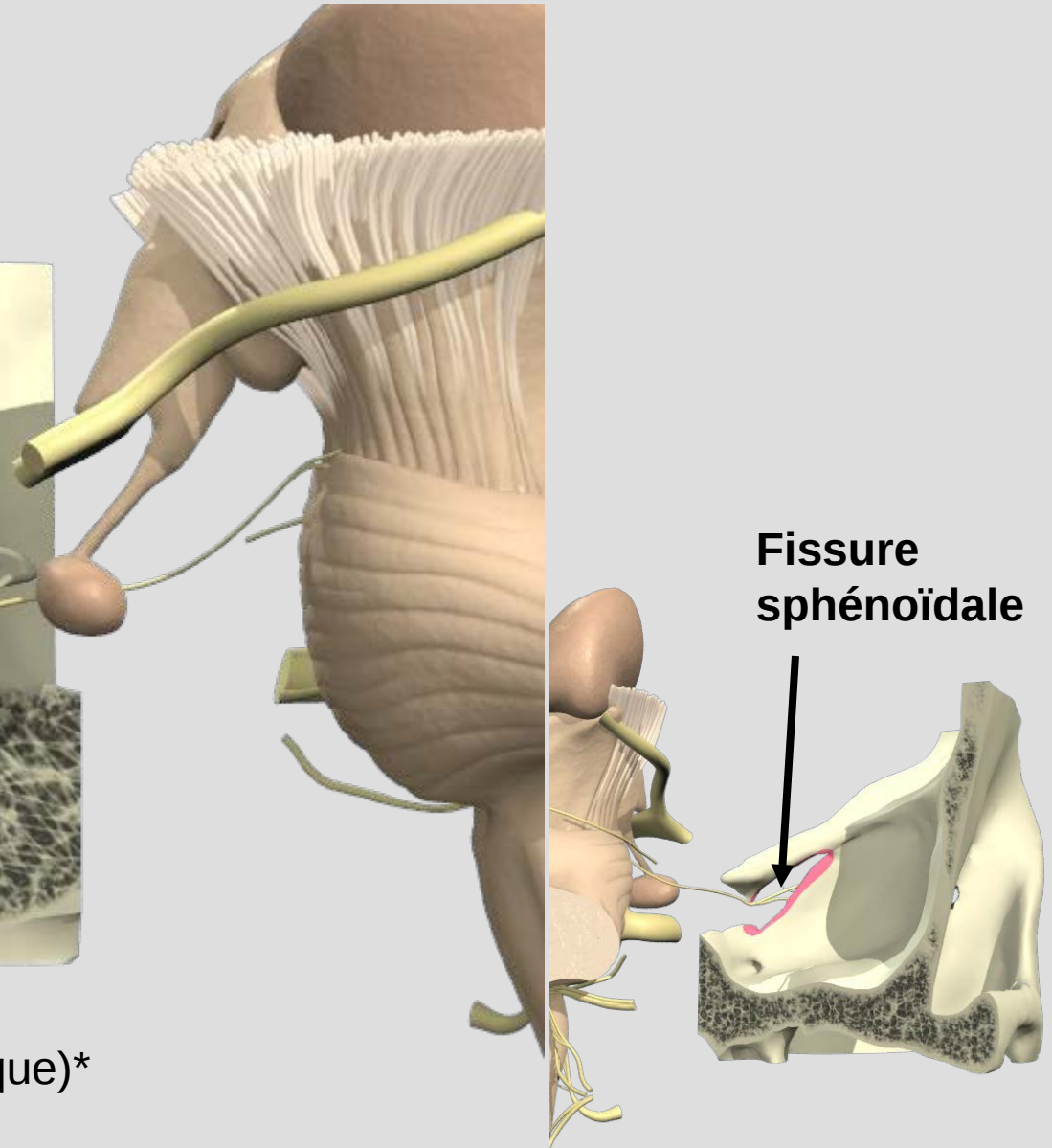
- *oculo-motricité: nerfs III, IV, VI
- *motricité de la face: nerf VII
- *motricité de la langue: nerf XII

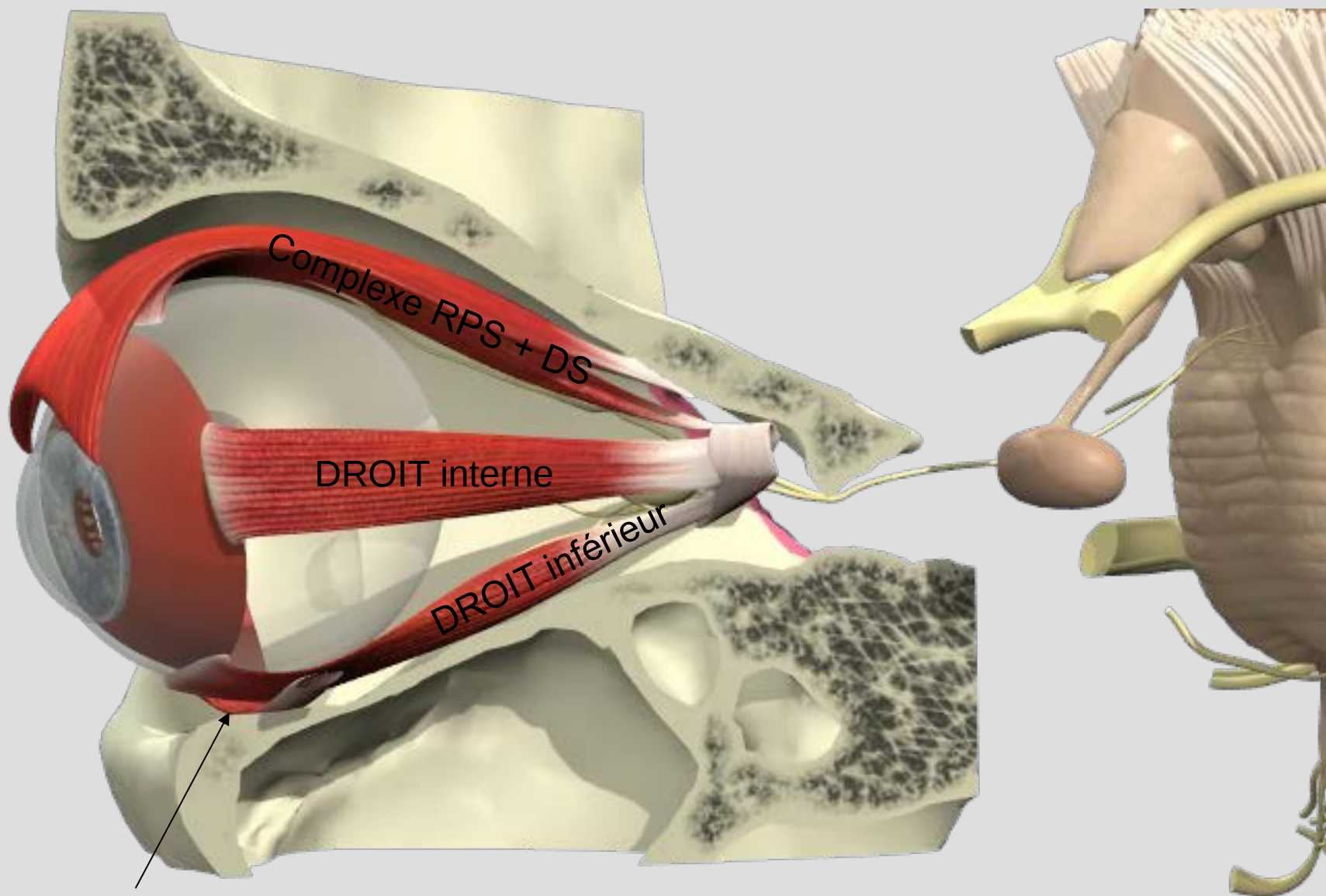
Oculo-motricité

Nerf III = nerf oculomoteur (commun)



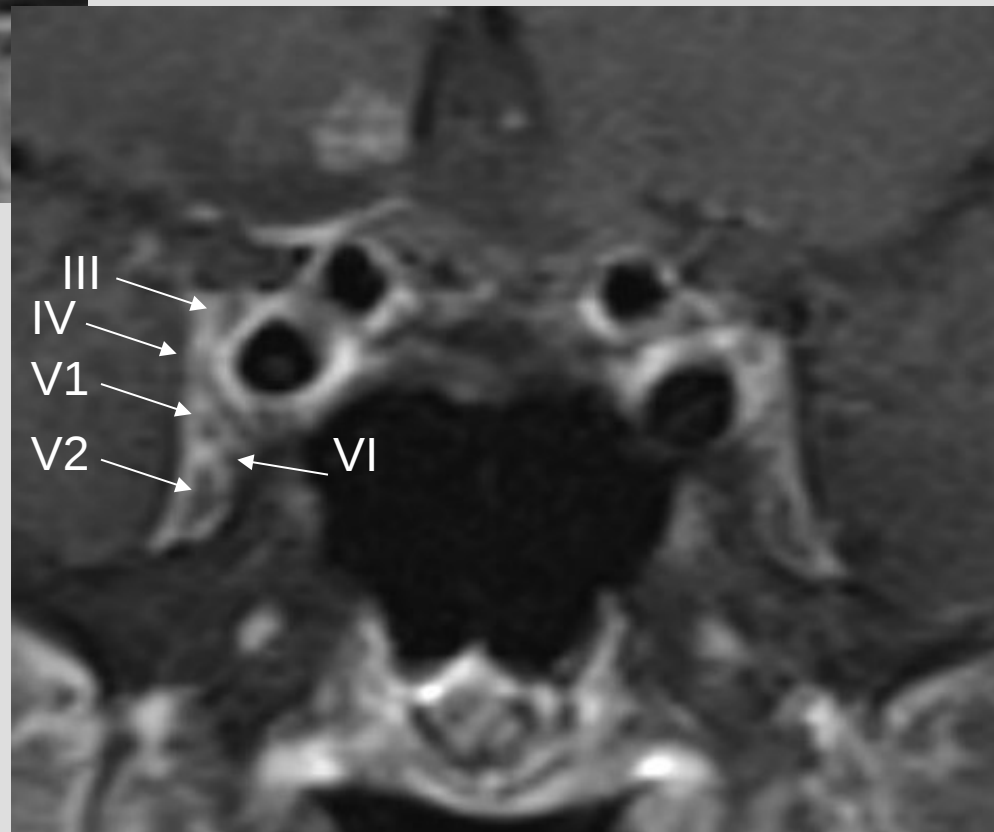
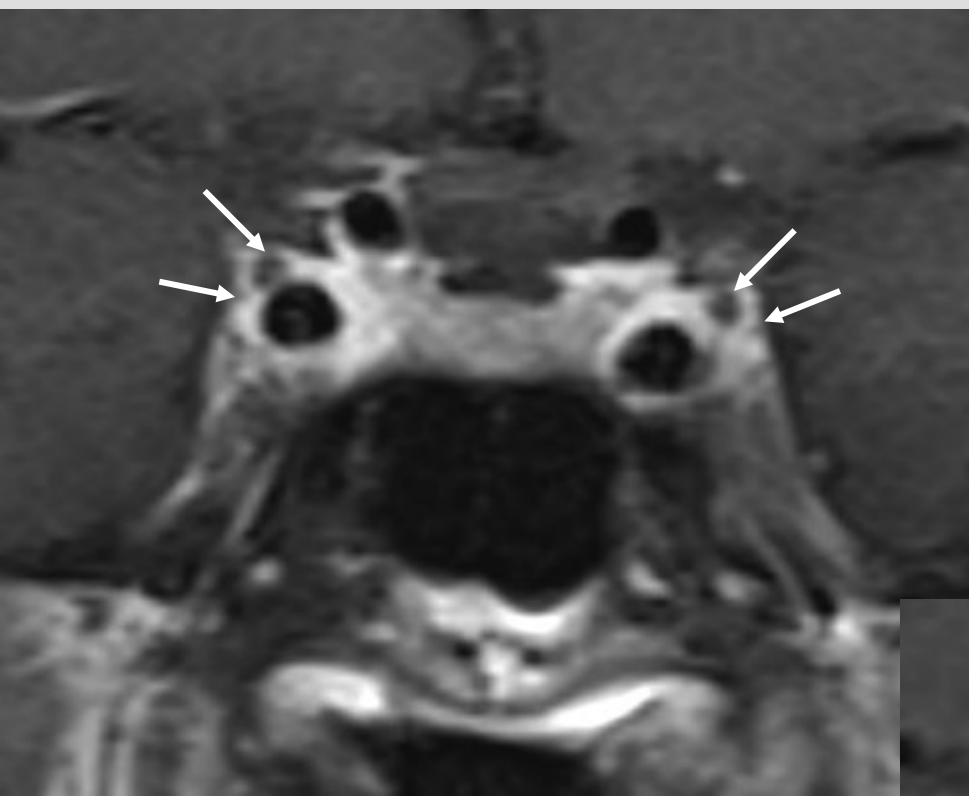
Branche supérieure
Ganglion ciliaire (parasymphatique)*
Branche inférieure





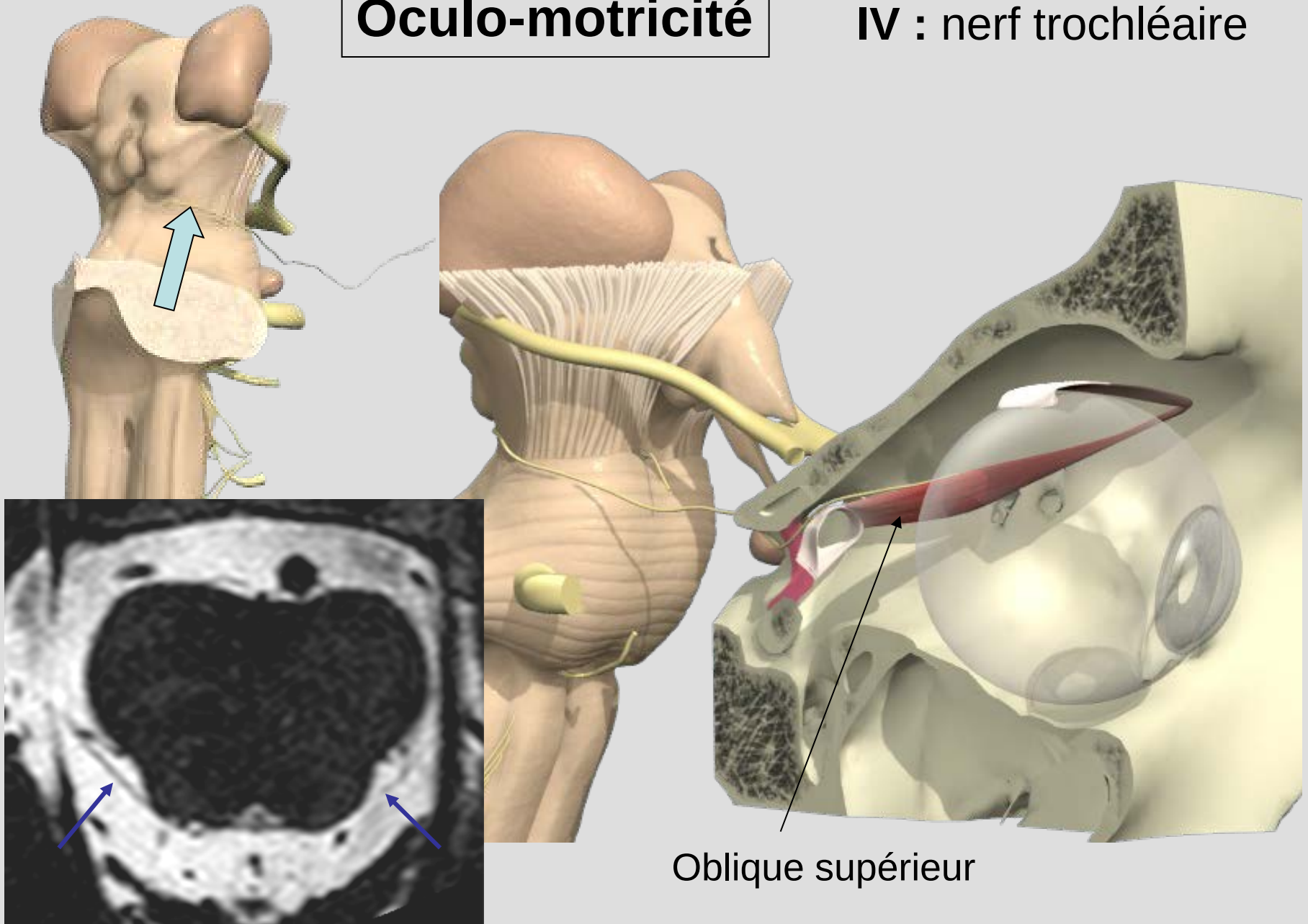
OBLIQUE inférieur

Sinus caverneux
coupes frontales T1 post C+ FS



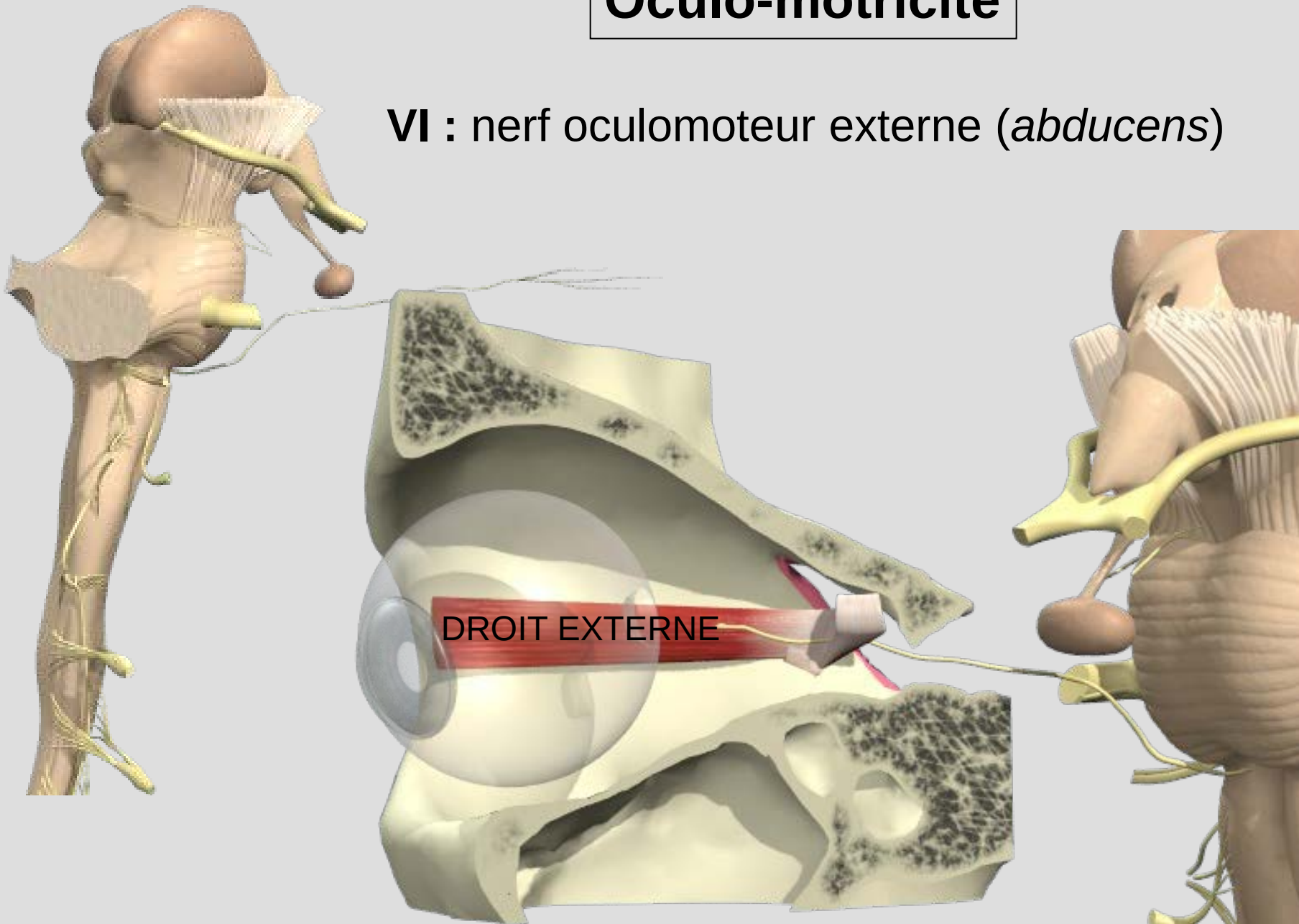
Oculo-motricité

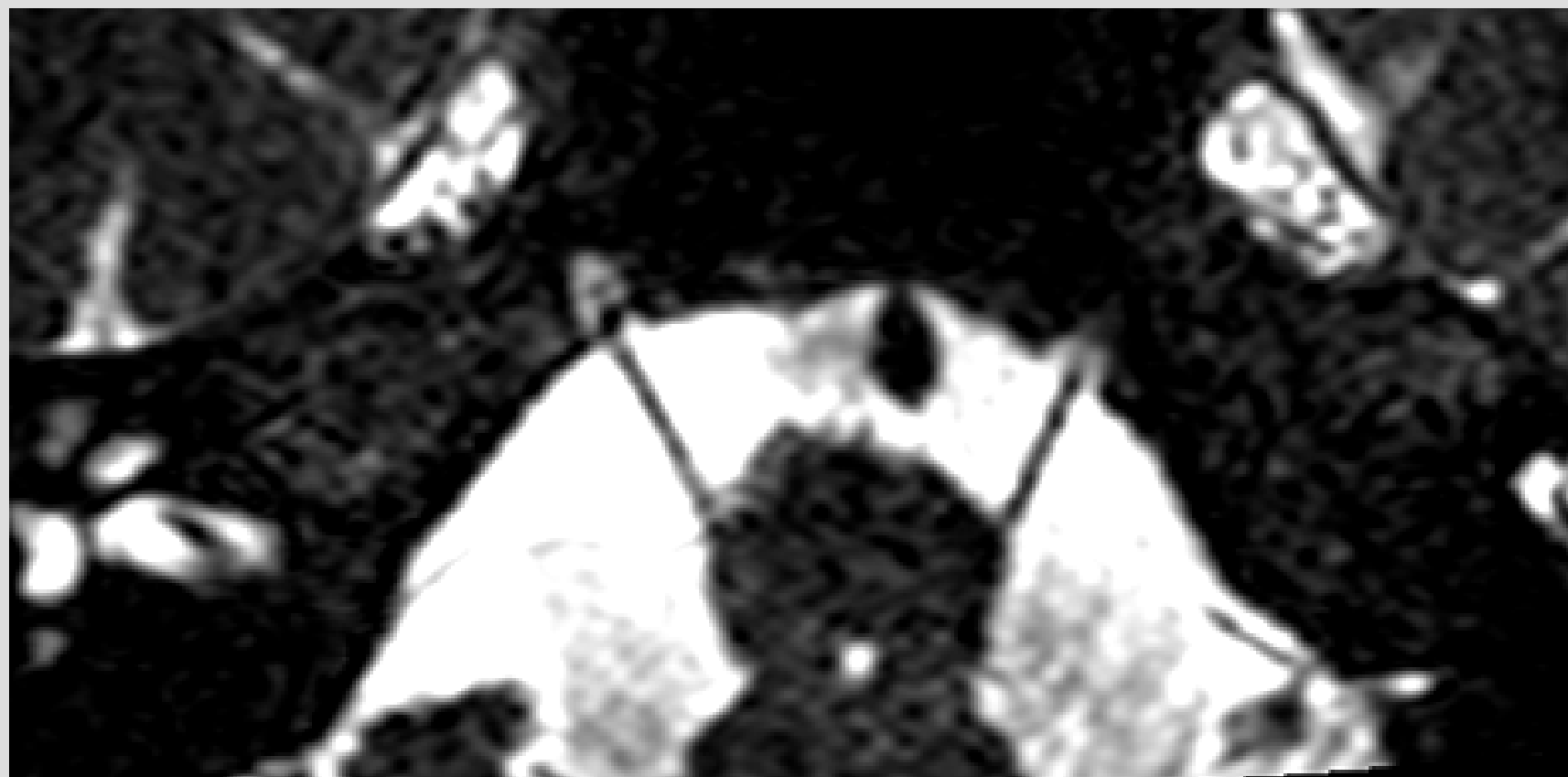
IV : nerf trochléaire



Oculo-motricité

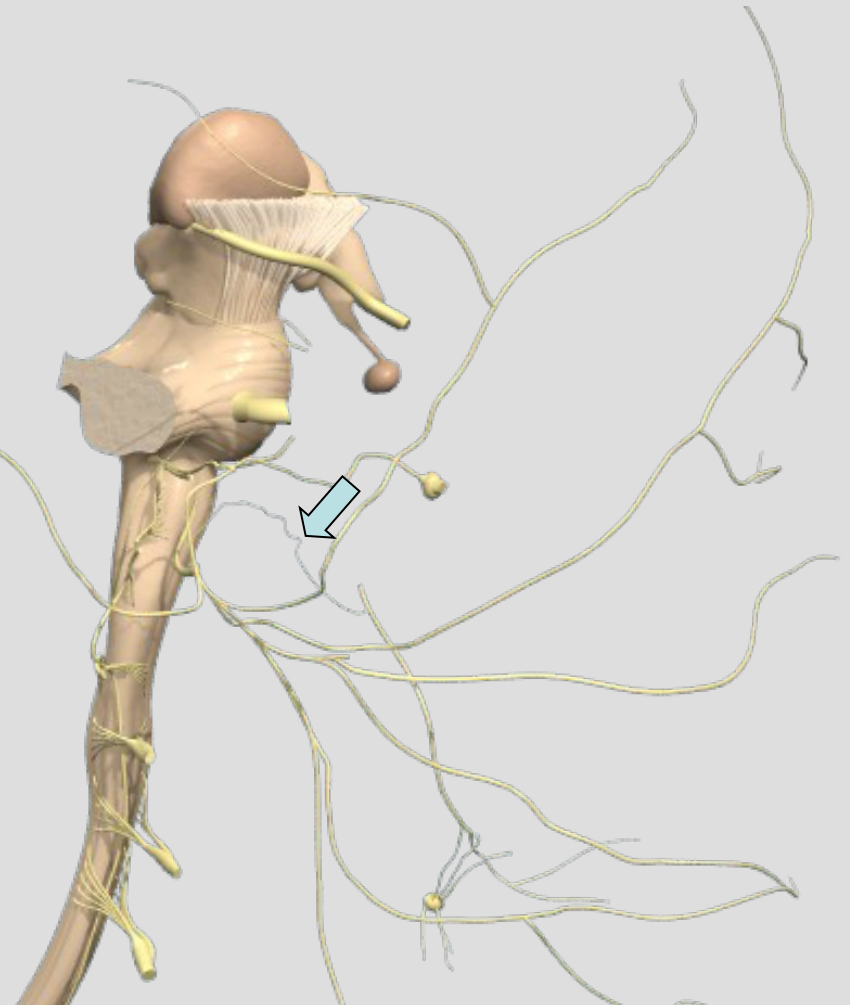
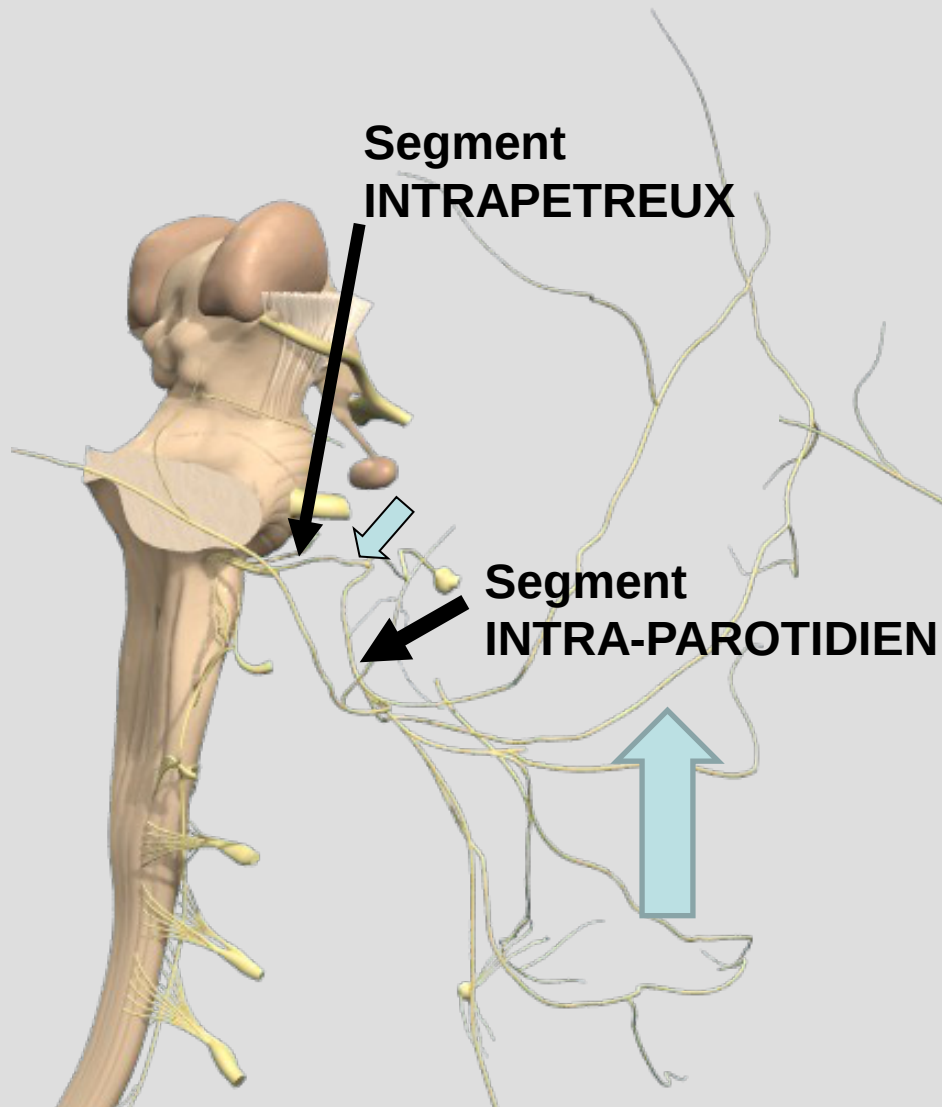
VI : nerf oculomoteur externe (*abducens*)



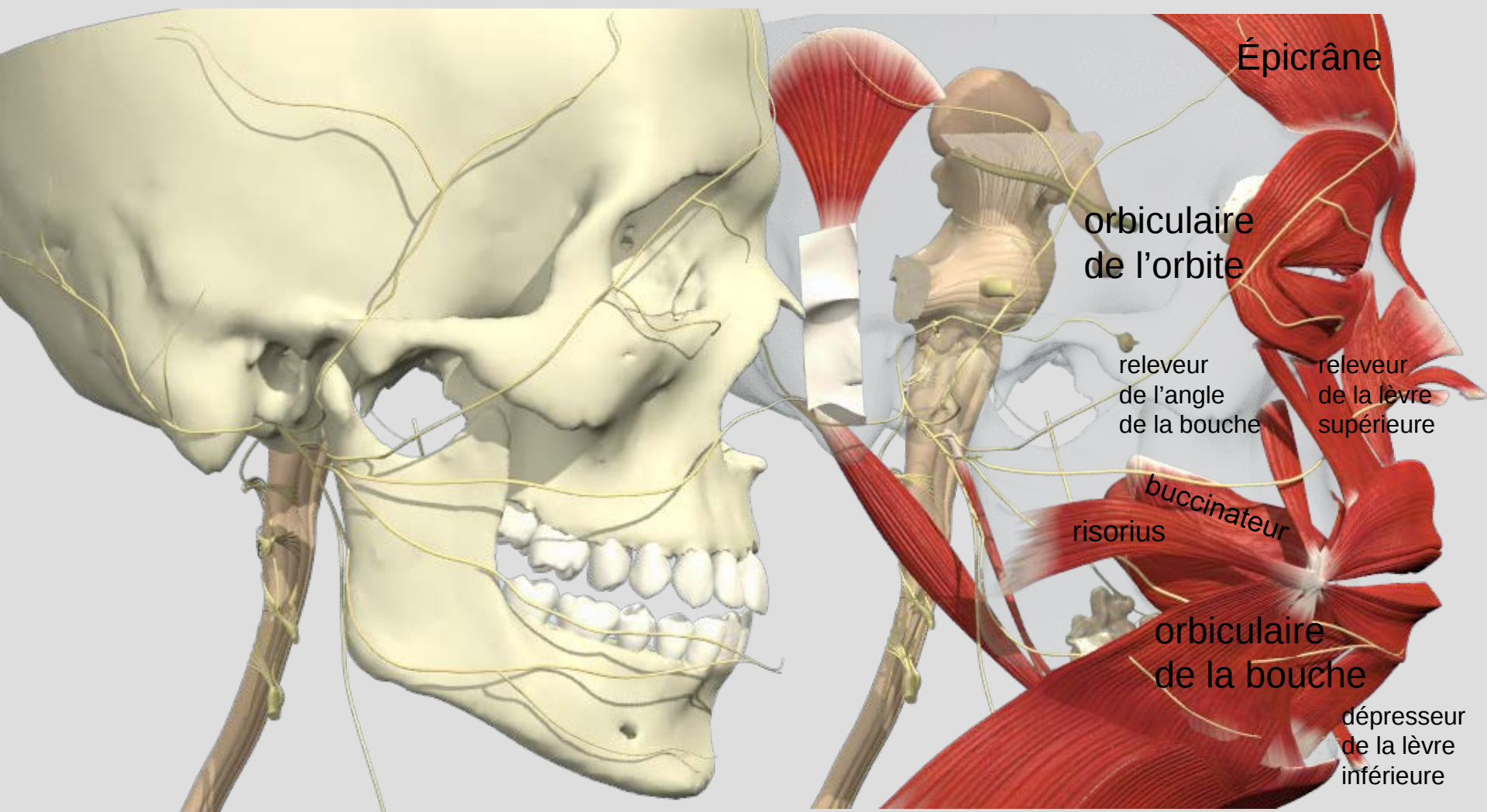


Motricité de la face

Nerf VII: nerf facial

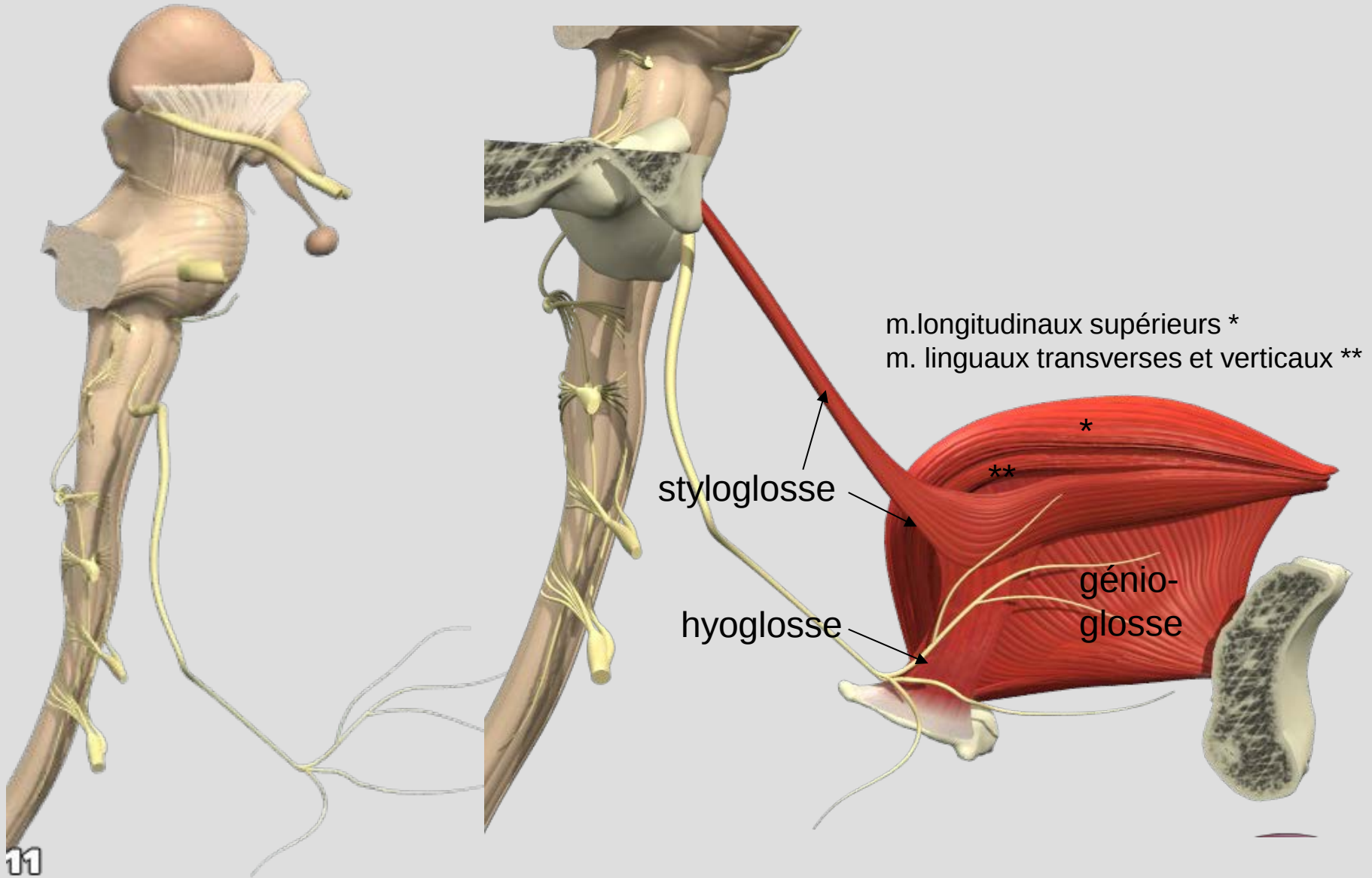


Tronc du facial → corde du tympan → nerf lingual (V3)



Motricité de la langue

Nerf XII: nerf (grand) hypoglosse



Paires crâniennes

3. Fonction mixte mais séparée

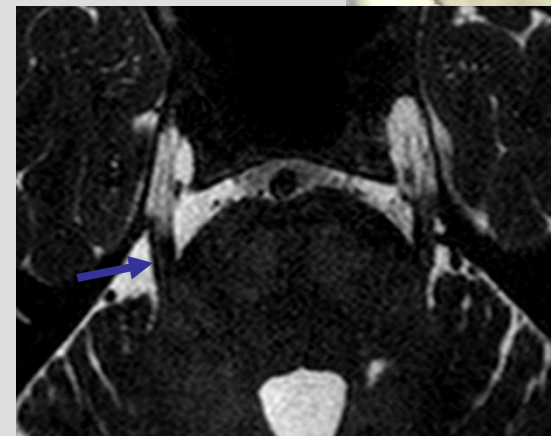
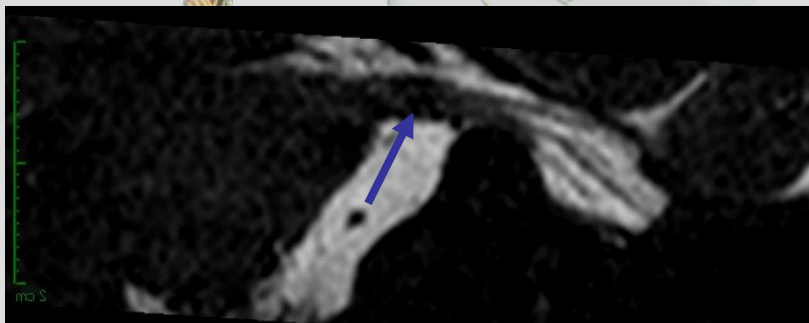
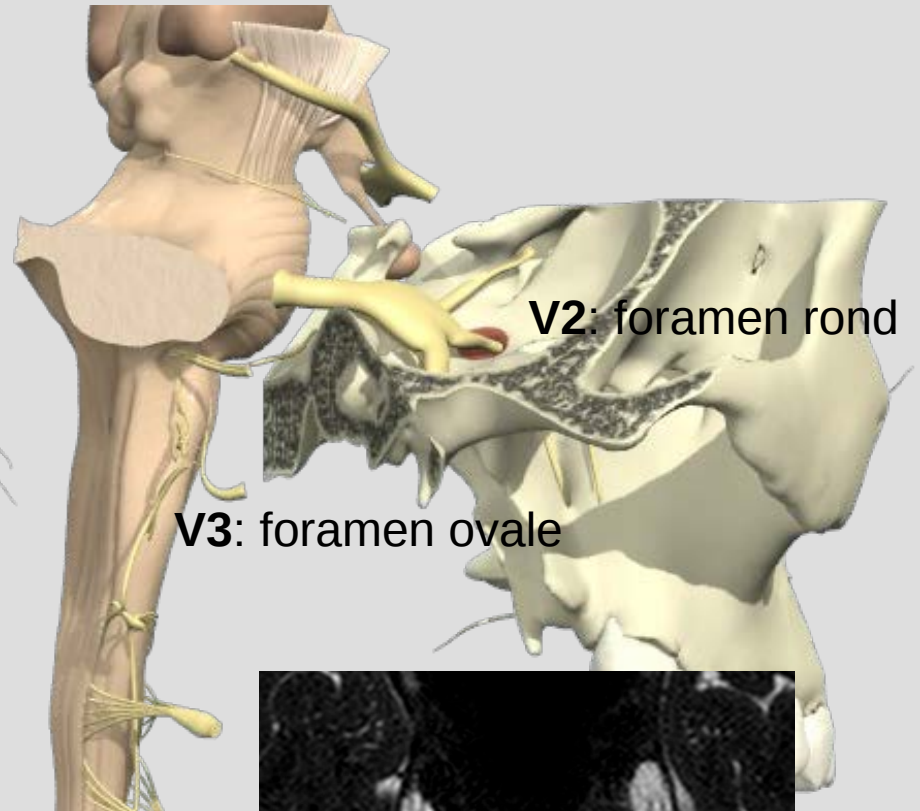
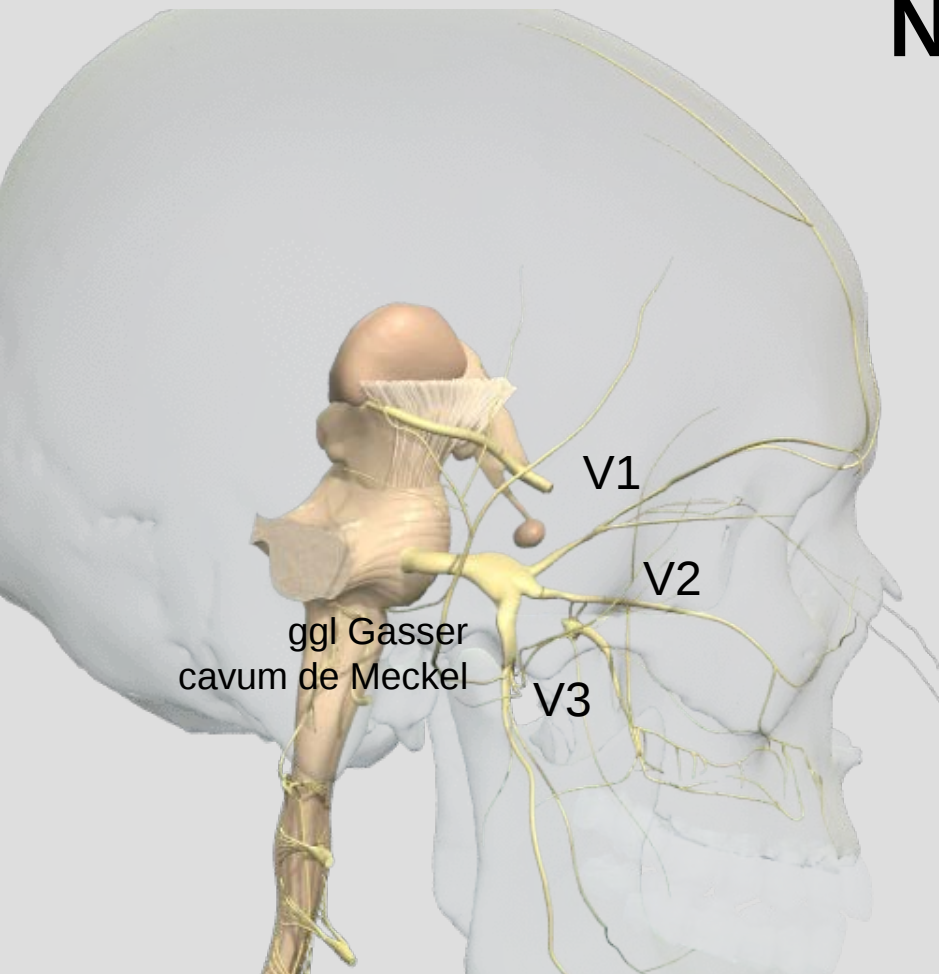
nerf V (trijumeau)

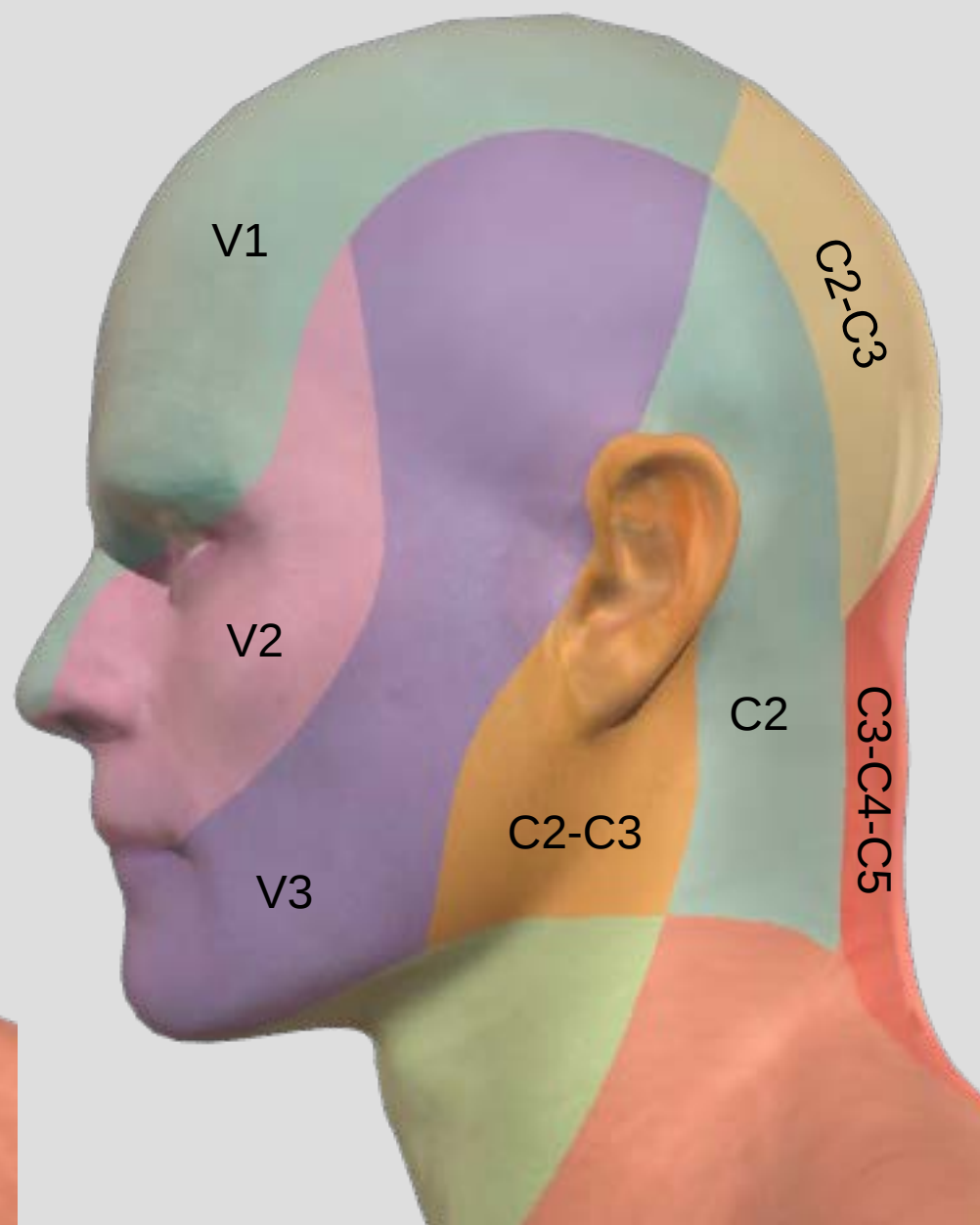
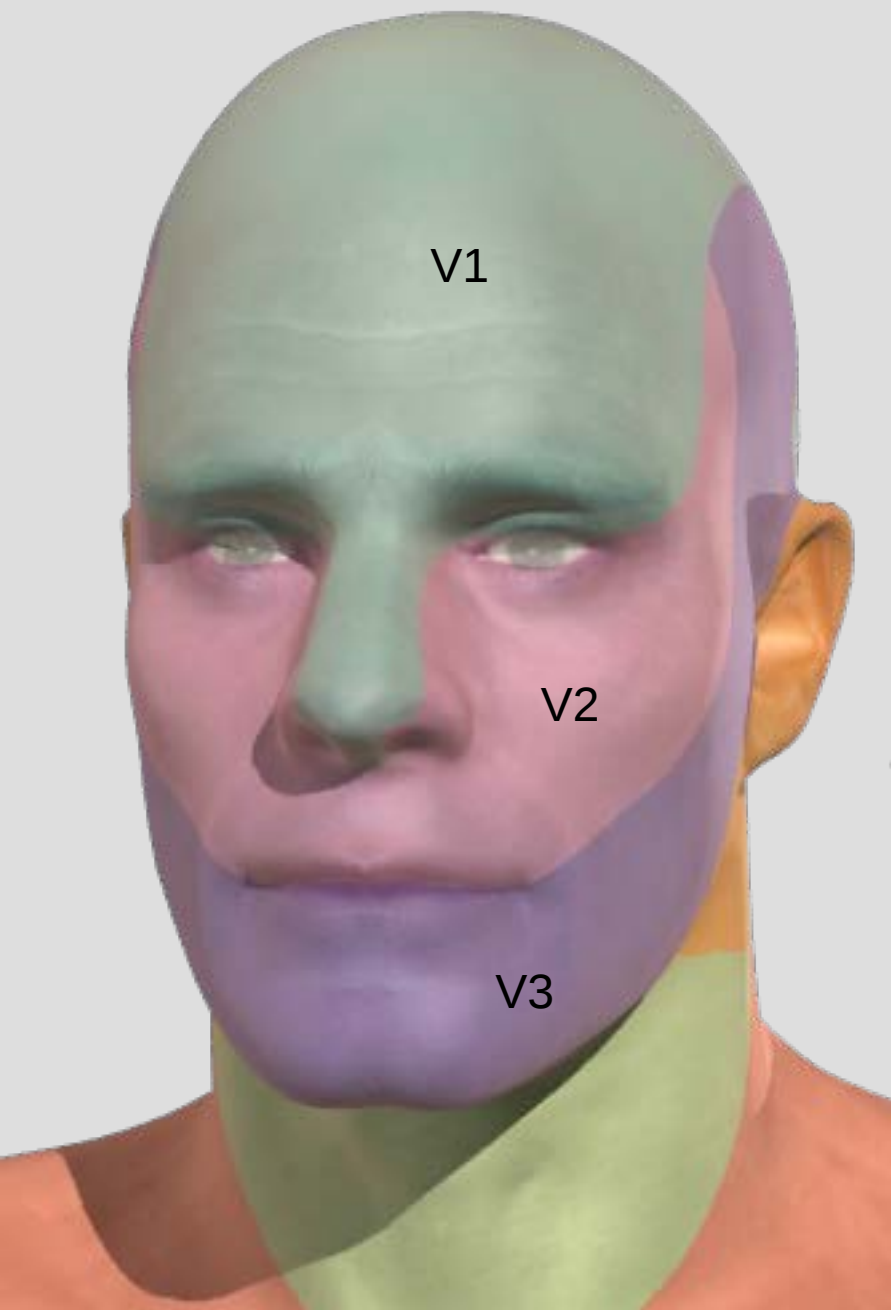
-Racine sensitive

-Racine motrice

Nerf V – *racine sensitive*

V1: fissure sphénoïdale supérieure





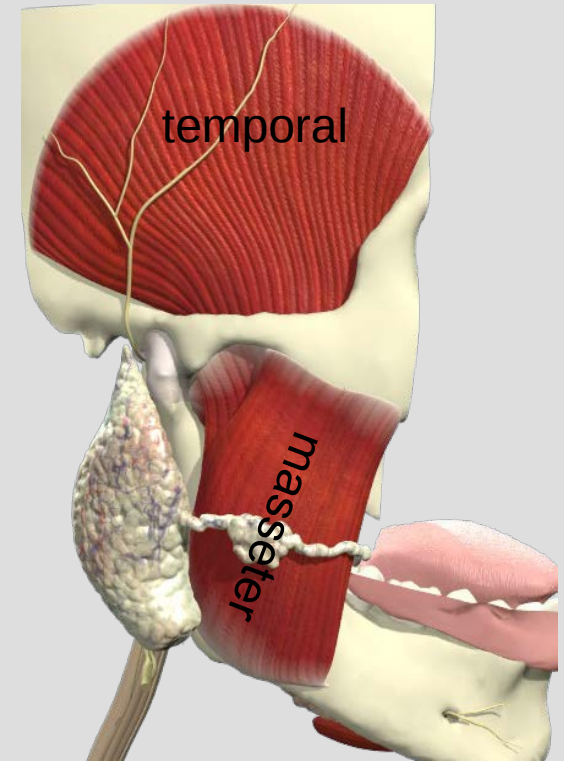
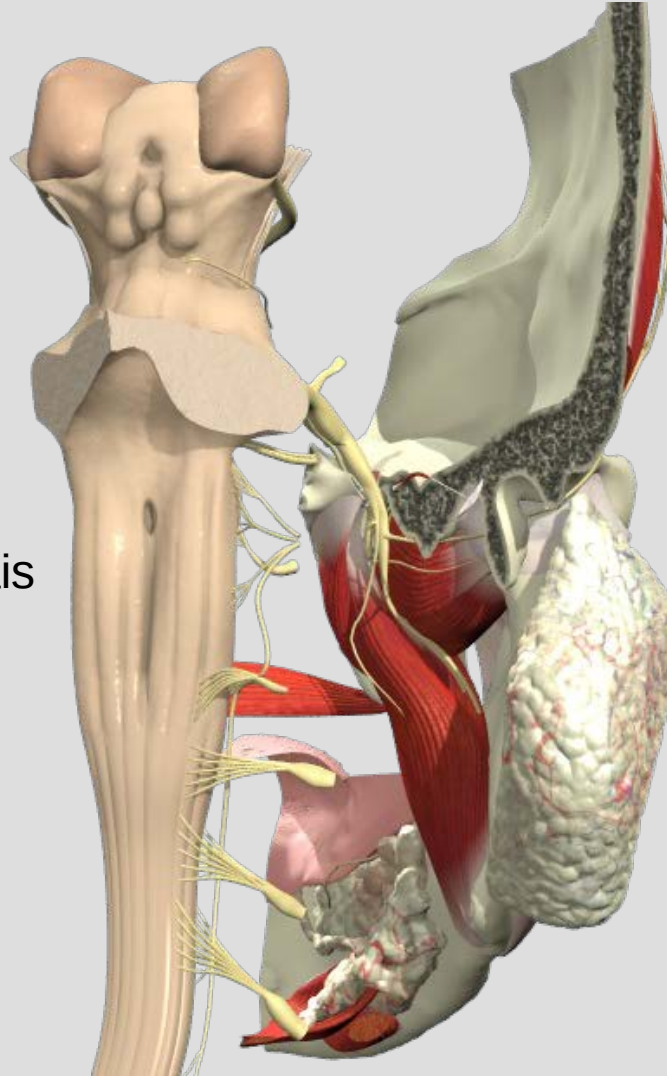
Nerf V – *racine motrice*

Nerf manducateur

- Temporal
- Ptérigoïdien médial
- Ptérigoïdien latéral
- Masseter

Tenseur du voile du palais

Mylo-hyoïdien
Digastrique

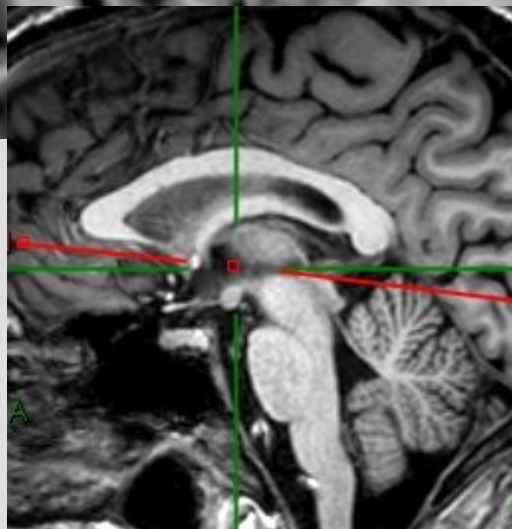
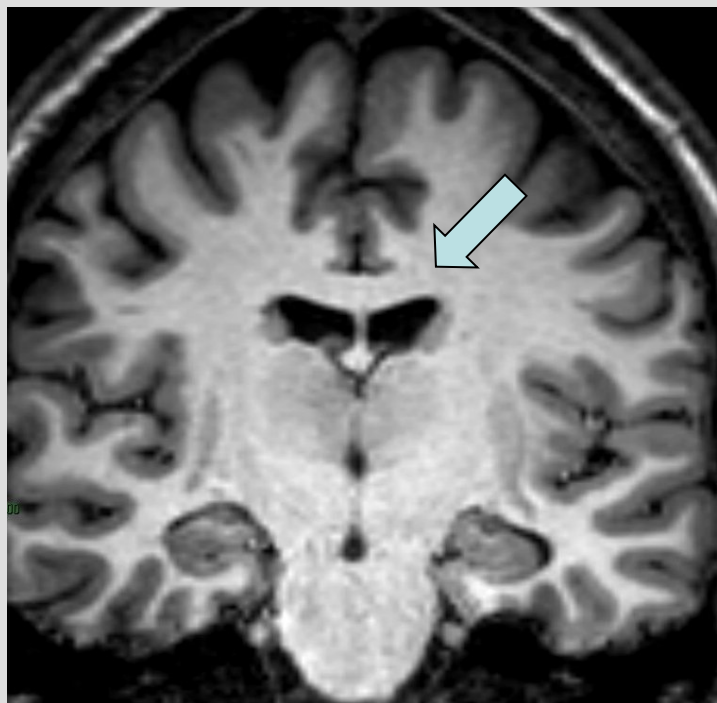
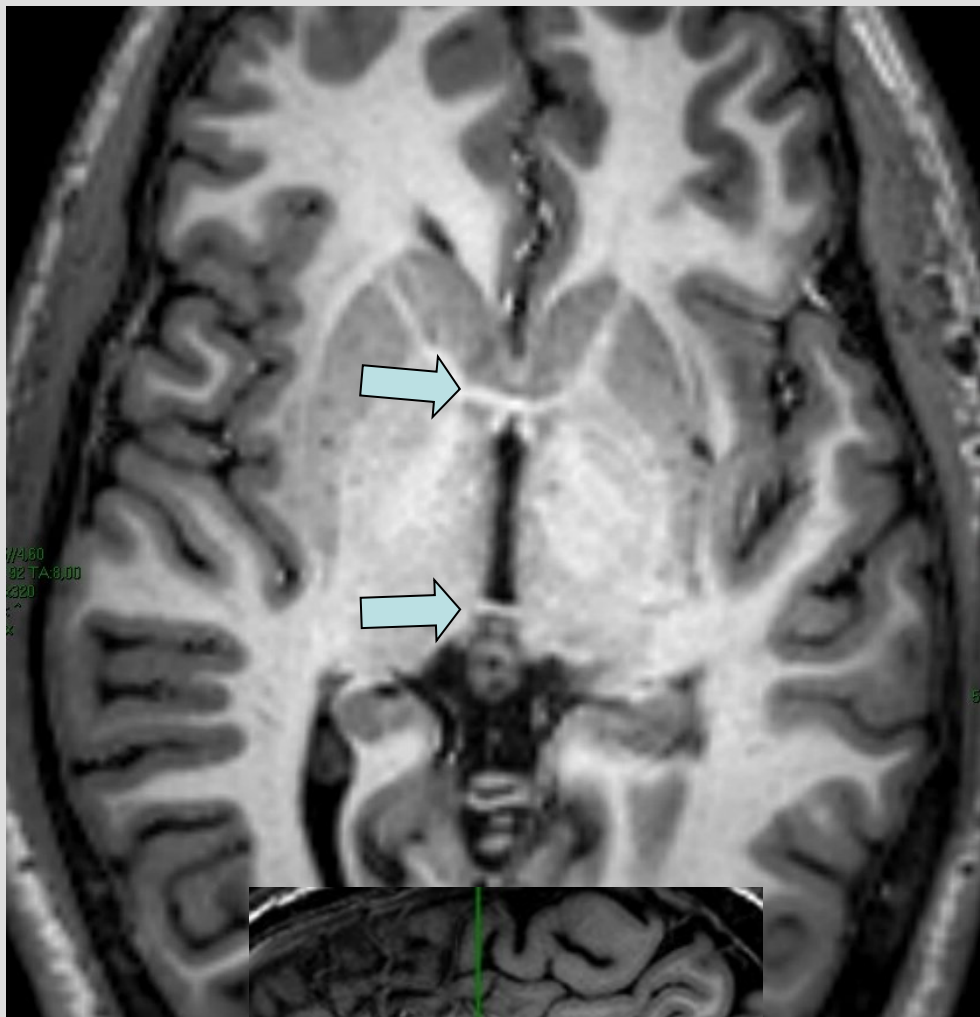


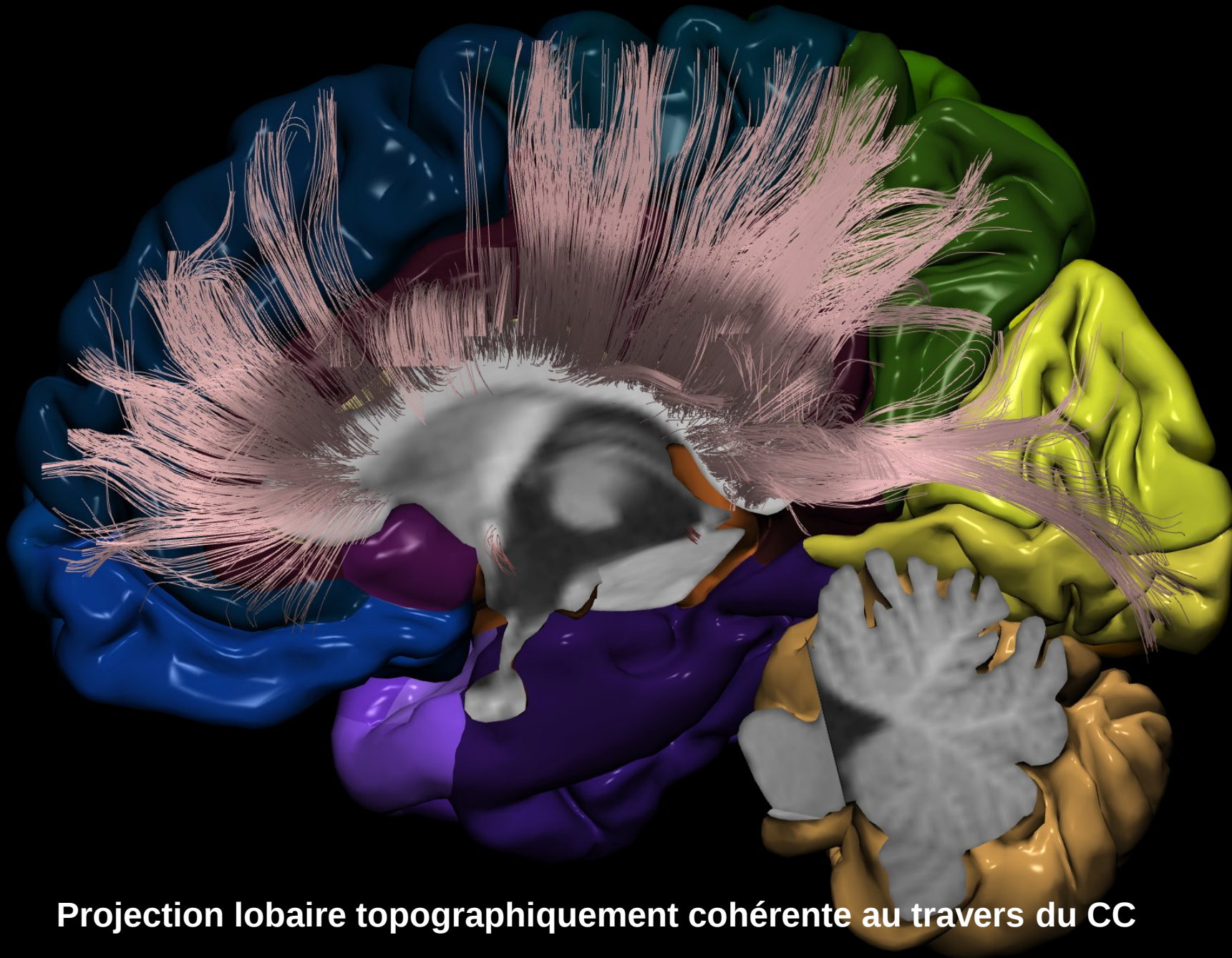
Connectivité cérébrale

Les fibres commissurales (commissures)
associent en miroir des régions des *deux hémisphères
cérébraux* en *traversant la ligne médiane*

Les fibres de projection
relient le *cortex cérébral* aux structures sous-jacentes
ou vice-versa

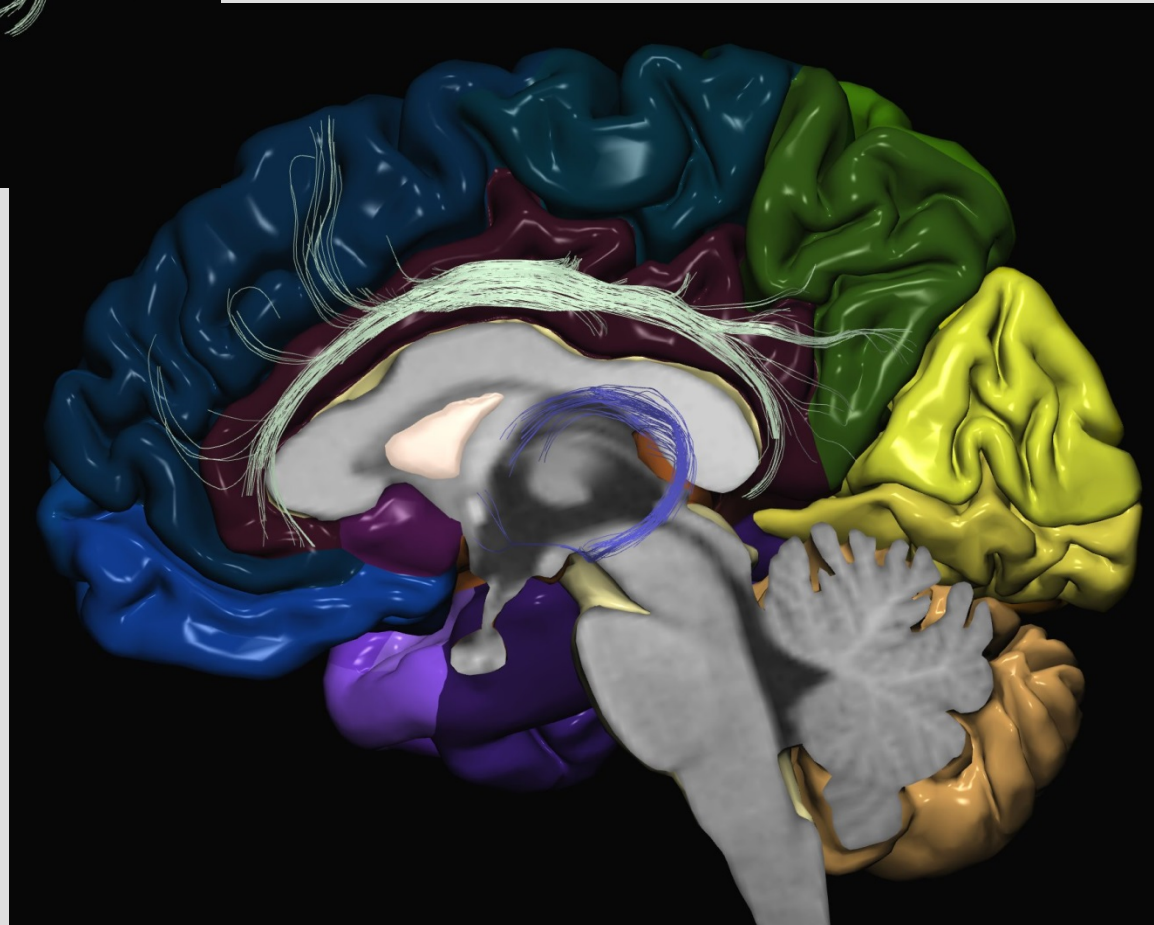
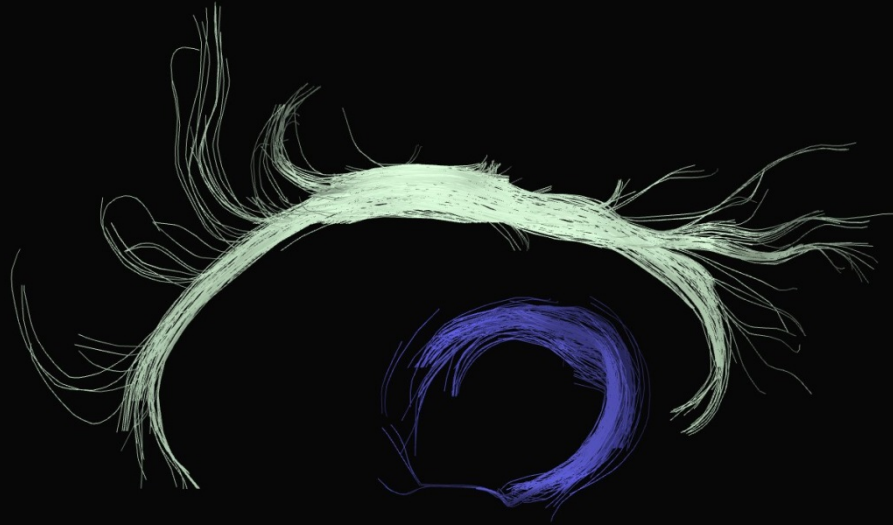
Les faisceaux d'association
relient des *régions corticales différentes*
du *même hémisphère cérébral*





Projection lobaire topographiquement cohérente au travers du CC

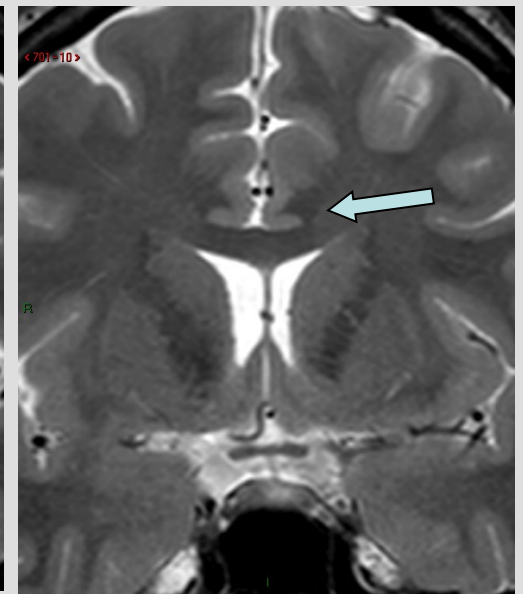
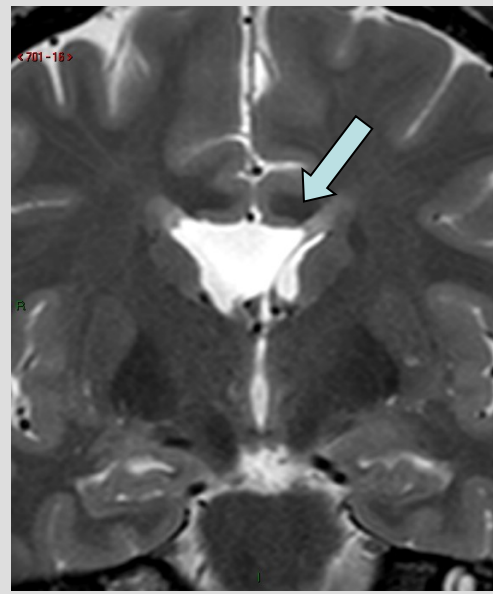
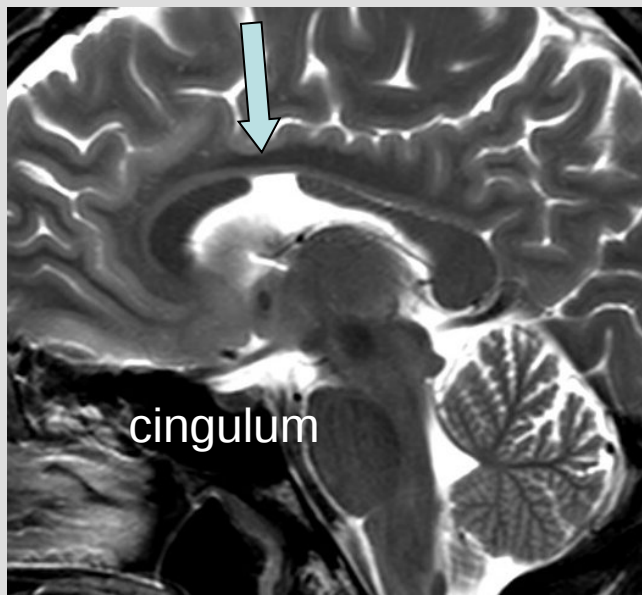
Faisceaux associatifs centraux



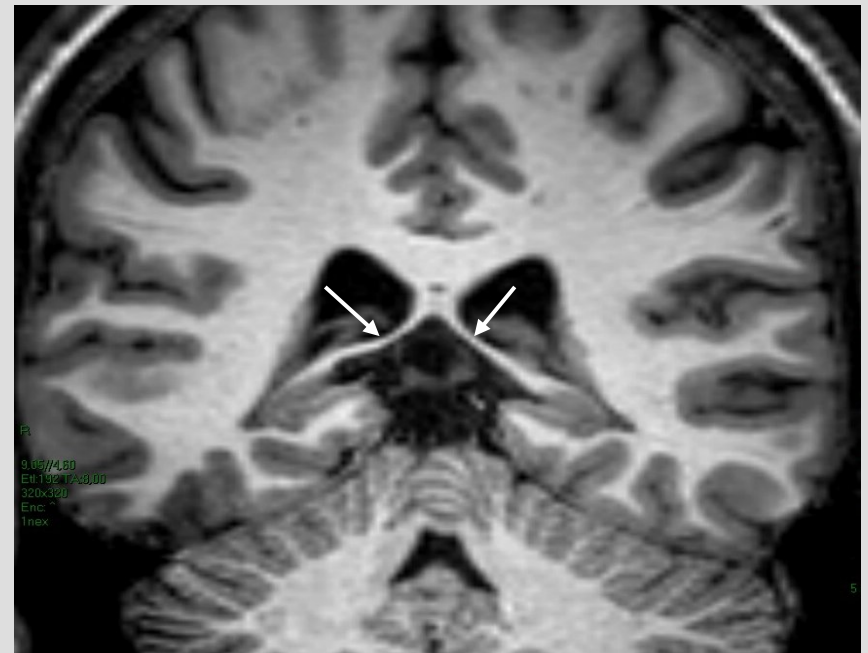
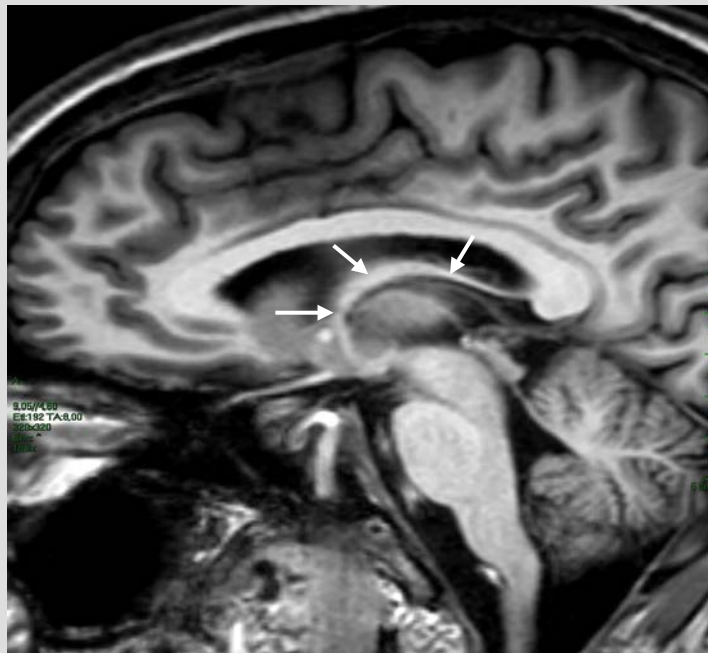
Référence anatomique de base

cingulum

fornix

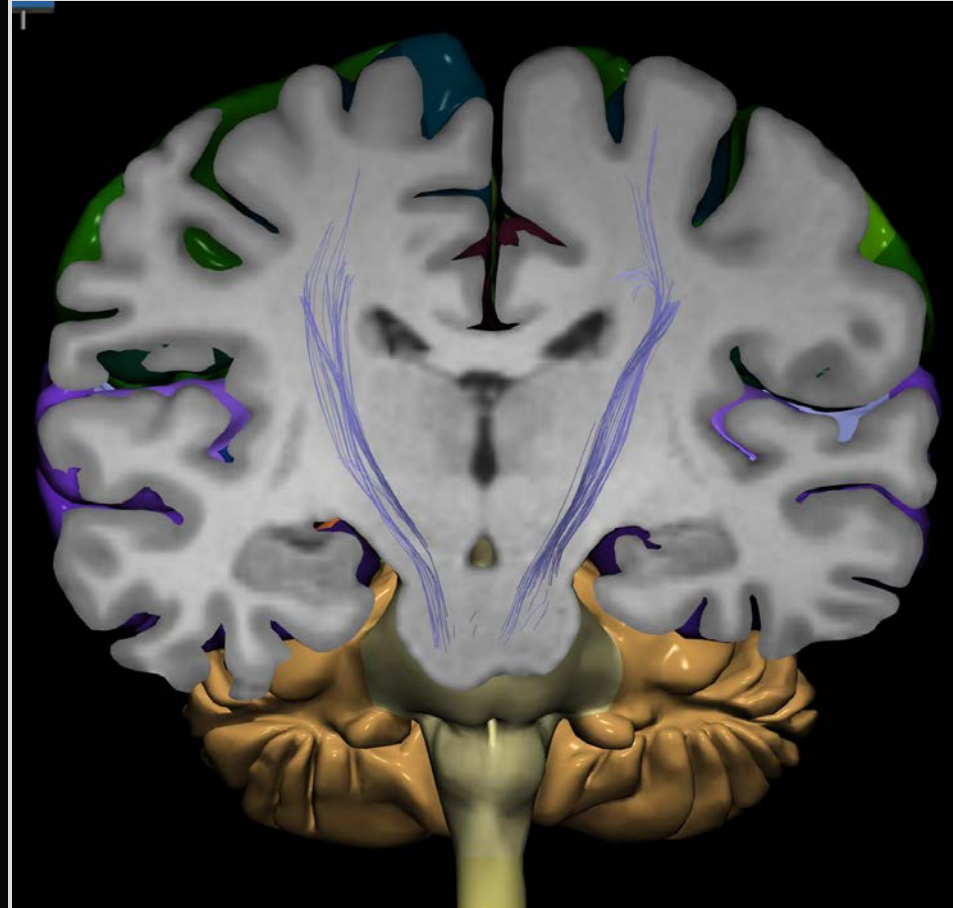


fornix



Fibres hippocampiques efférentes vers la région préoptique et tuber cinereum → influence du système limbique sur l'hypothalamus

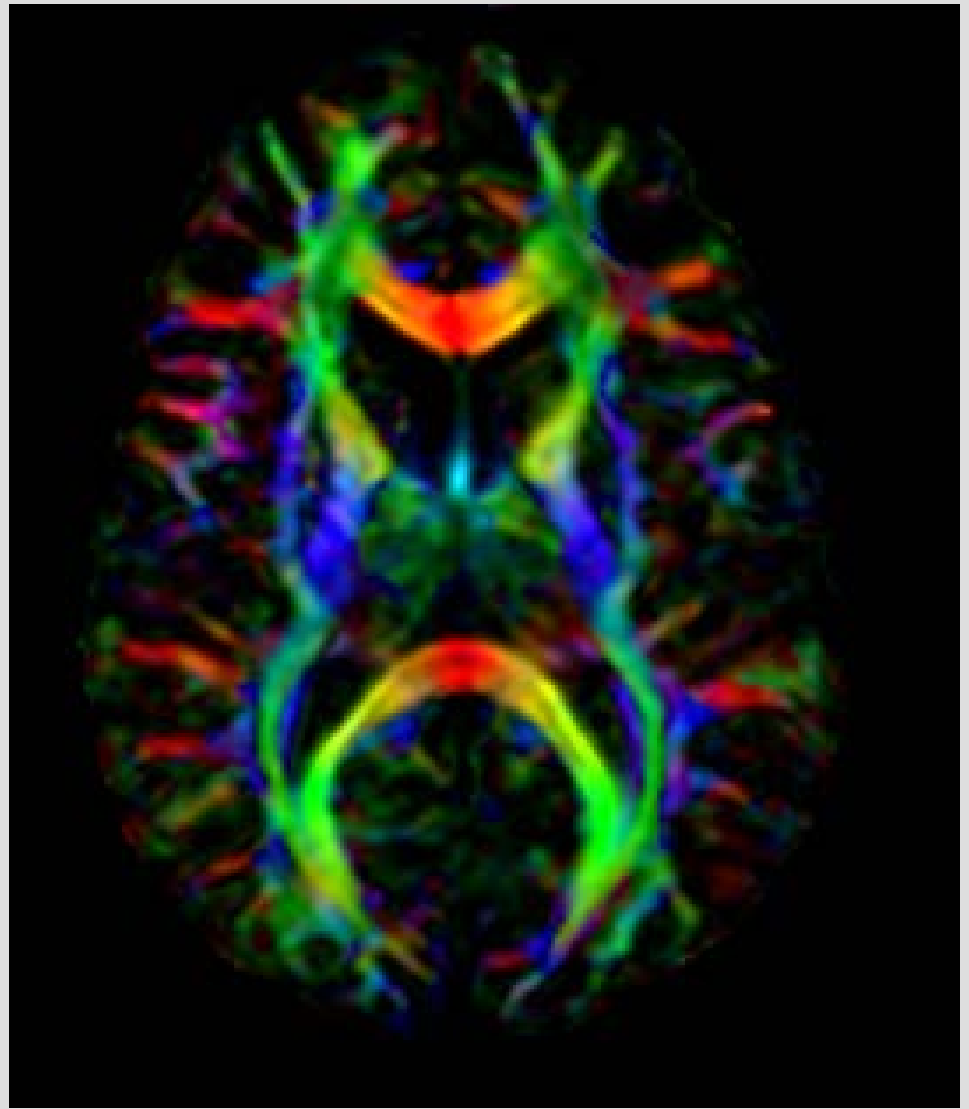
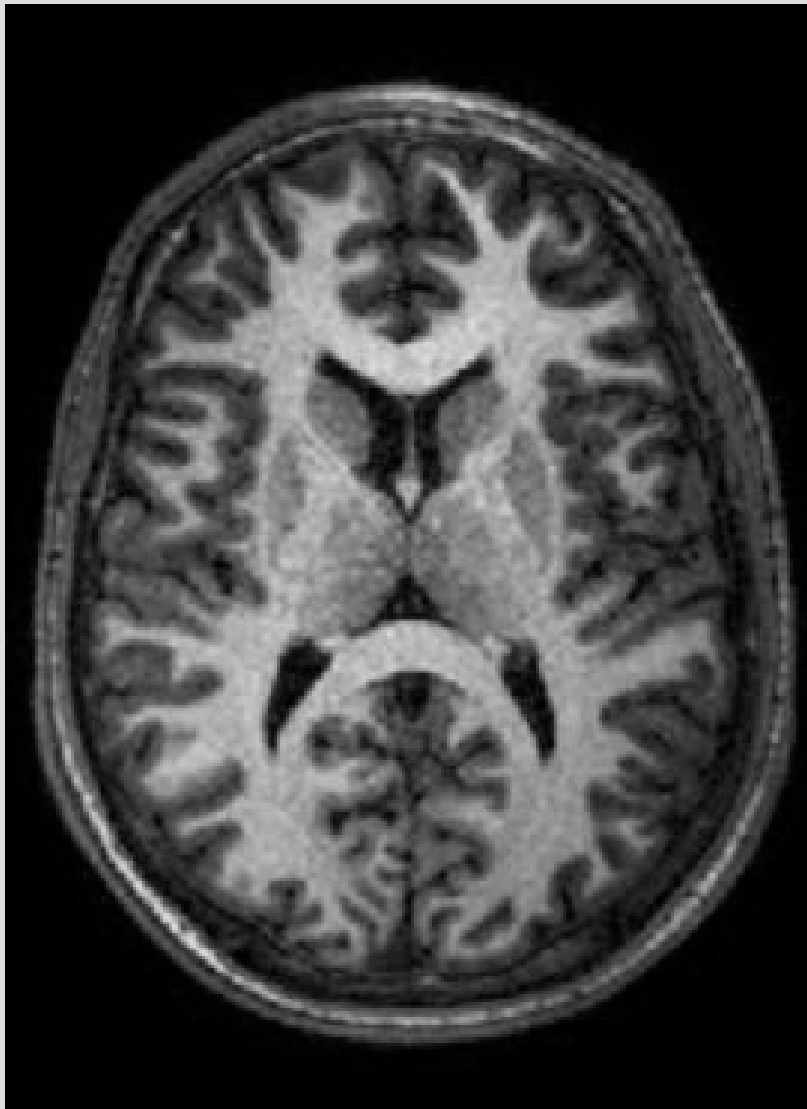
Fibres de projection



Faisceau cortico-spinal direct

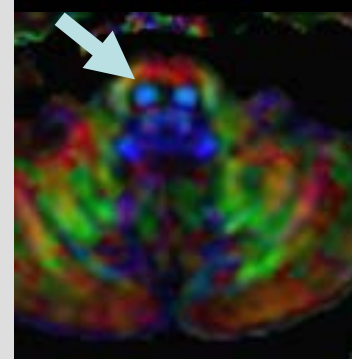
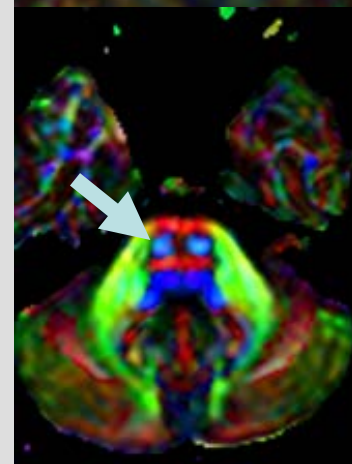
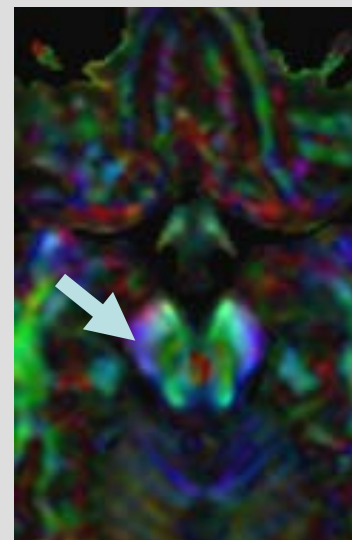
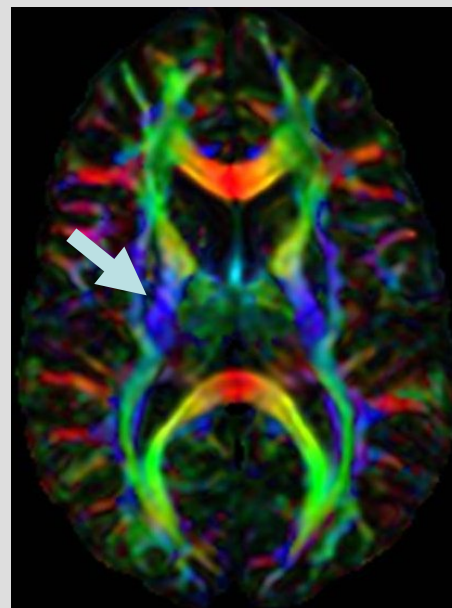
Fonction: mouvements volontaires

Anatomie de la connectivité in vivo: FT-DTI





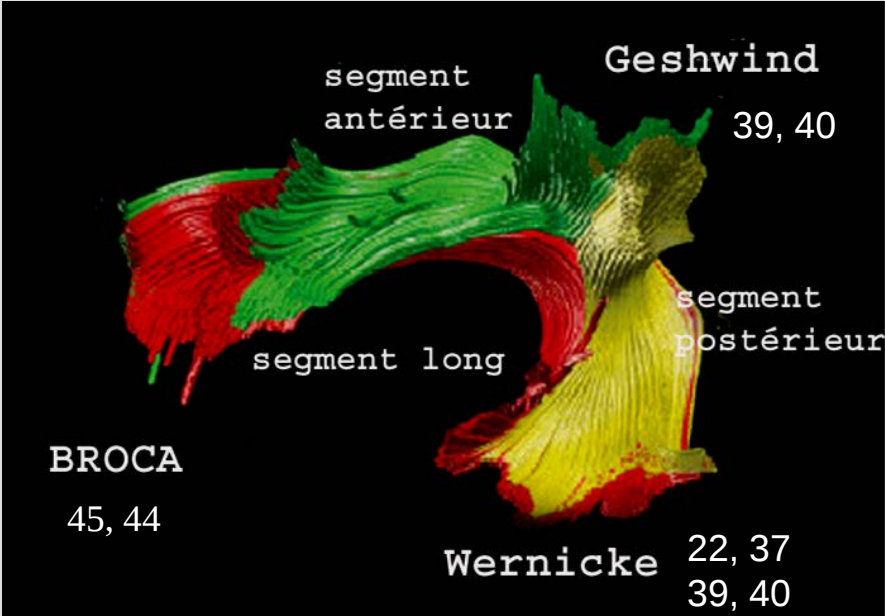
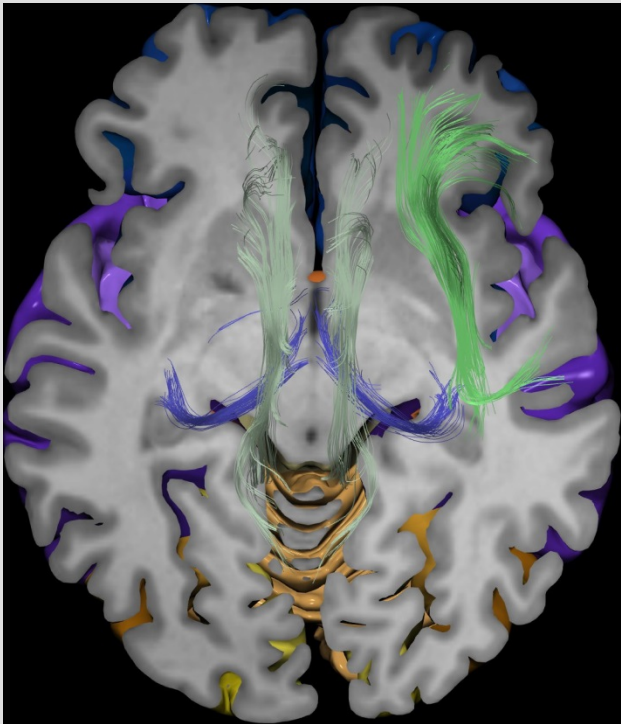
Décussation pyramidale: 85% controlatéral



faisceau
cortico-spinal
direct
=
voie
pyramidale



Faisceau arqué



Fibres en U

