



UCLouvain

Secteur des Sciences de la santé  
Faculté de Médecine  
Cours WMDS1311  
Année académique 2020-2021

03 décembre 2020

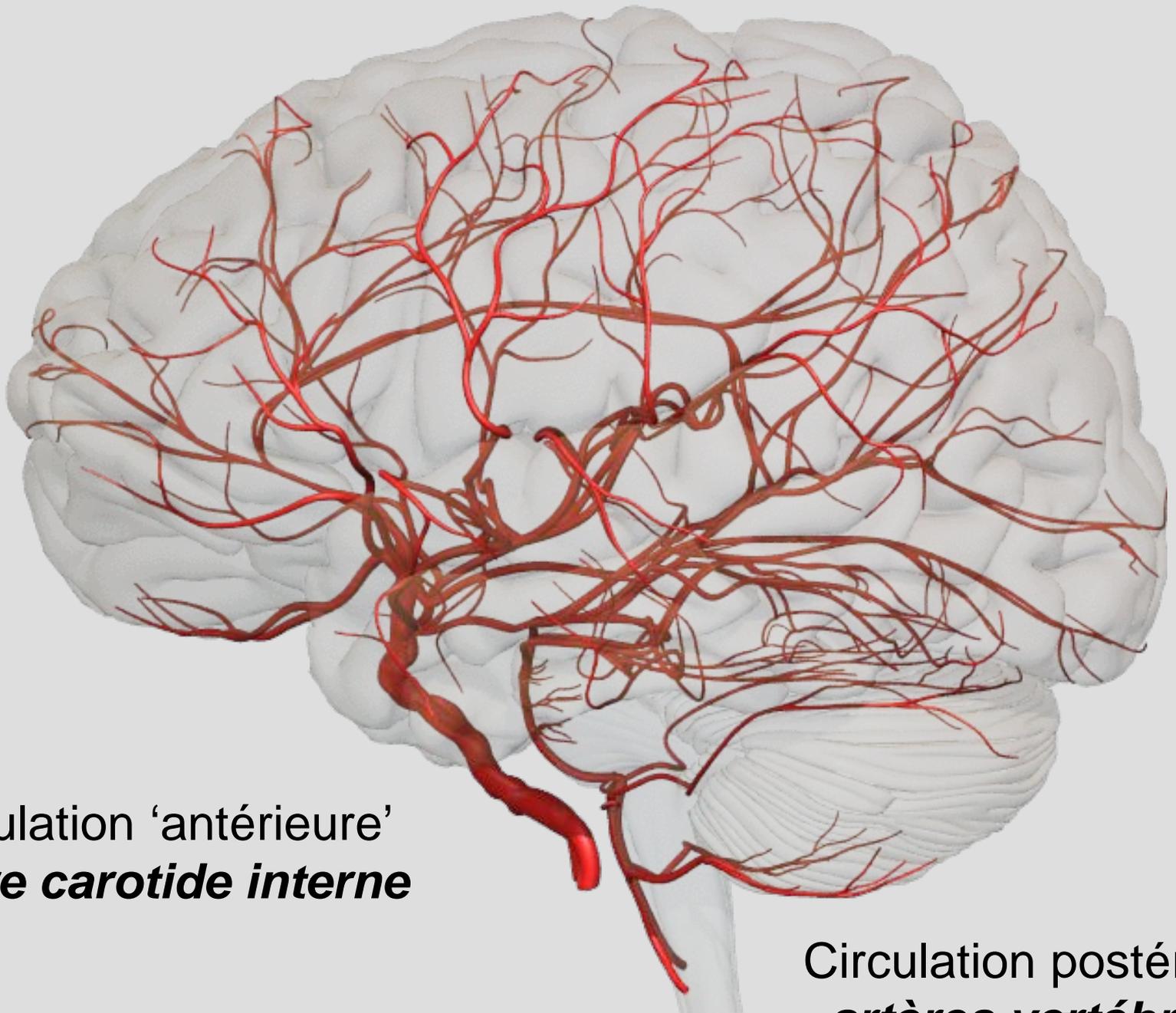
# Neuroanatomie radiologique

Pr. Thierry DUPREZ



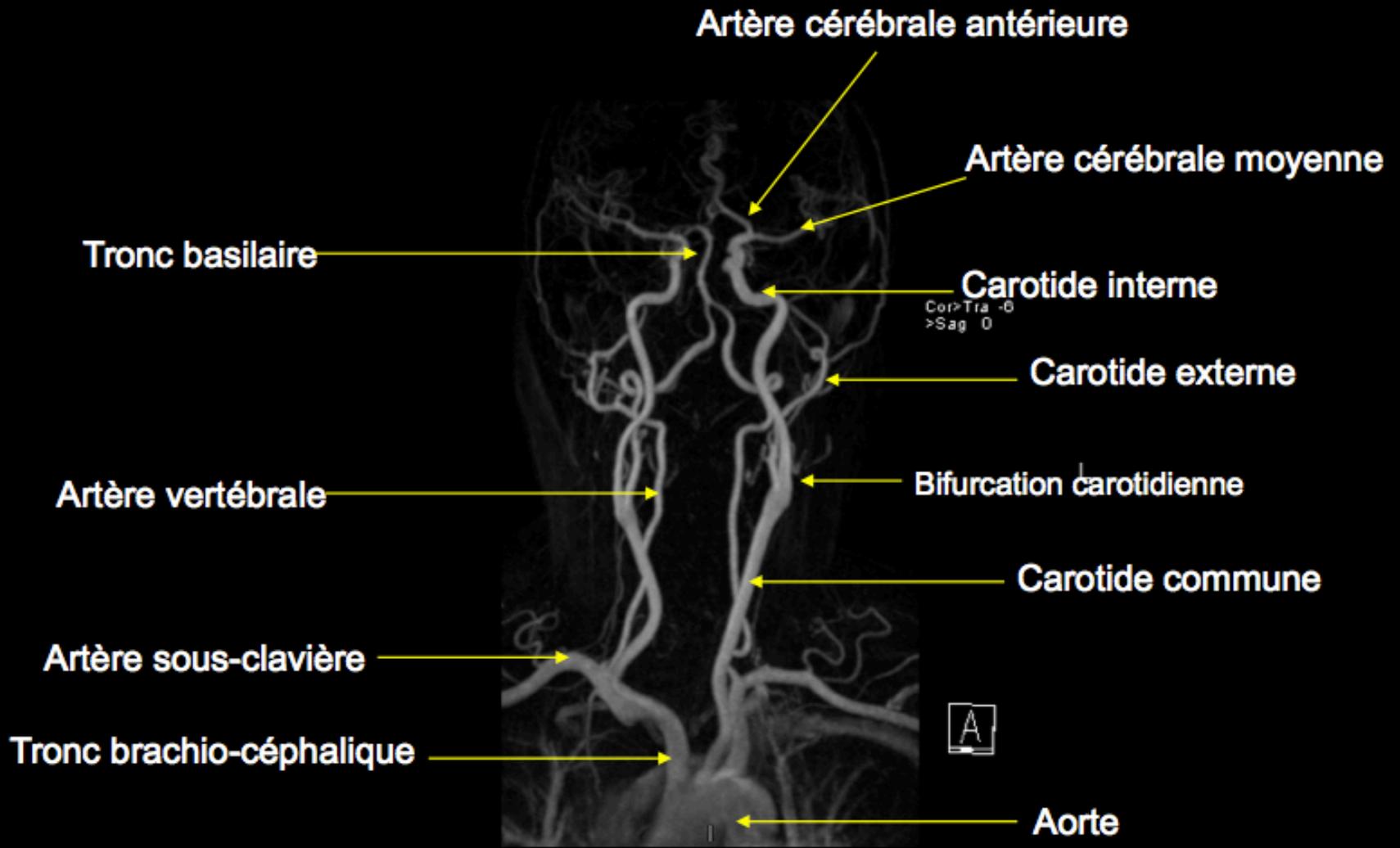
**Module 6:** anatomie vasculaire cérébrale  
*clinical stroke management*  
anatomie du rachis

# Anatomie vasculaire cérébrale



Circulation 'antérieure'  
***artère carotide interne***

Circulation postérieure  
***artères vertébrales***



**Carotide intracrânienne  
(siphon carotidien)**

**Carotide externe**

**Carotide interne**

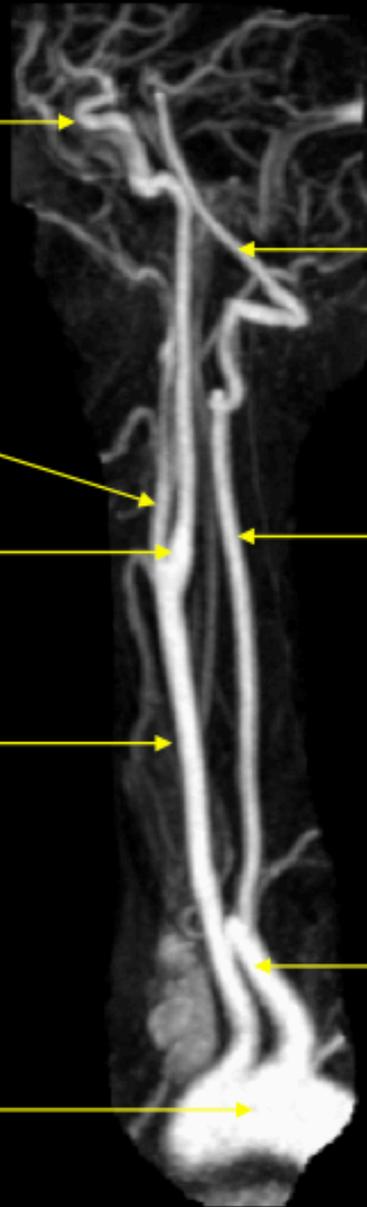
**Carotide commune**

**Crosse aortique**

**Vertébrale intracrânienne**

**Vertébrale cervicale**

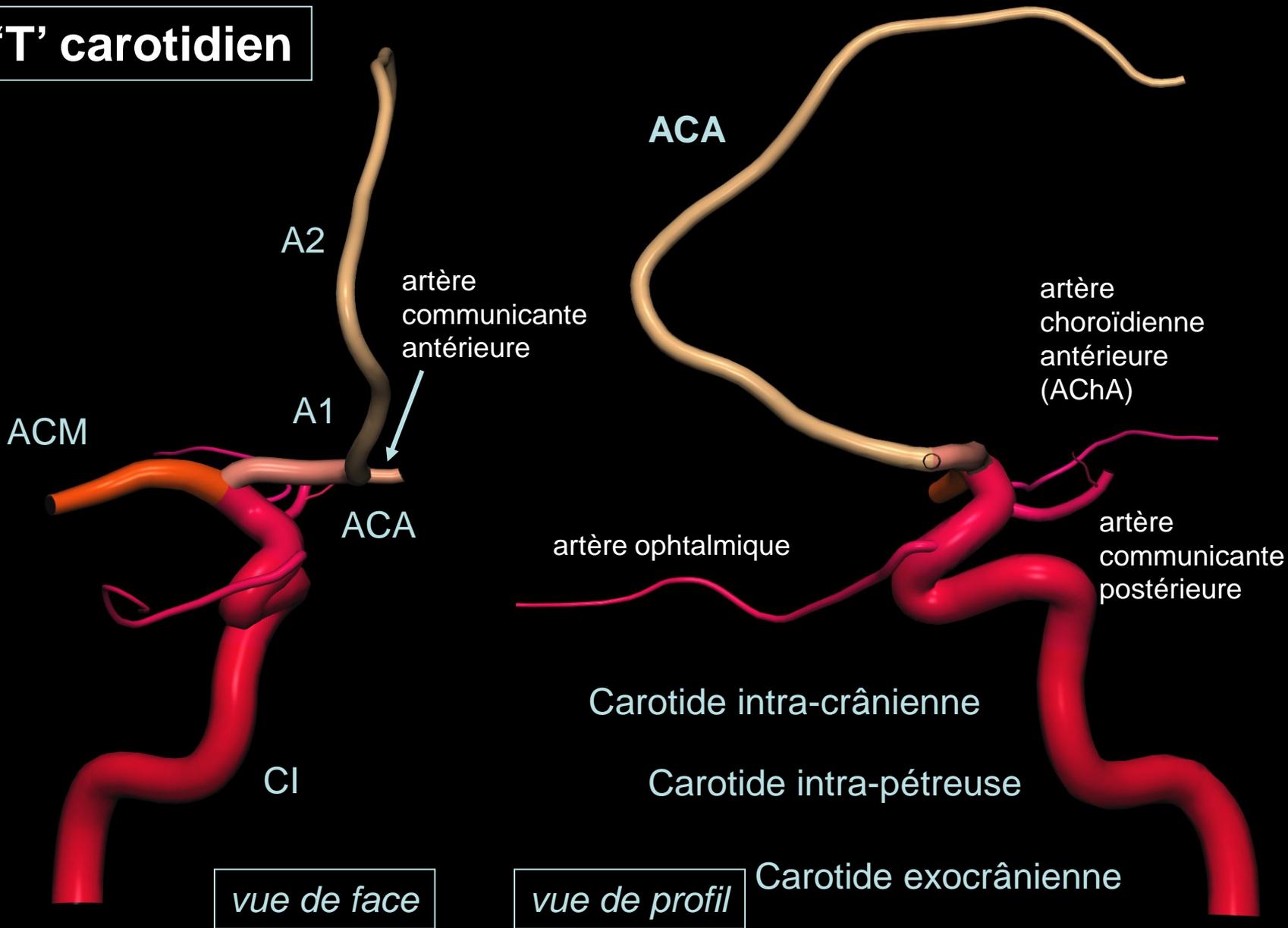
**Sous-clavière**

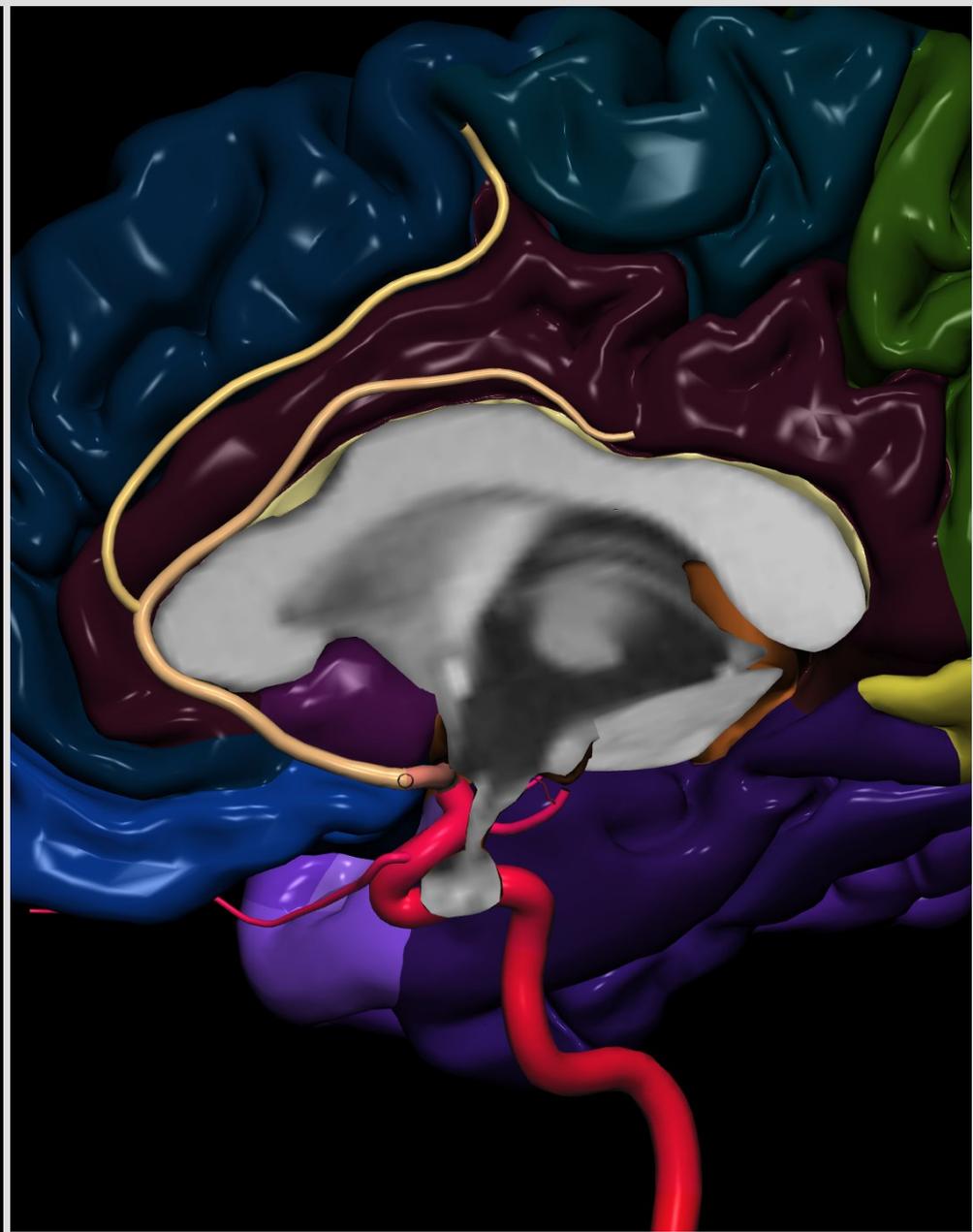
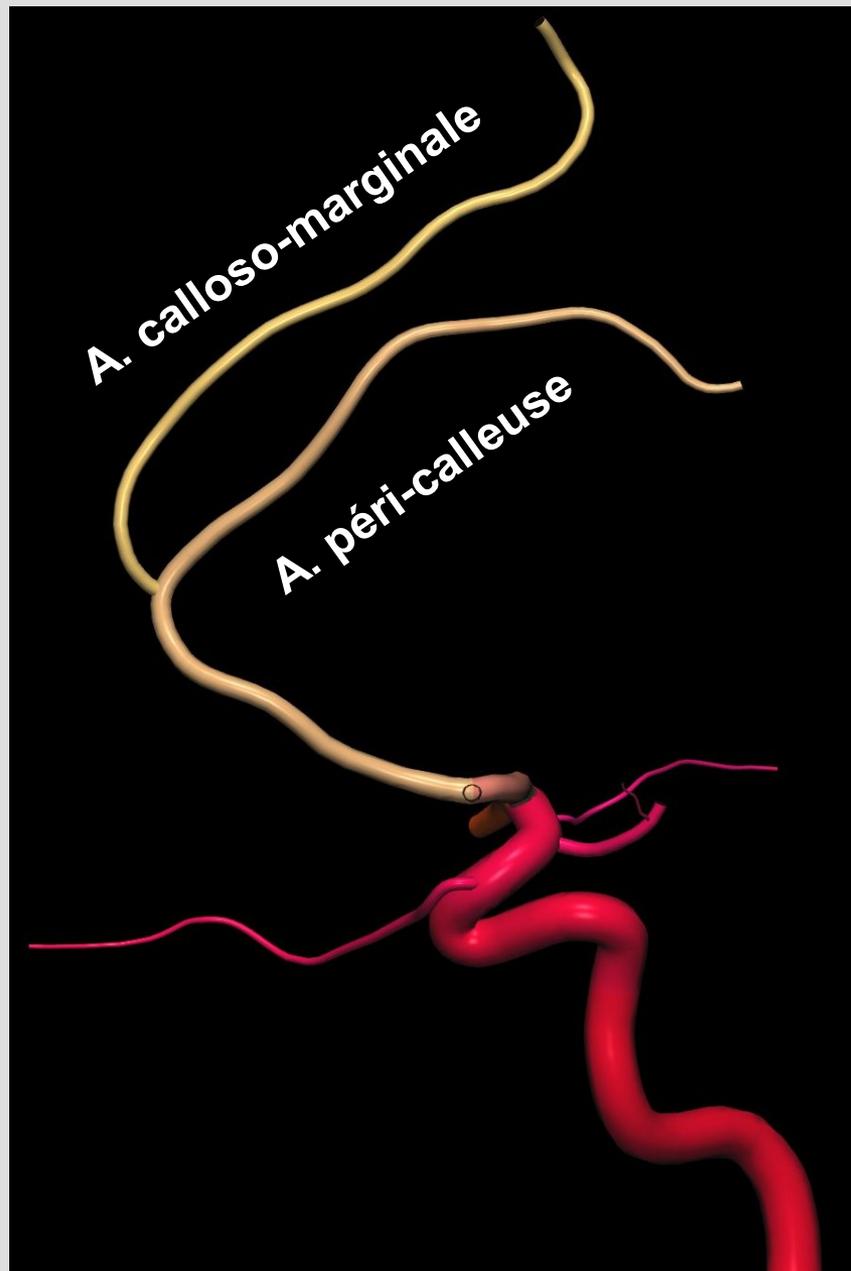


**ACA**

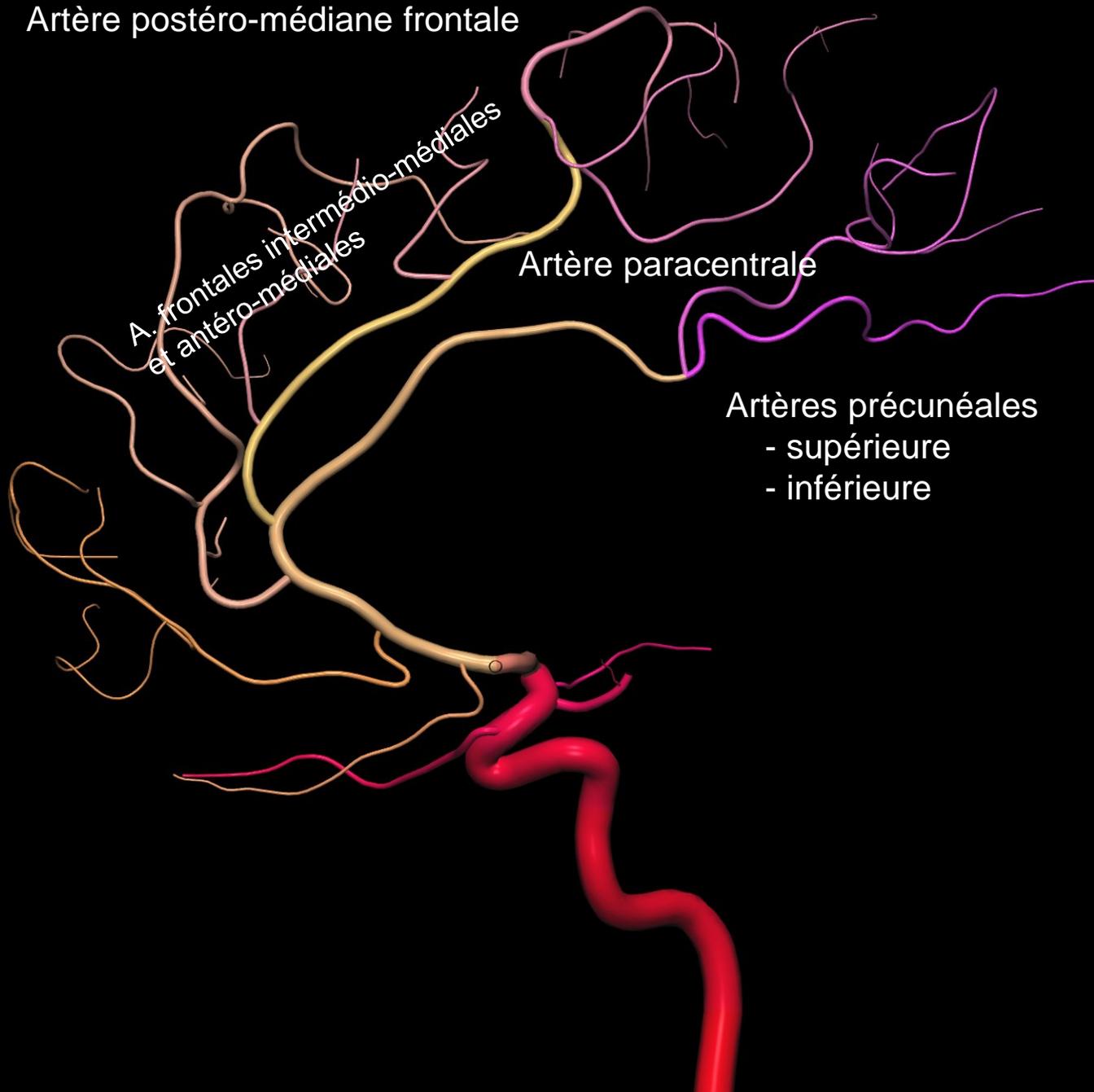
**Artère Cérébrale Antérieure**

# 'T' carotidien





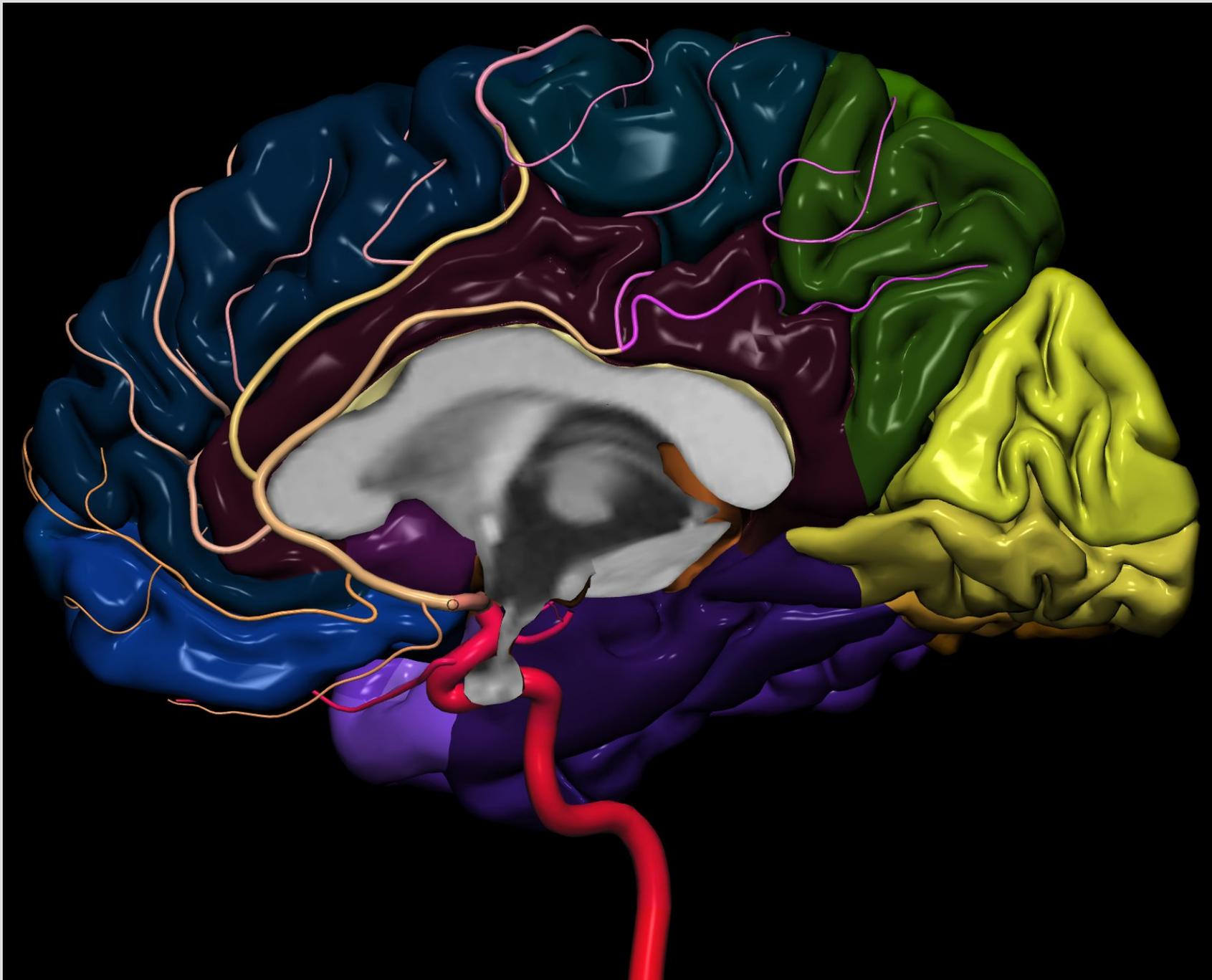
Artère postéro-médiane frontale

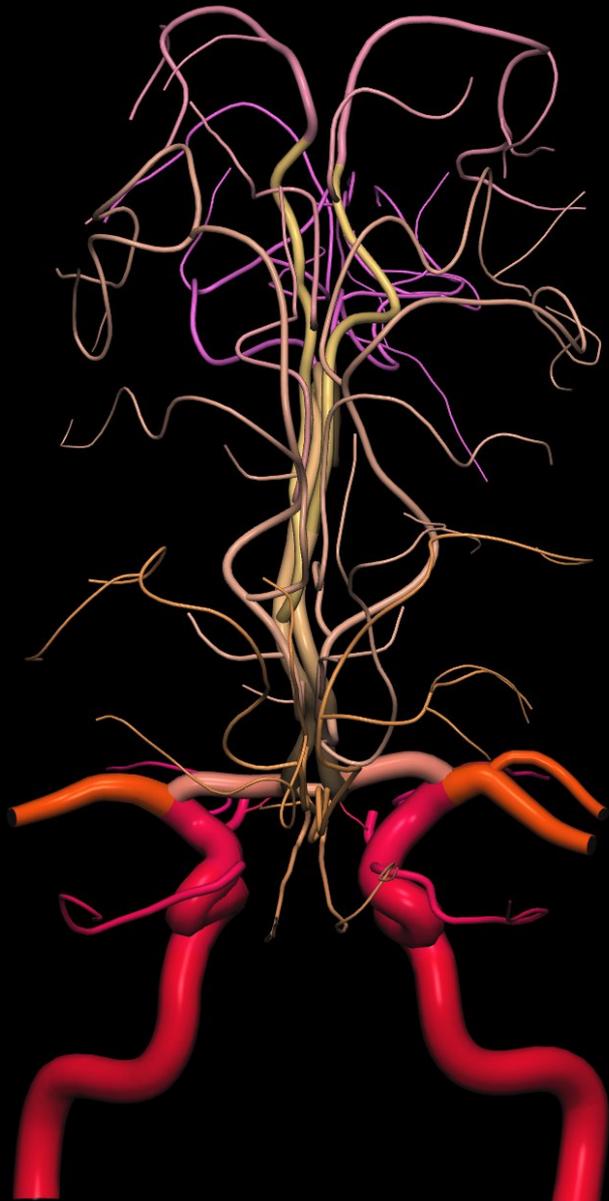


A. frontales intermedio-médiales  
et antéro-médiales

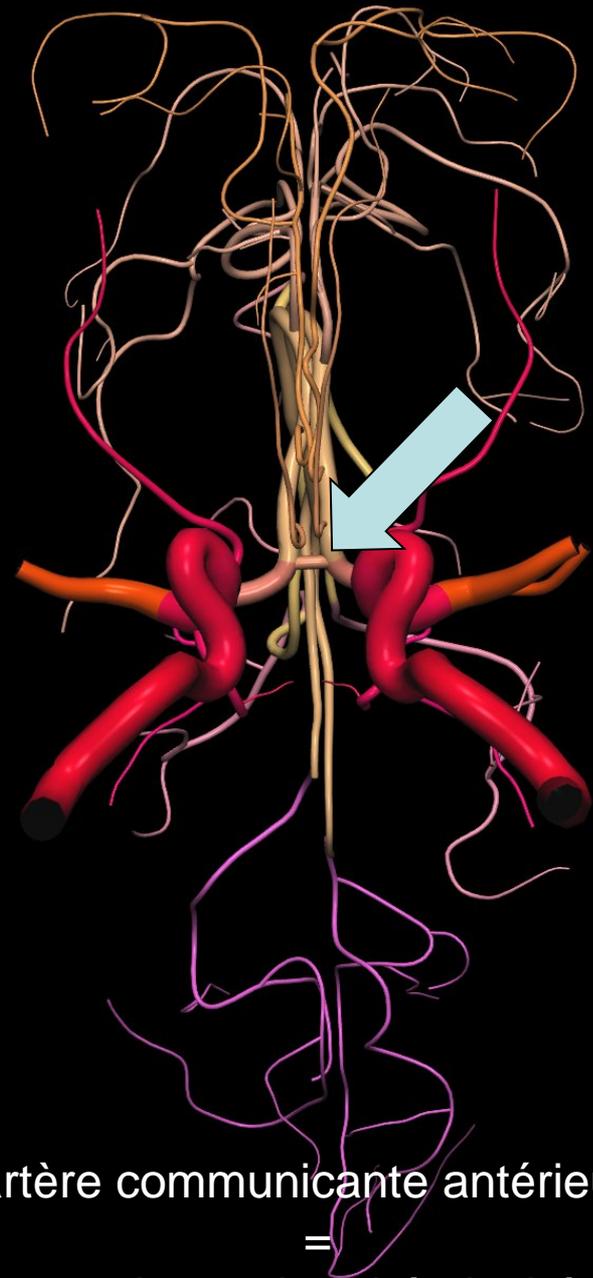
Artère paracentrale

Artères précunéales  
- supérieure  
- inférieure

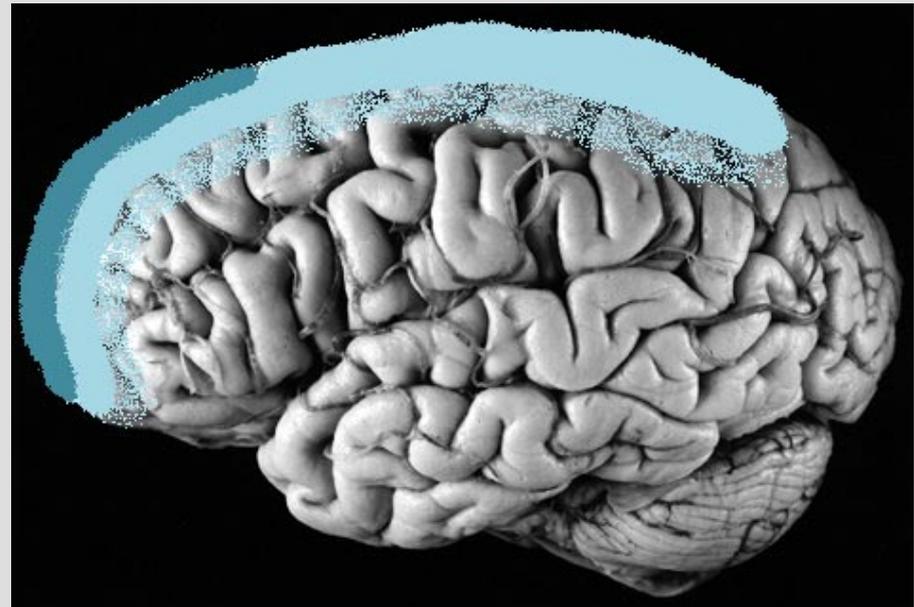
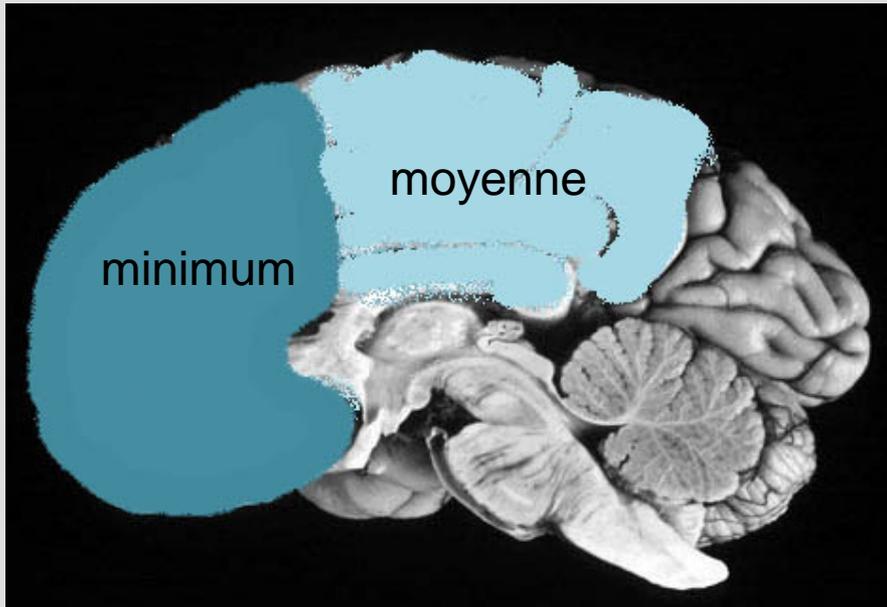
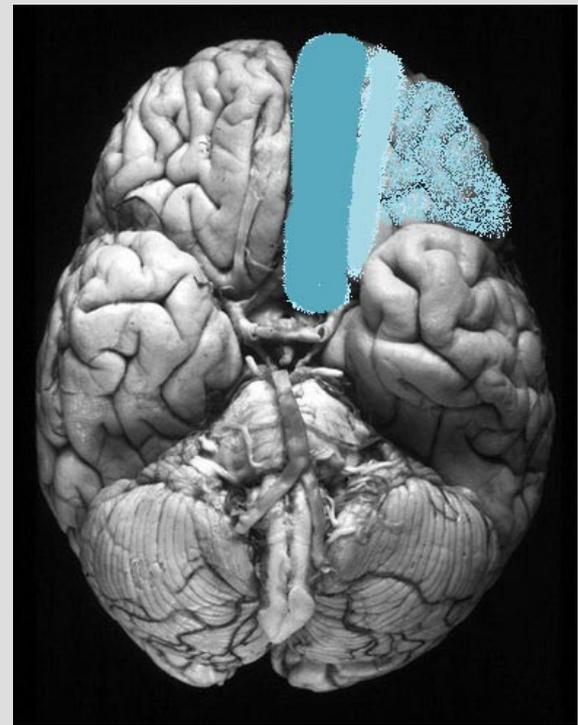
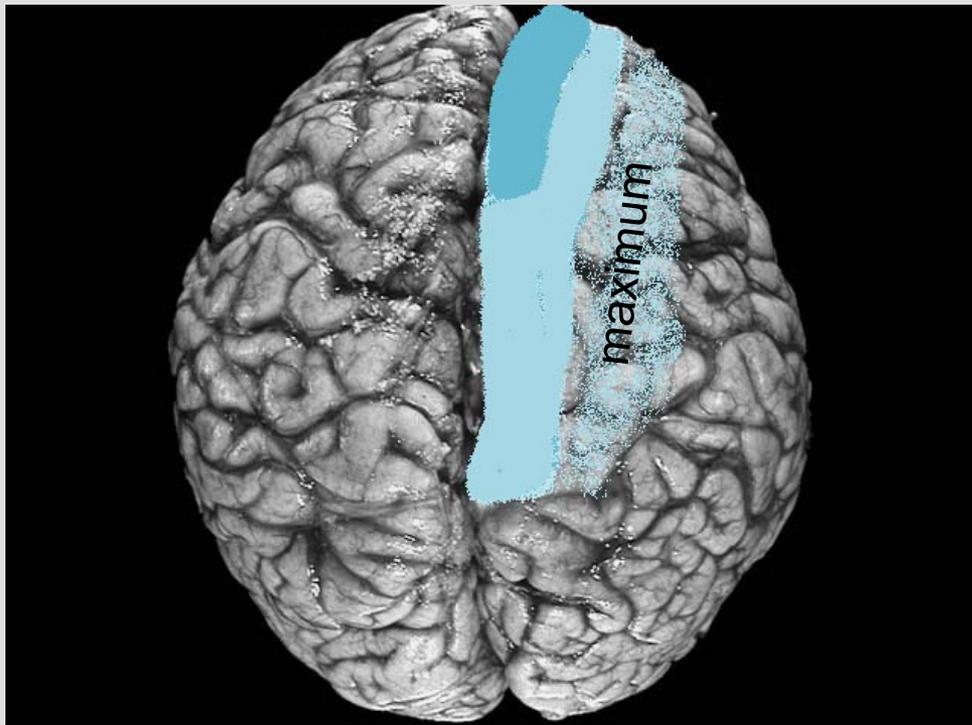


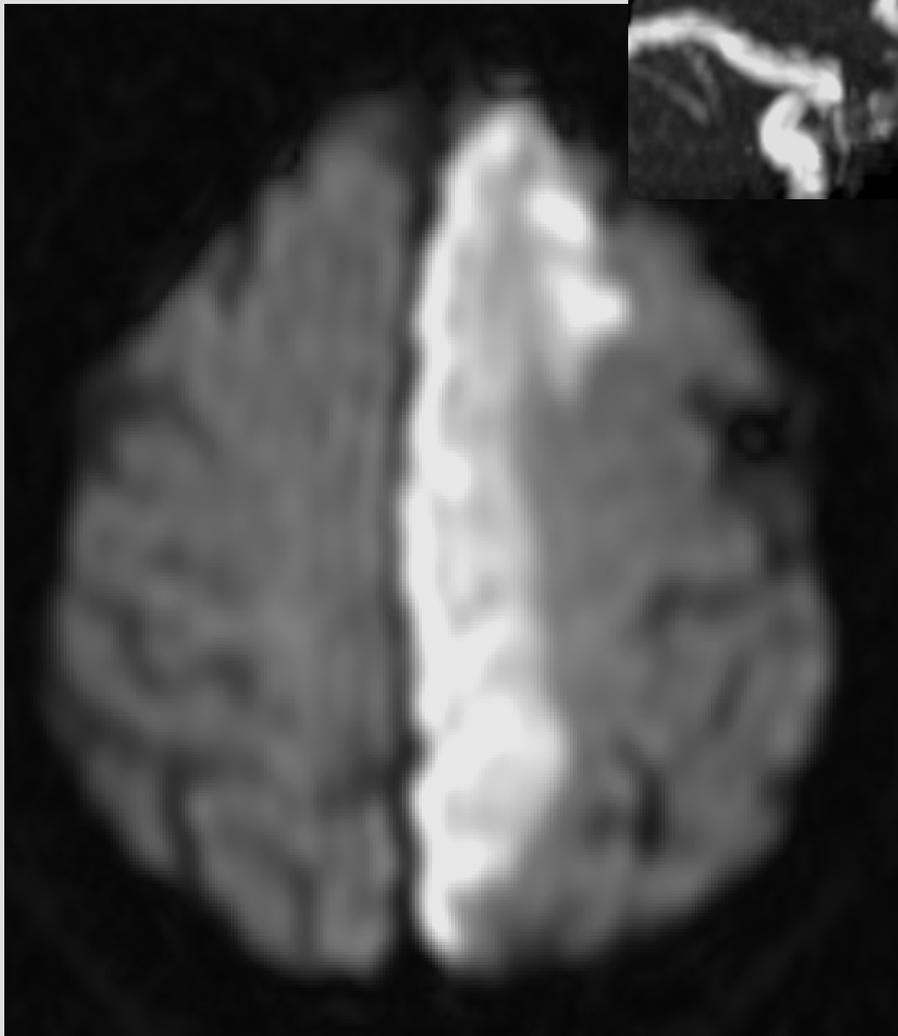
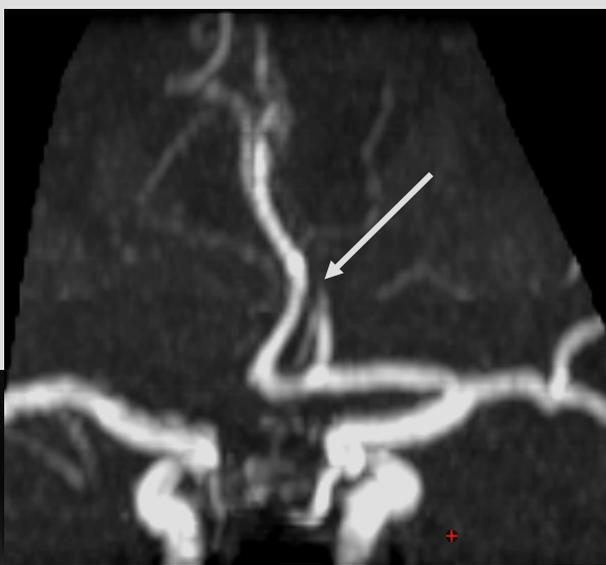


arborescence interhémisphérique



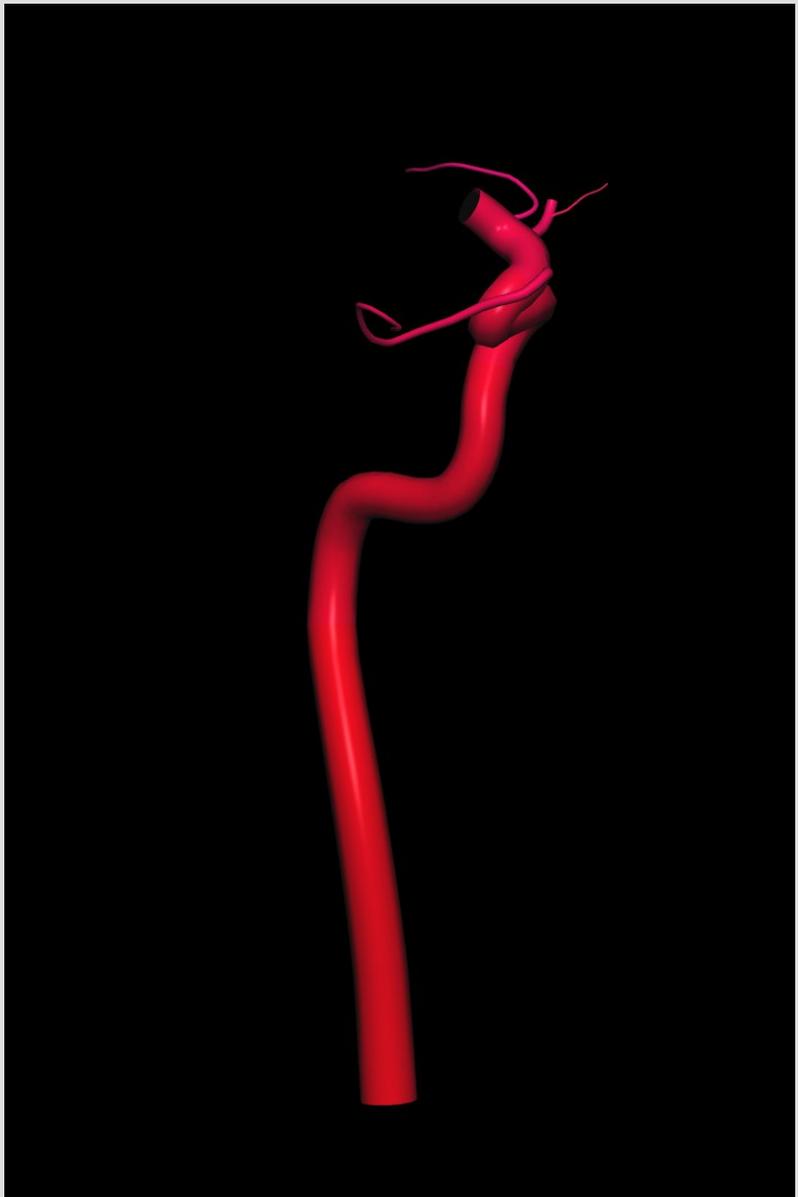
artère communicante antérieure  
=  
communicante interhémisphérique



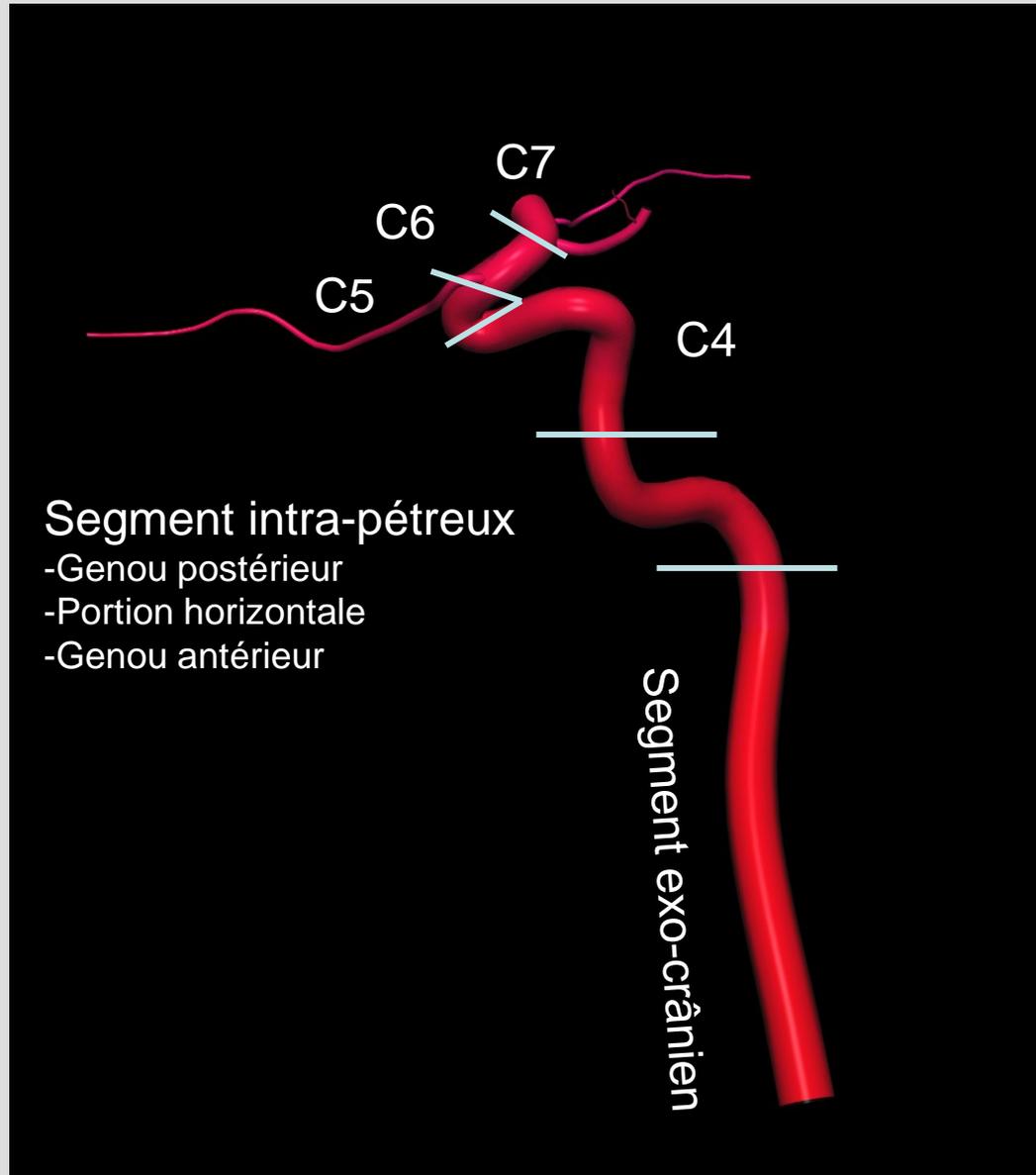


**ACM**

**Artère Cérébrale Moyenne**

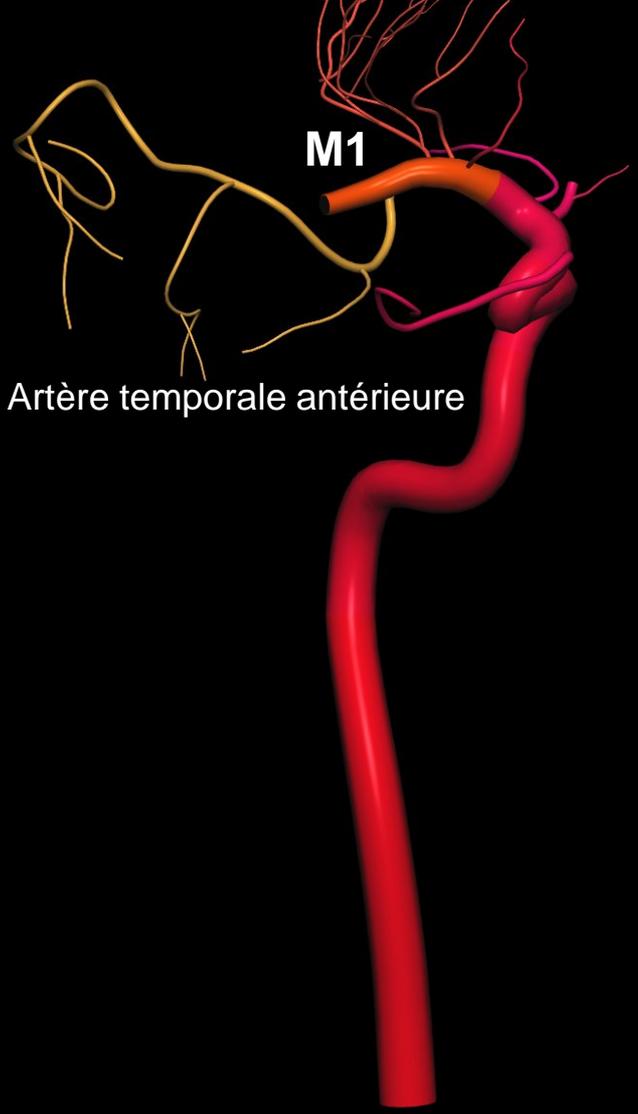


**Vue de face**



**Vue de profil**

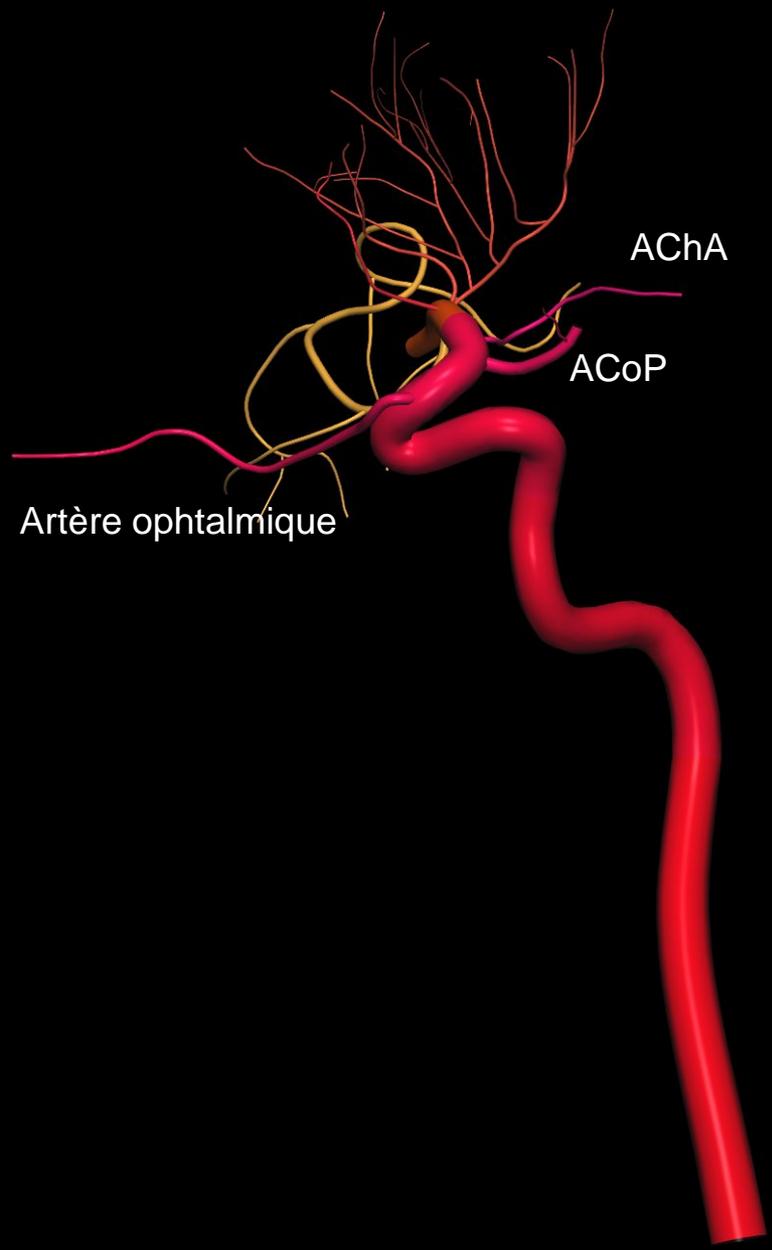
Artères lenticulo-striées  
*latérales – intermédiaires -  
médiales*



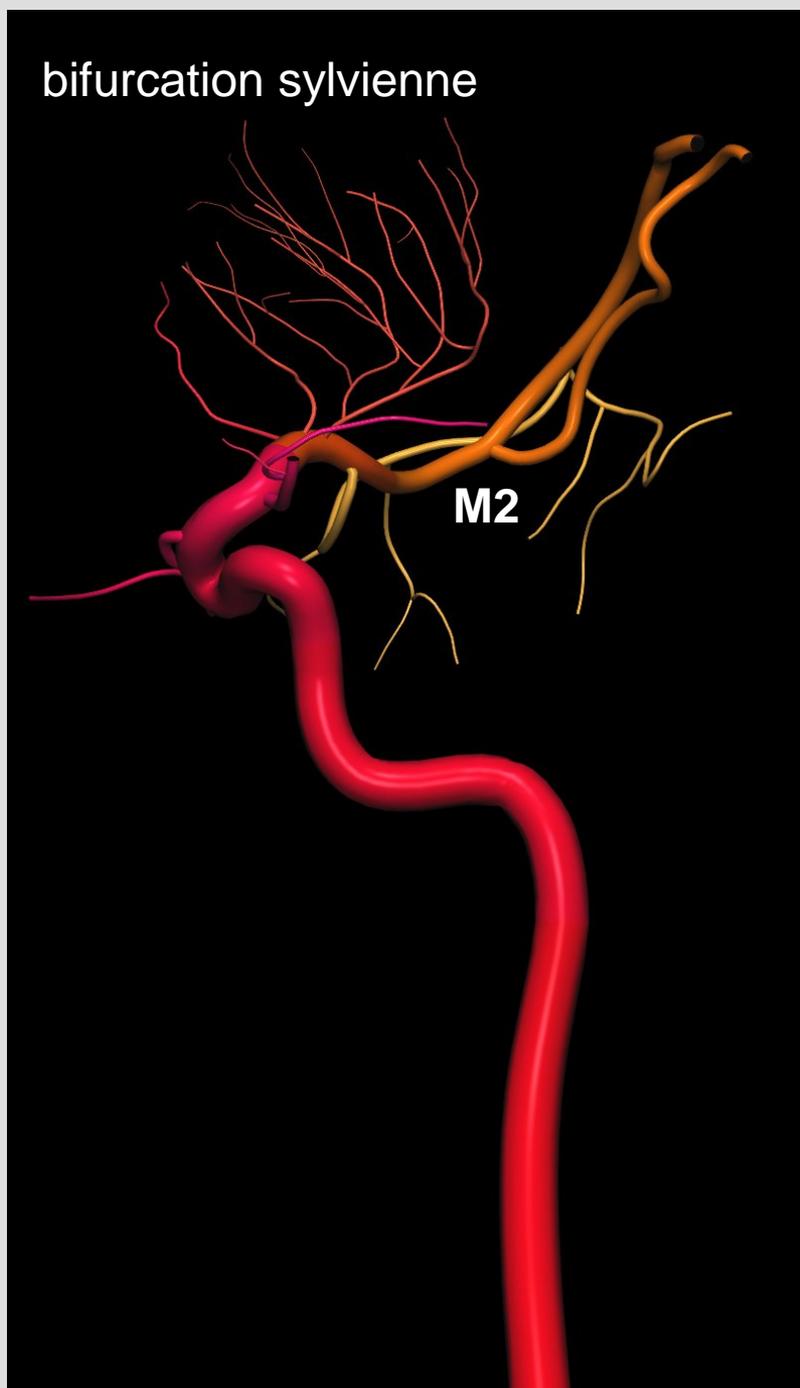
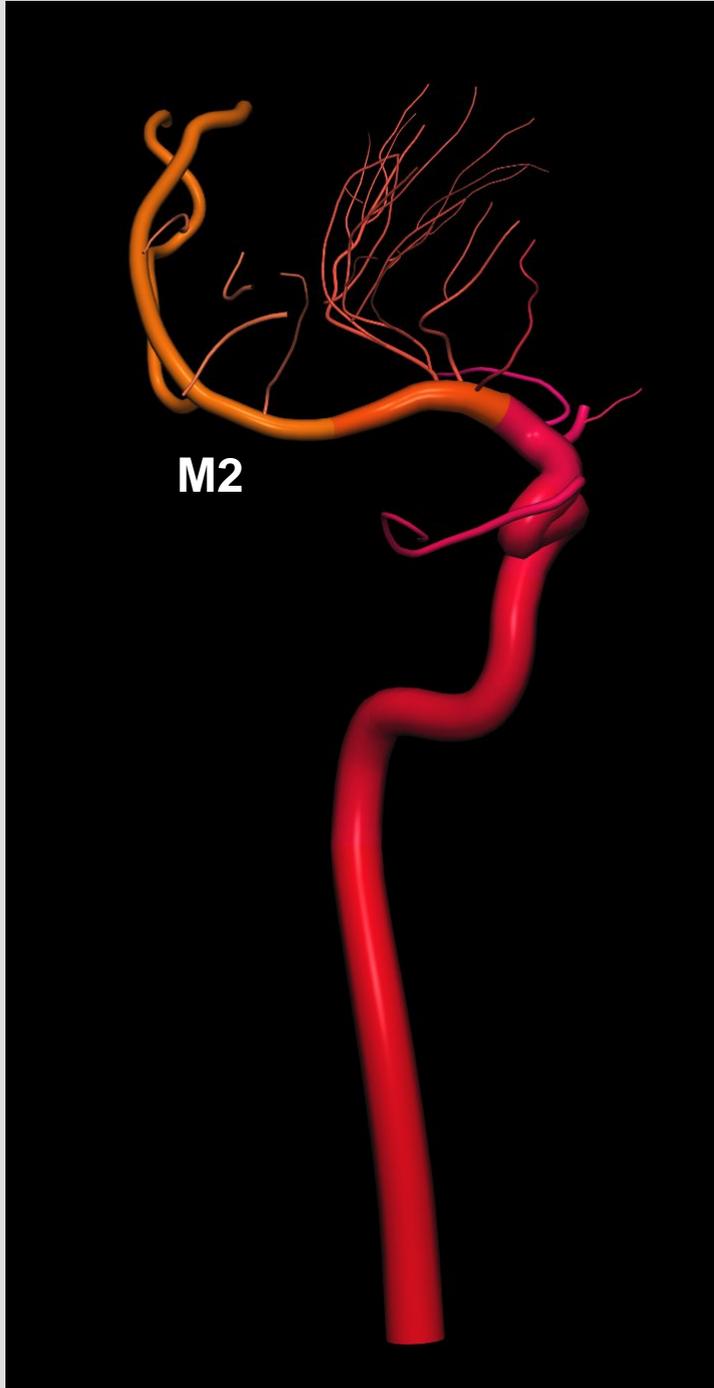
Artère temporale antérieure

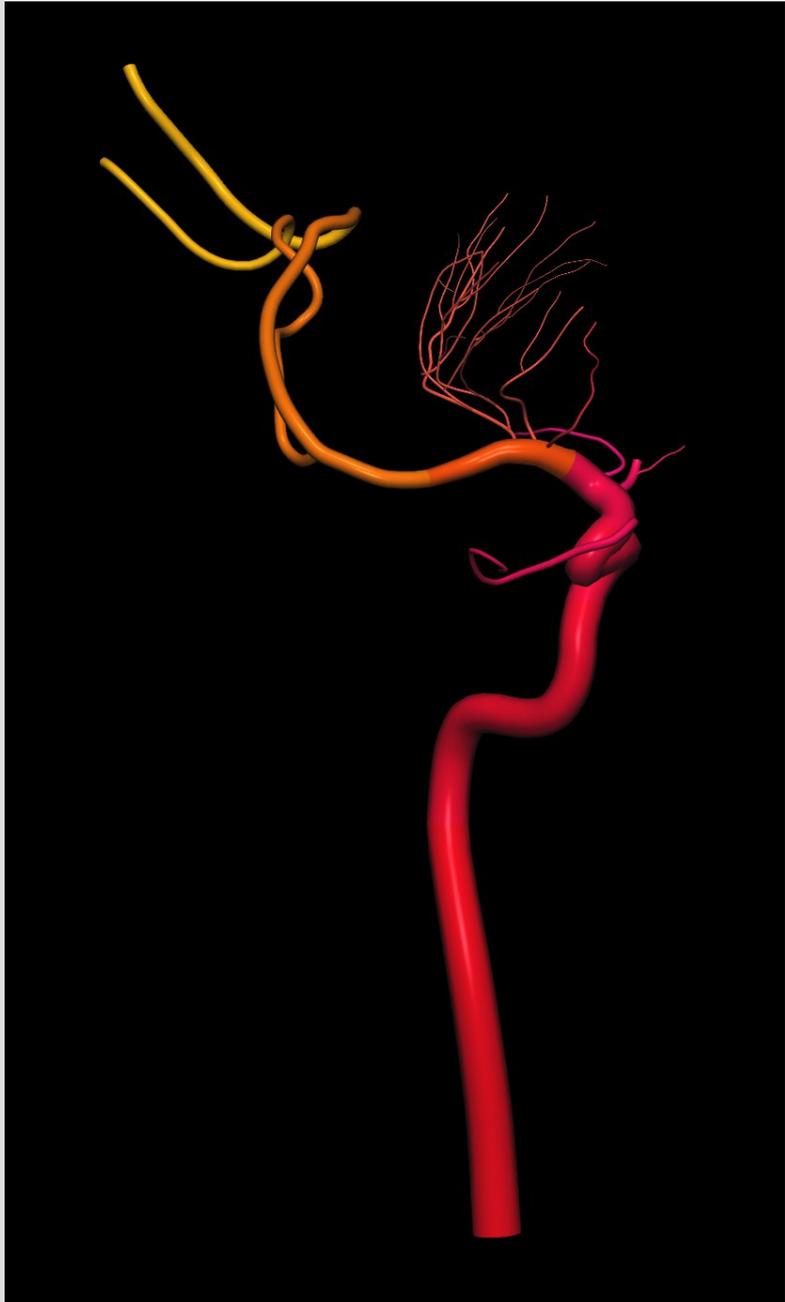
AChA

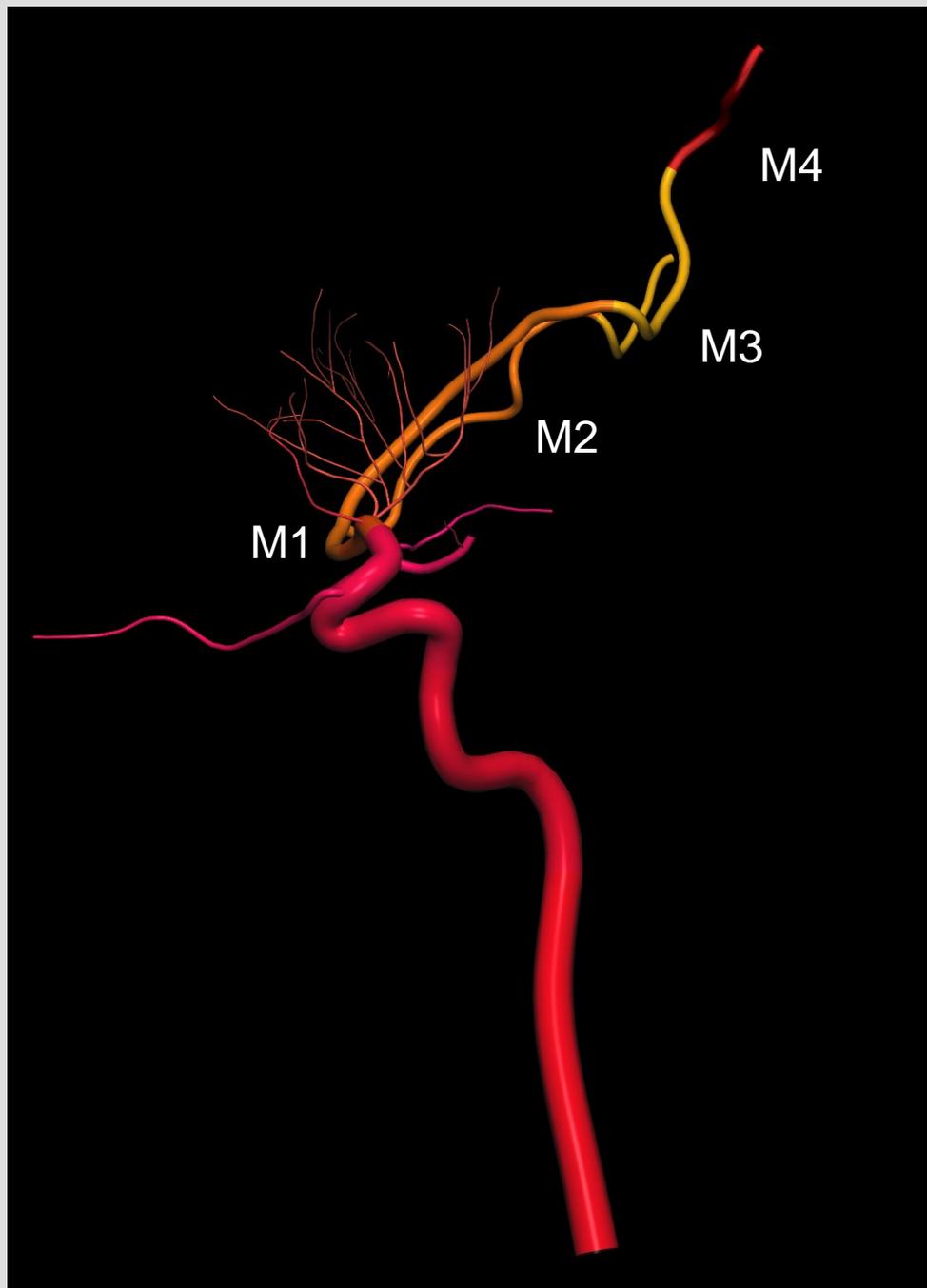
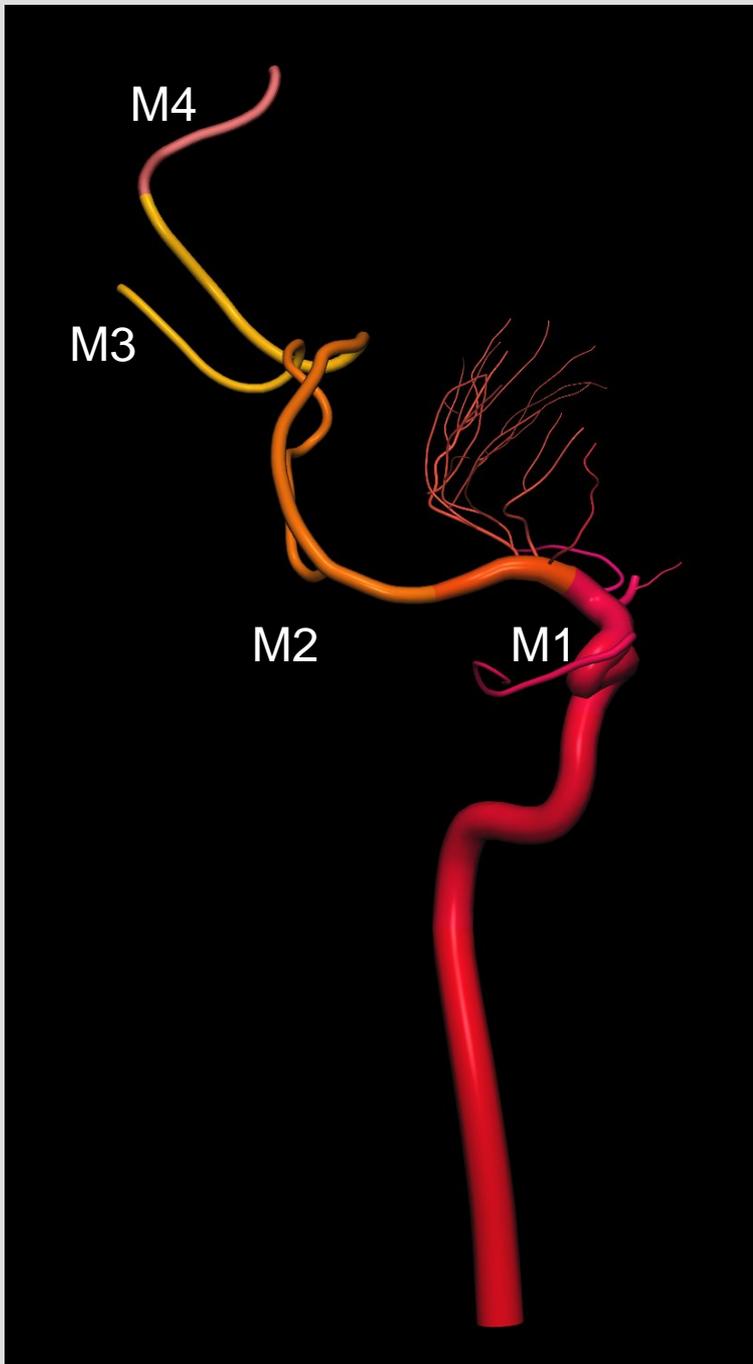
ACoP



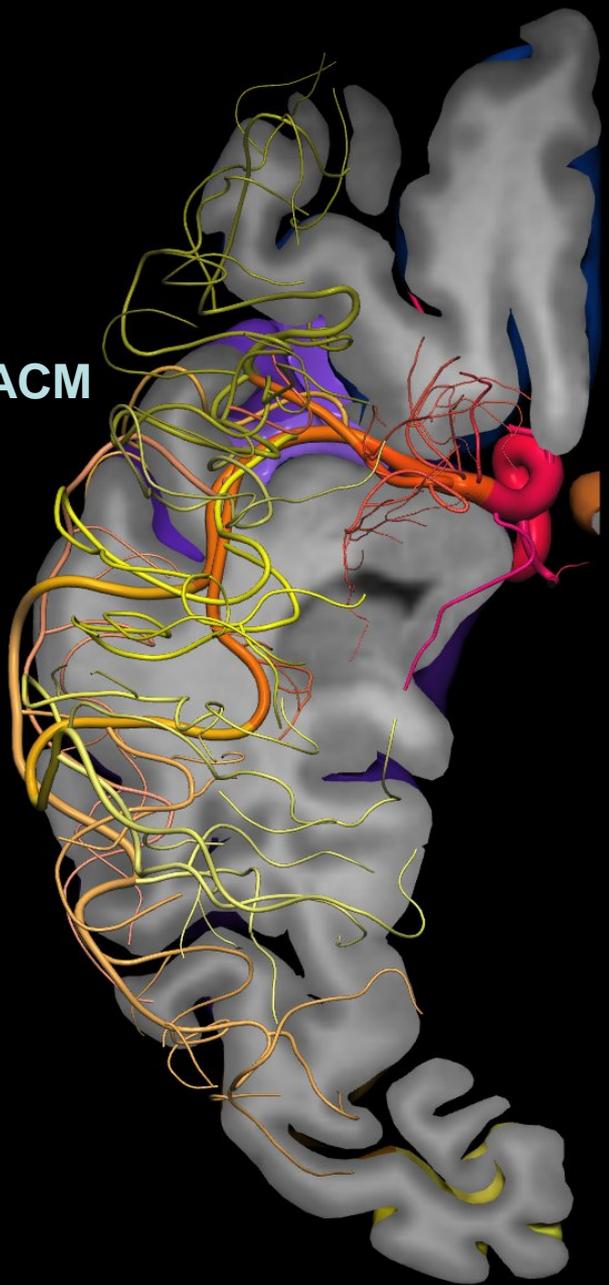
Artère ophtalmique



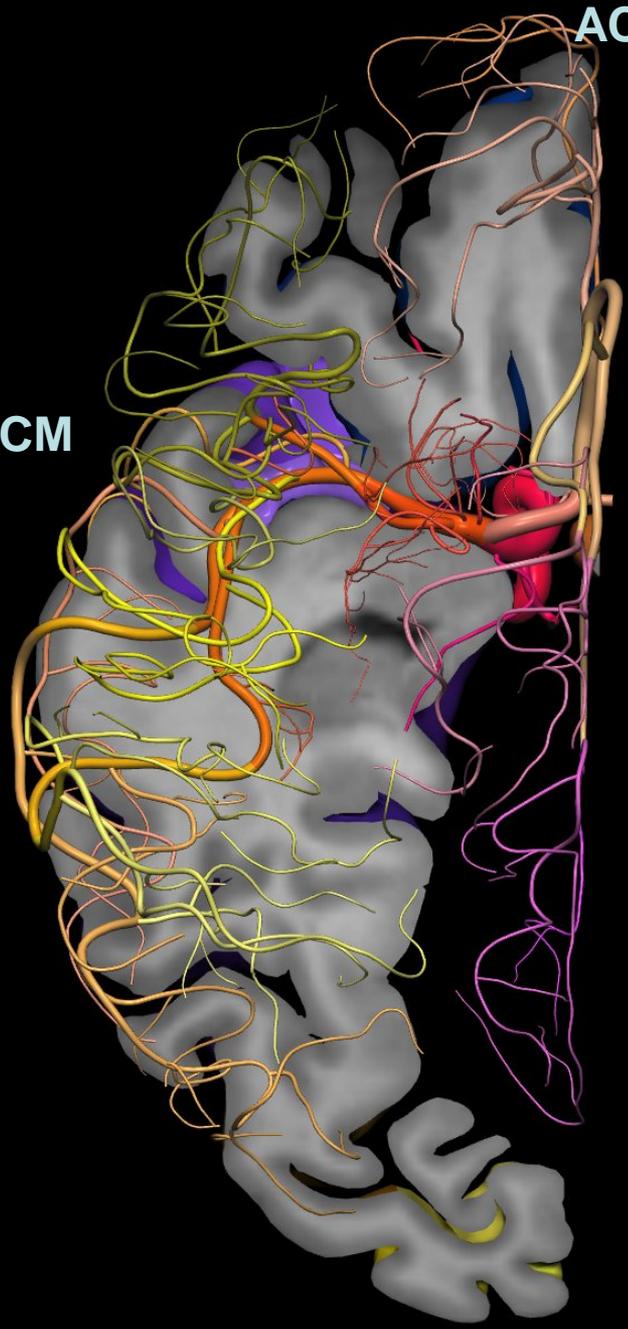


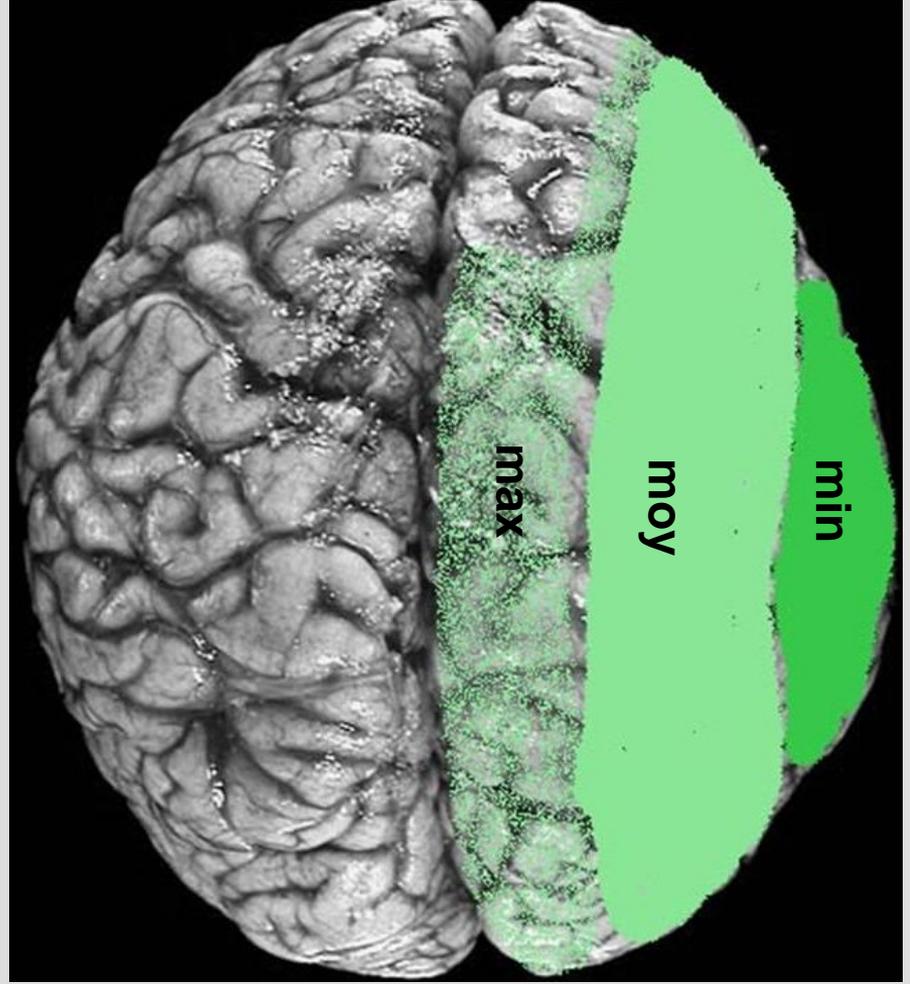
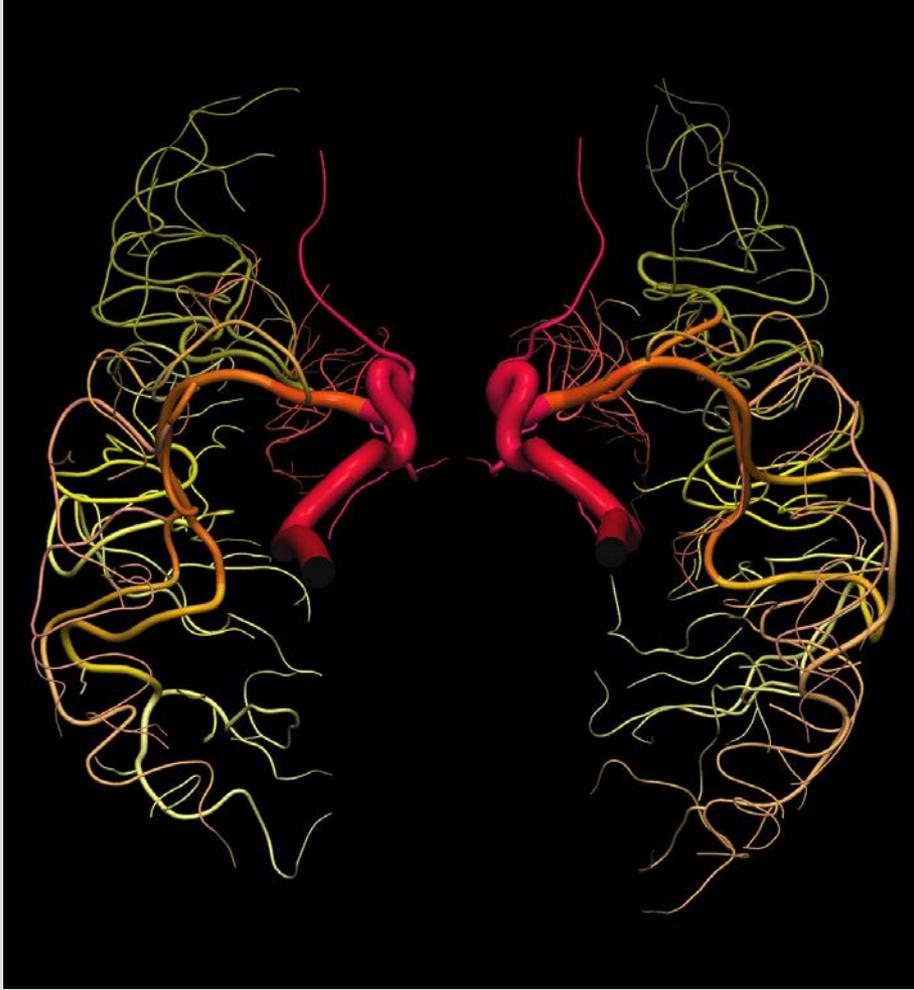


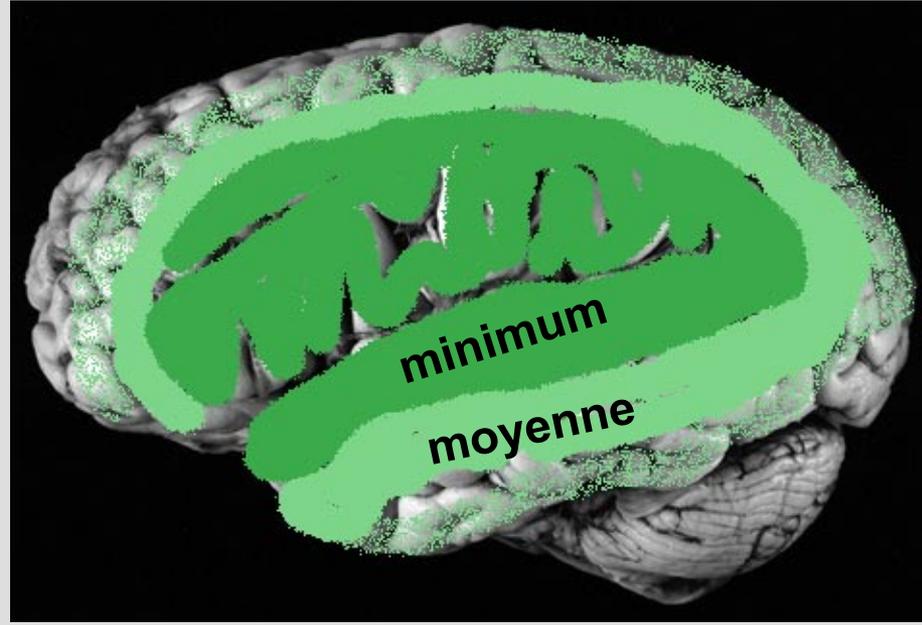
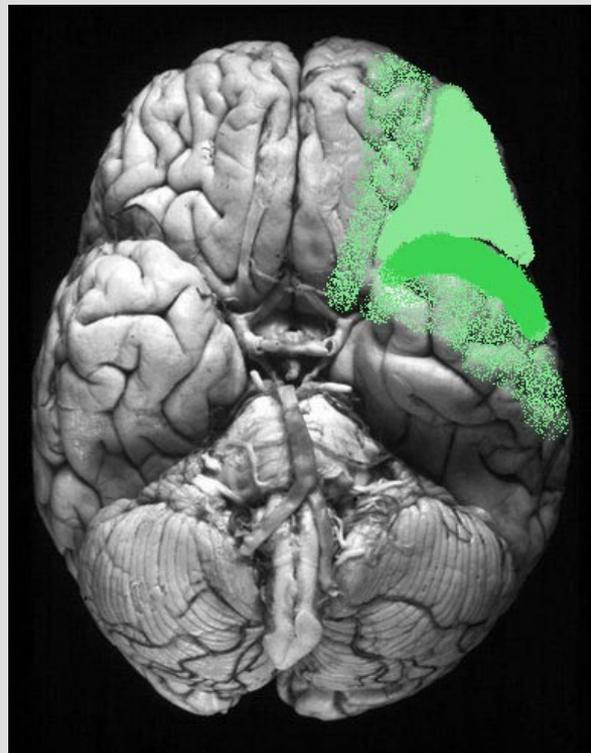
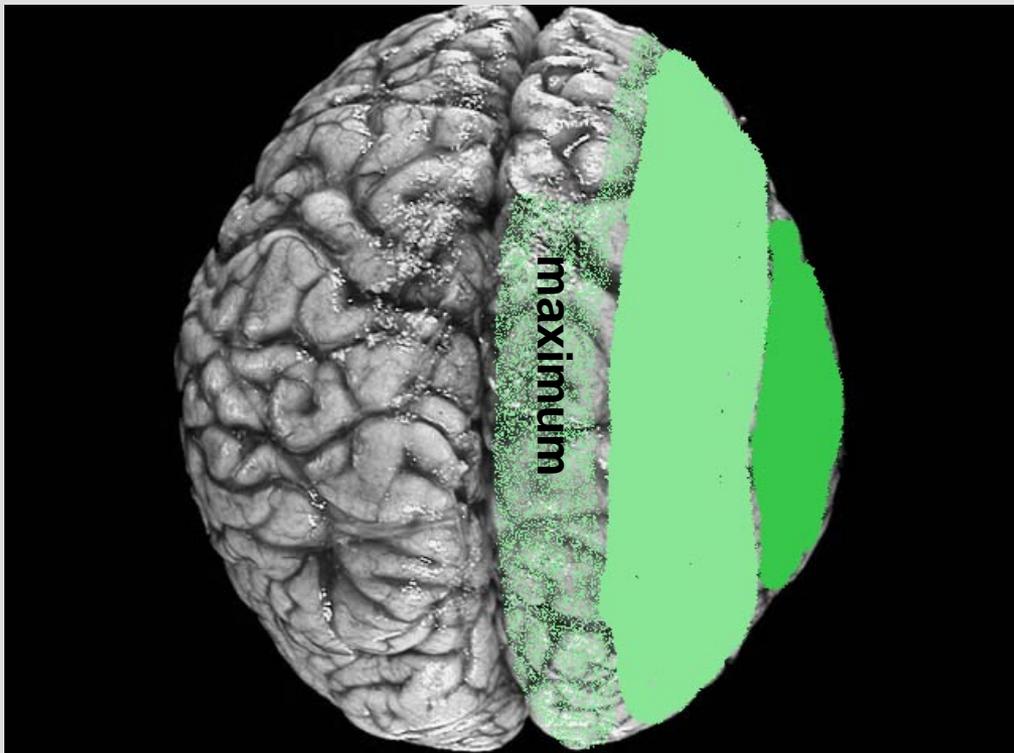
**ACM**

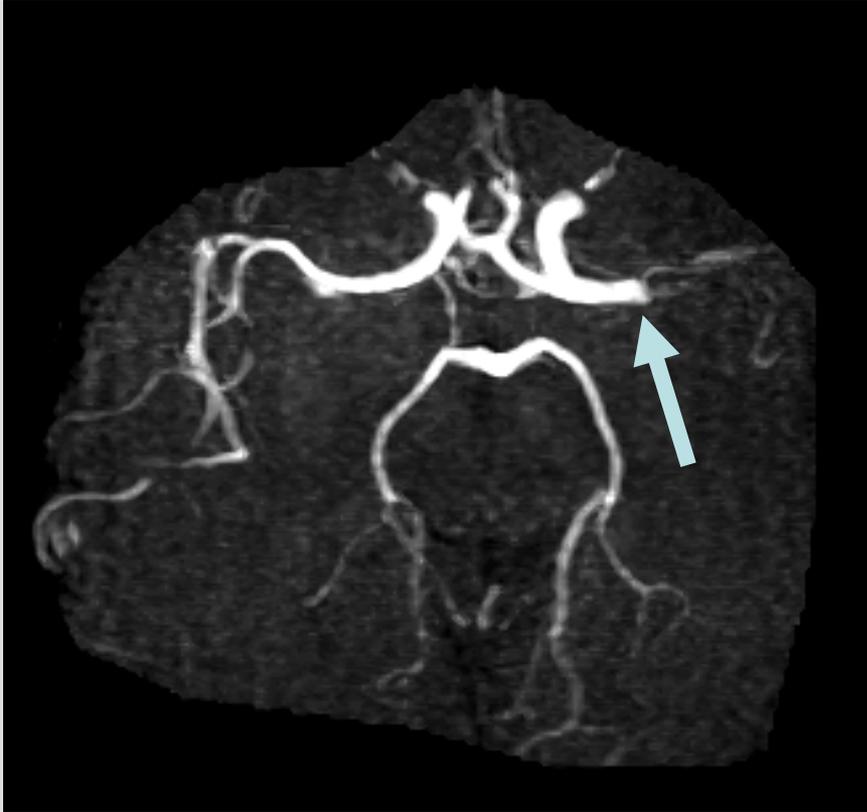


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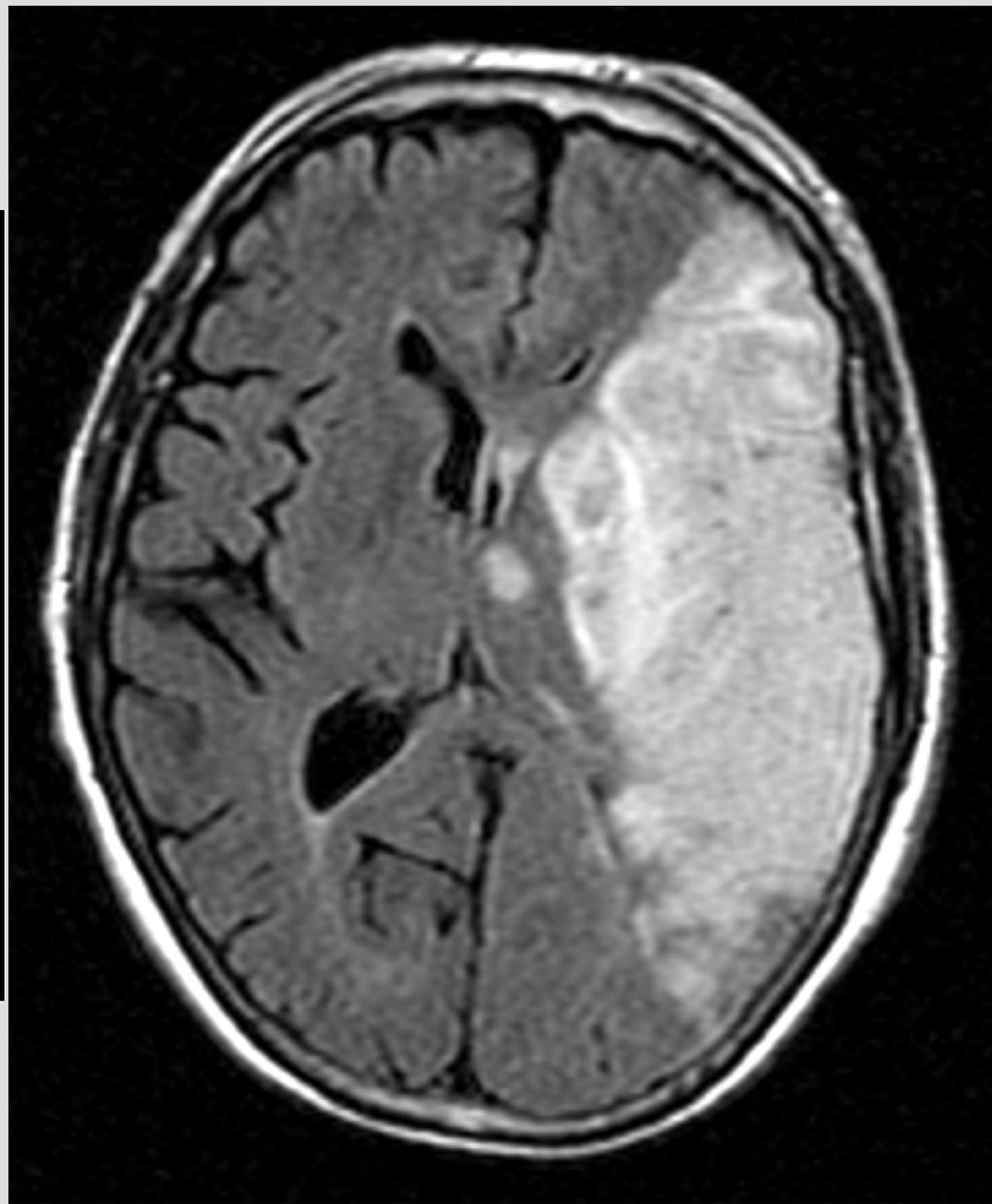






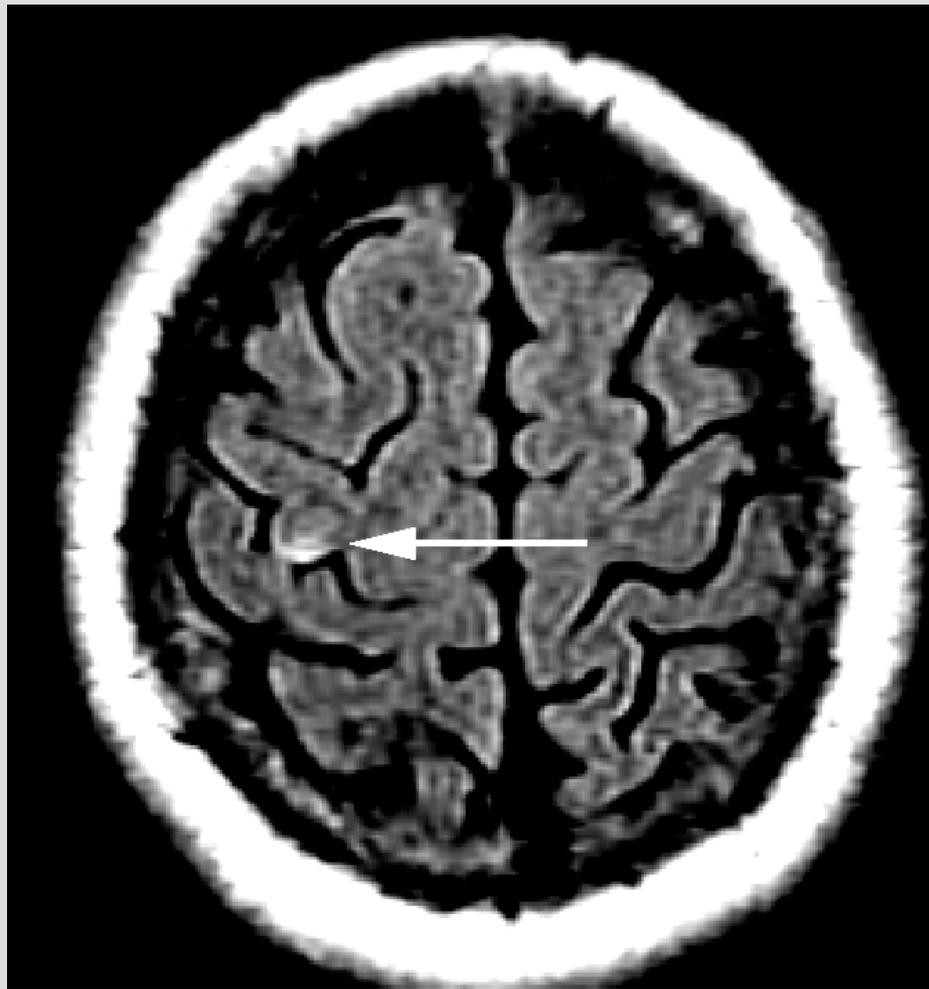


**AVC ischémique sylvien  
superficiel + profond**

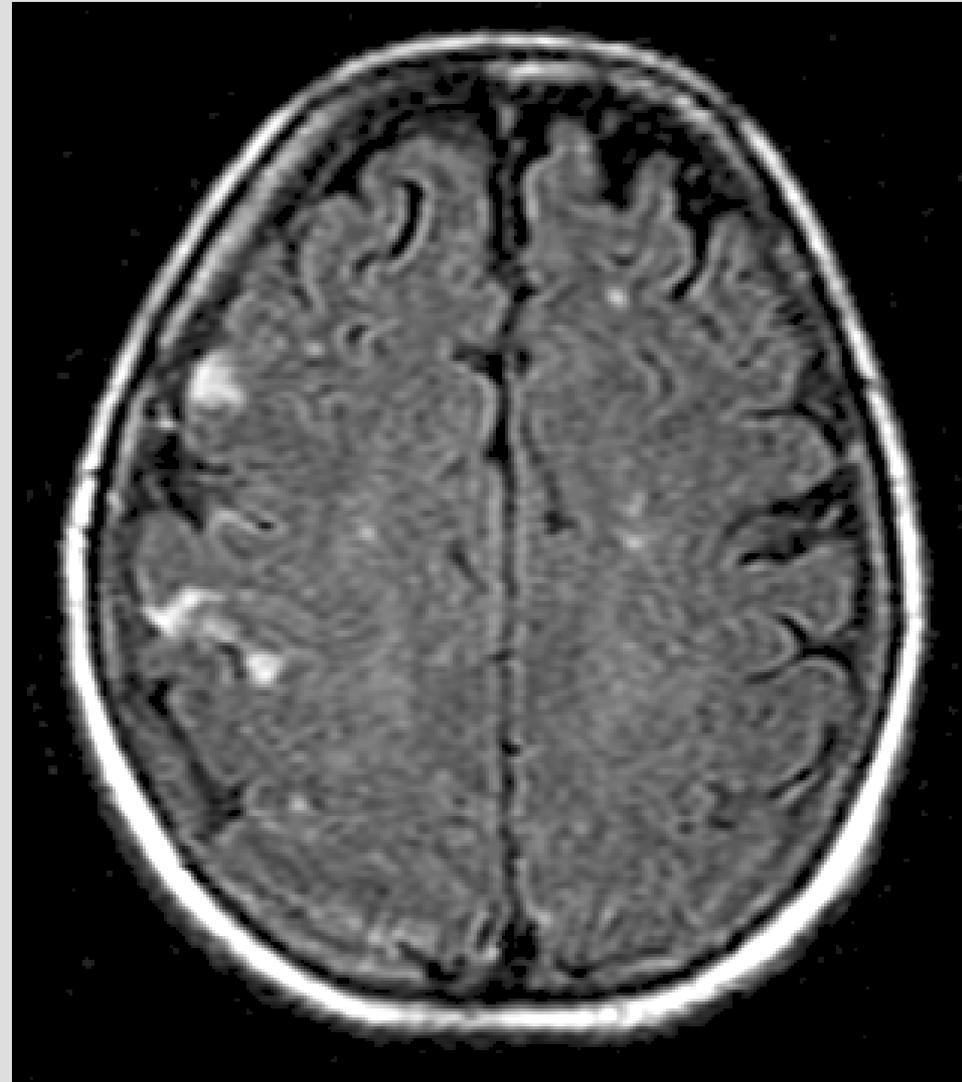


**= AVC 'systematisé'**

'hand-notch'



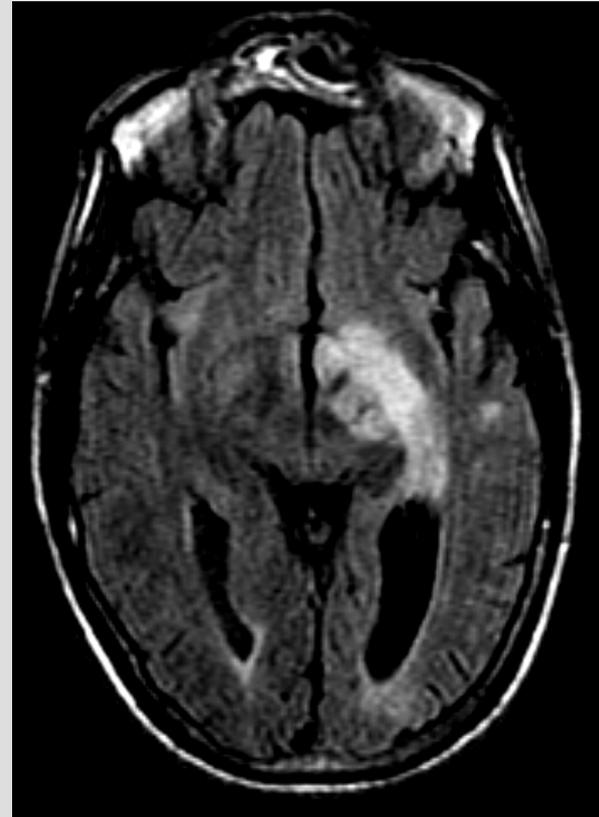
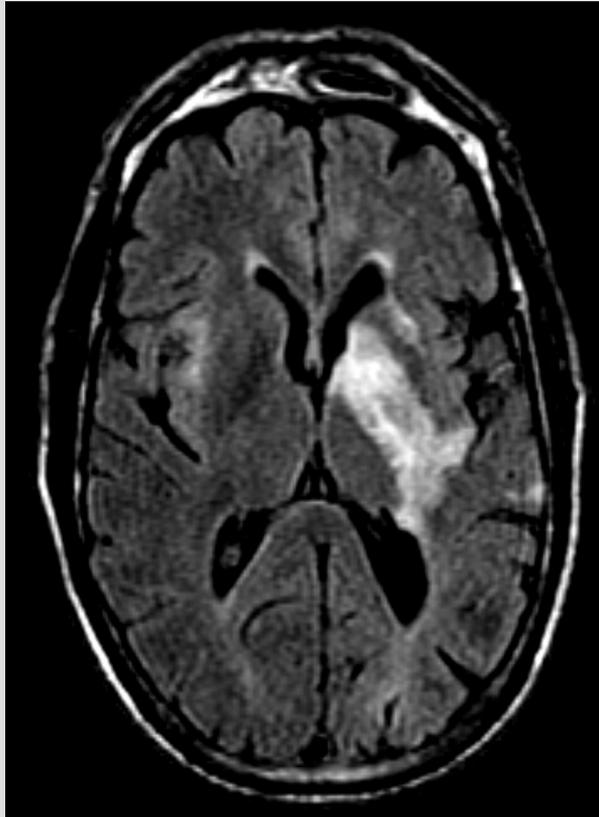
**AVC ischémo-embolique  
sylvien superficiel**

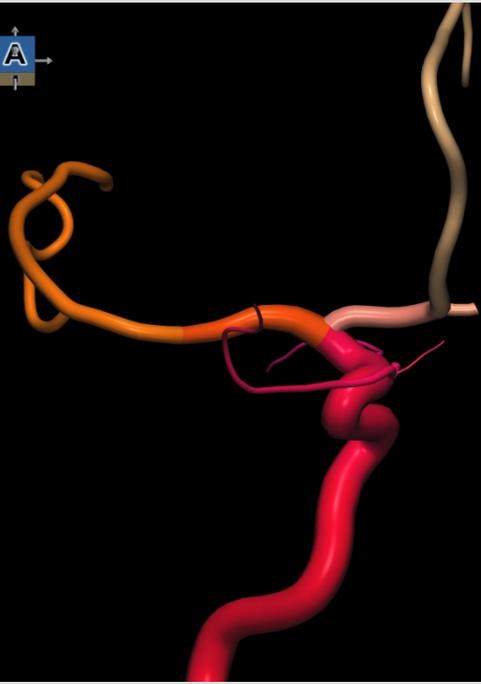


**= AVC focal en distalité**

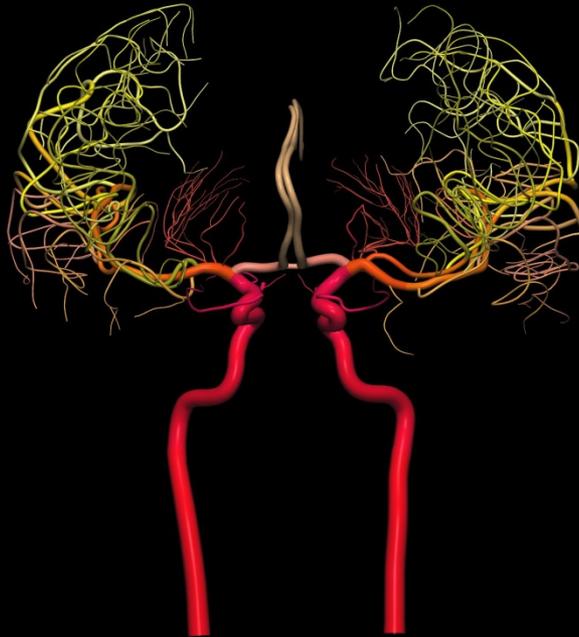


**Territoire  
Choroïdien  
Antérieur  
(AChA)**

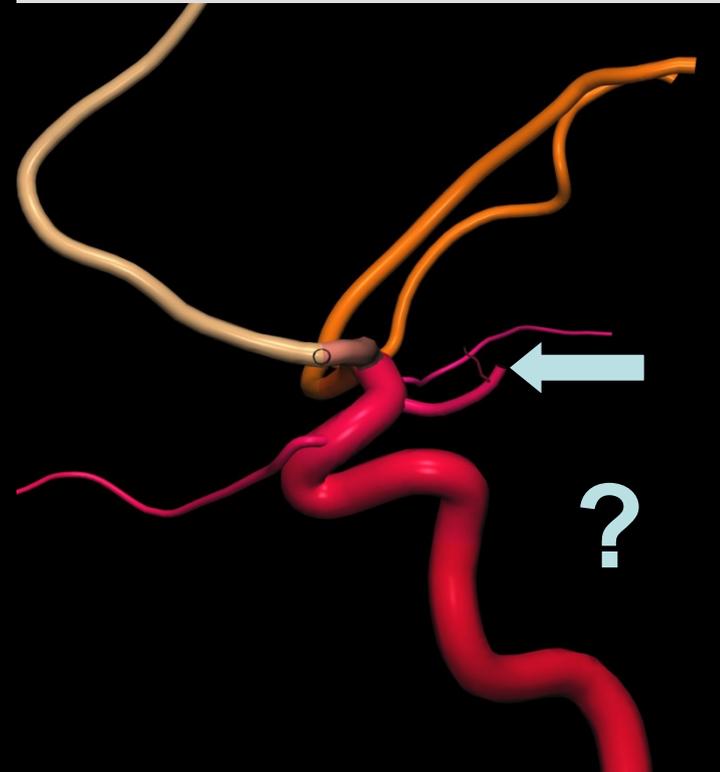




**'T' carotidien interne**



**Arborescence  
artérielle  
latérale**

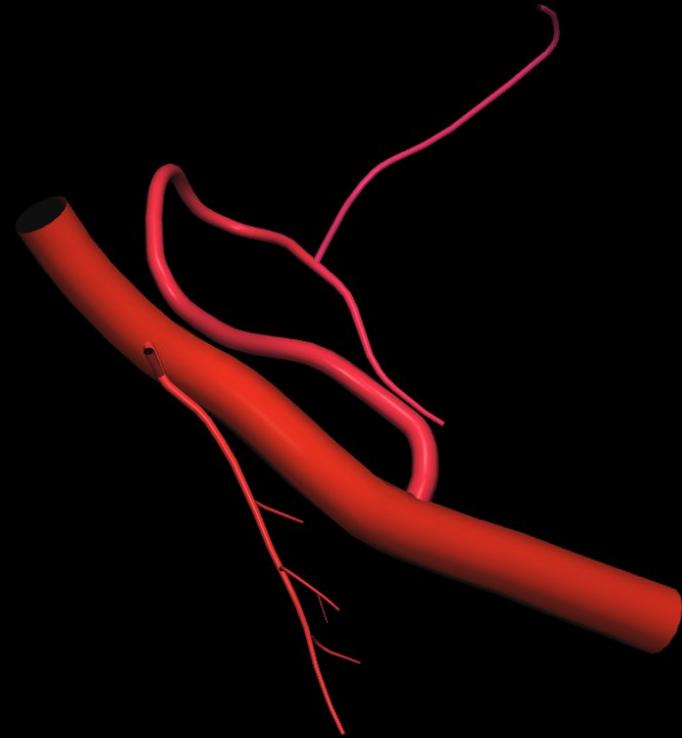
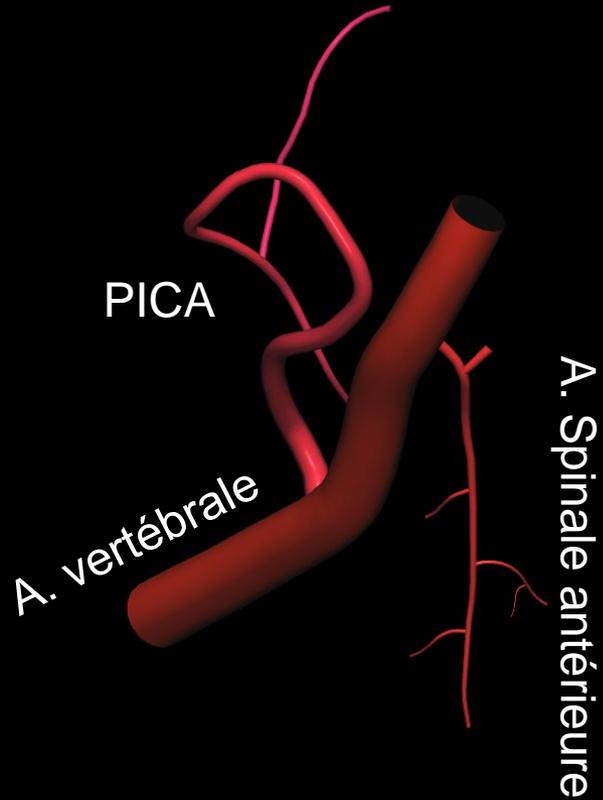


# ACP

**Artère Cérébrale Postérieure**

Vue antérieure

Vue de profil



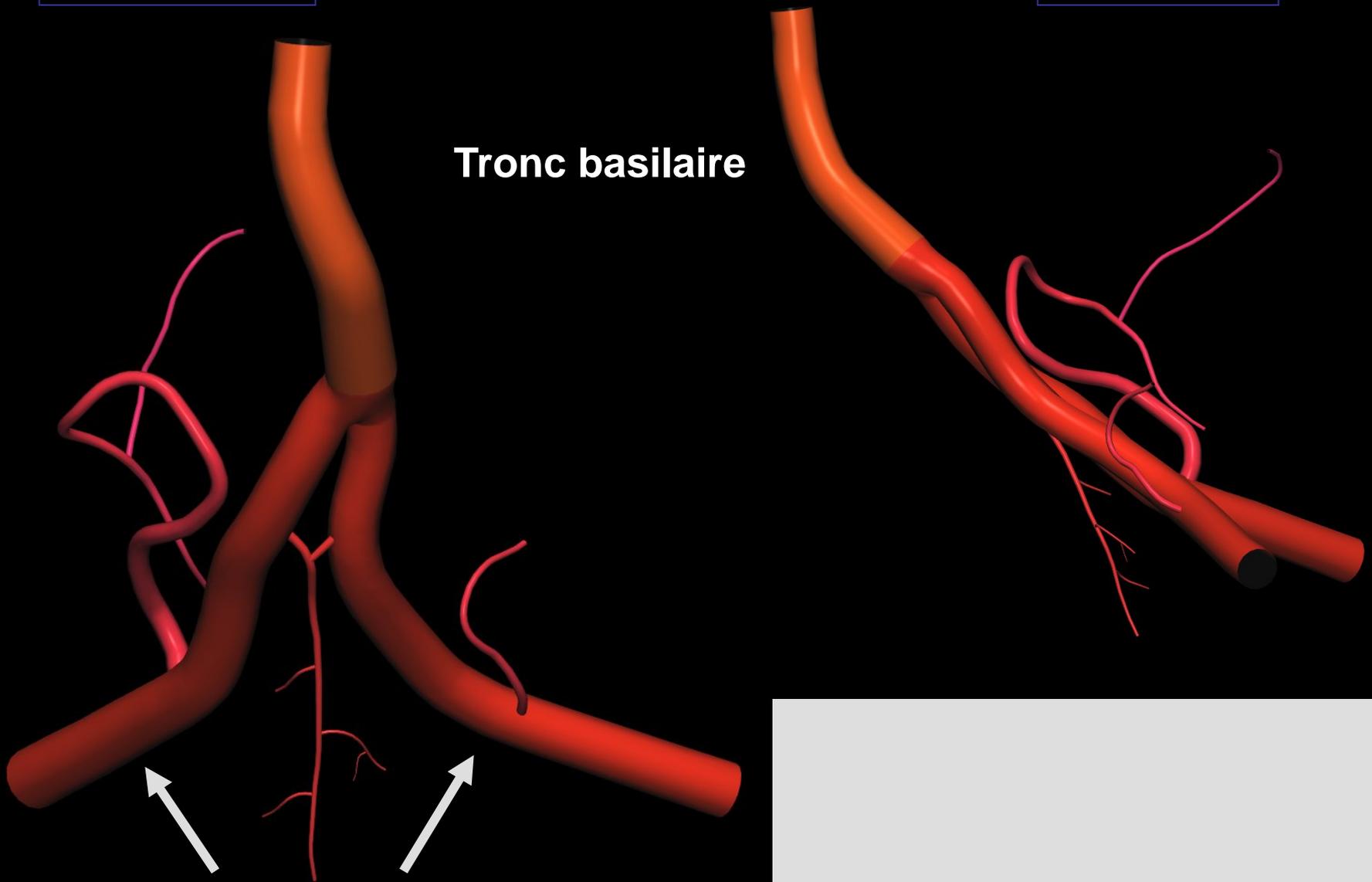
**PICA = Postero-Inferior Cerebellar Artery** (*artère cérébelleuse inférieure*)

Vue antérieure

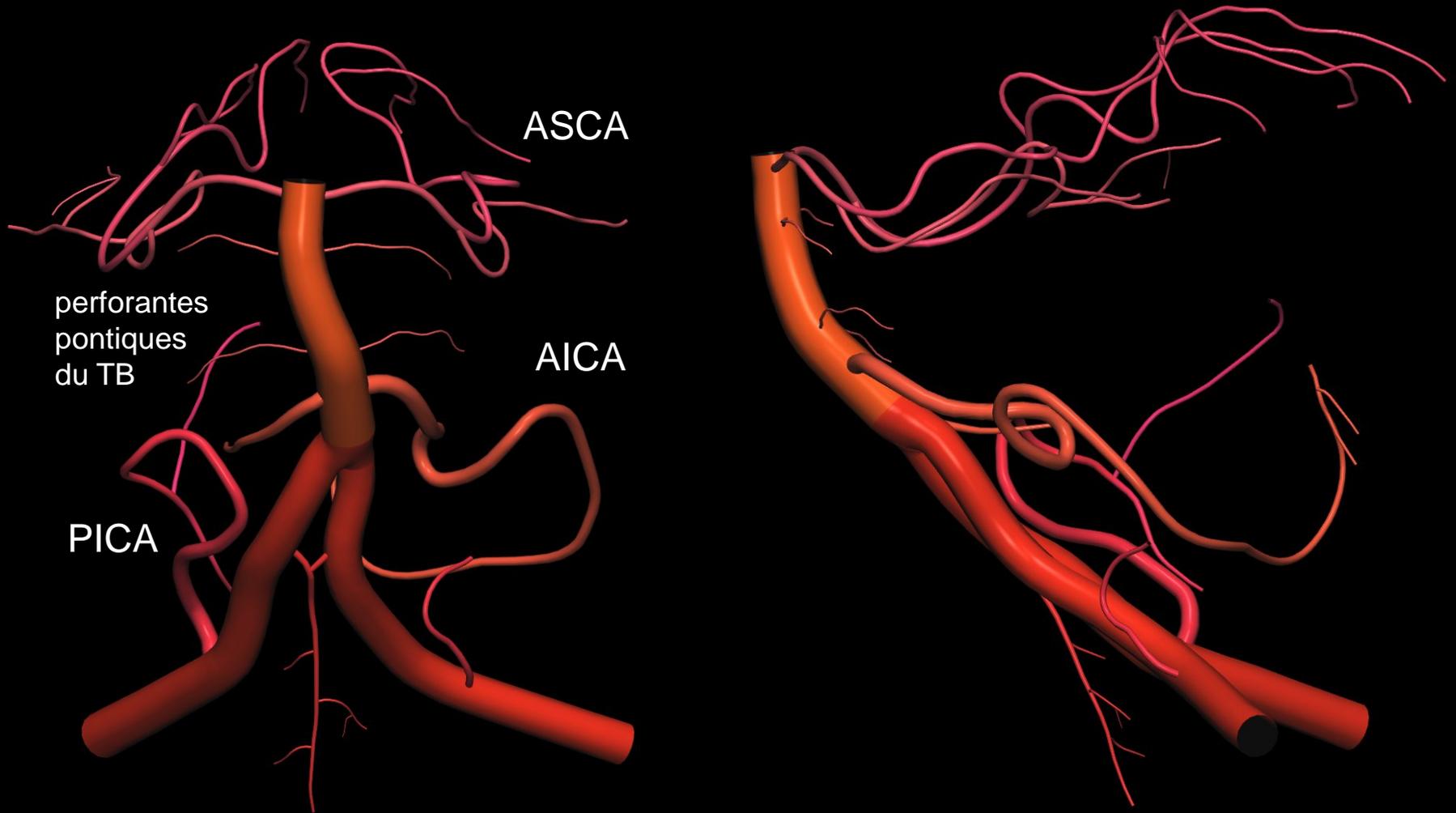
Vue de profil

Tronc basilaire

Artères vertébrales



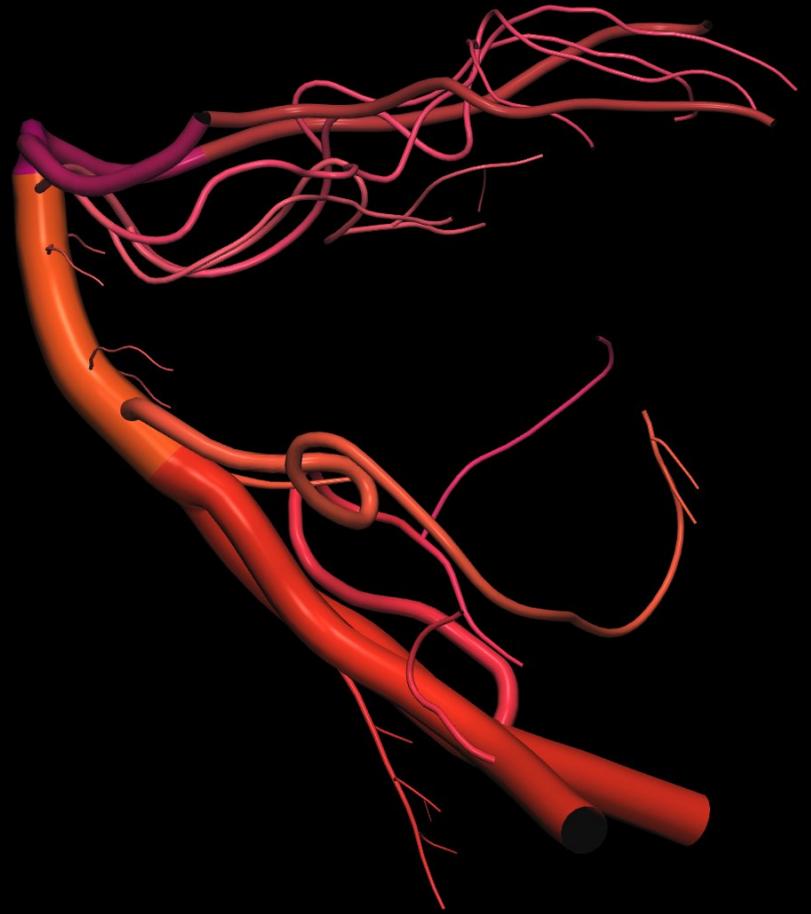
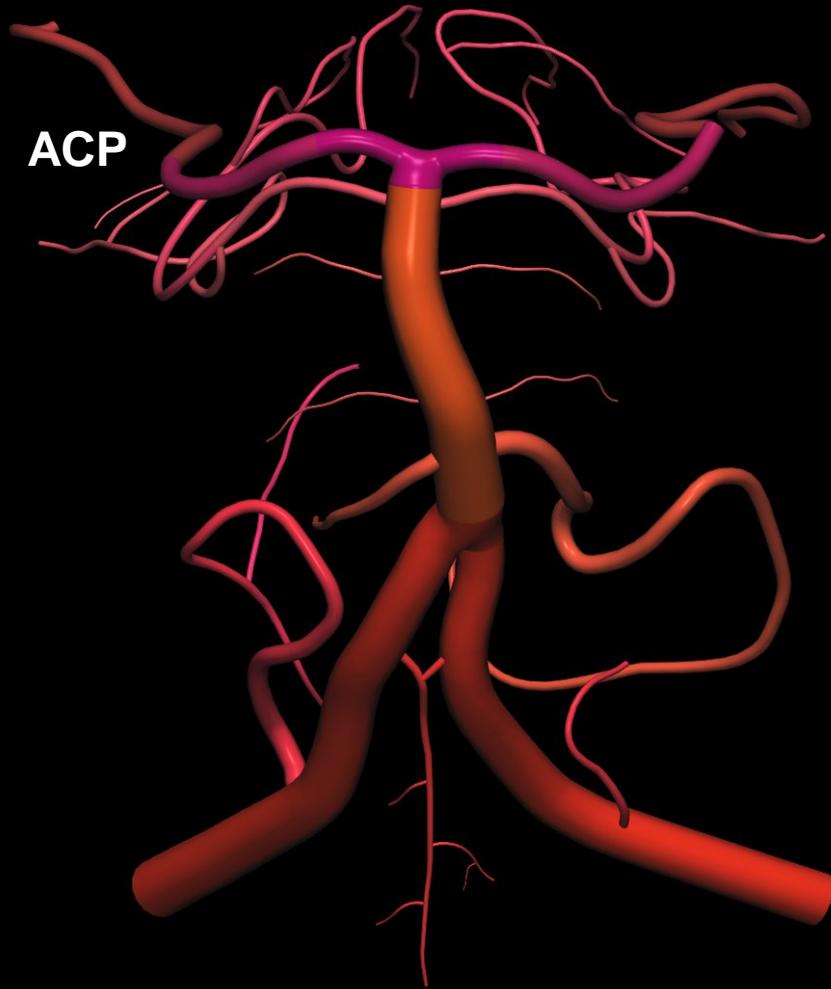
**ASCA = Antero-Superior Cerebellar Artery (*artère cérébelleuse supérieure*)**



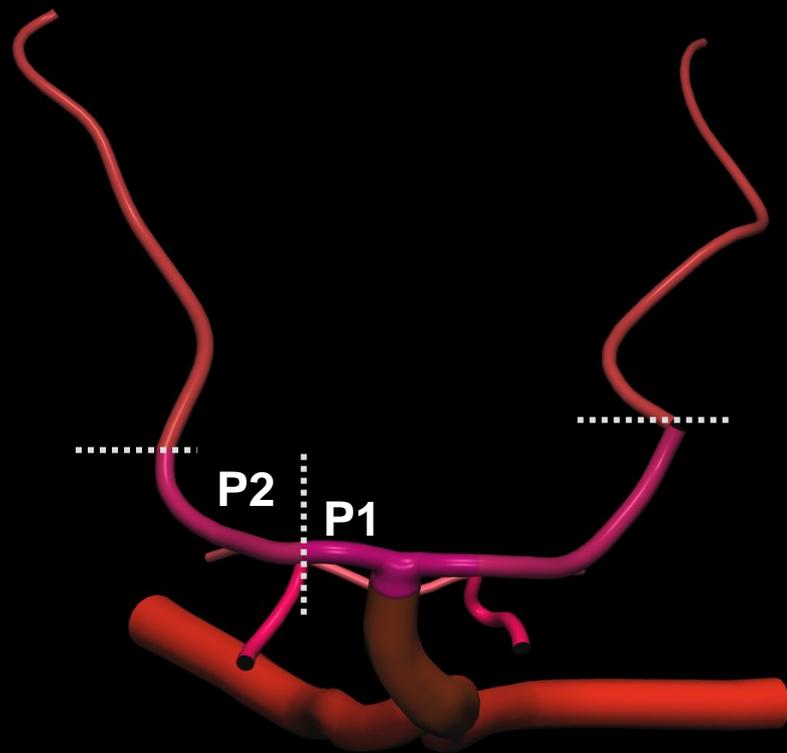
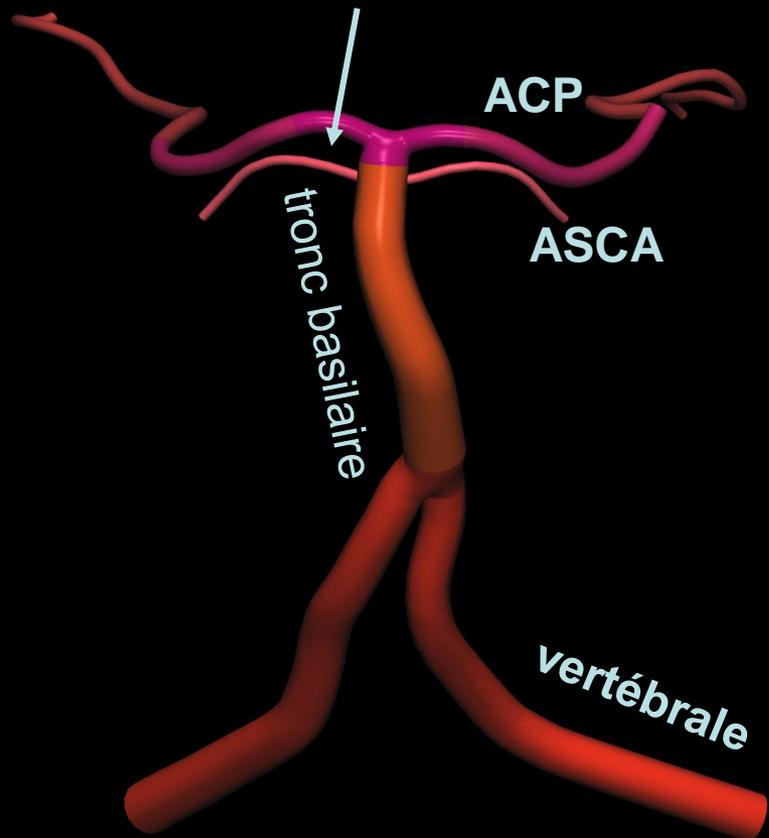
**AICA = Antero-Inferior Cerebellar Artery (*artère cérébelleuse moyenne*)**

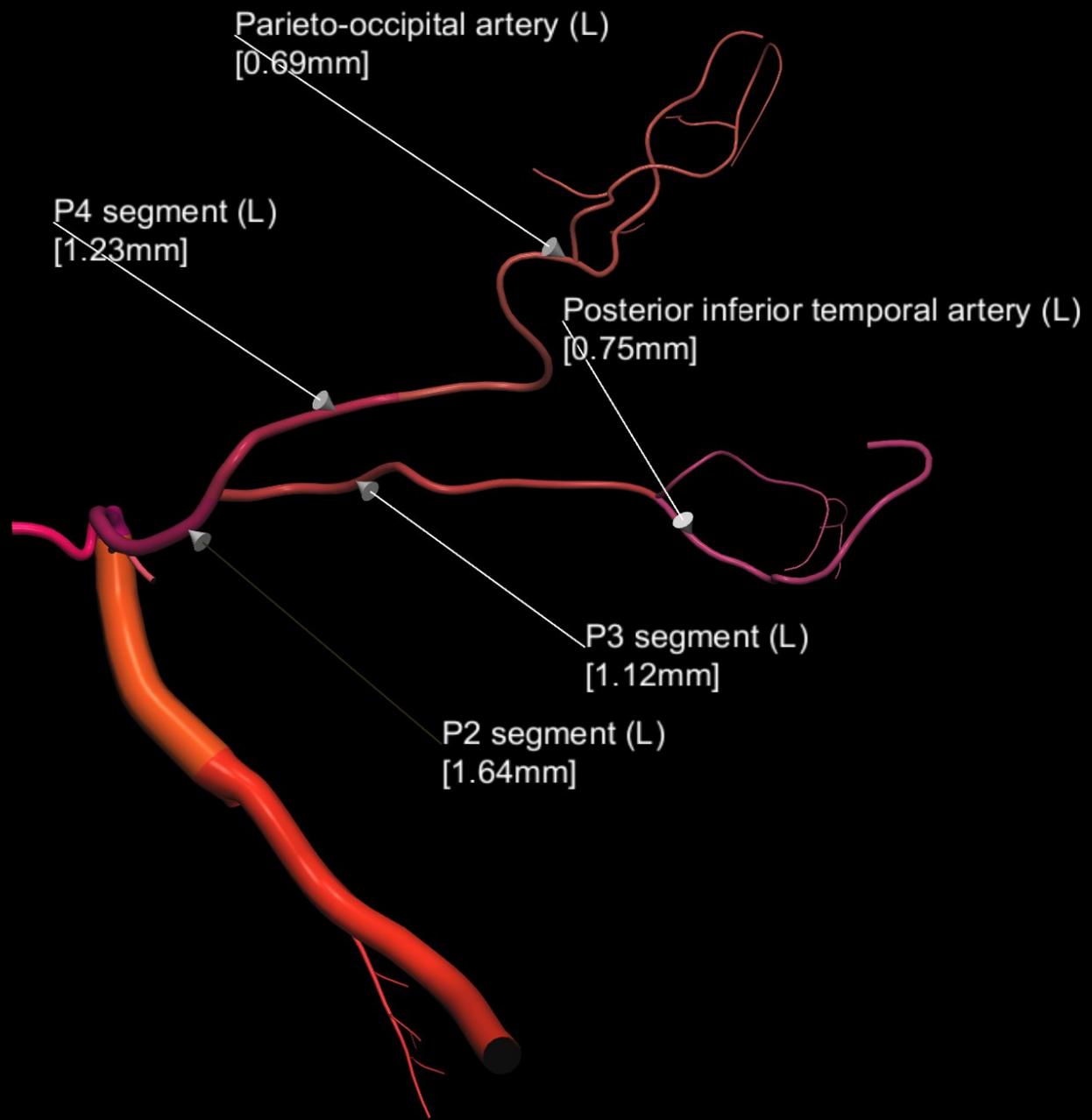
# Sommet du tronc basilaire

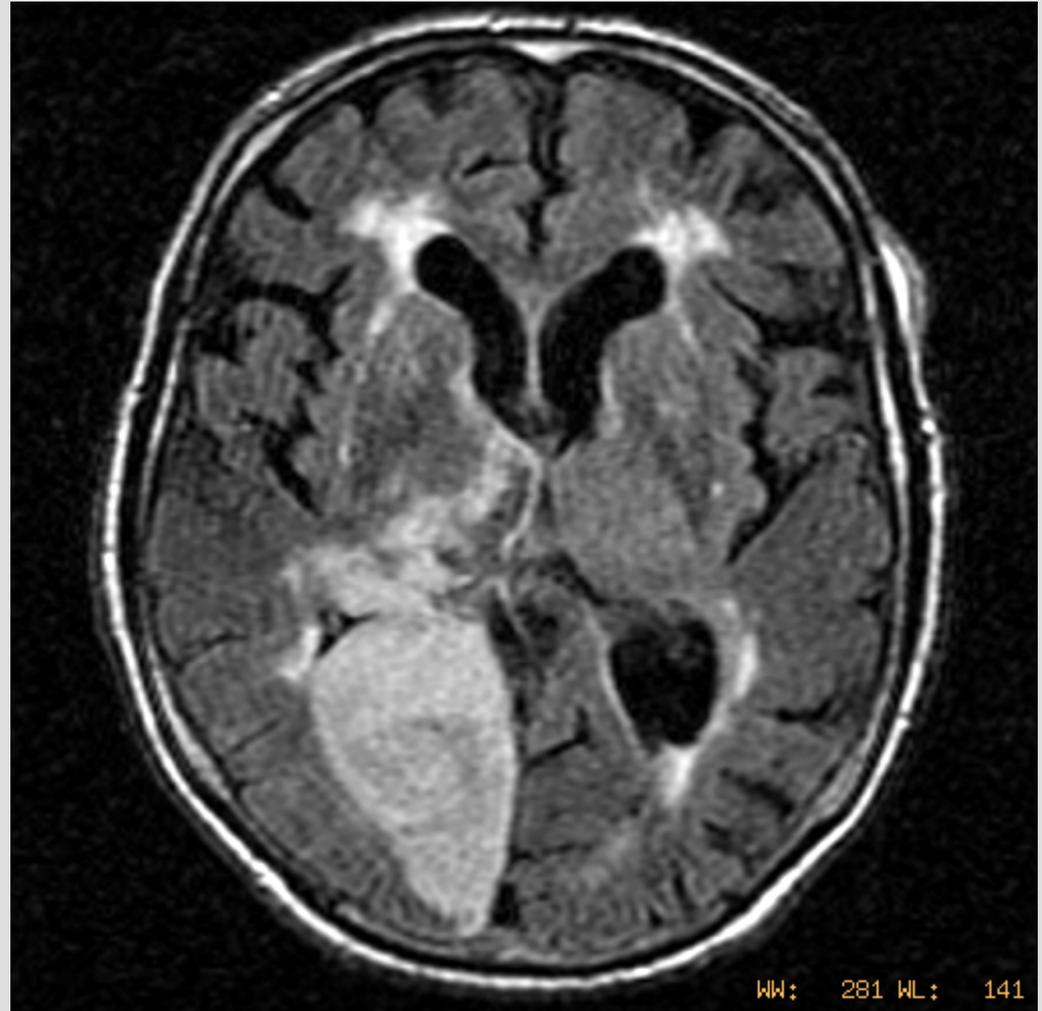
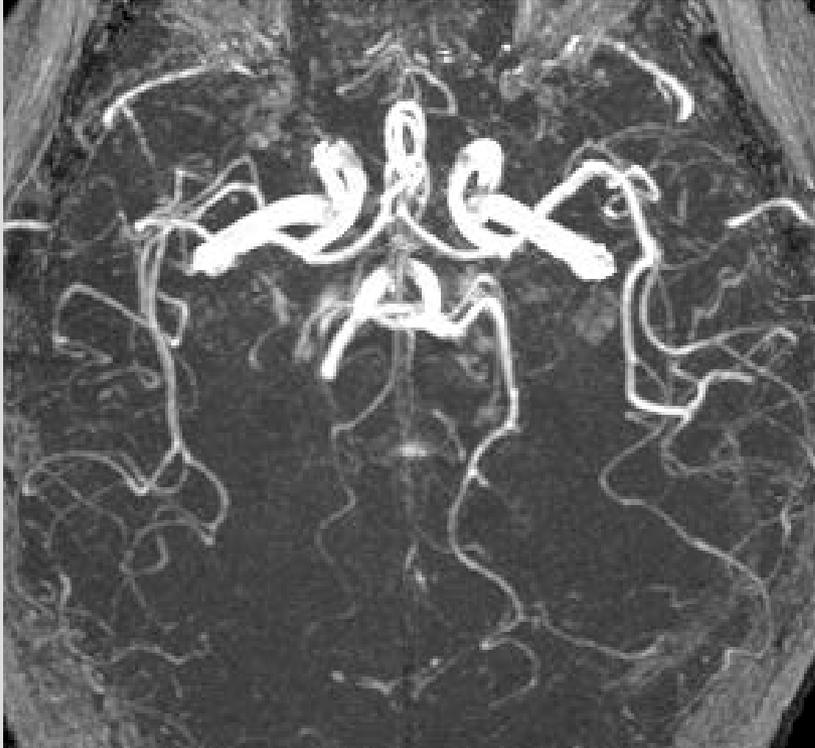
ACP



*Pince artérielle du NC III*

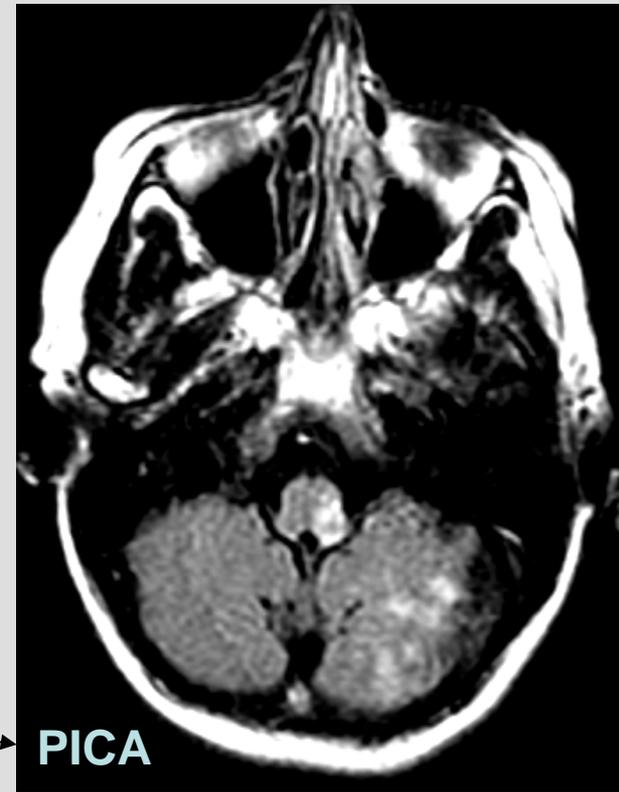
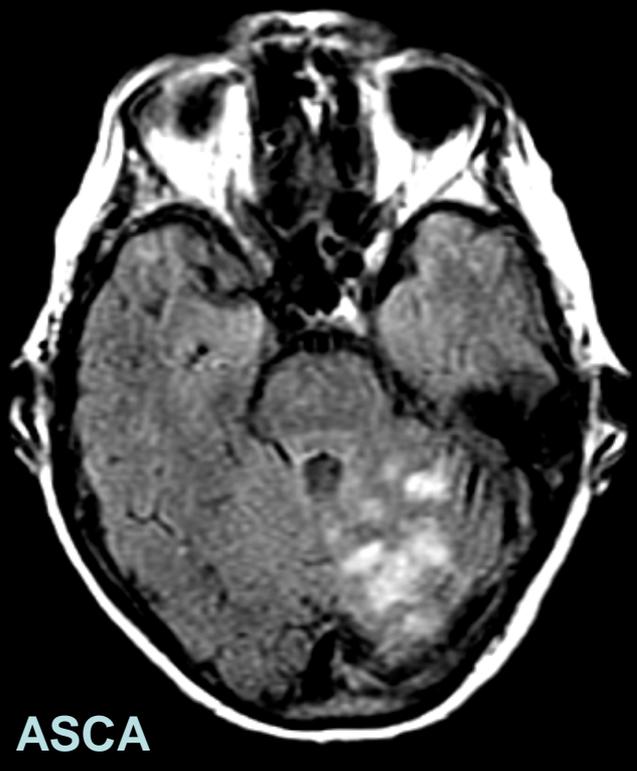




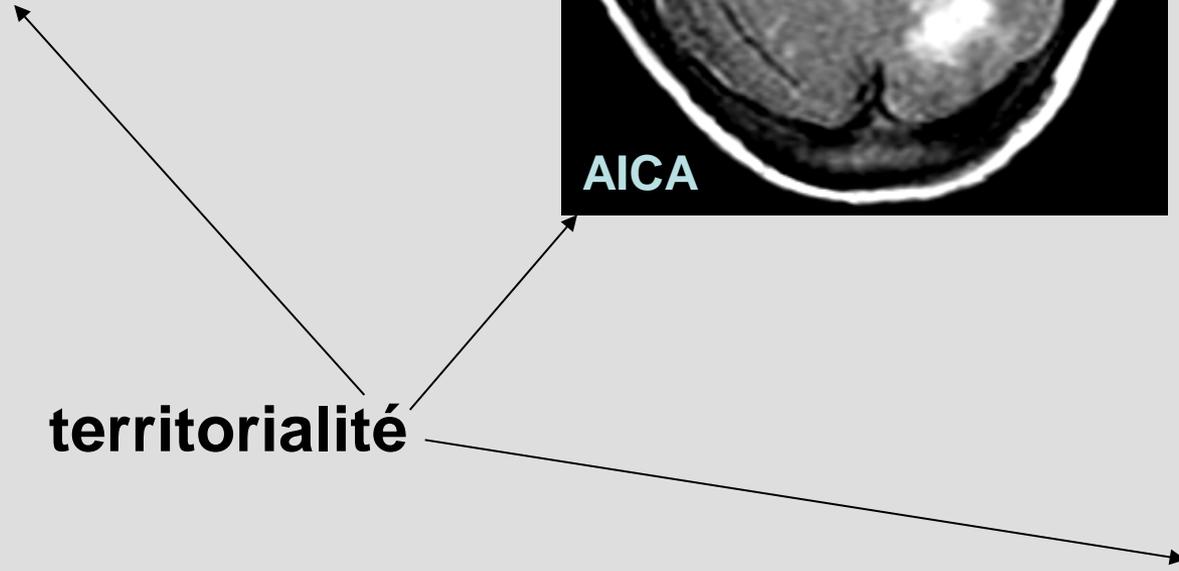


**AVC ischémique aigu ACP**

# AVC ischémique aigu

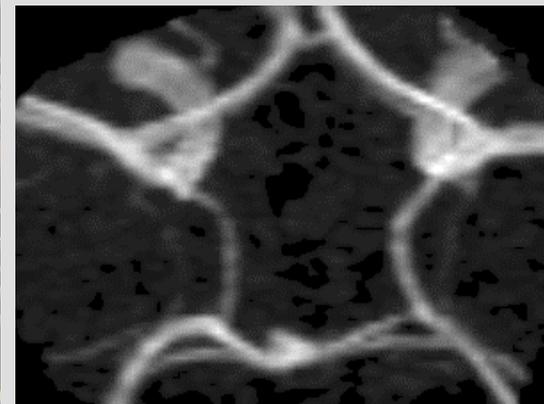


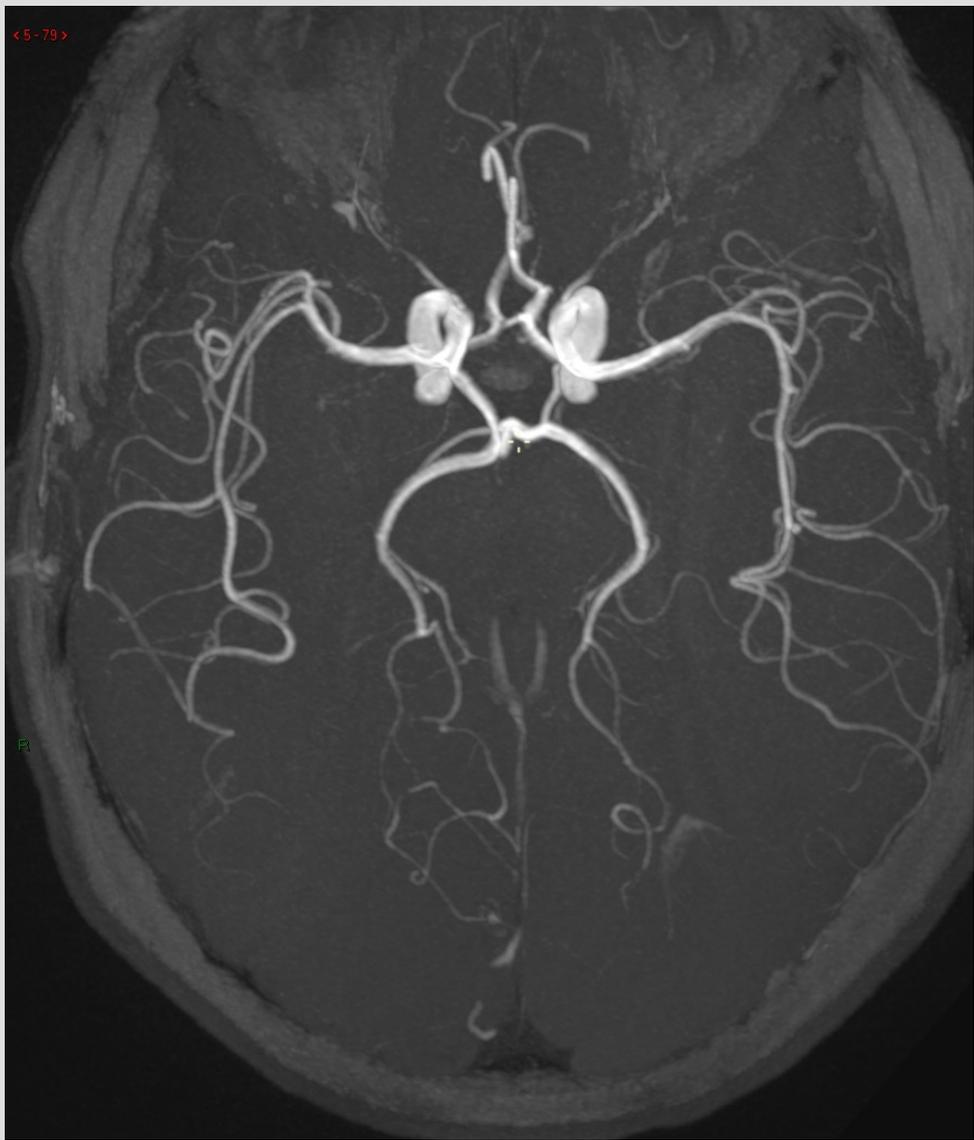
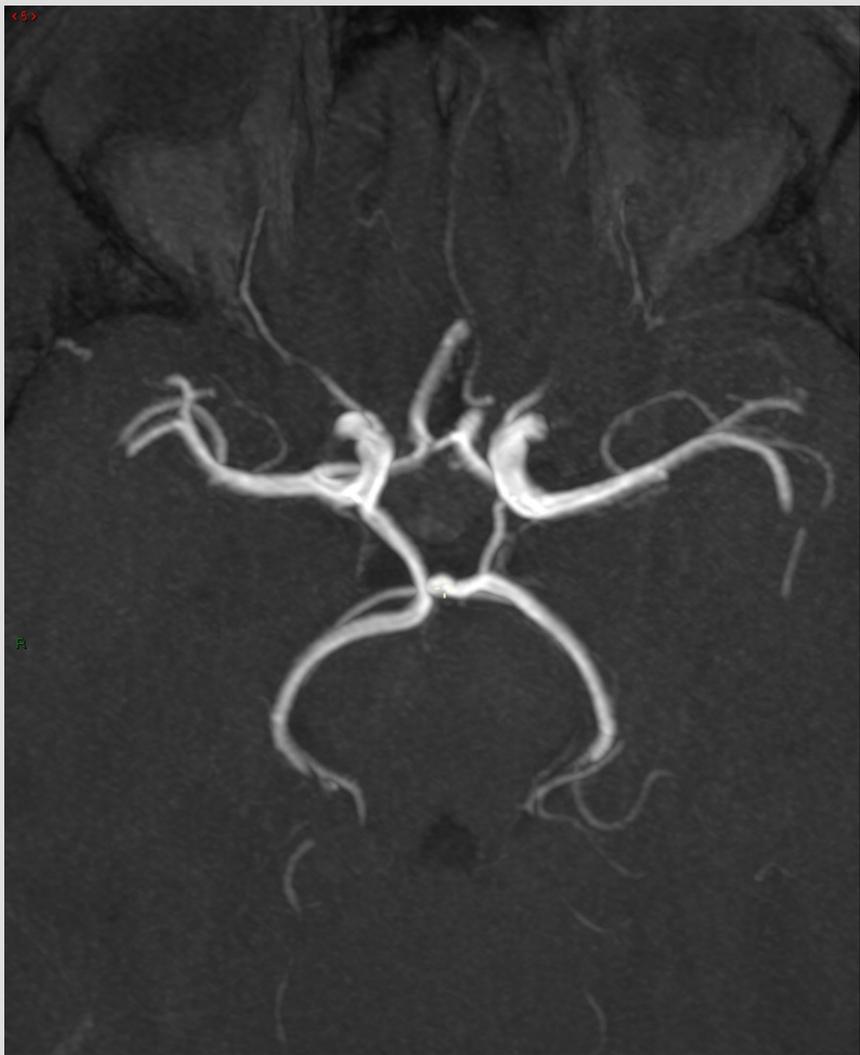
**territorialité**

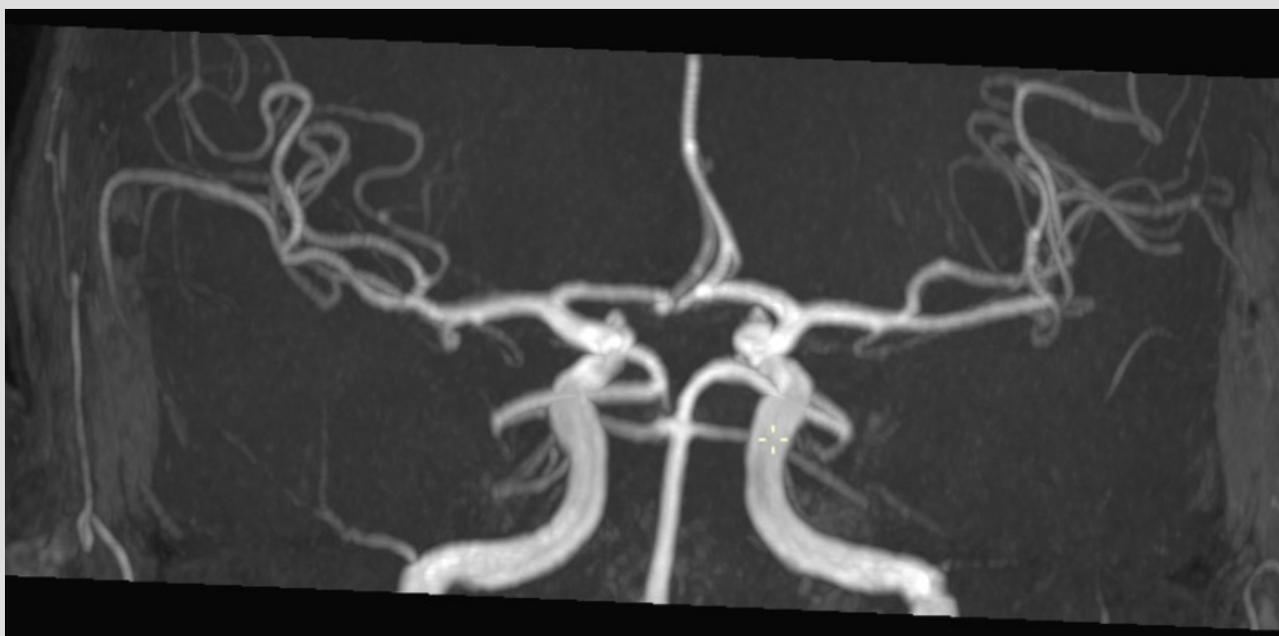




# Polygone artériel de la base du crâne







# *Clinical stroke management*

**NCCT**



~~Thrombolyse  
Thrombectomie~~



Thrombolyse  
ssi <4h30



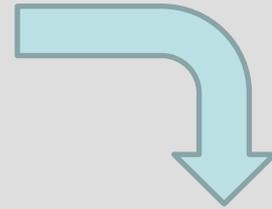
Thombectomie  
ssi...



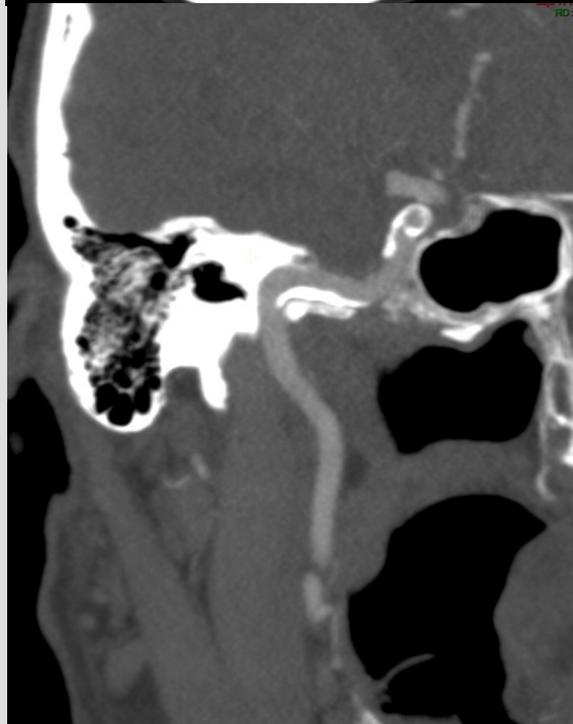
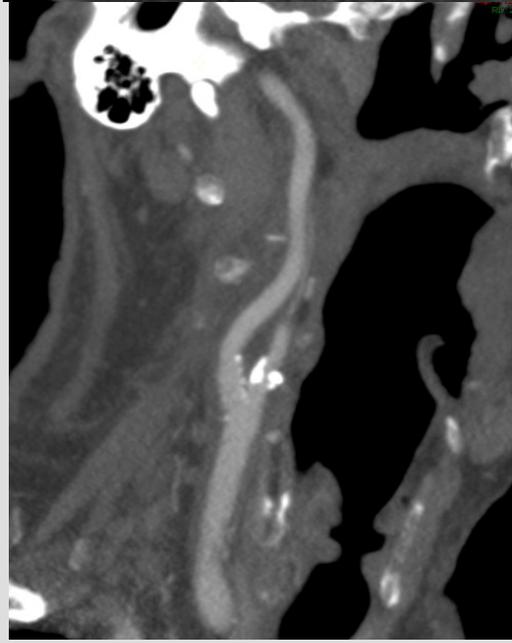
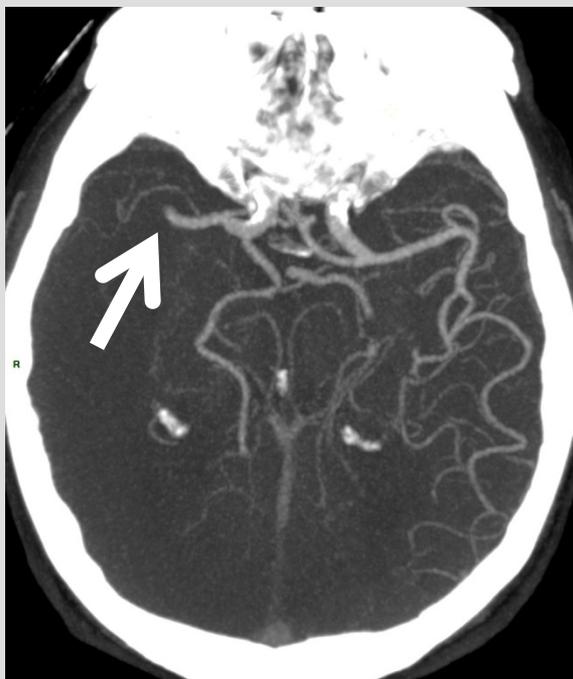
**CTA**



**Caillot proximal  
Caillot court**

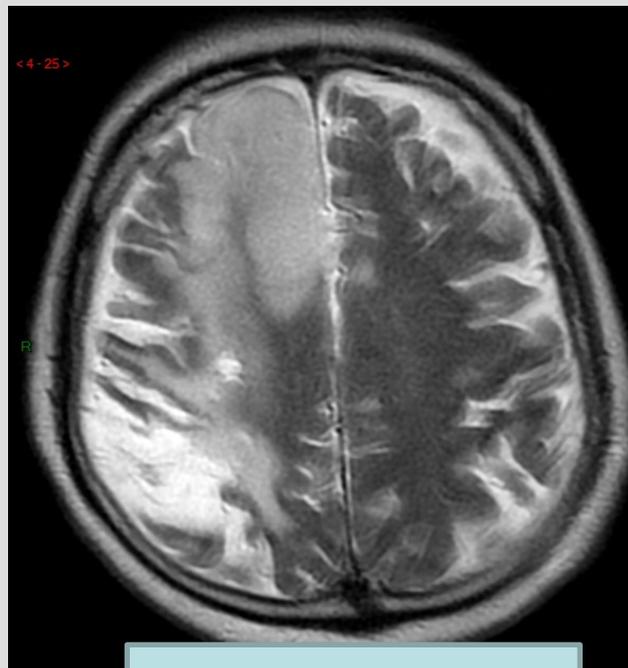


# CTA

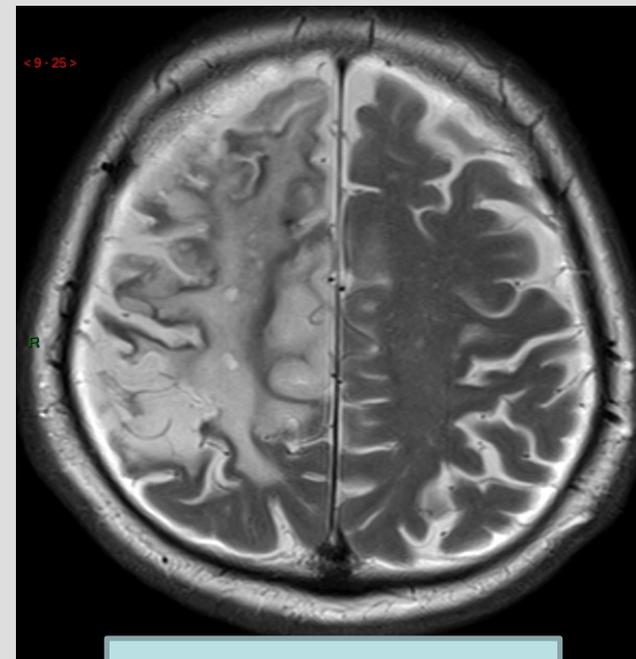


Montrer la perméabilité de la voie endo-vascu

**Pondération T2**

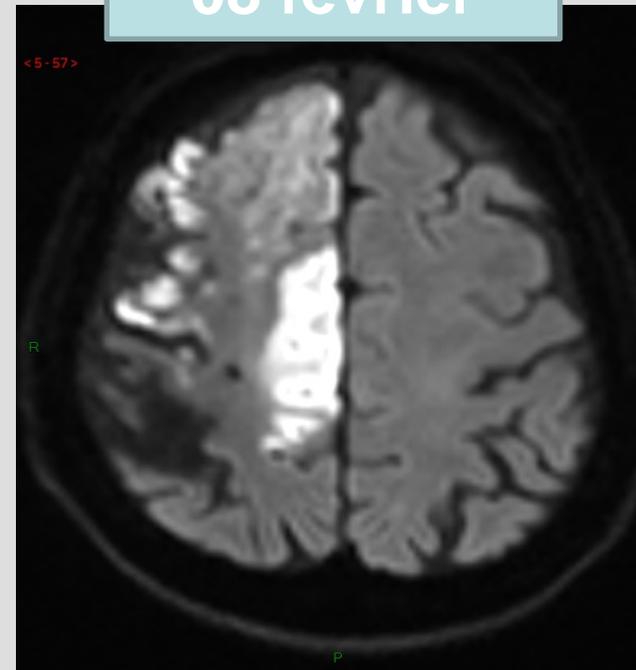
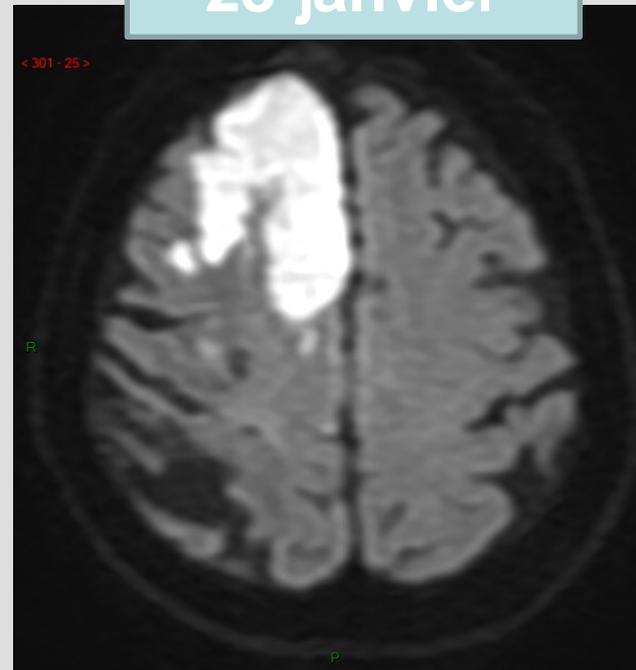


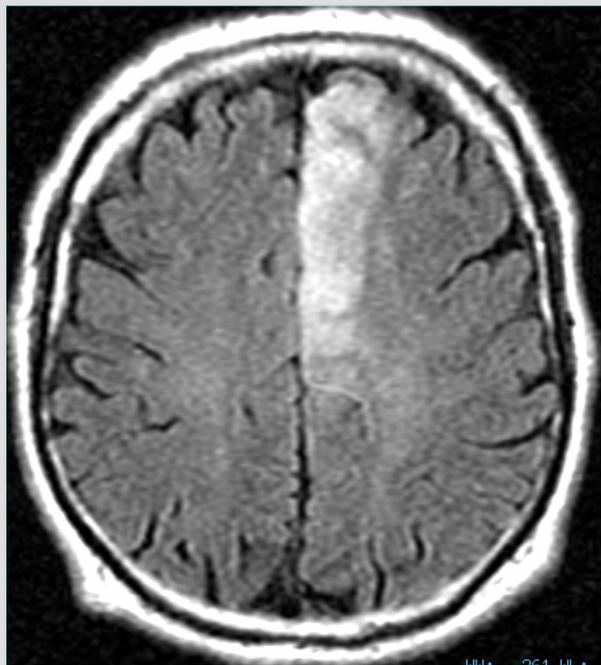
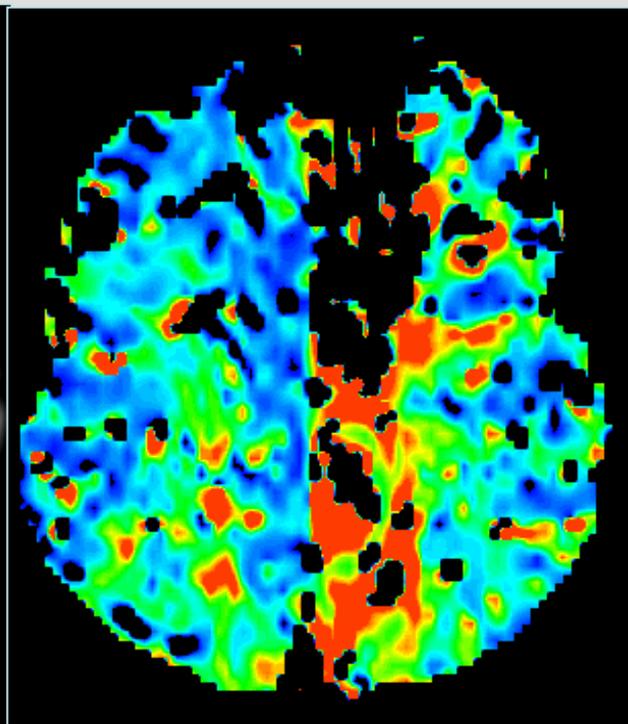
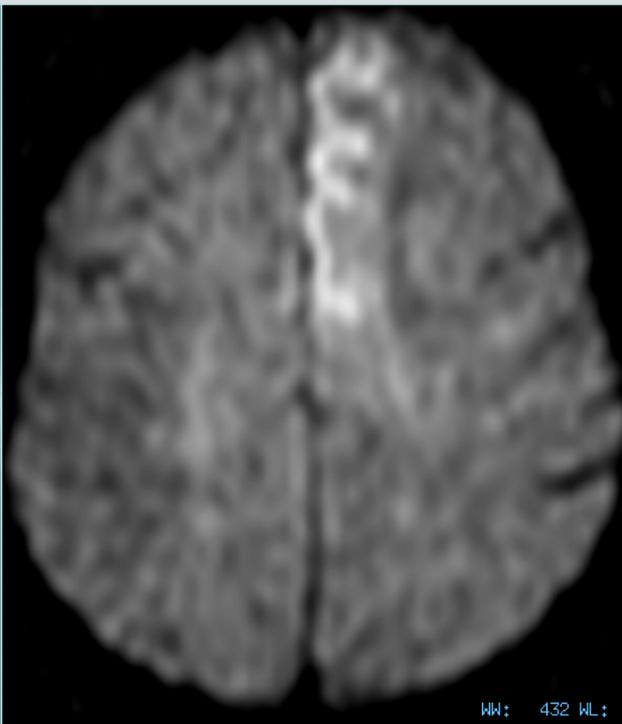
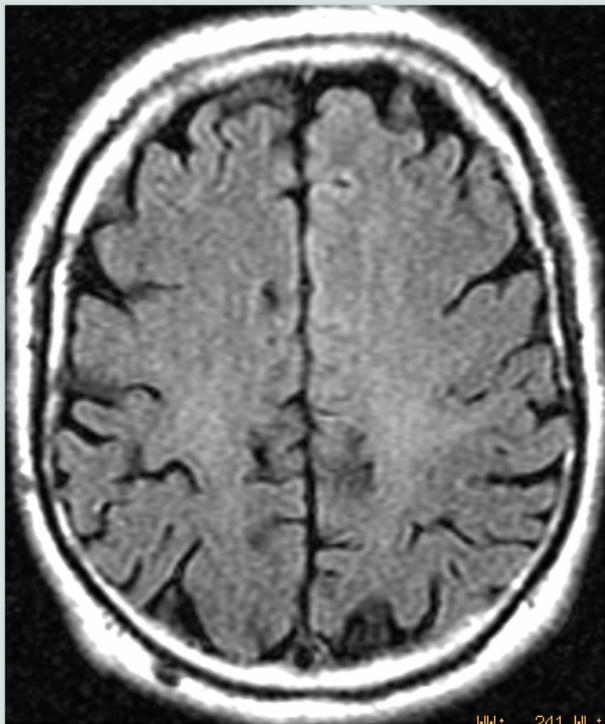
**23 janvier**



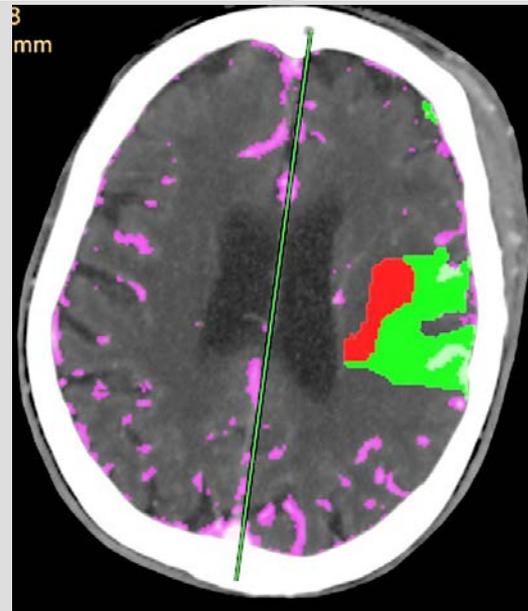
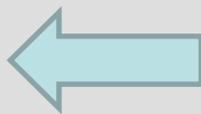
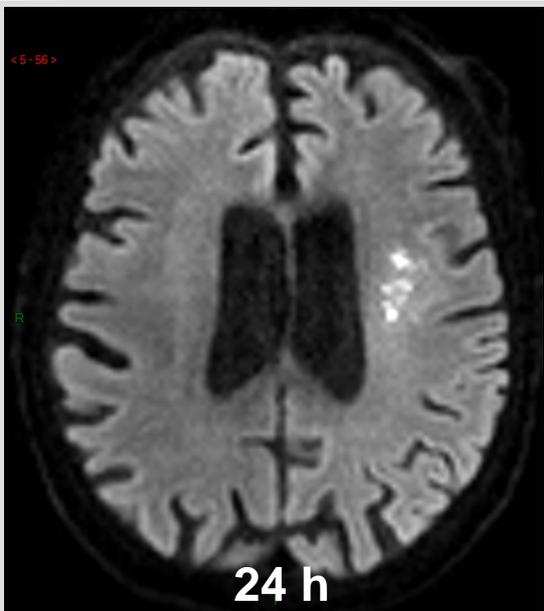
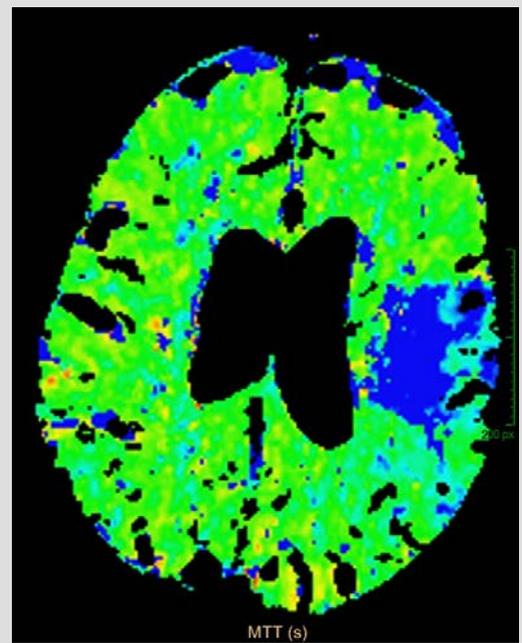
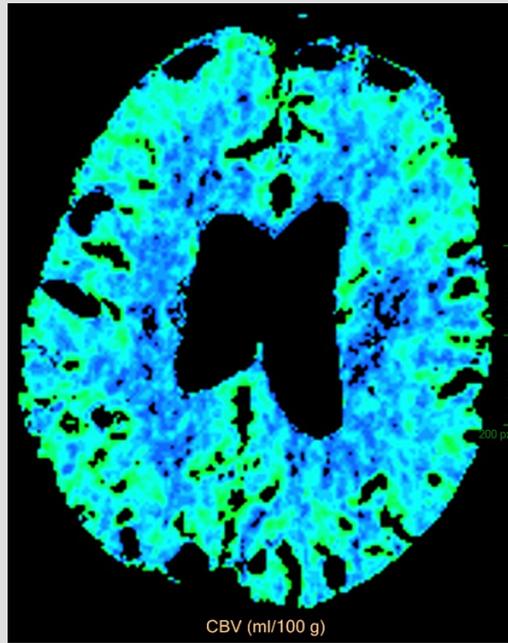
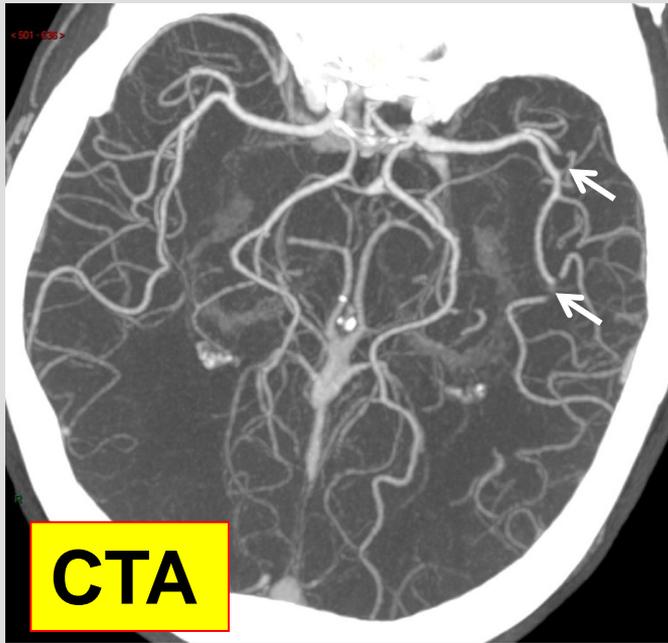
**08 février**

**Pondération  
en  
Diffusion (DWI)**





**24 h**



# Anatomie du rachis

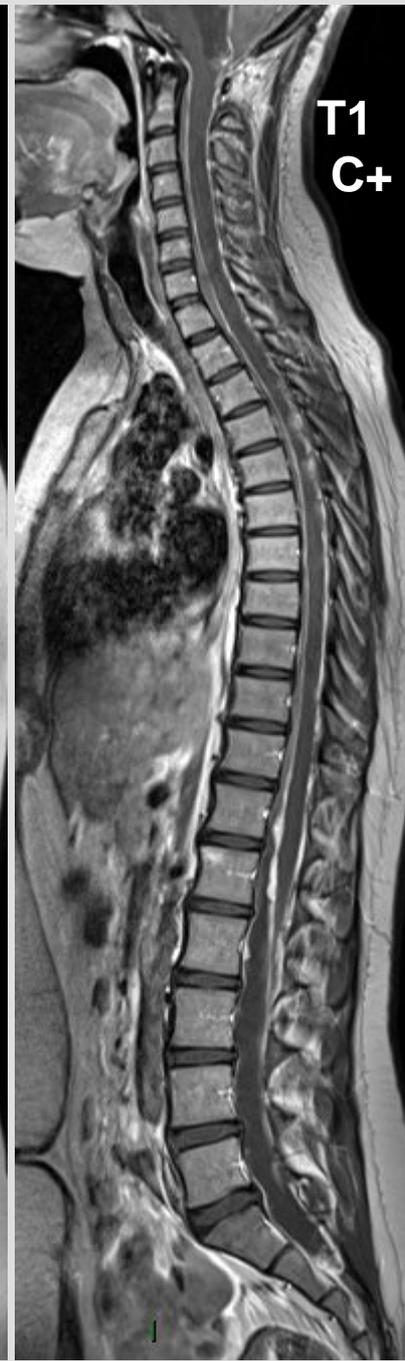
**Avec la collaboration du Professeur Frédéric Lecouvet**

Coupe sagittale médiane  
pondérée T1

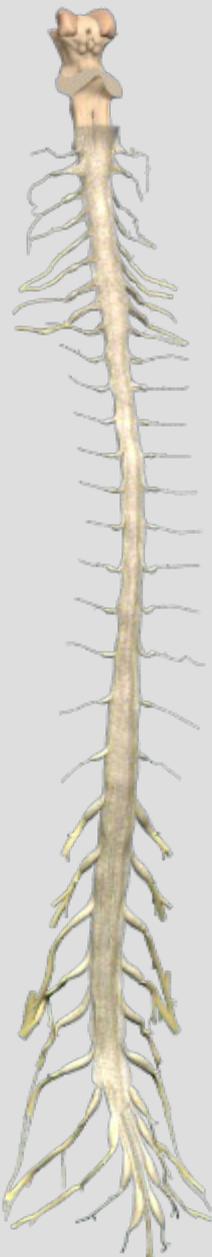


Coupe sagittale médiane  
pondérée T2





**Renflement cervical**



**Plexus cervico-brachial**

**C5→D1**

**Renflement lombaire**

**Queue de cheval**

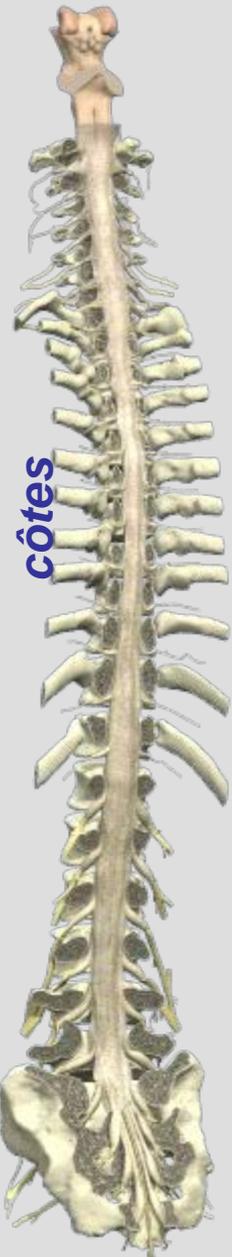
**Plexus Lombo-sacré**

**(T12) L1→ L5**

**Segment cervical**

**Segment dorsal**

**Segment lombaire**

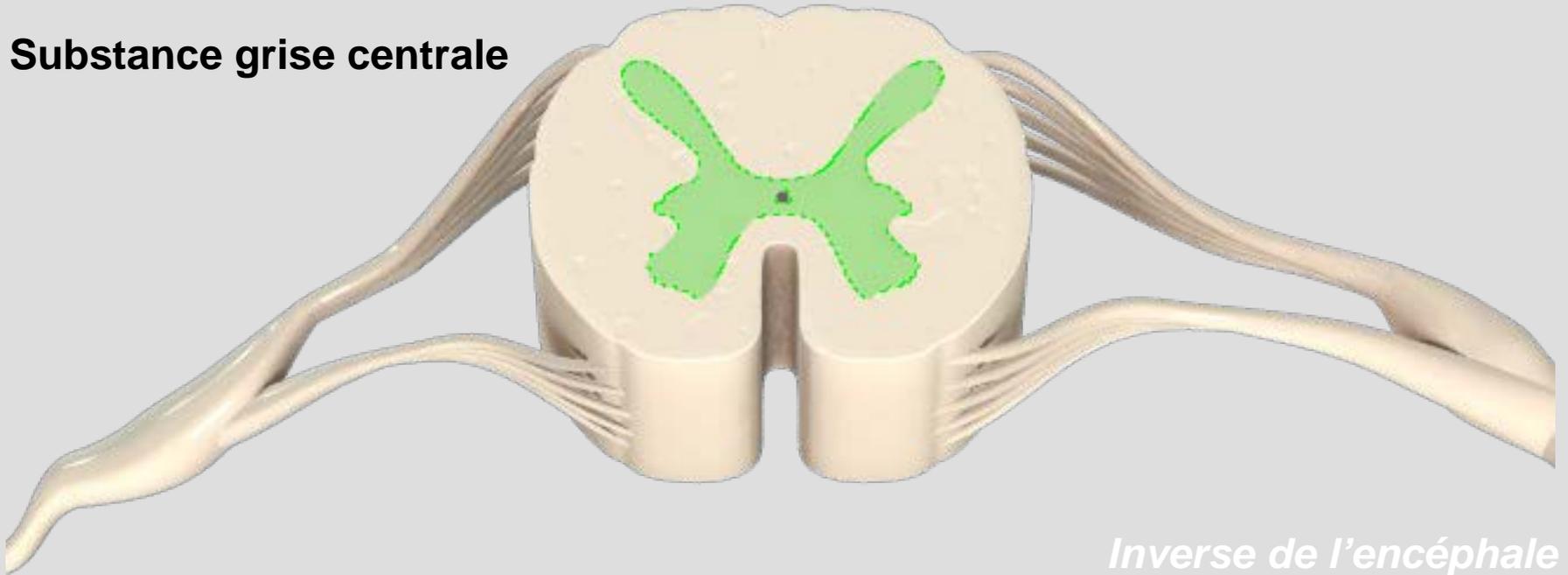


**côtes**

**Trous de conjugaison**

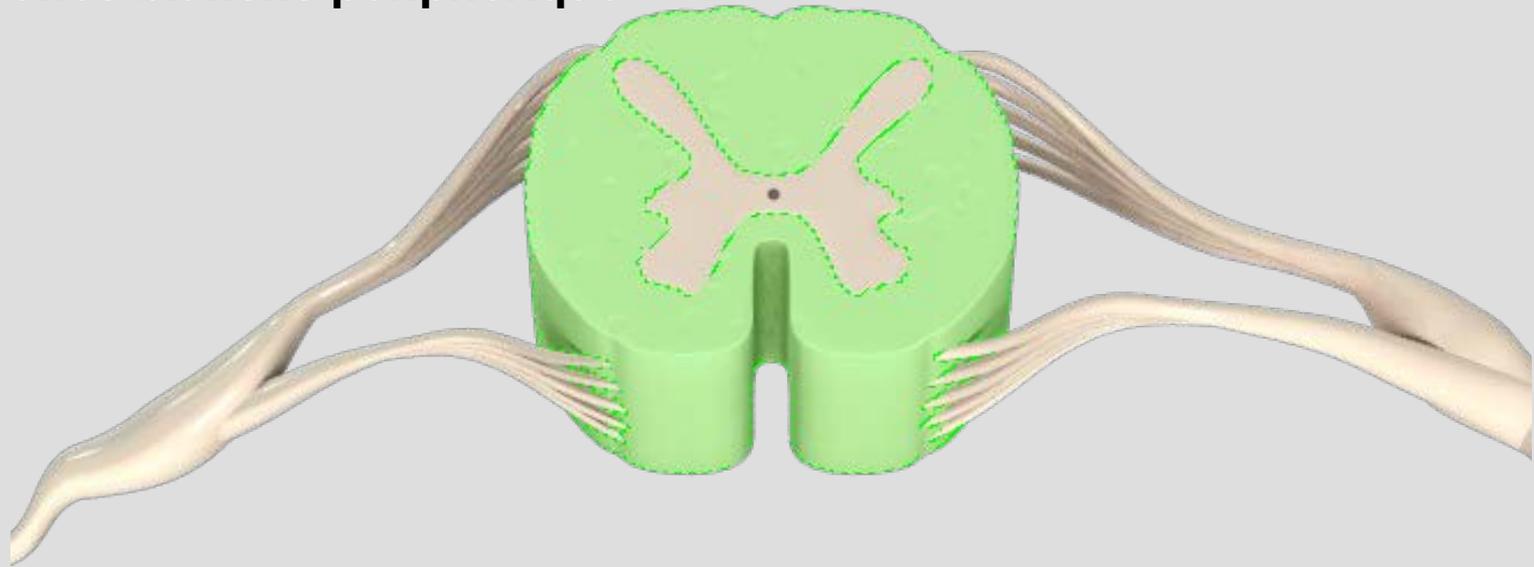
**Trous sacrés**

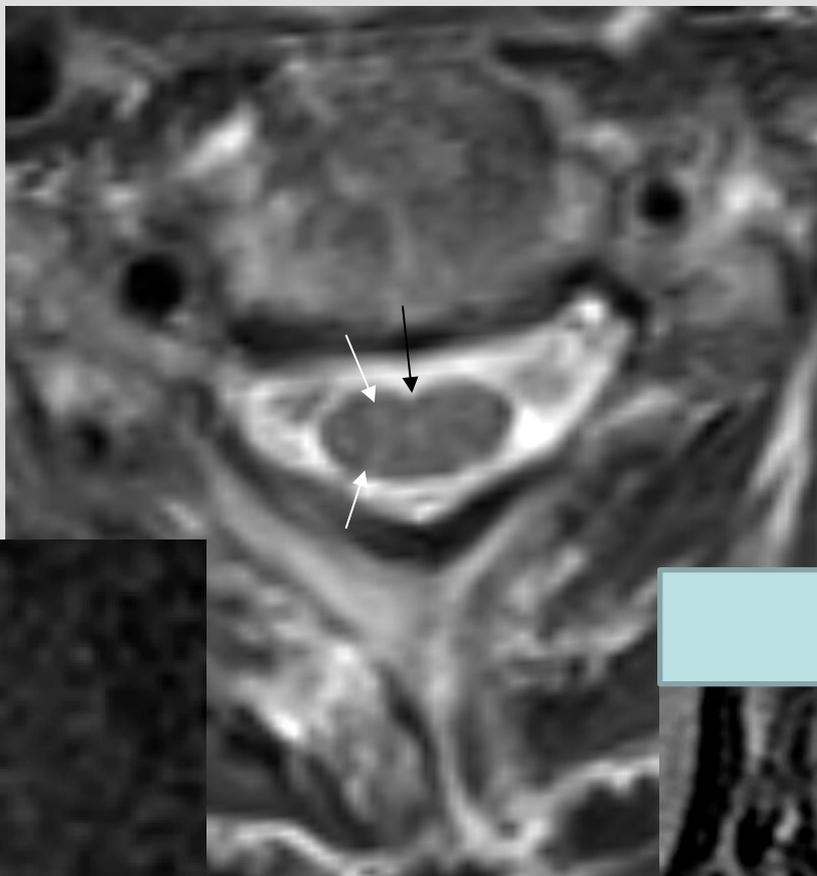
**Substance grise centrale**

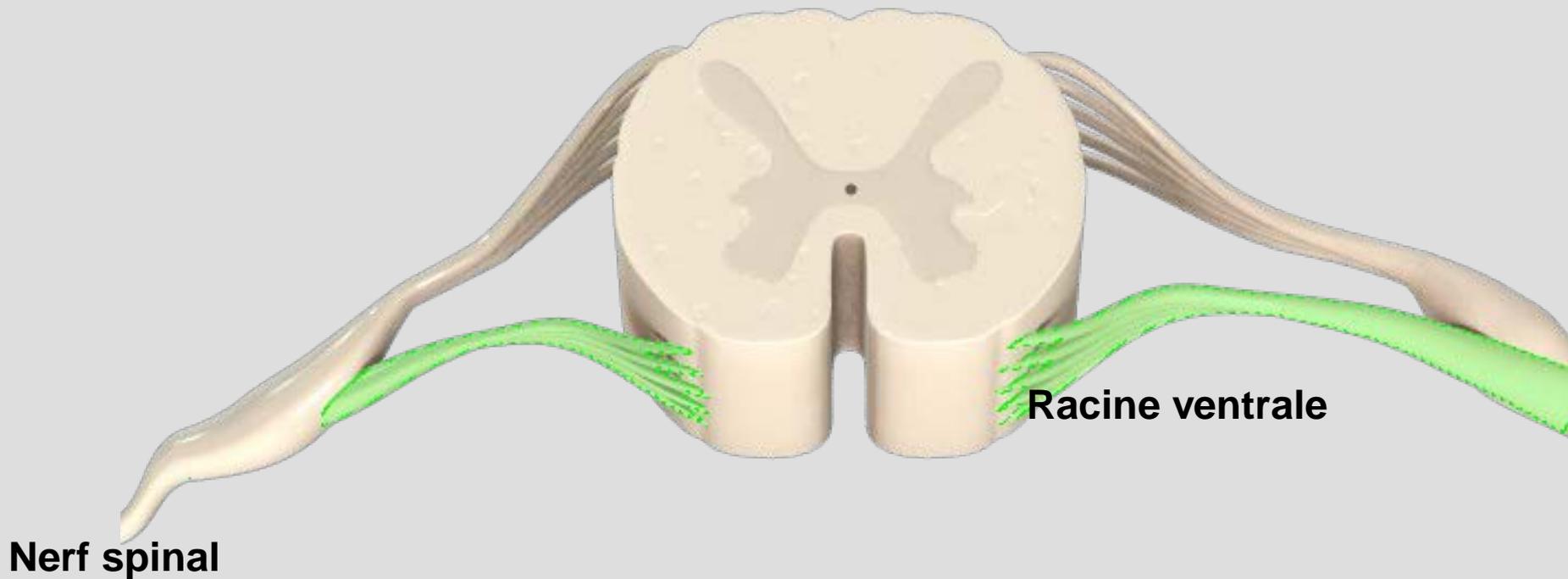
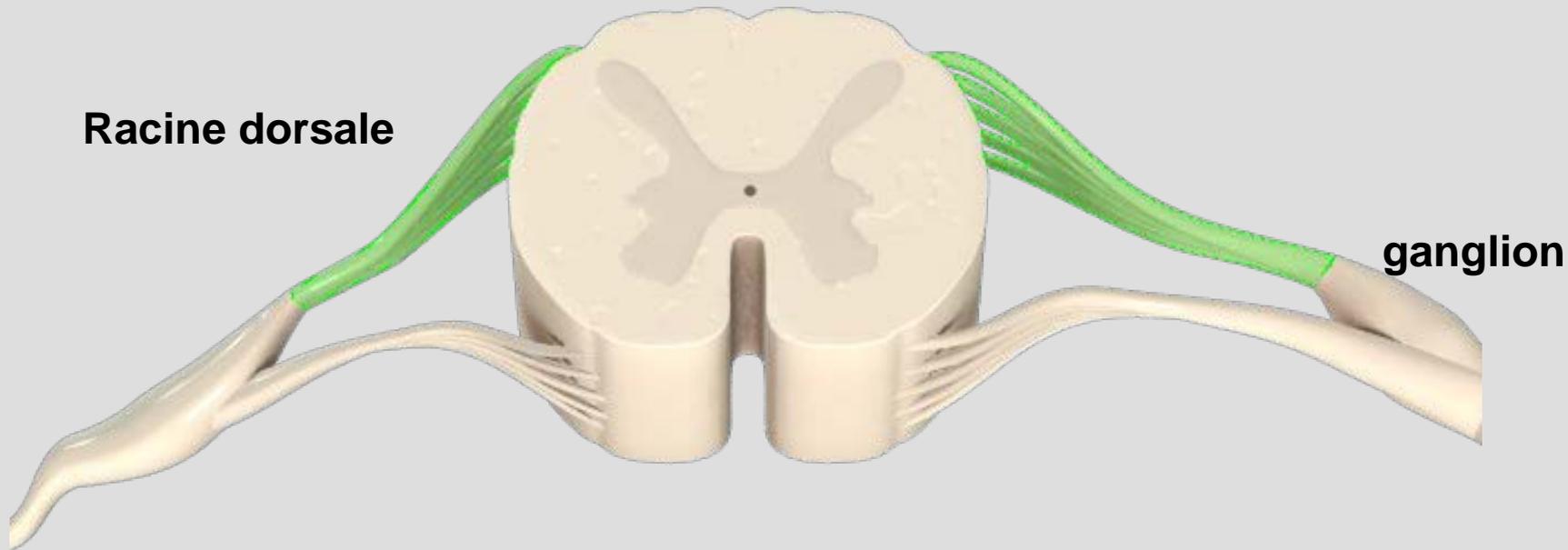


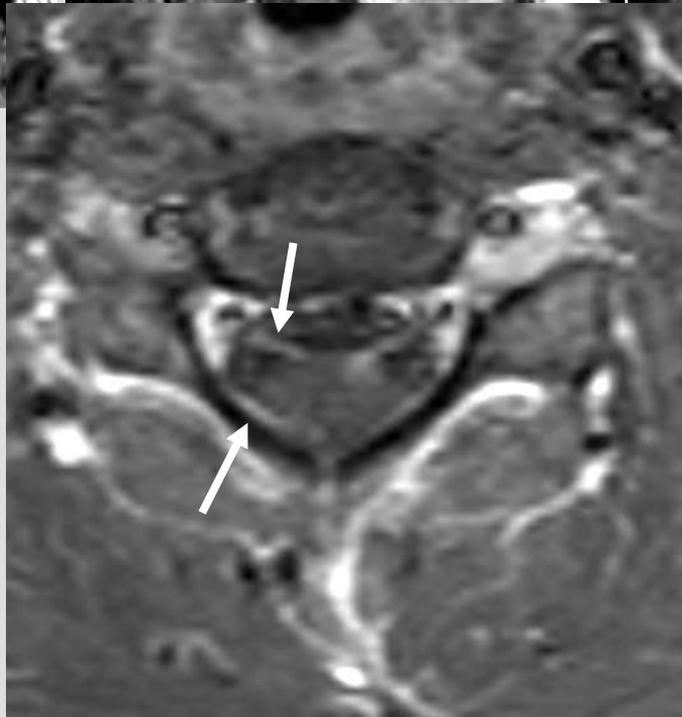
*Inverse de l'encéphale !*

**Substance blanche périphérique**









## Organisation métamérique des segments de la moelle et de leur racine

1 divergence

Racine C8 mais pas de vertèbre C8 !

→ C8 passe entre C7 et D1

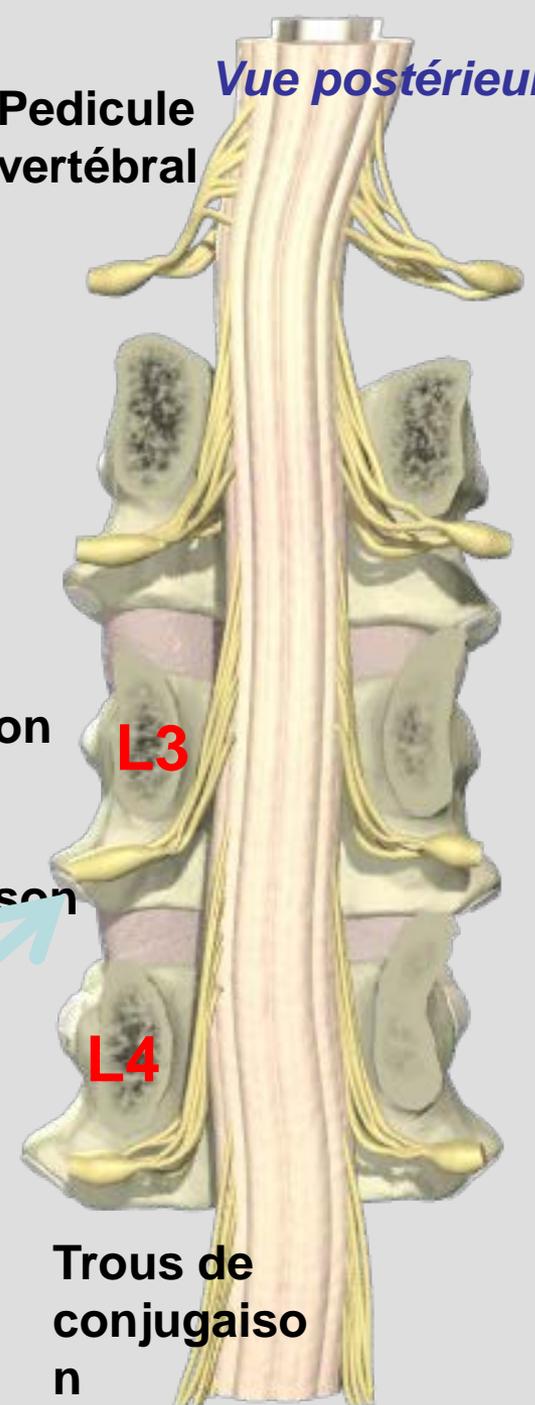
→ Au-dessus de C7: la racine dans le trou de conjugaison  
porte le N° de la vertèbre du dessous

→ Au dessous de C7: la racine dans le trou de conjugaison  
porte le N° de la vertèbre du dessus

Racine L3

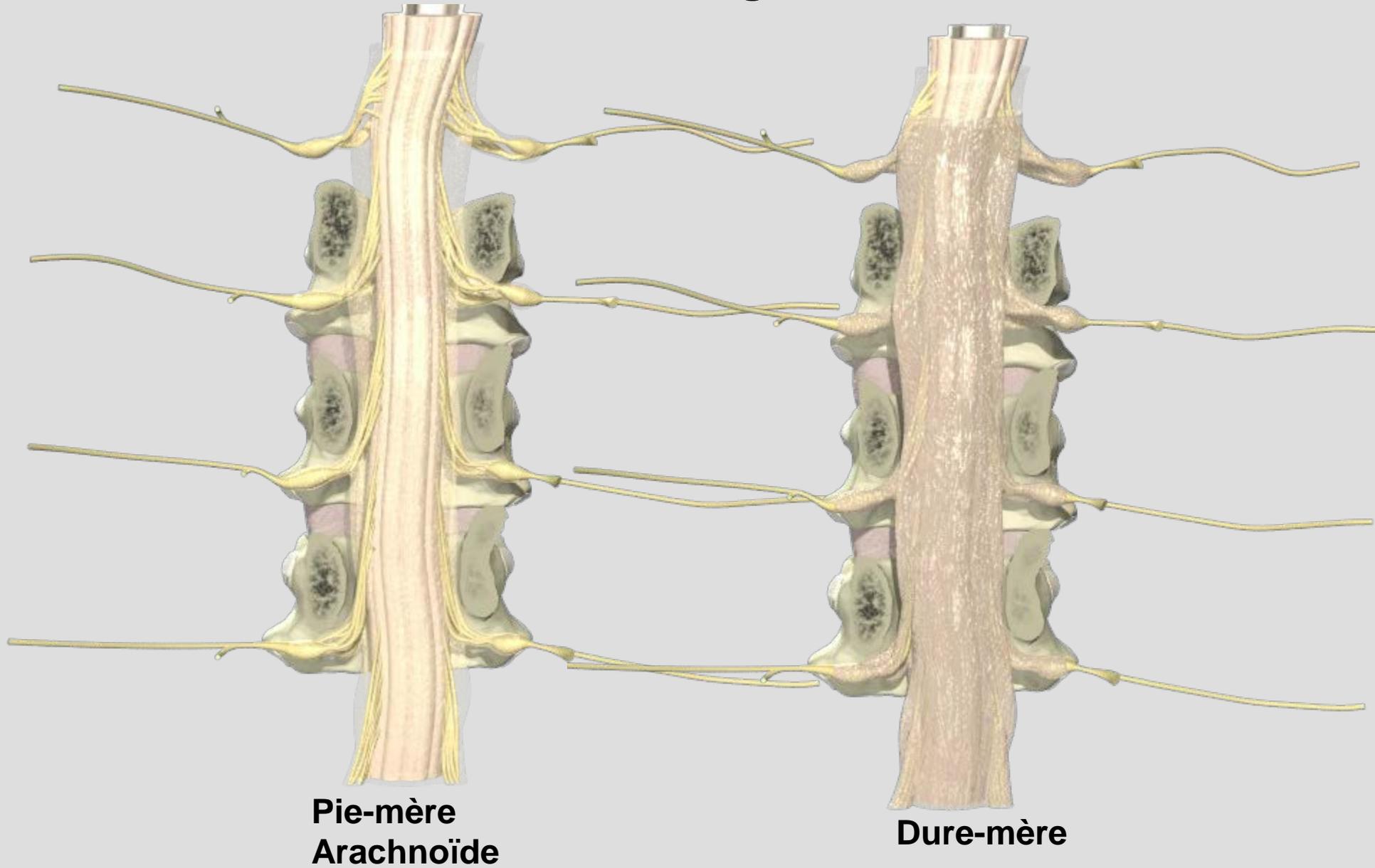
Pedicule  
vertébral

*Vue postérieure*

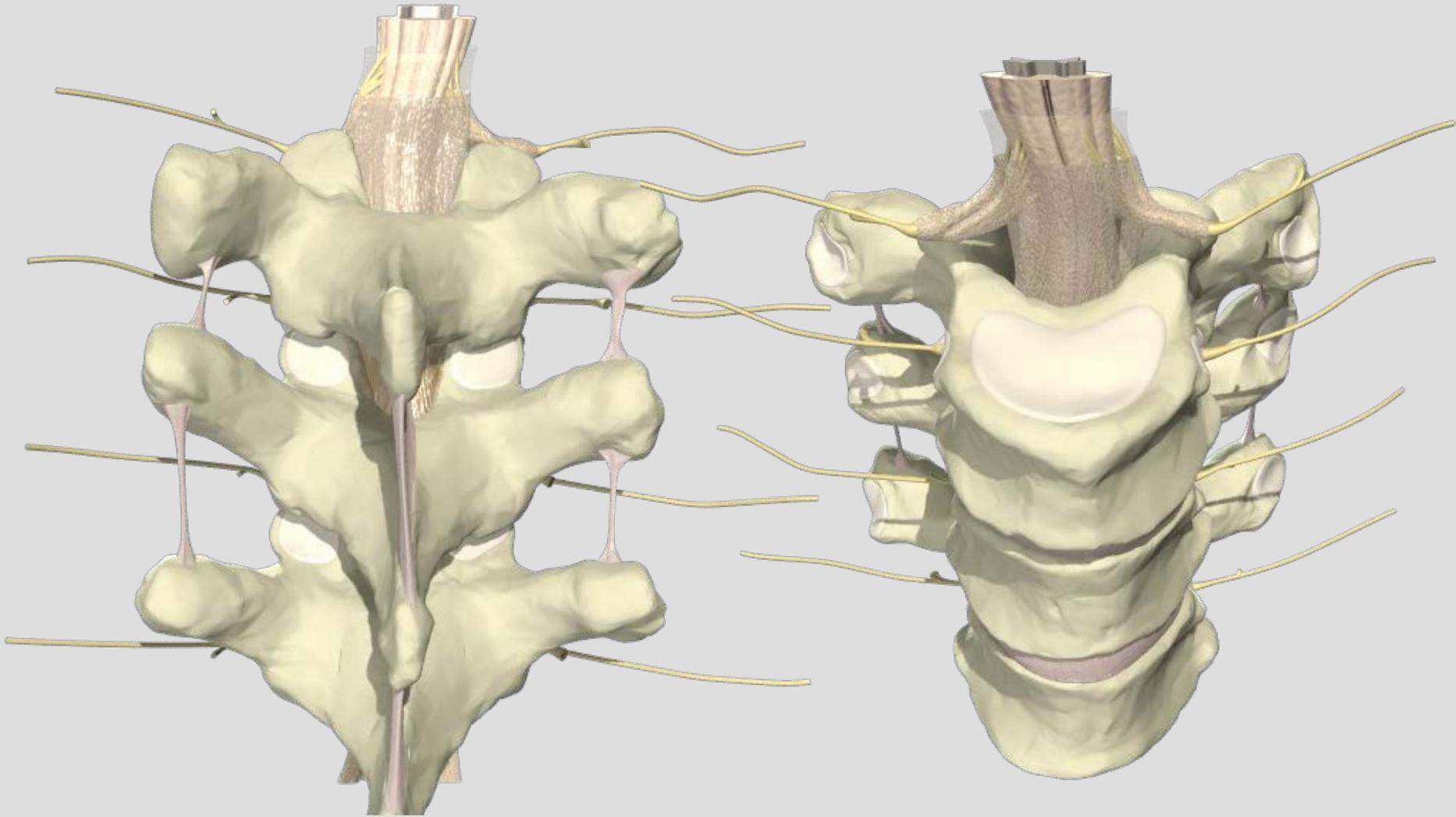


Trous de  
conjugaiso  
n

# méninges



# vertèbres



**piliers postéro-latéraux**

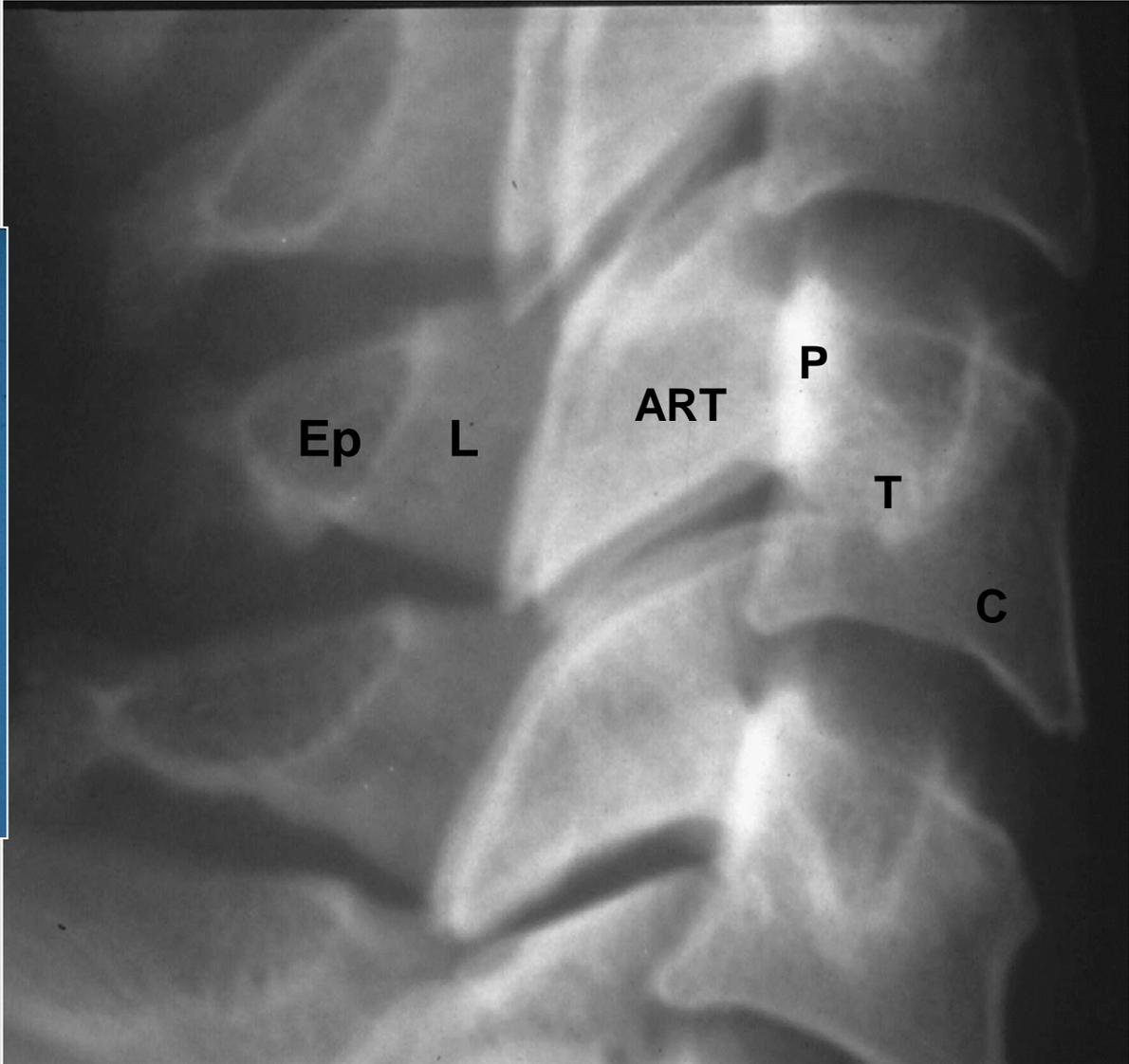
**Massifs articulaires postérieurs**

**'pilier antérieur'**

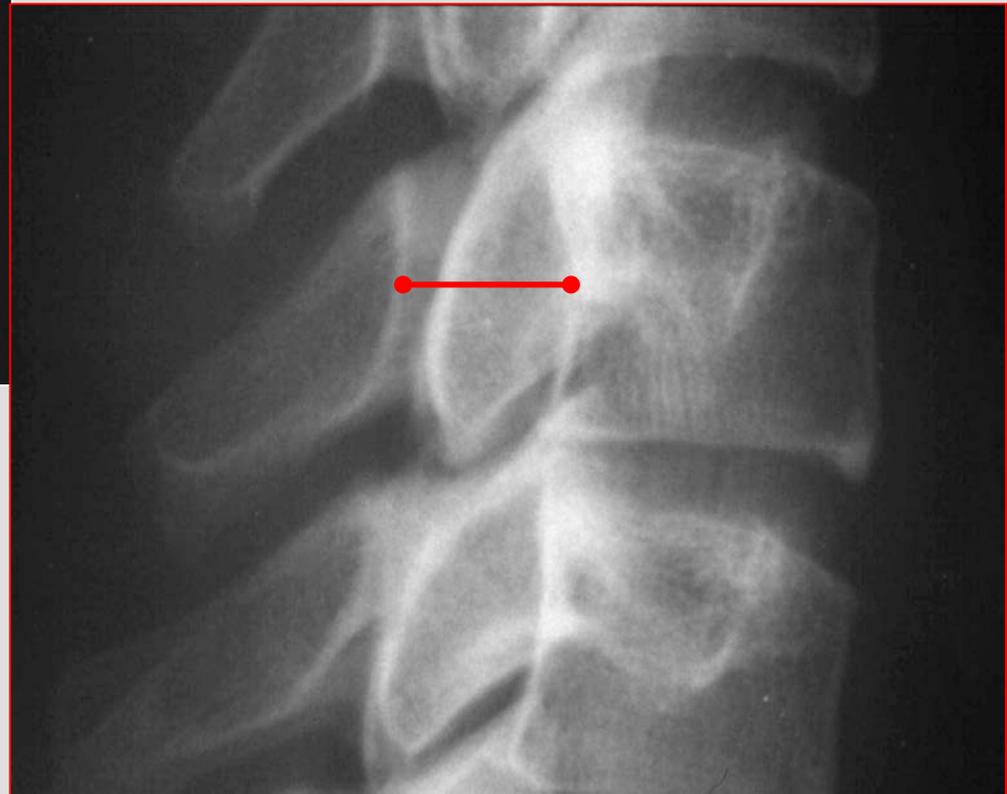
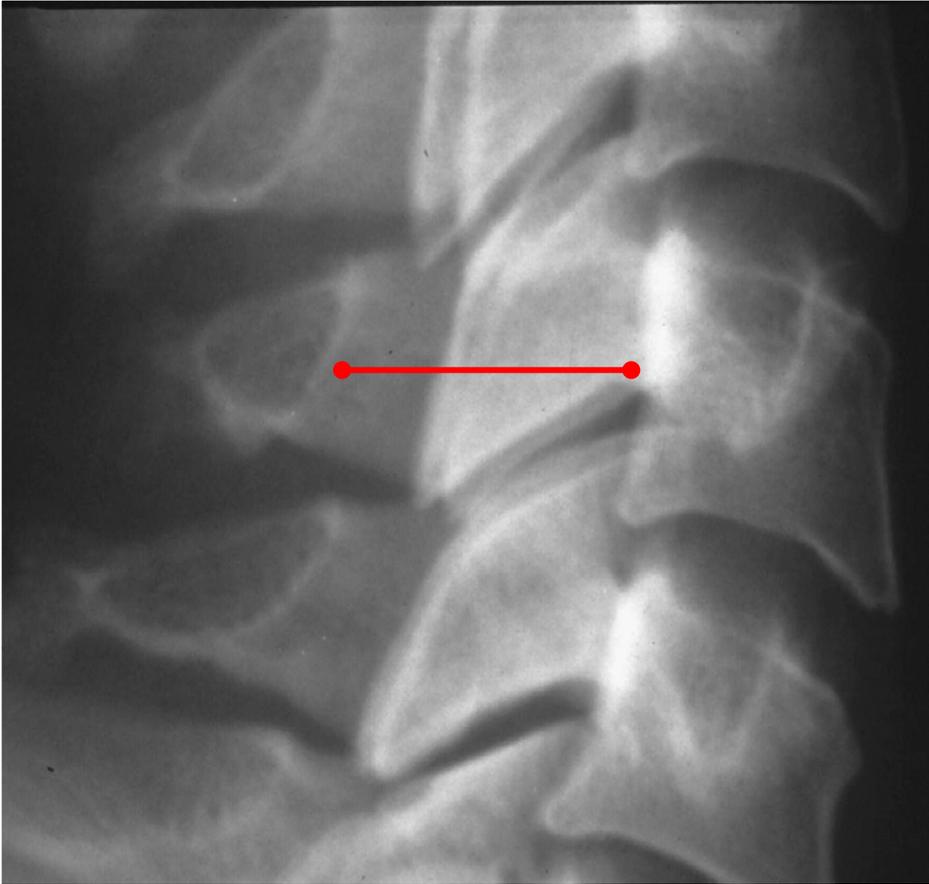
**Corps vertébraux**

Radiologie conventionnelle  
**segment cervical**





# Diamètre canalaire

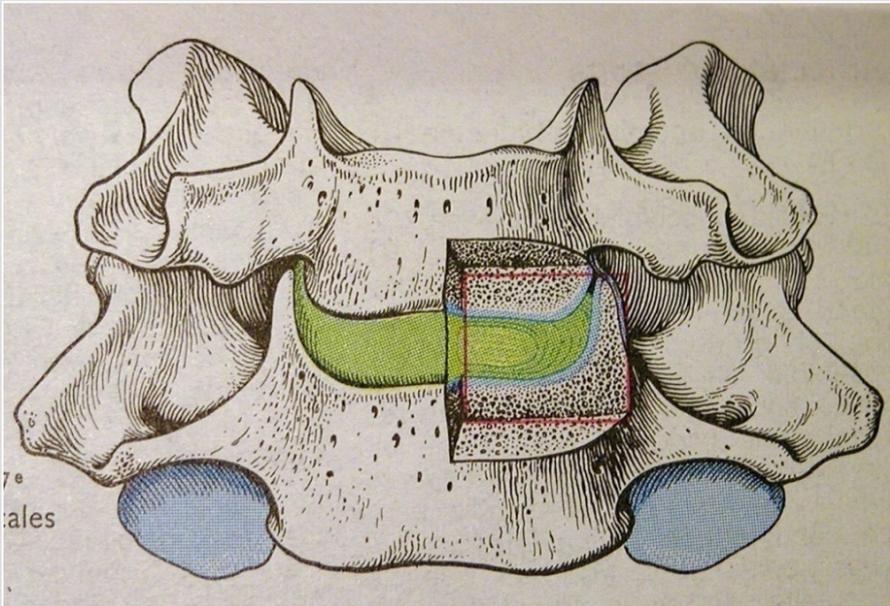


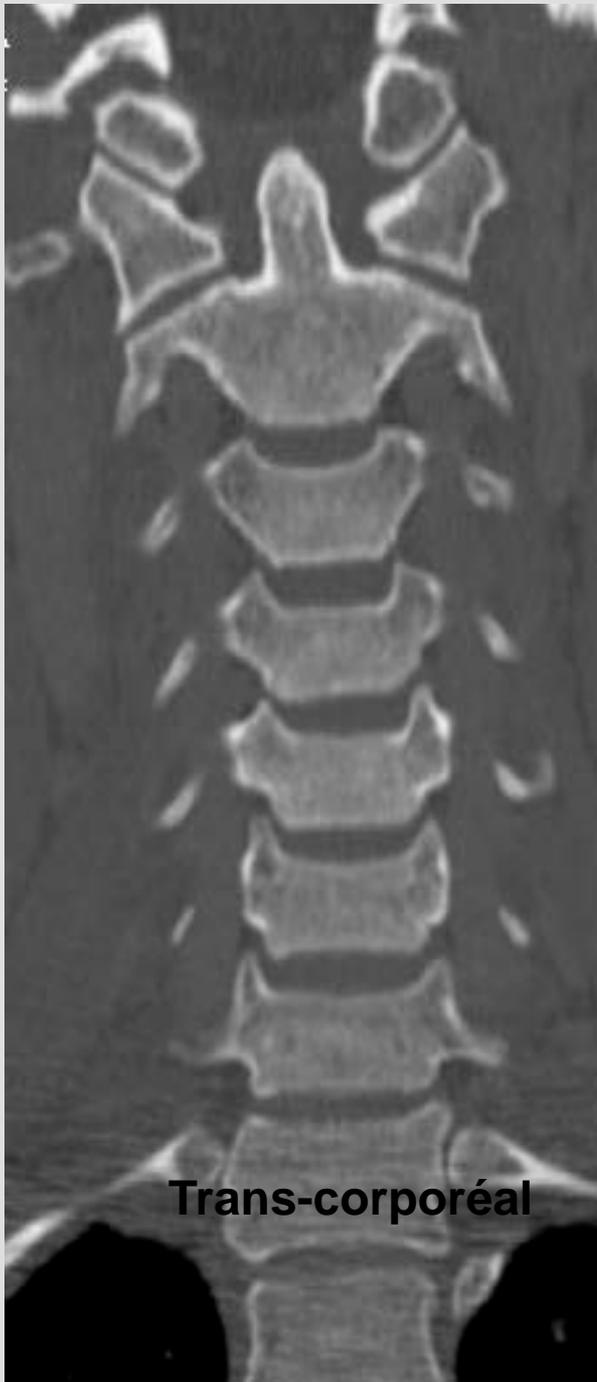
# Subluxation





**Incidence de face**

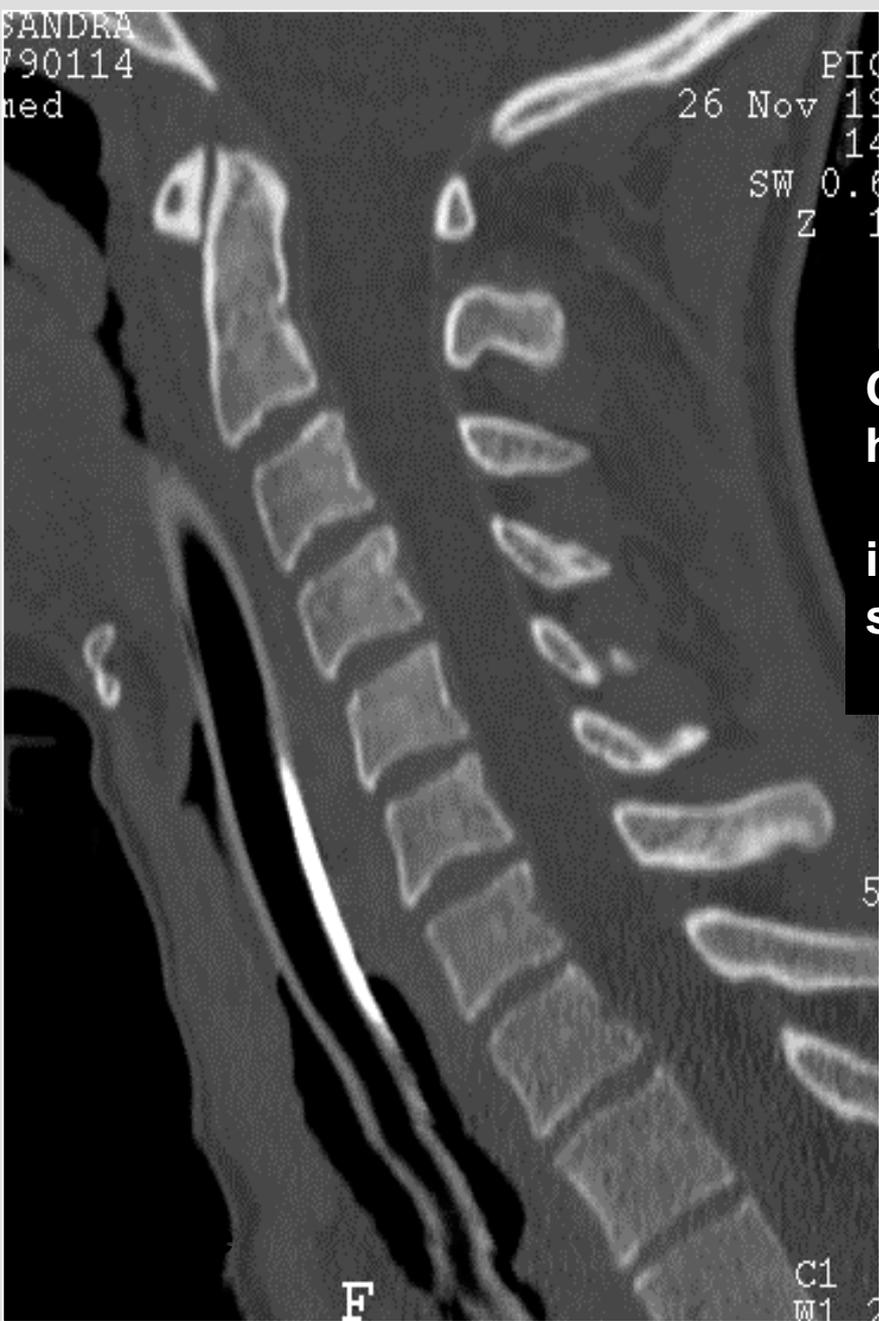




**CT scanner  
hélicoïdal**

**incidence  
coronale**





**CT scanner  
hélicoïdal  
incidence  
sagittale**



# Extension

Epreuve  
'dynamique'

# Flexion

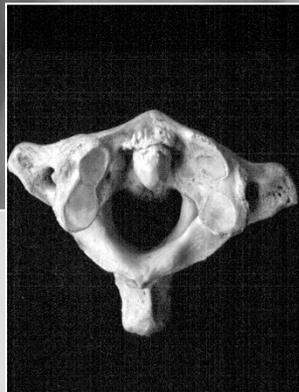


Sujet  
normal

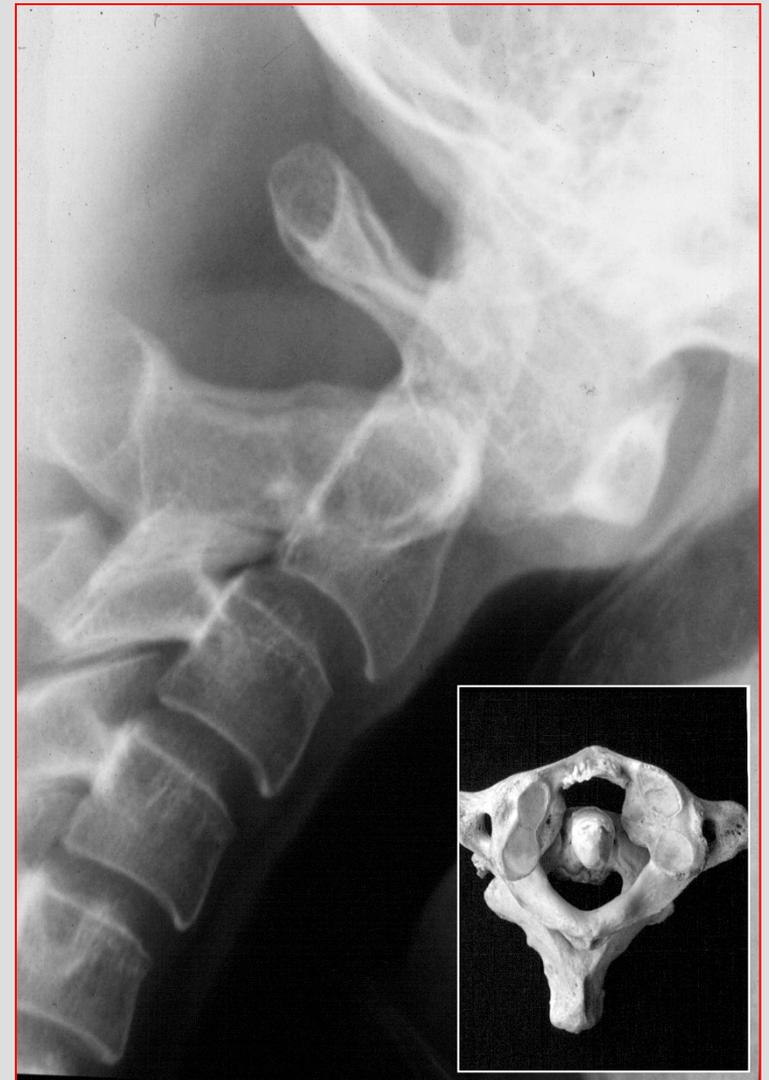


# ***C1 C2 en Flexion***

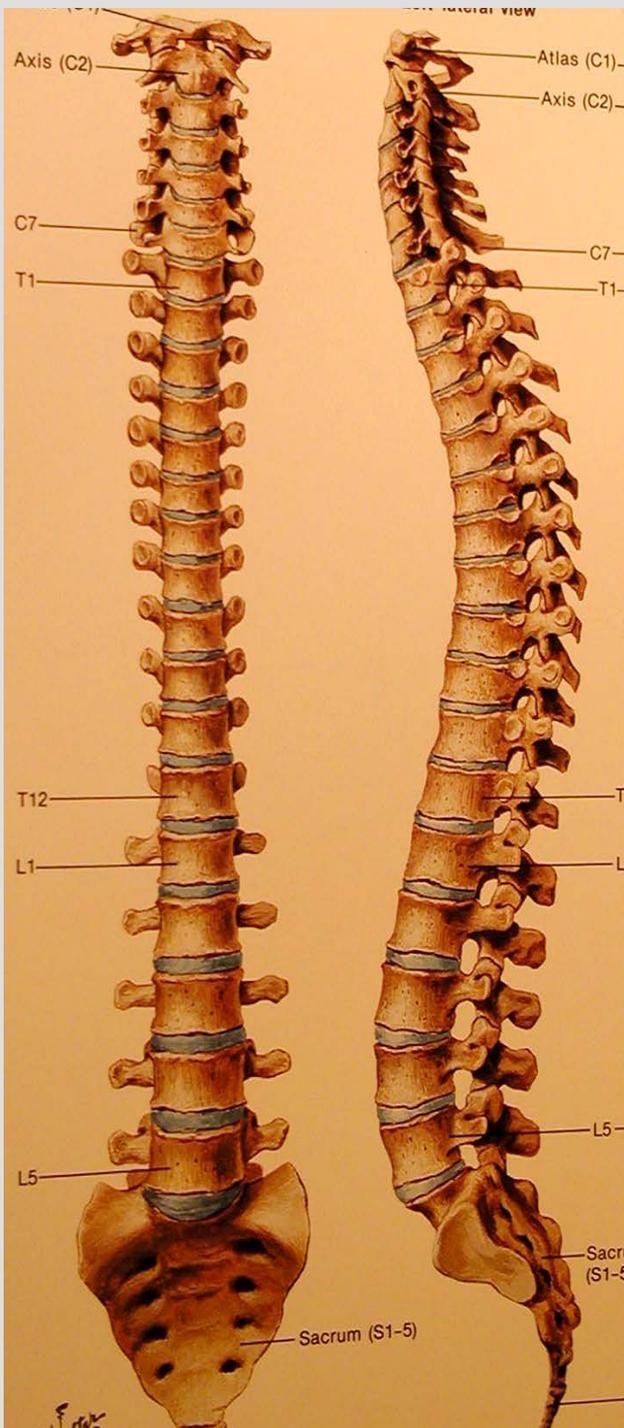
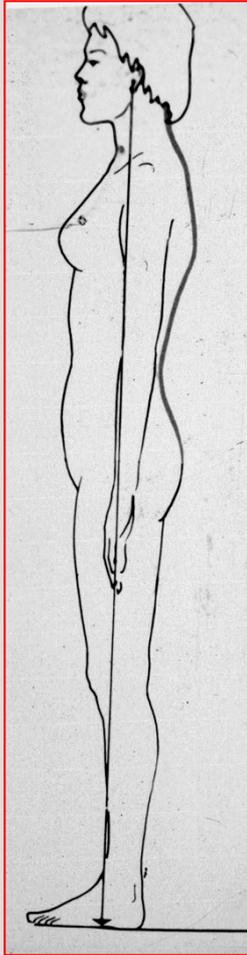
# ***Instabilité C1 C2***



**Sujet  
normal**



Radiologie conventionnelle  
**segment dorsal**



Lordose cervicale

Cyphose dorsale

Lordose lombaire

**Courbures  
physiologiques**



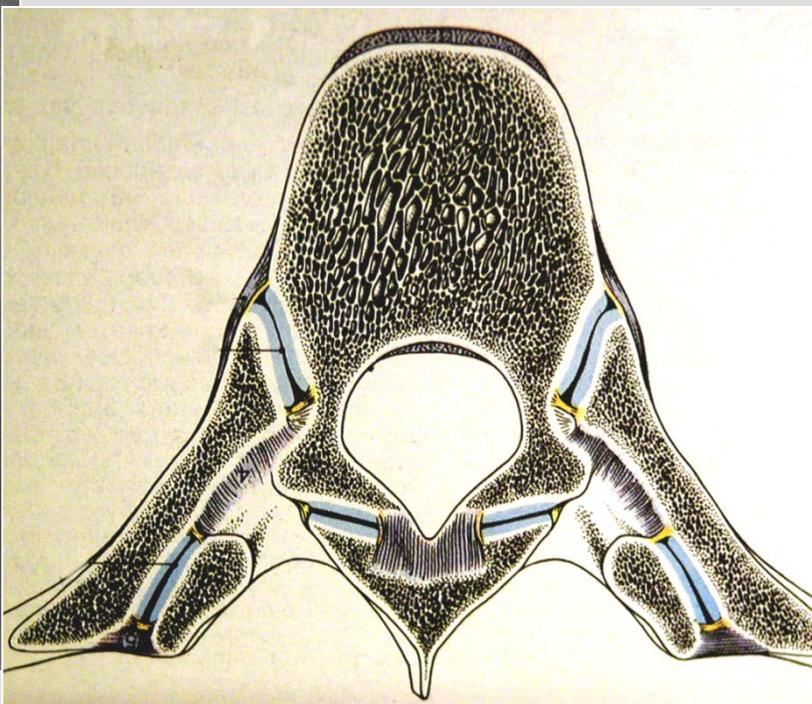
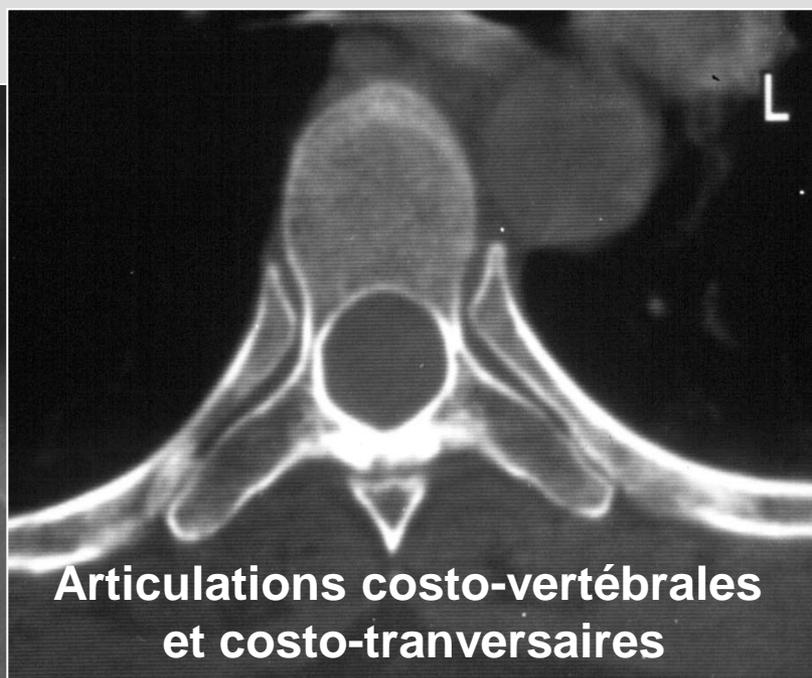
# Rachis dorsal ou thoracique

...surprojections

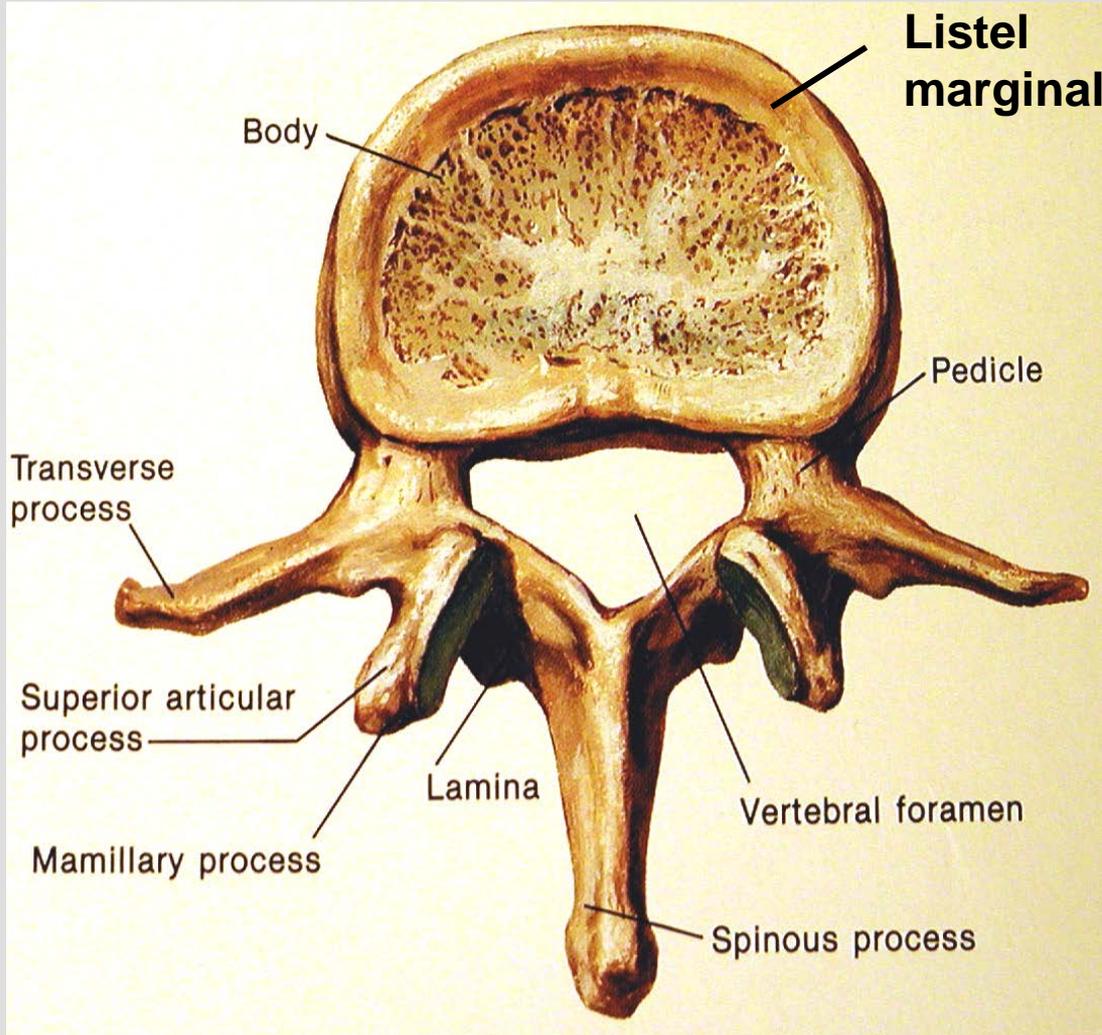
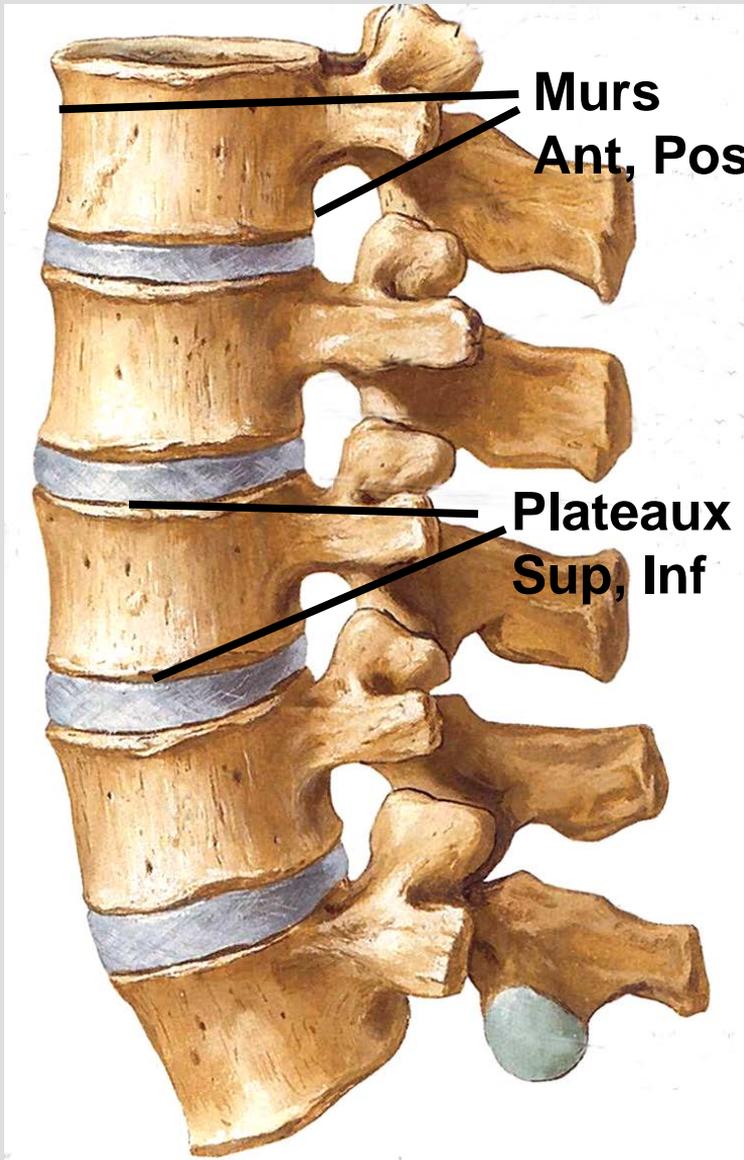


**Côtes**  
**Poumons**

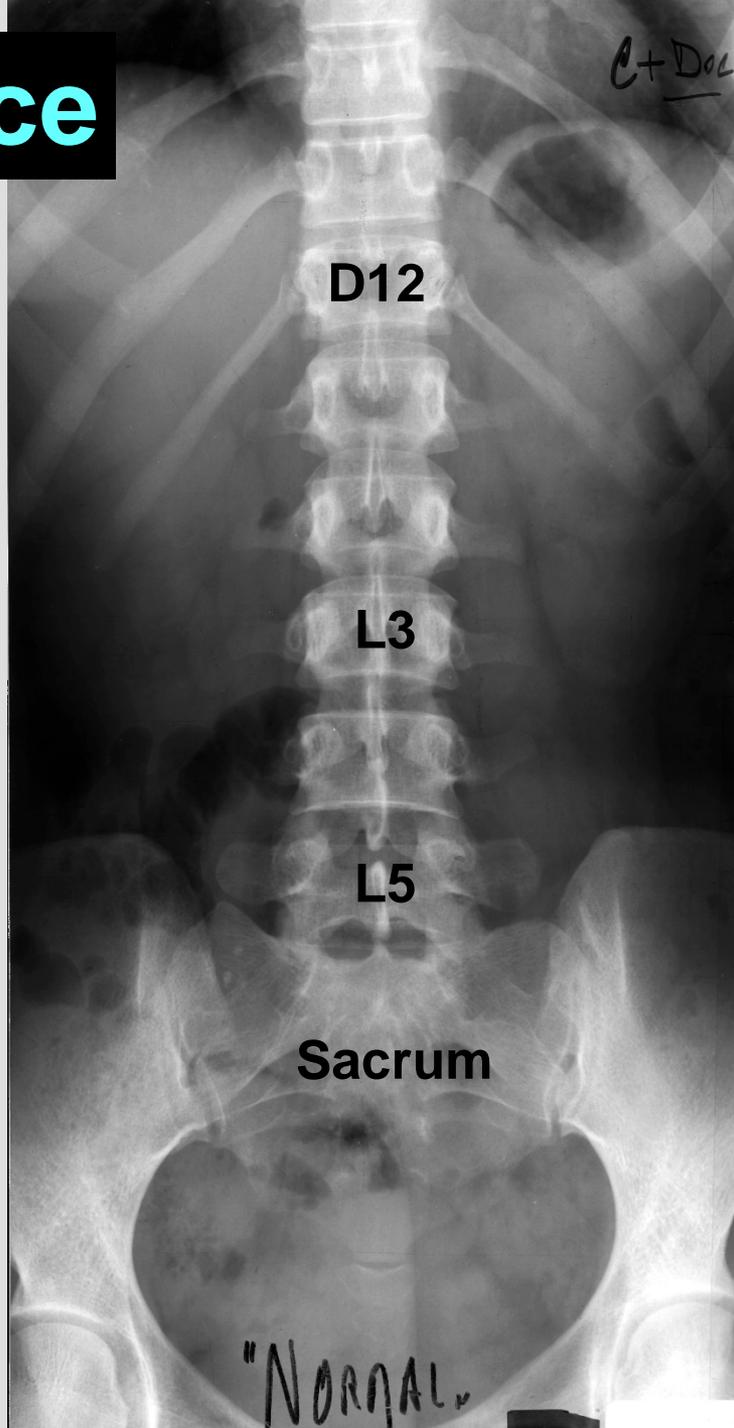
**Moins mobile**  
**→ Disques**  
**moins épais**



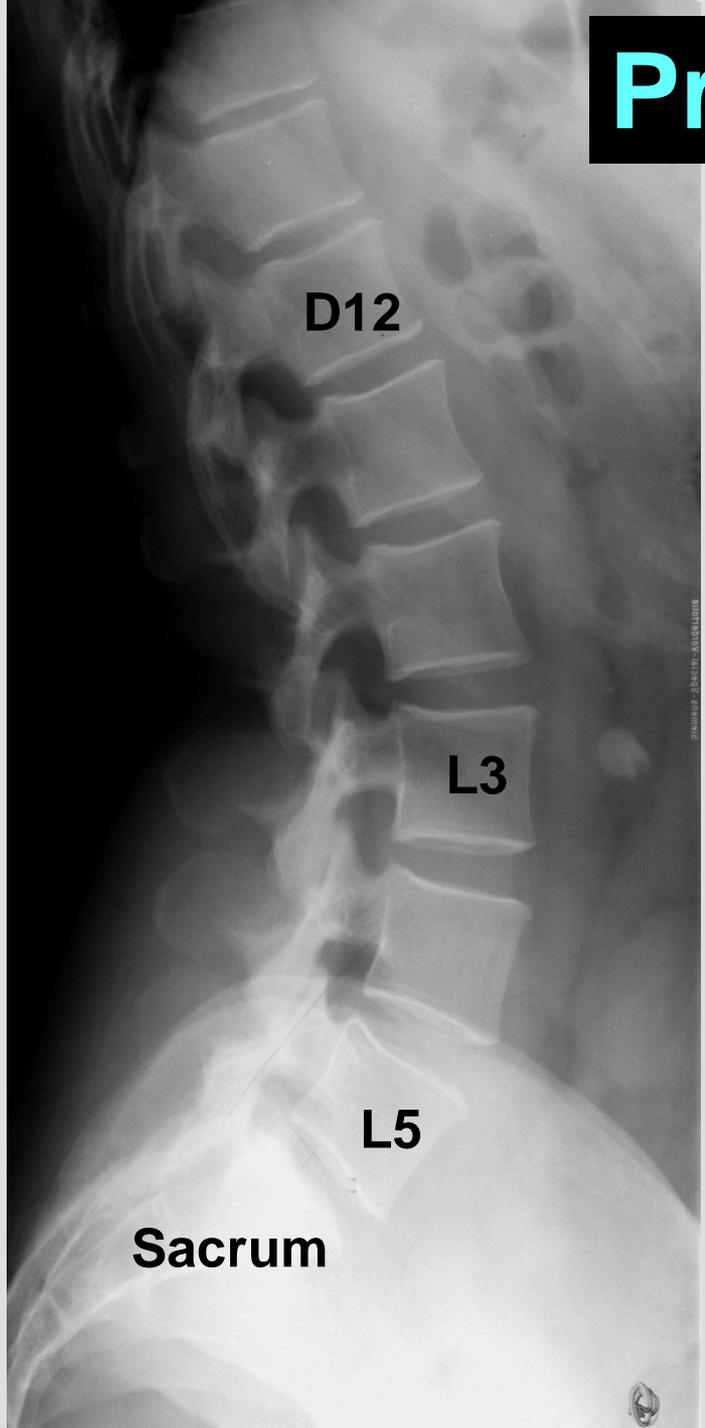
**Rachis Lombaire**  
**+**  
**charnière lombosacrée**

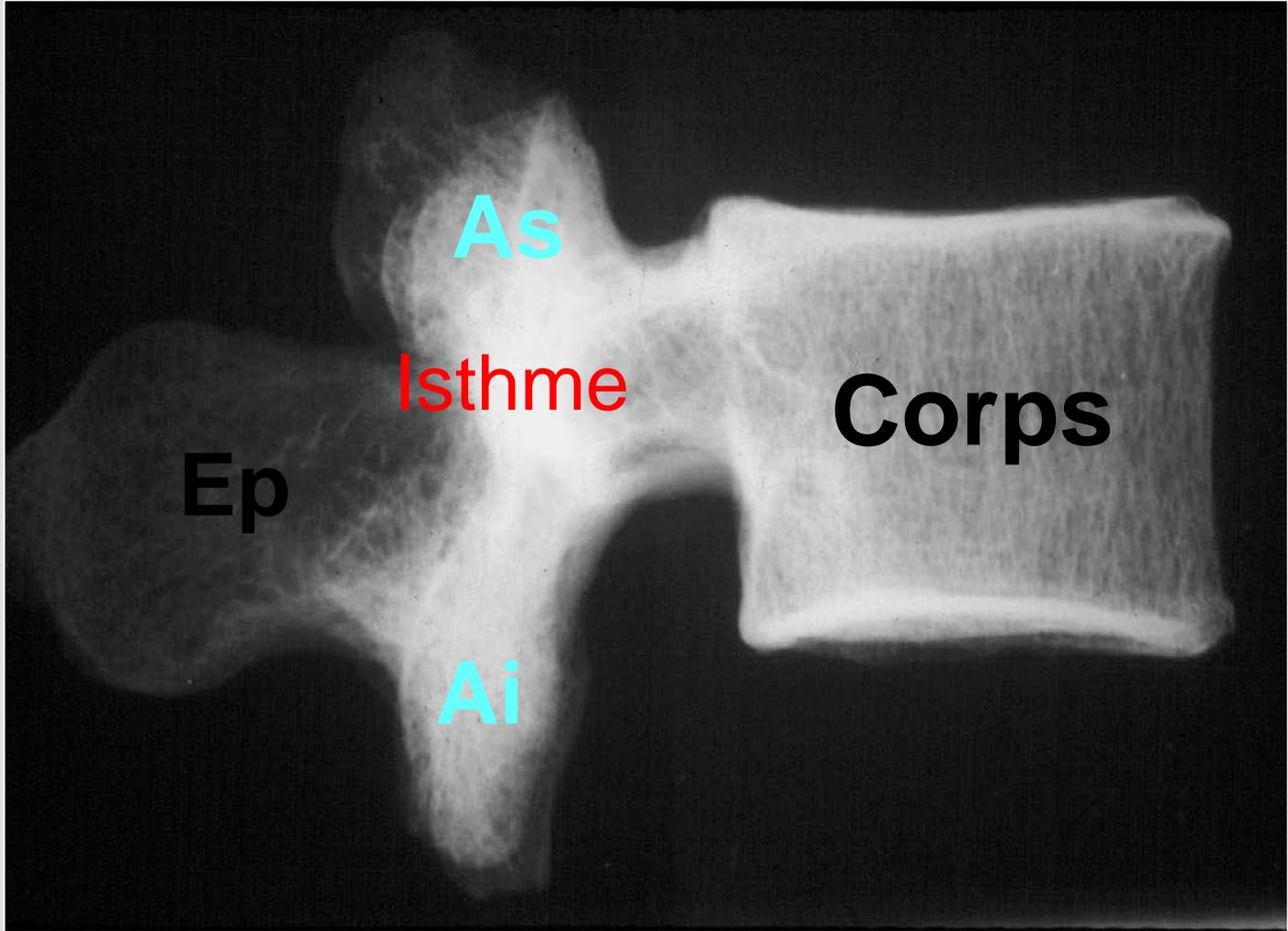


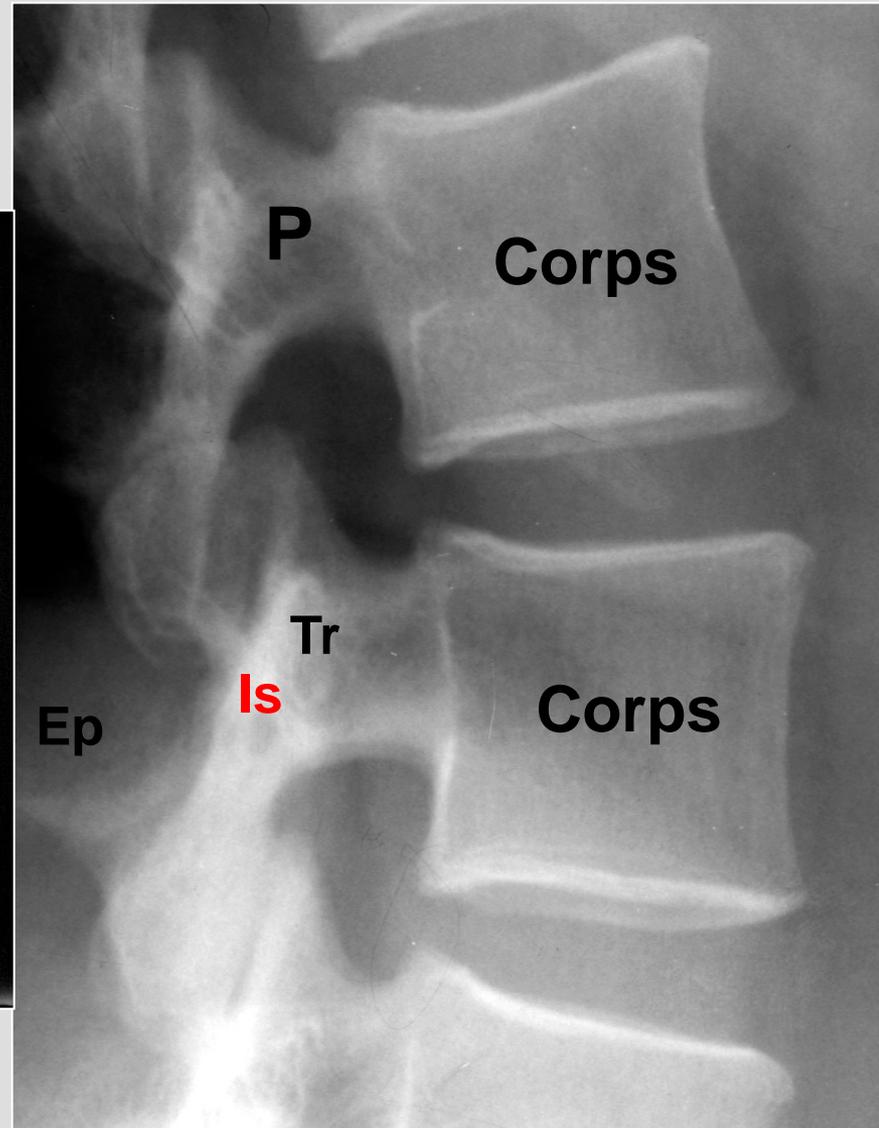
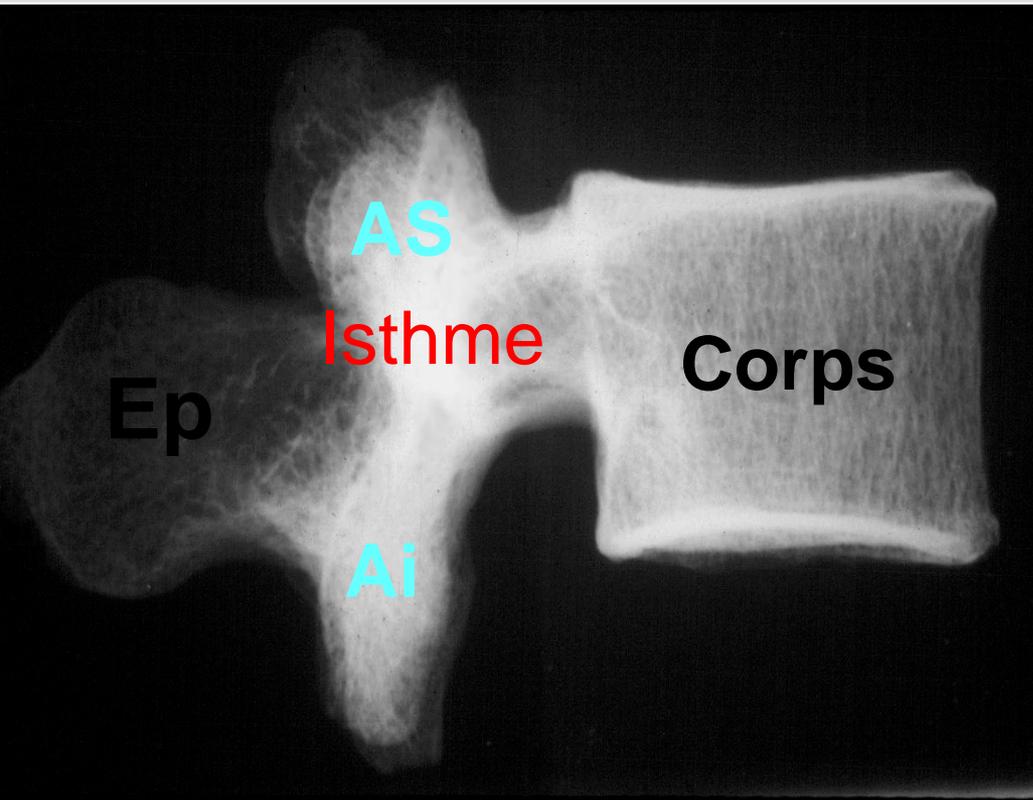
# Face



# Profile









**Sagittal T2**

**Cône terminal  
et  
Queue de cheval**

D12

**Cône**

**Corps vertébral**

**Epineuse**

**Racines  
Queue de  
cheval**

**Ligament surépineux**

**Graisse épidurale**

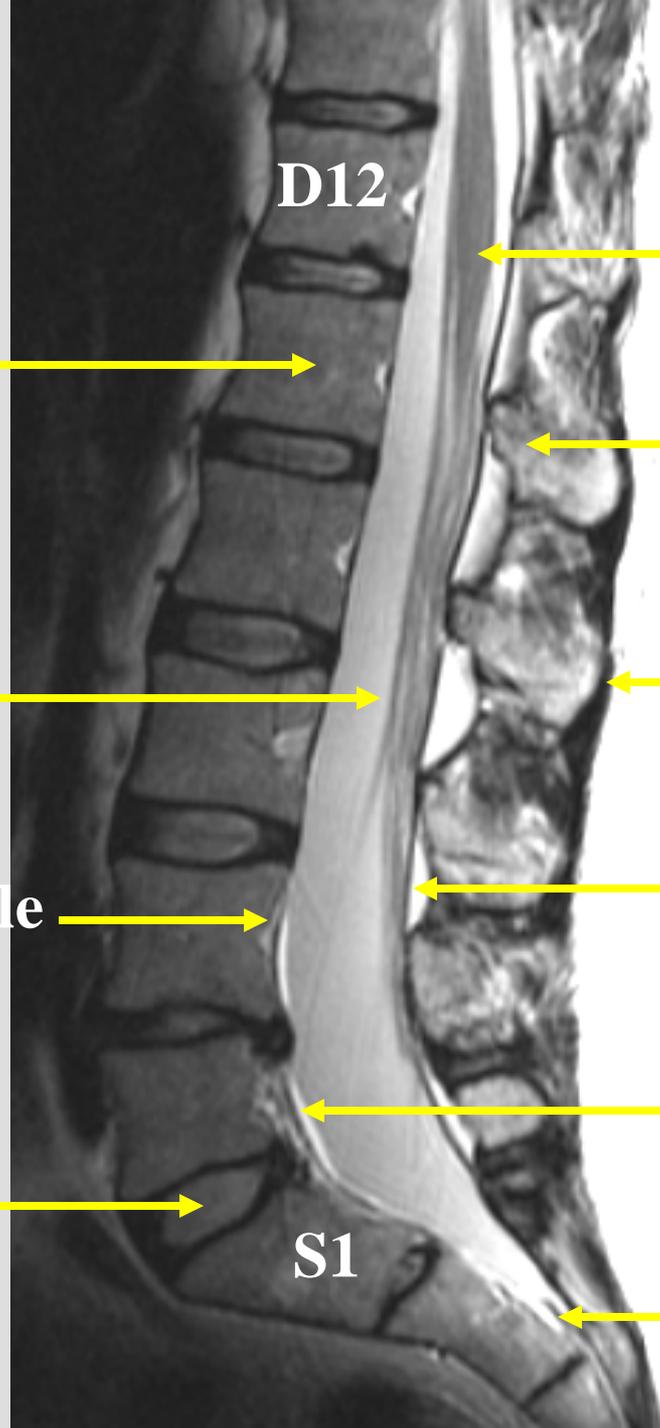
**Veine basivertébrale**

**LLP+duremère**

**Disque**

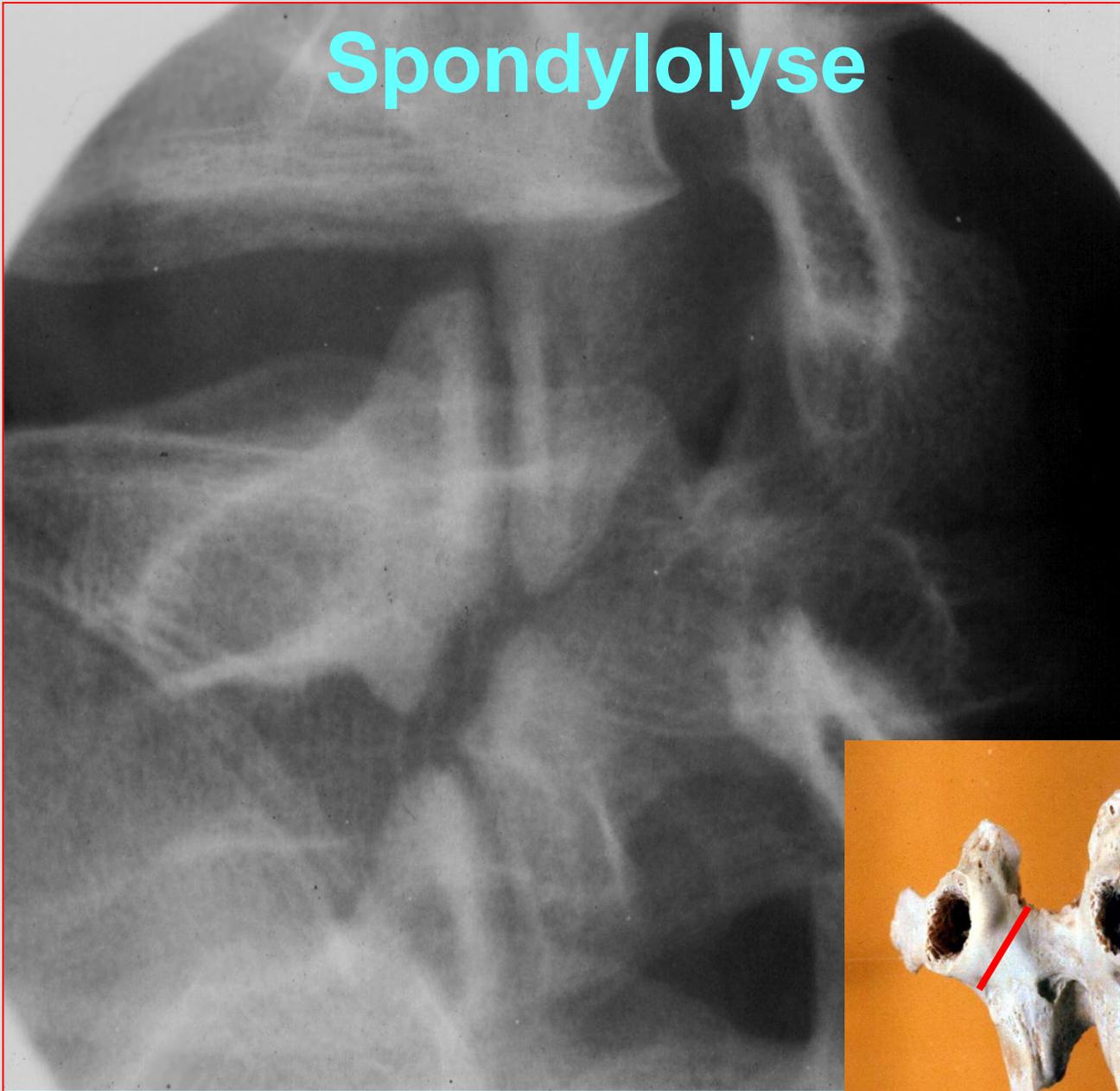
S1

**Filum Terminale**



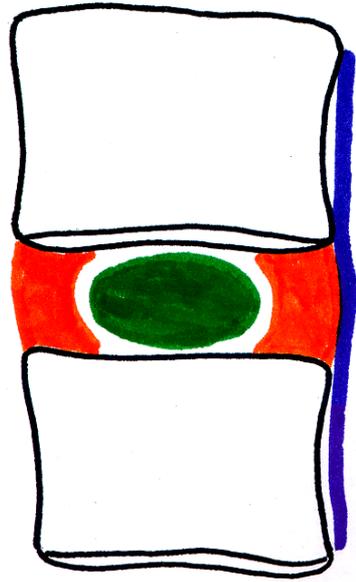


# Spondylolyse



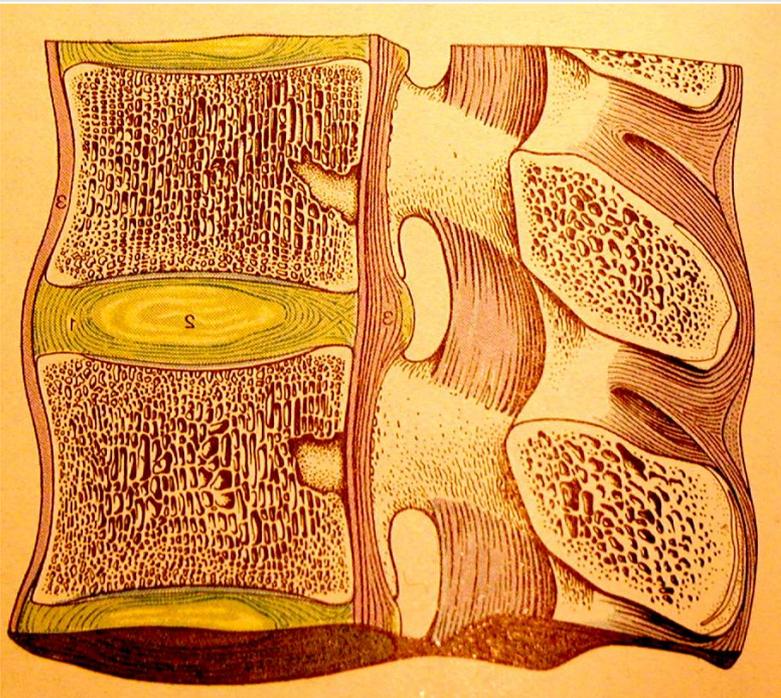
**Le disque  
intervertébral**

**Un amortisseur  
hydraulique**



**Annulus fibrosus**

**Nucleus pulposus**



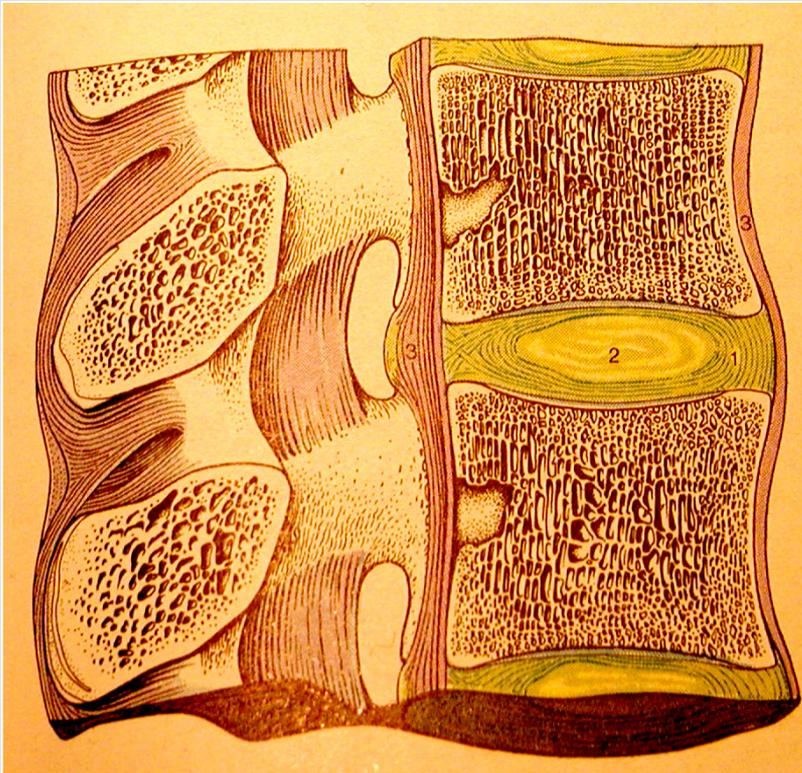
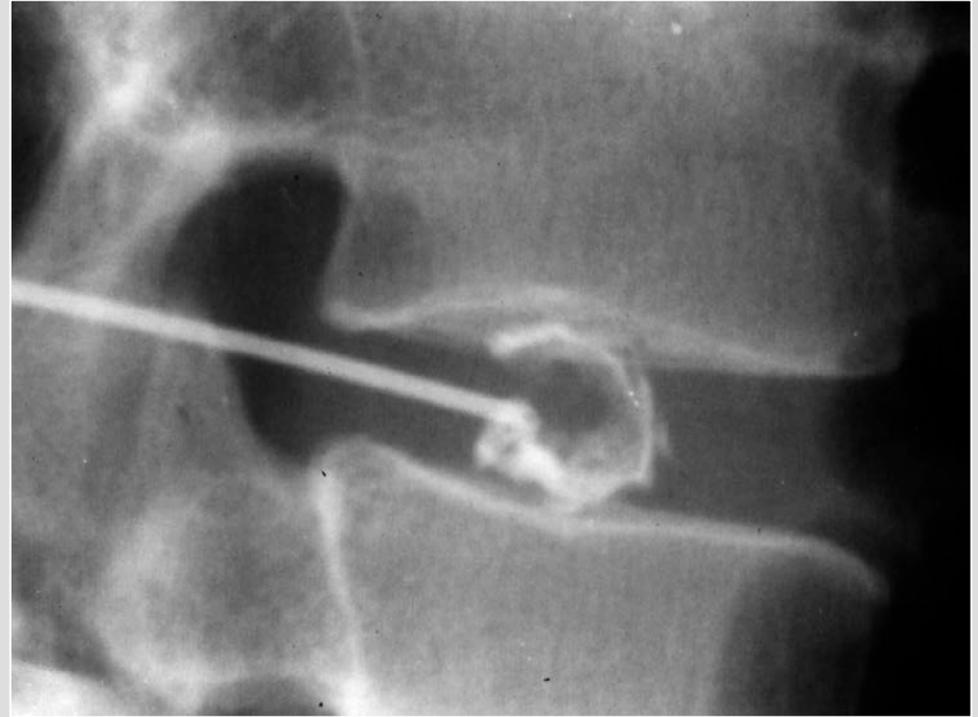
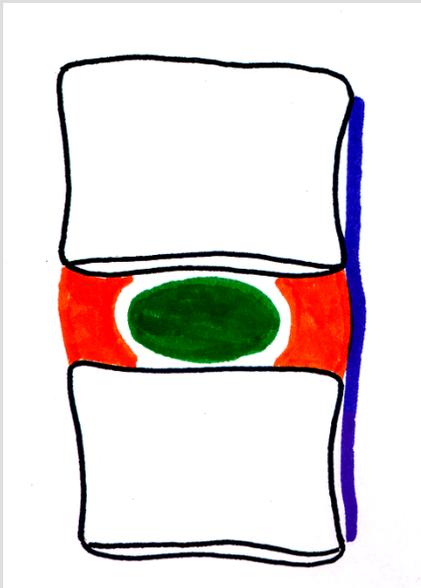


**Après Décharge**



**Après Station**

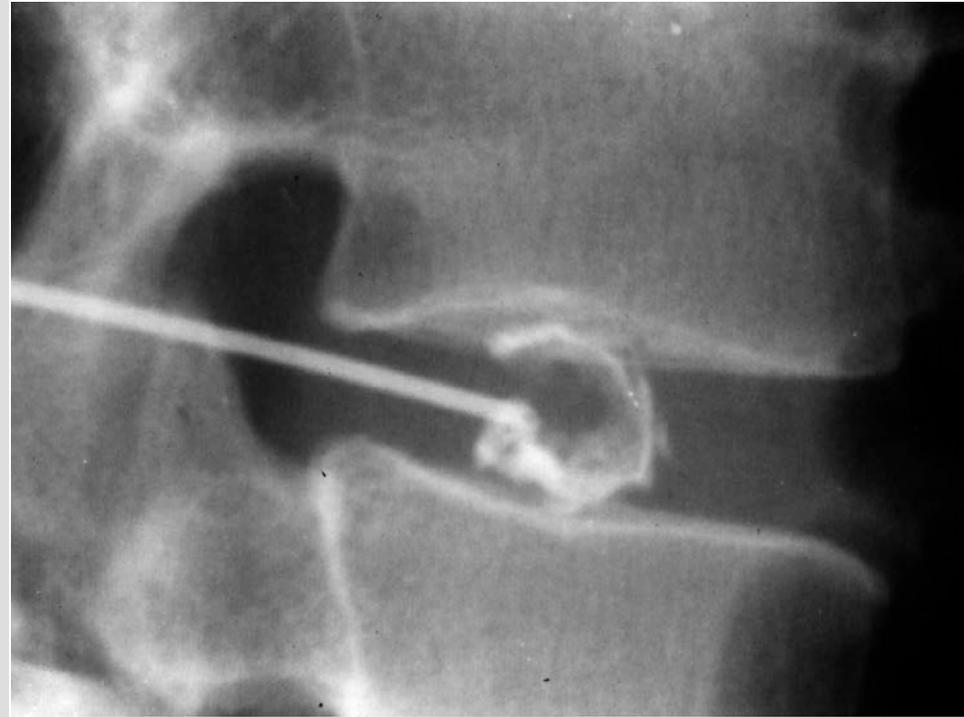
## Geste invasif 1: discographie opaque



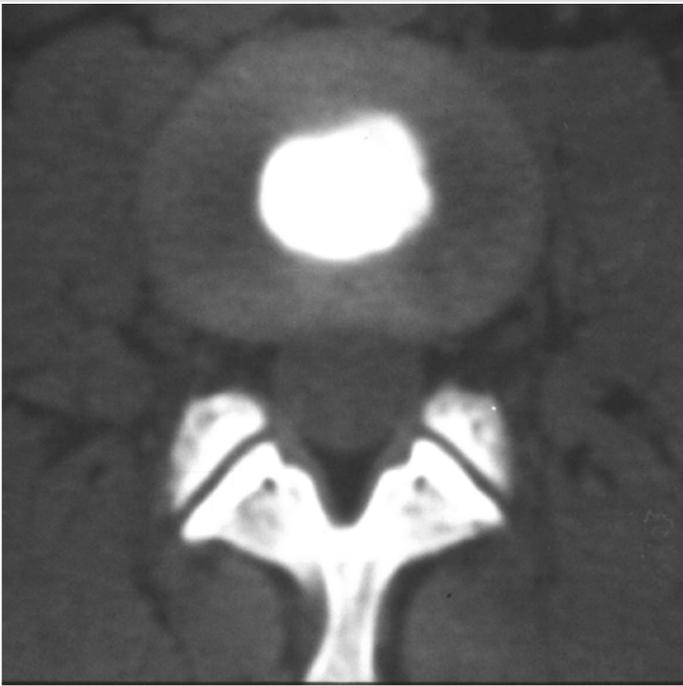
Discographie normale



**Coupe axiale**

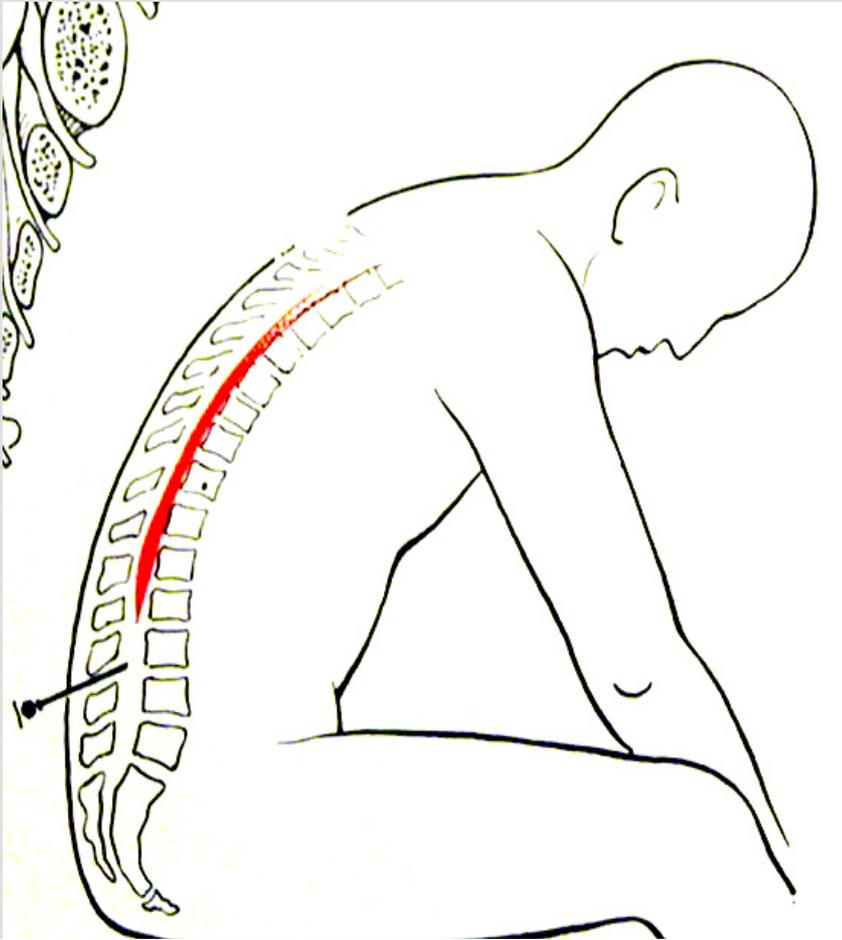


**Sujet normal**



Fuite herniaire

## Geste invasif 2: Myélo-sacco-radiculographie opaque



**Ponction lombaire en  
L3-L4**



L2

L3

L4

L5

Sacrum

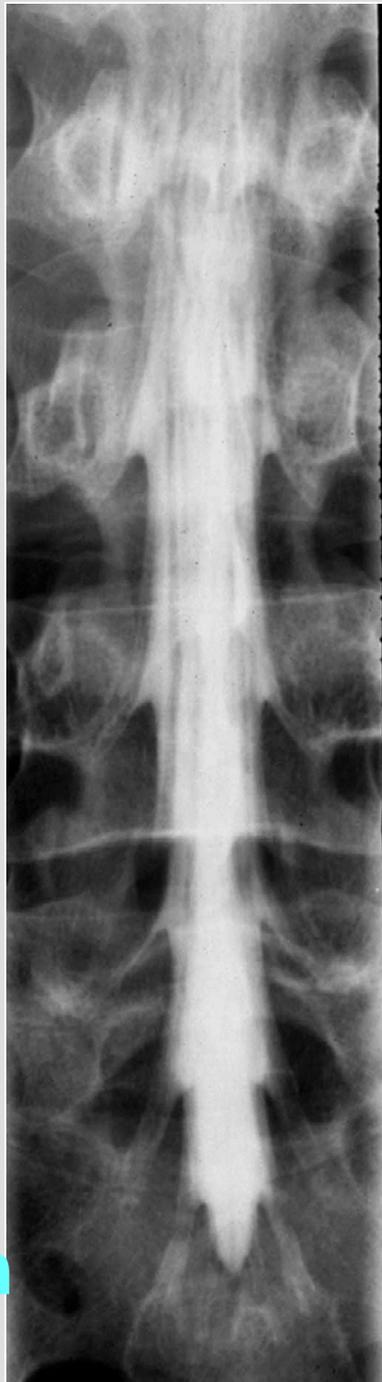
L2

L3

L4

L5

Sacrum



L2

L3

L4

L5

Sacrum



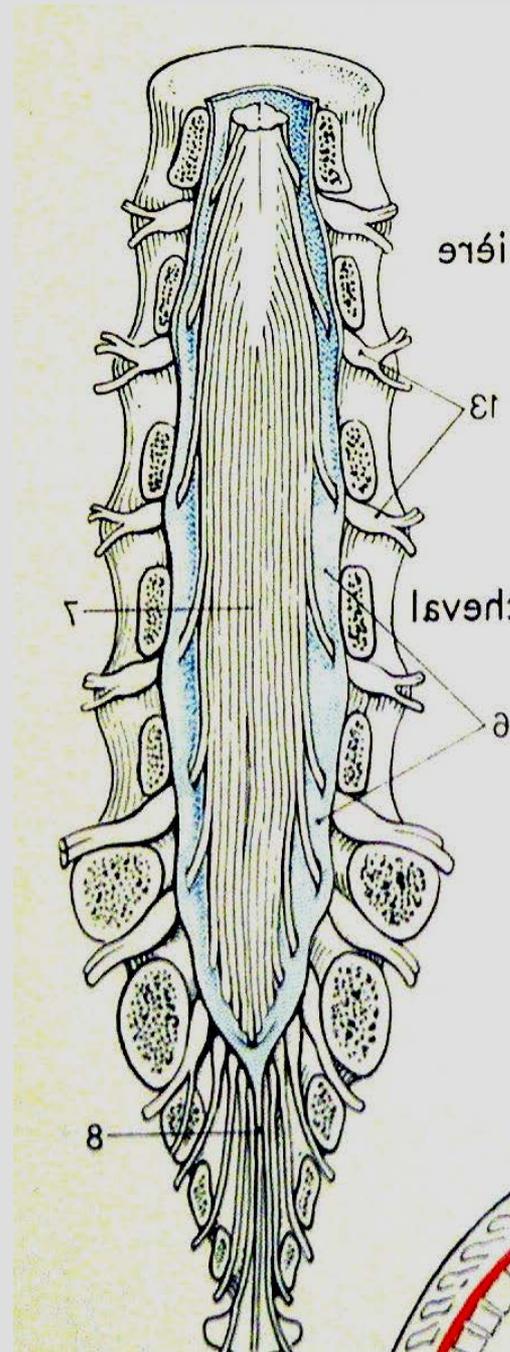
L2

L3

L4

L5

Sacrum



**NB**  
Chaque racine passe sous le pédicule correspondant (homonyme)



OAG 



FACE



 OAD