

Cavernous sinus exploration & Anterior petrosectomy

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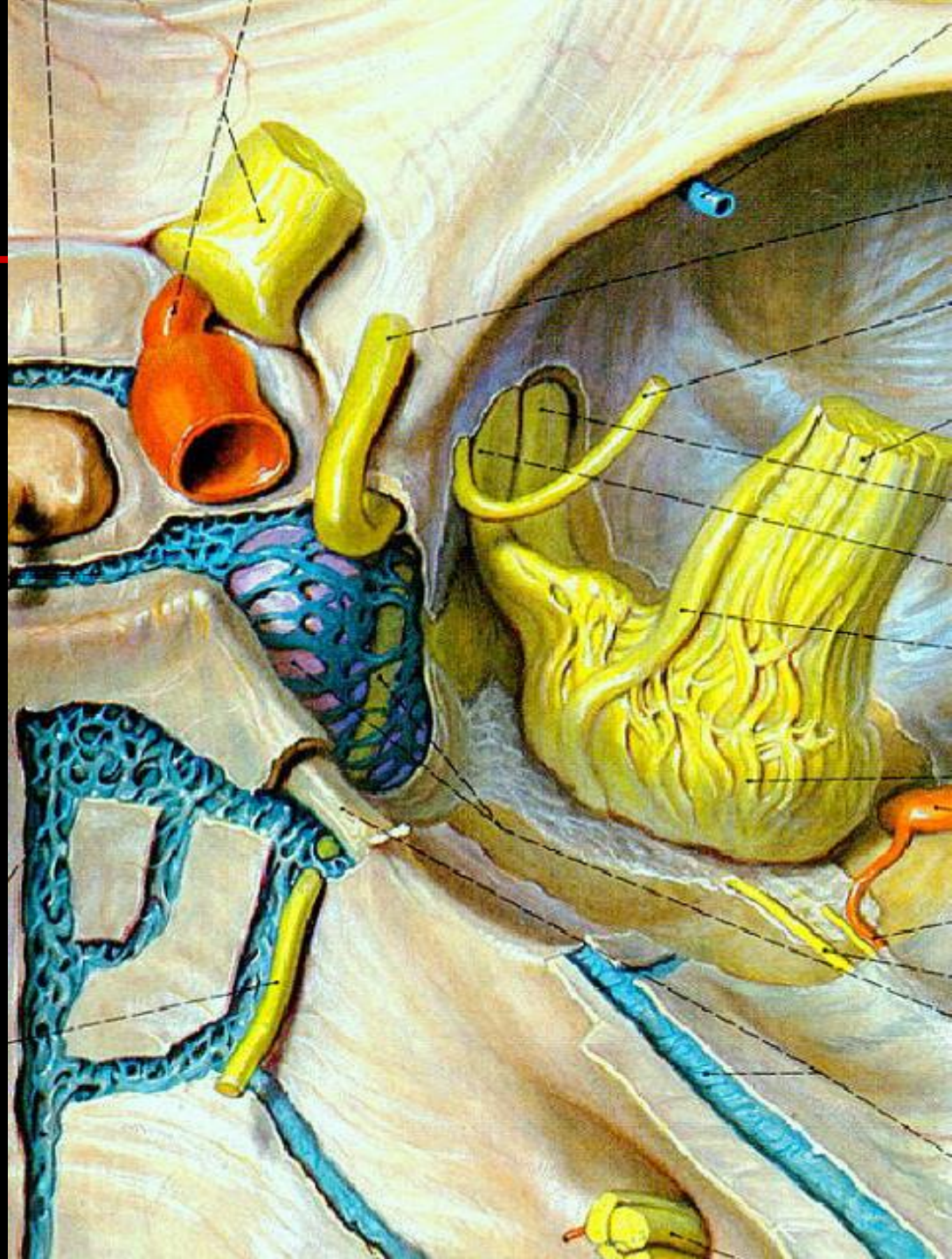
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Cavernous Sinus

- **Not a dural sinus**
- **Not a cavernous structure**
- **Extradural, extremely thin-walled veins**
- **Accurate term = Lateral Sellar Compartment**
- **Configuration of the CS - result of the embryonic development of the brain**

Constraining Mechanisms

- **Entry and exit point – bone, fissure, dura**
 - **Distal dural ring: most significant one**
- **Petrosphenoid ligaments**
 - **Superior petrosphenoid (Gruber's ligament): VI, inferior petrosal sinus**
 - **Inferior petrosphenoid (Lingual ligament):**
Checks the carotid artery against the sphenoid bone



Superior petrosphenoid Ligament
Gruber's Ligament

15.8 (10-22)

Lig. sphenopetr. sup.

N. VI

9.7 (6.8-17.9)

14.3 (8.9-20.0)

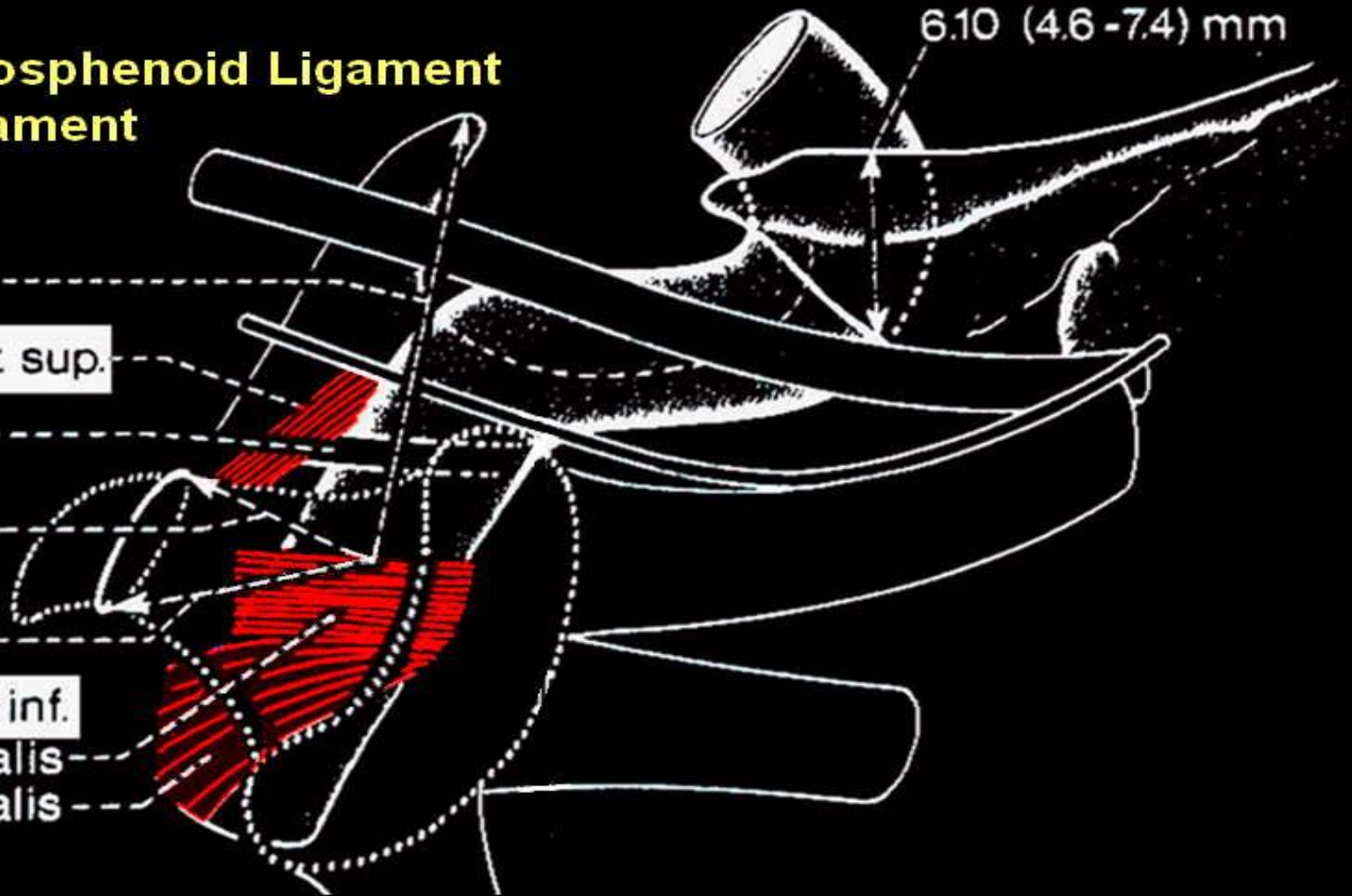
Lig. sphenopetr. inf.

Pars sagittalis

Pars transversalis

6.10 (4.6-7.4) mm

Lateral Ring
Petrolingual Ligament
Inferior Petrosphenoidal Ligament



N

Petrosphen. Lig. ———

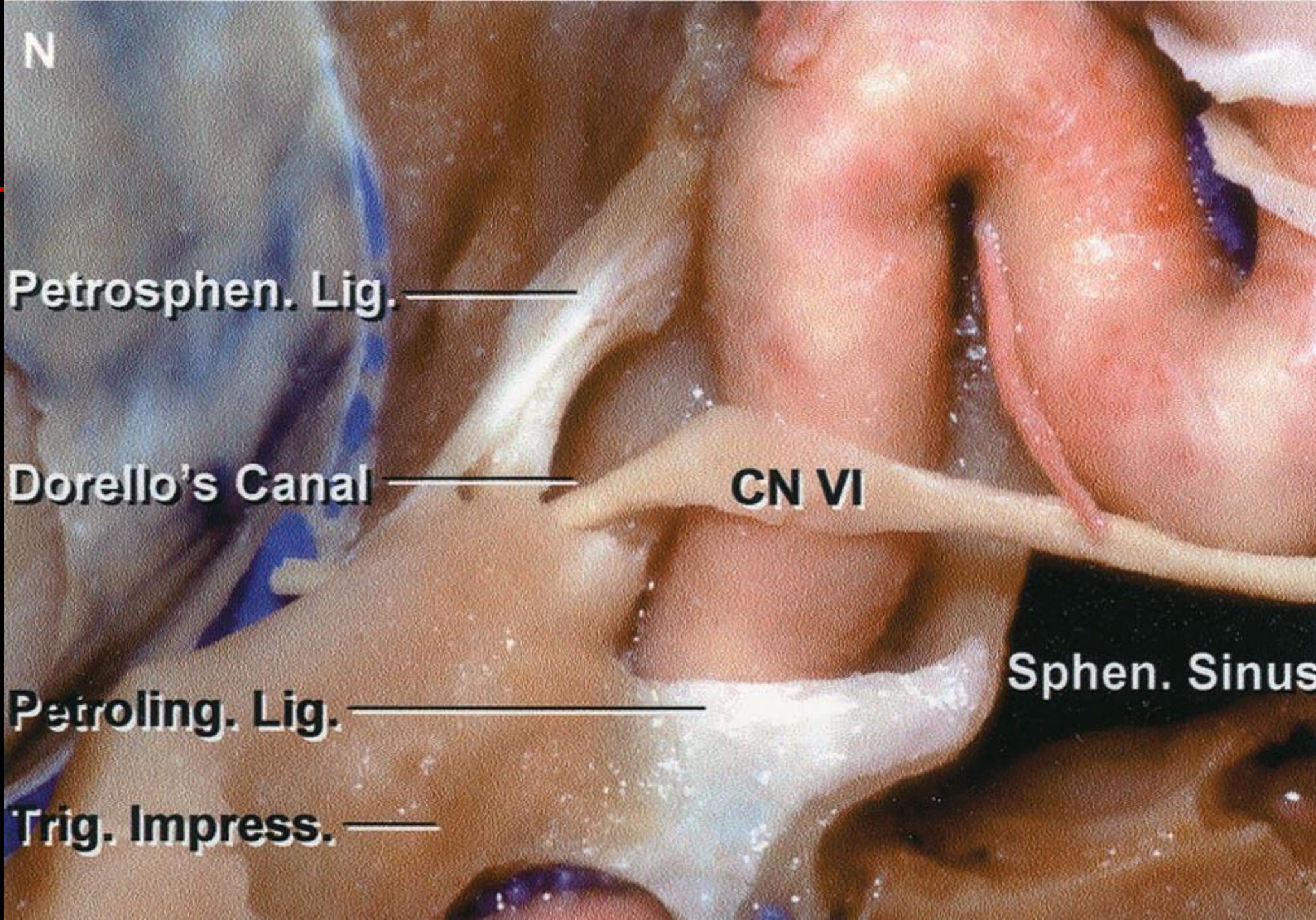
Dorello's Canal ———

CN VI

Petroling. Lig. ———

Sphen. Sinus

Trig. Impress. ———



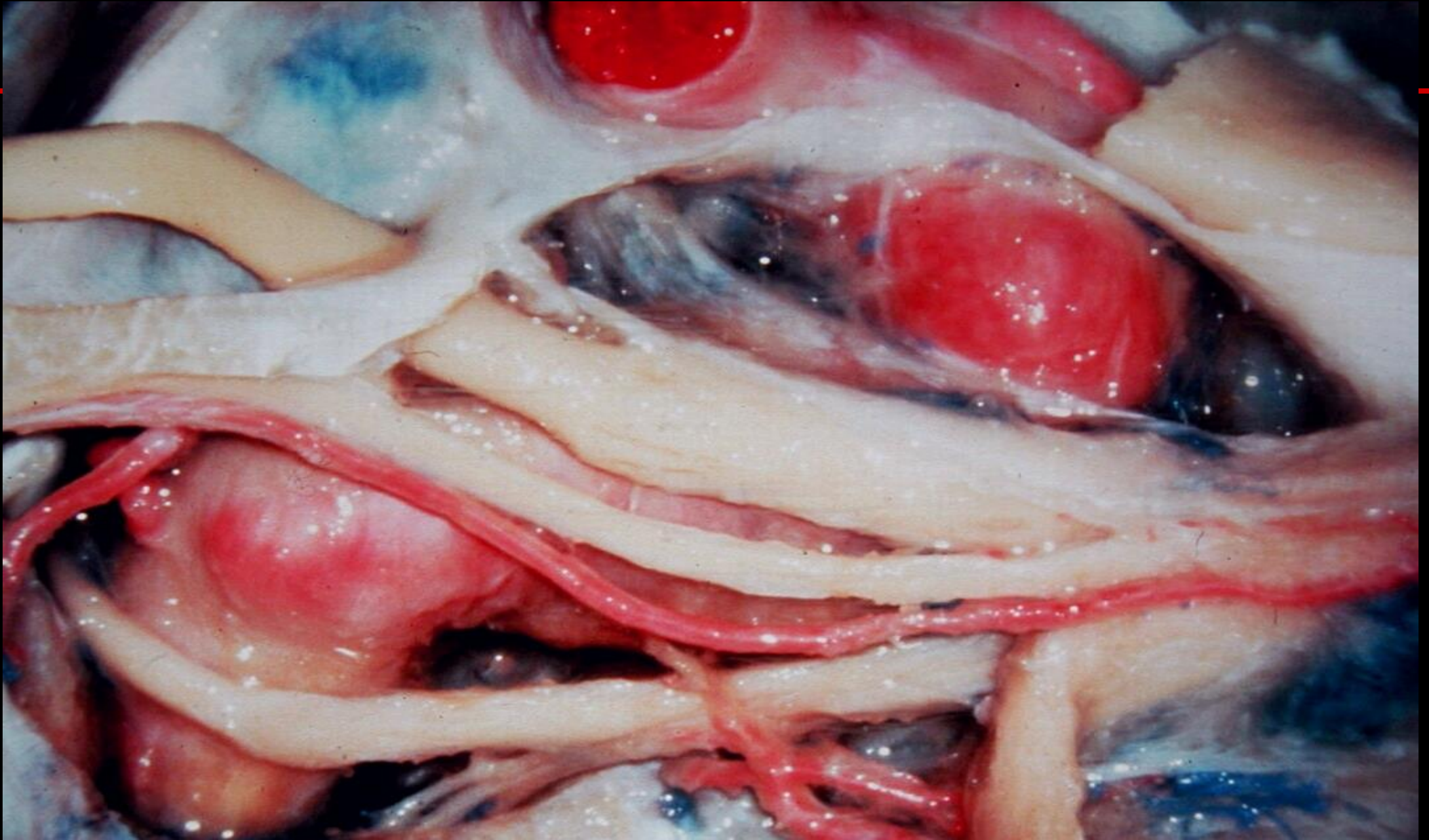
Triangles

- Oculomotor (Dolenc)
- Clinoidal
- Supratrochlear
- Infratrochelar (Parkinson)
- Anteromedial
- Anterolateral
- Posterolateral (Glasscock)
- Posteromedial (Kawase)

Cavernous Sinus Triangles (Nerve Converging)

- **Clinoidal (Dolenc's)**
- **Oculomotor**
- **Supratrochlear**
- **Infratrochlear (Parkinson's)**

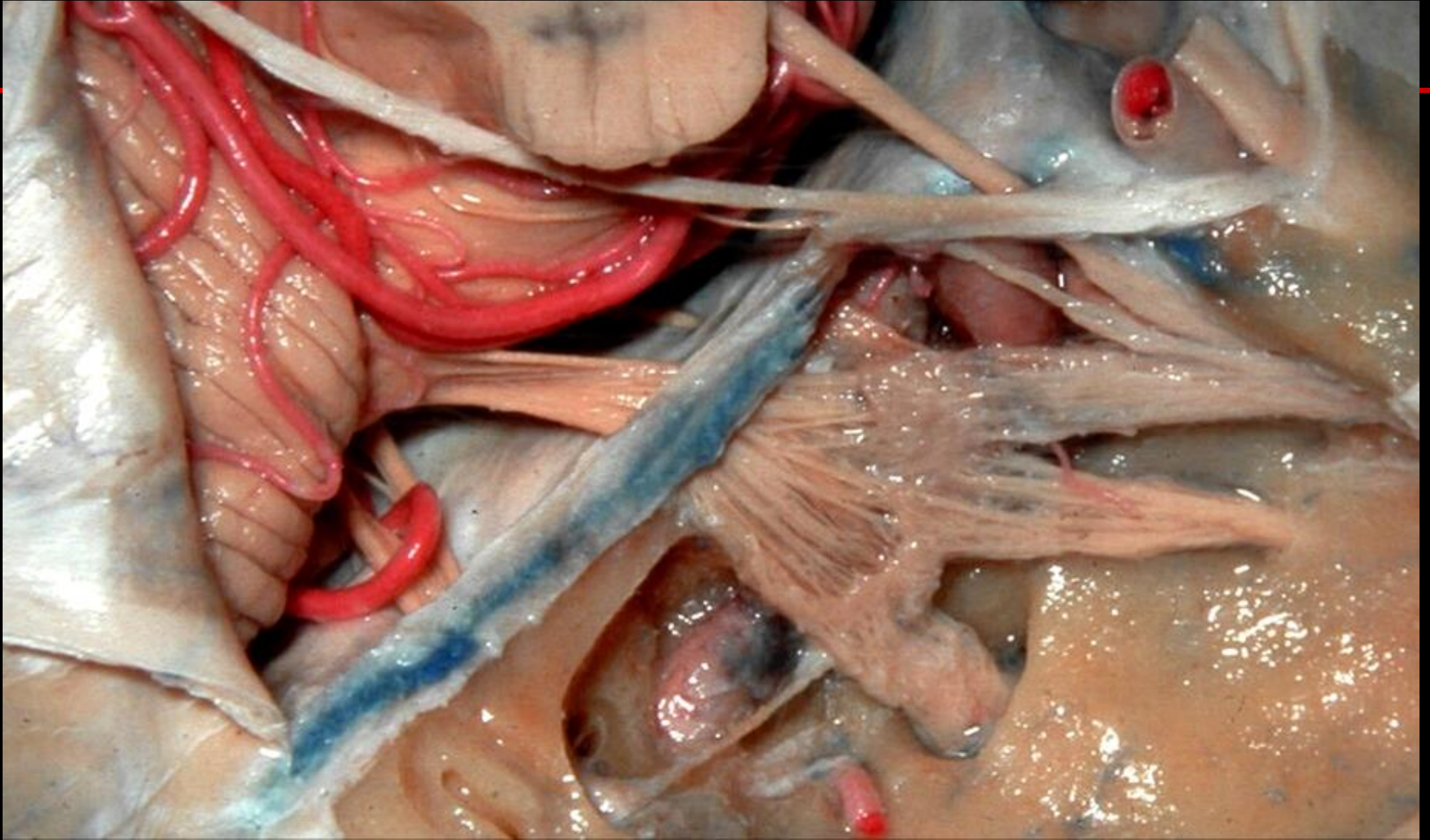
Cavernous Sinus Triangles



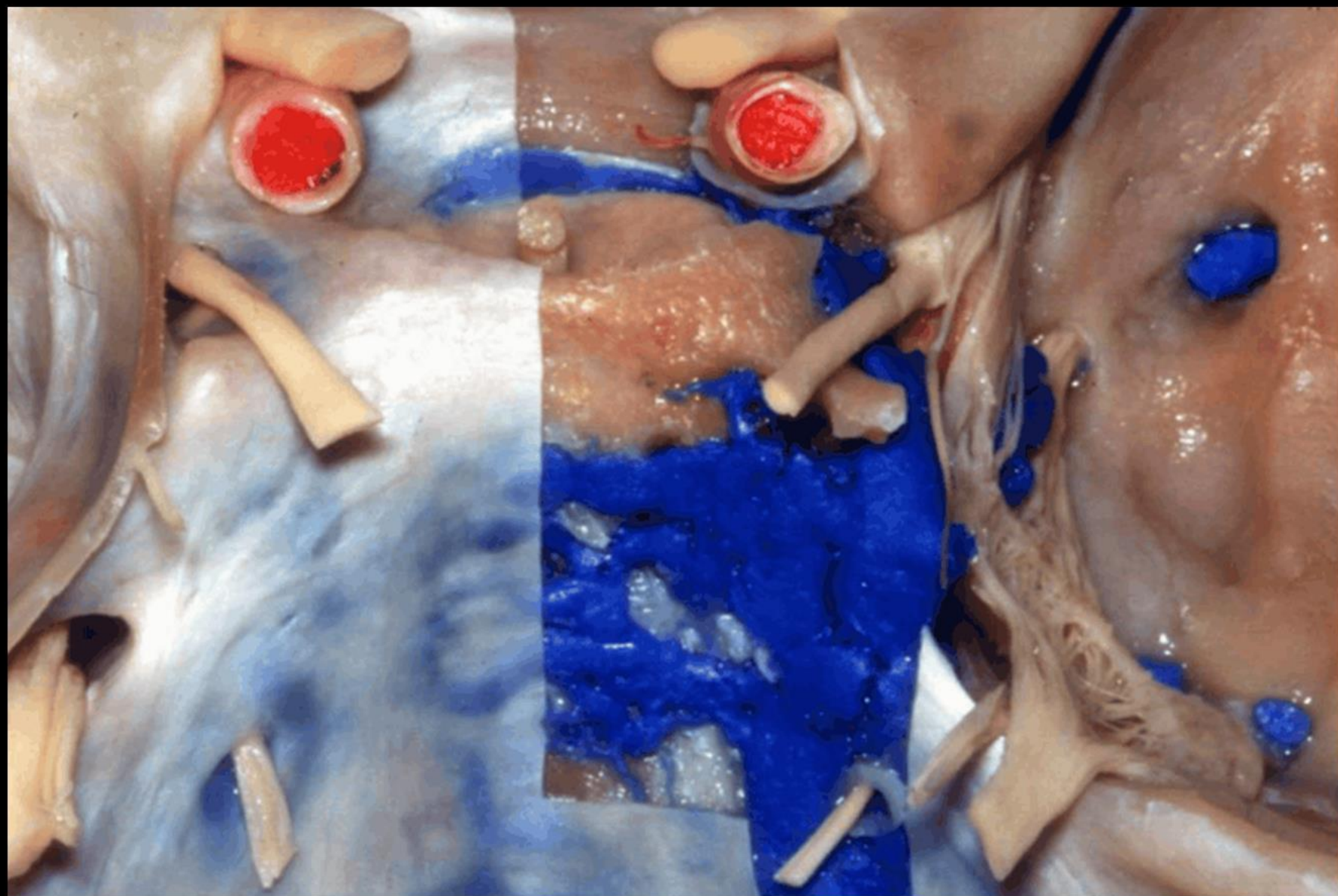
Middle Fossa Triangles (Nerve Diverging)

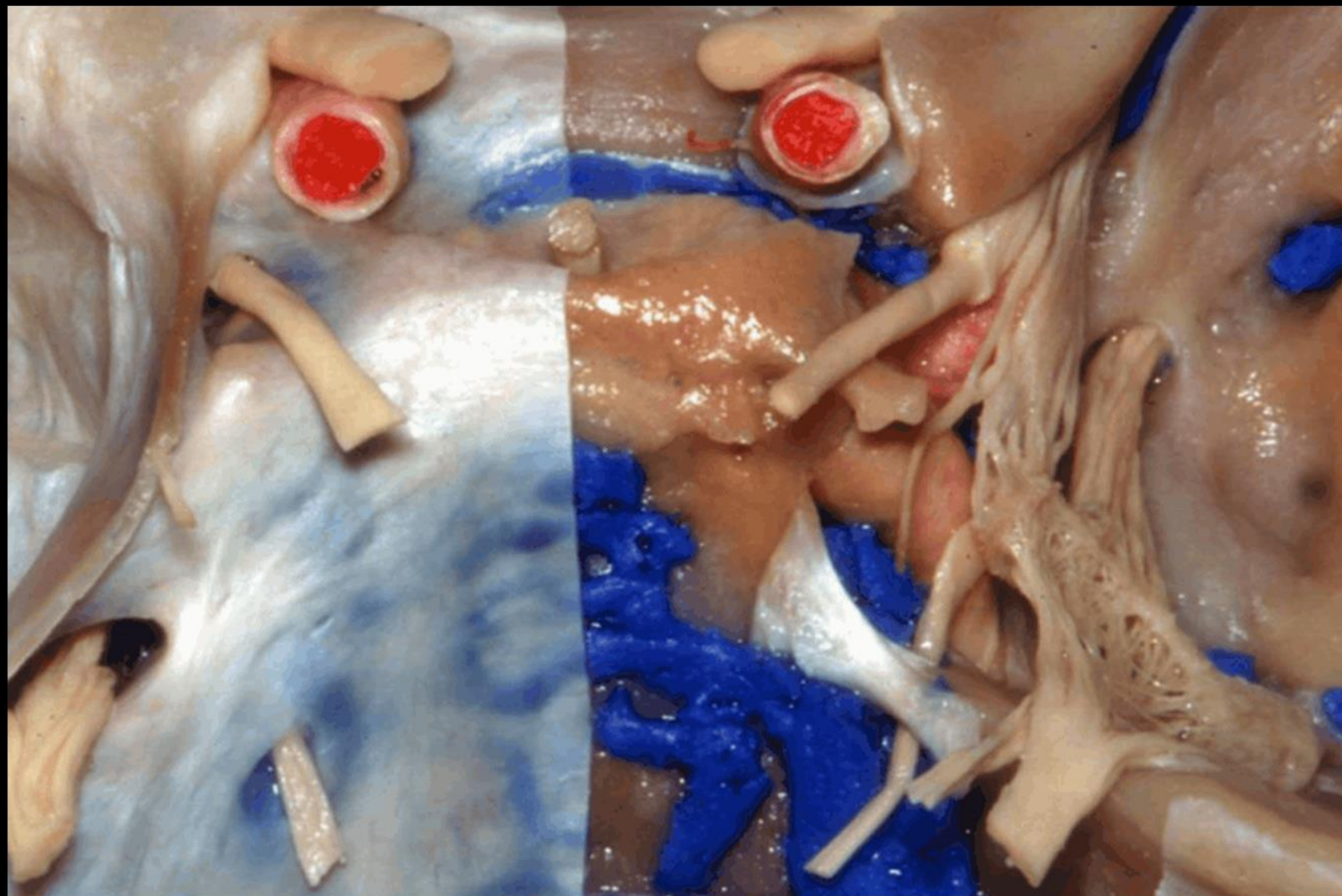
- **Anteromedial**
- **Anterolateral**
- **Posterolateral (Glascocock's)**
- **Posteromedial (Kawase's)**

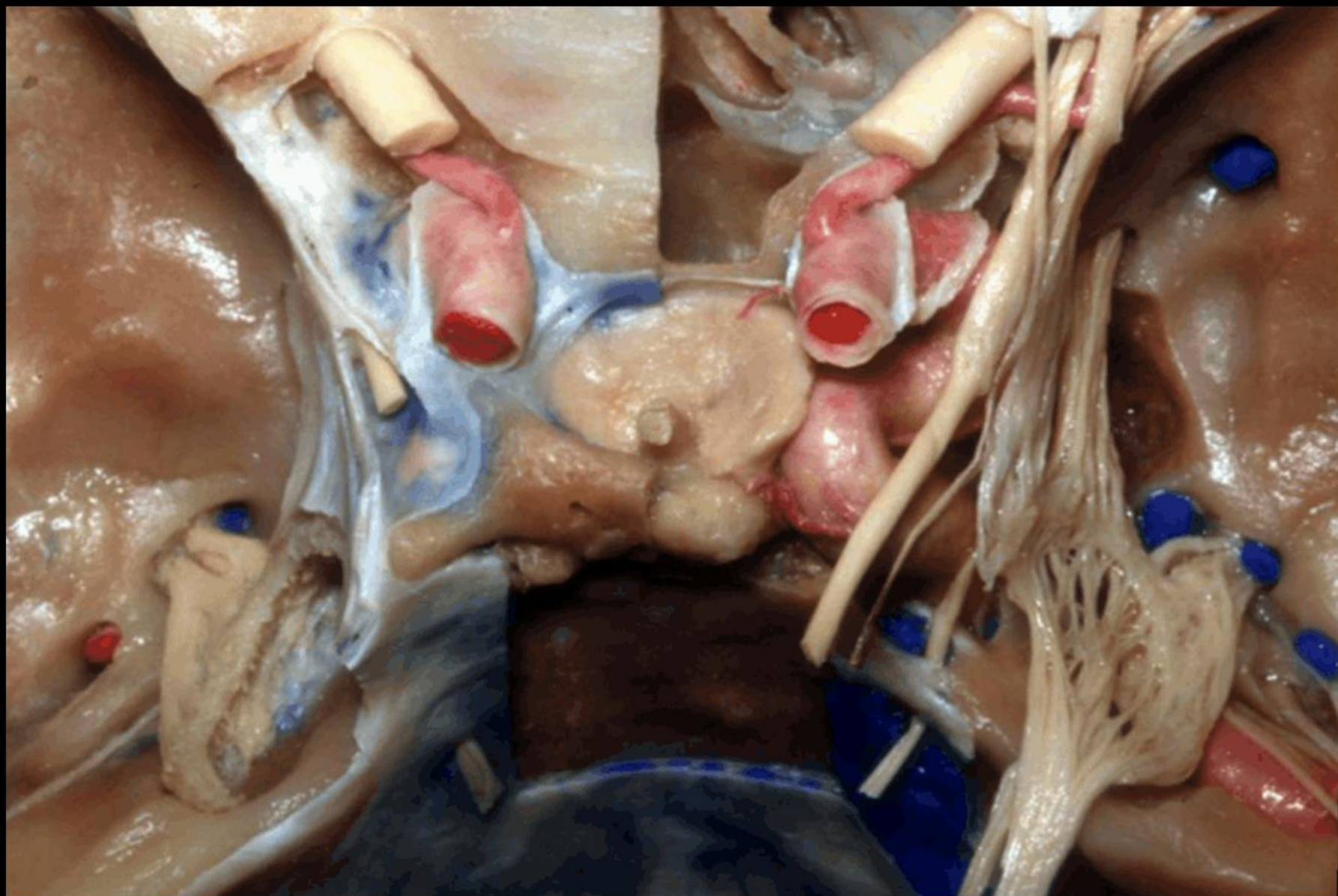
Middle Fossa Triangles













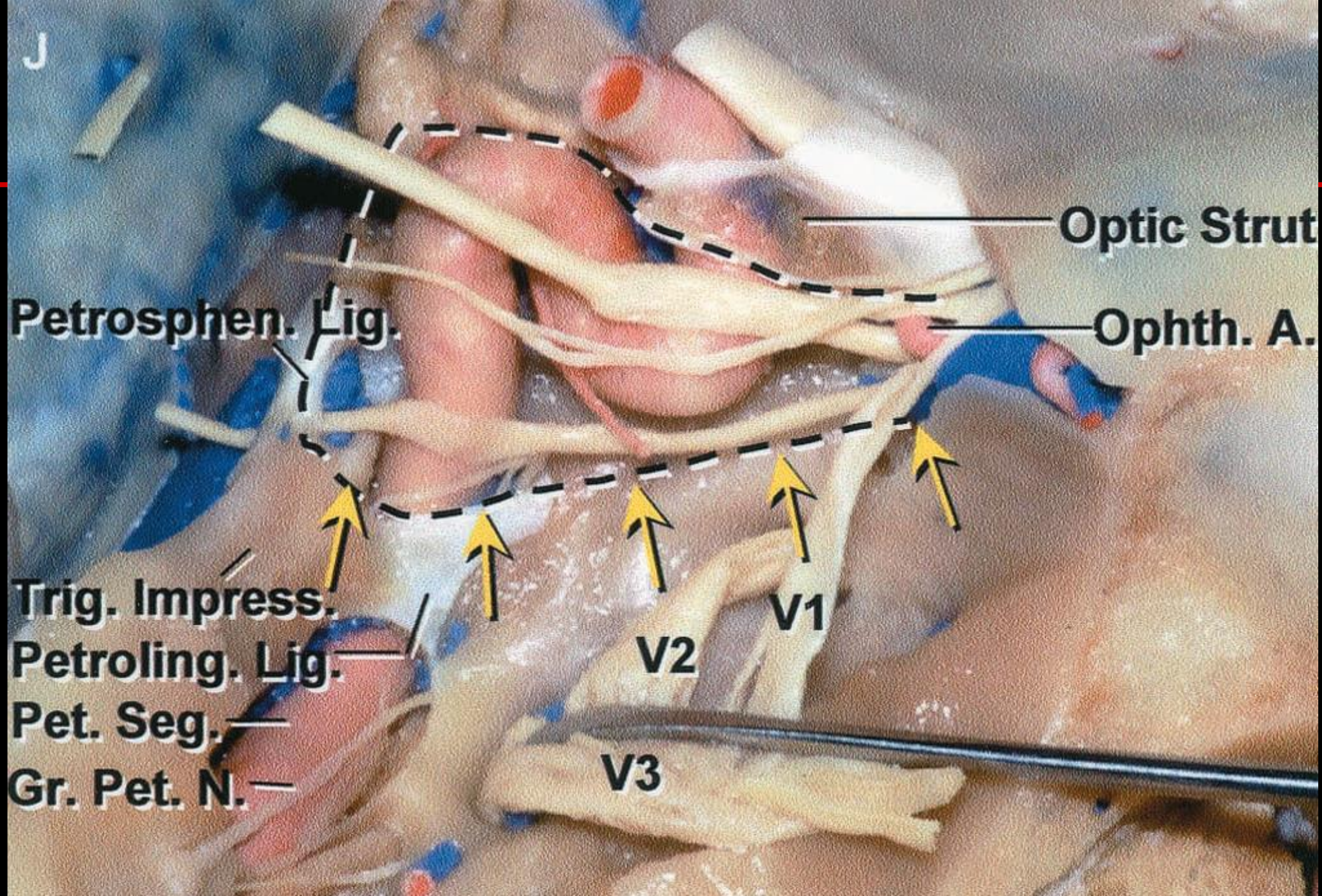












M

Ophth. A.

Sphen. Sinus

CN VI

Vidian N.

Petroling. Lig.

V2

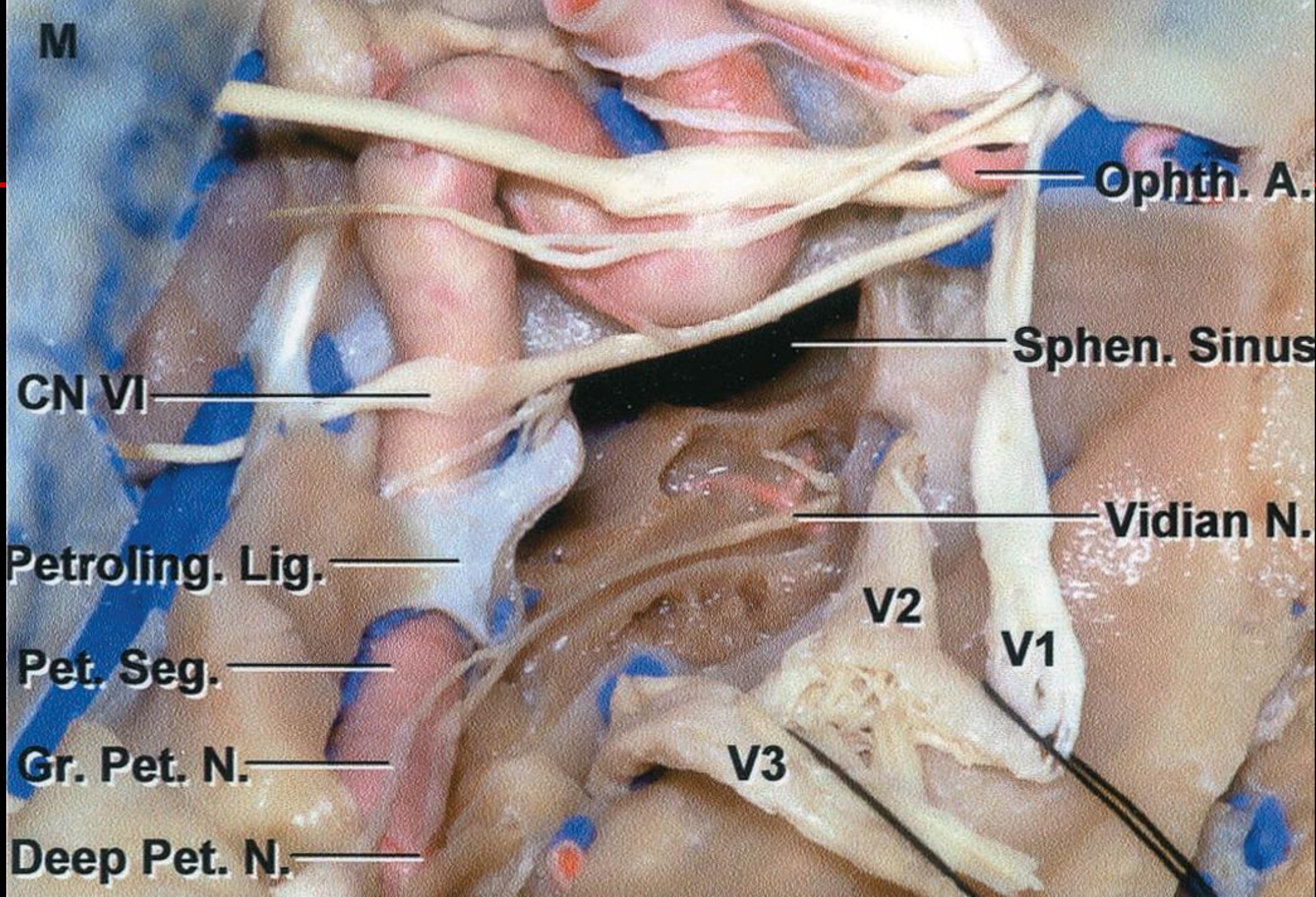
V1

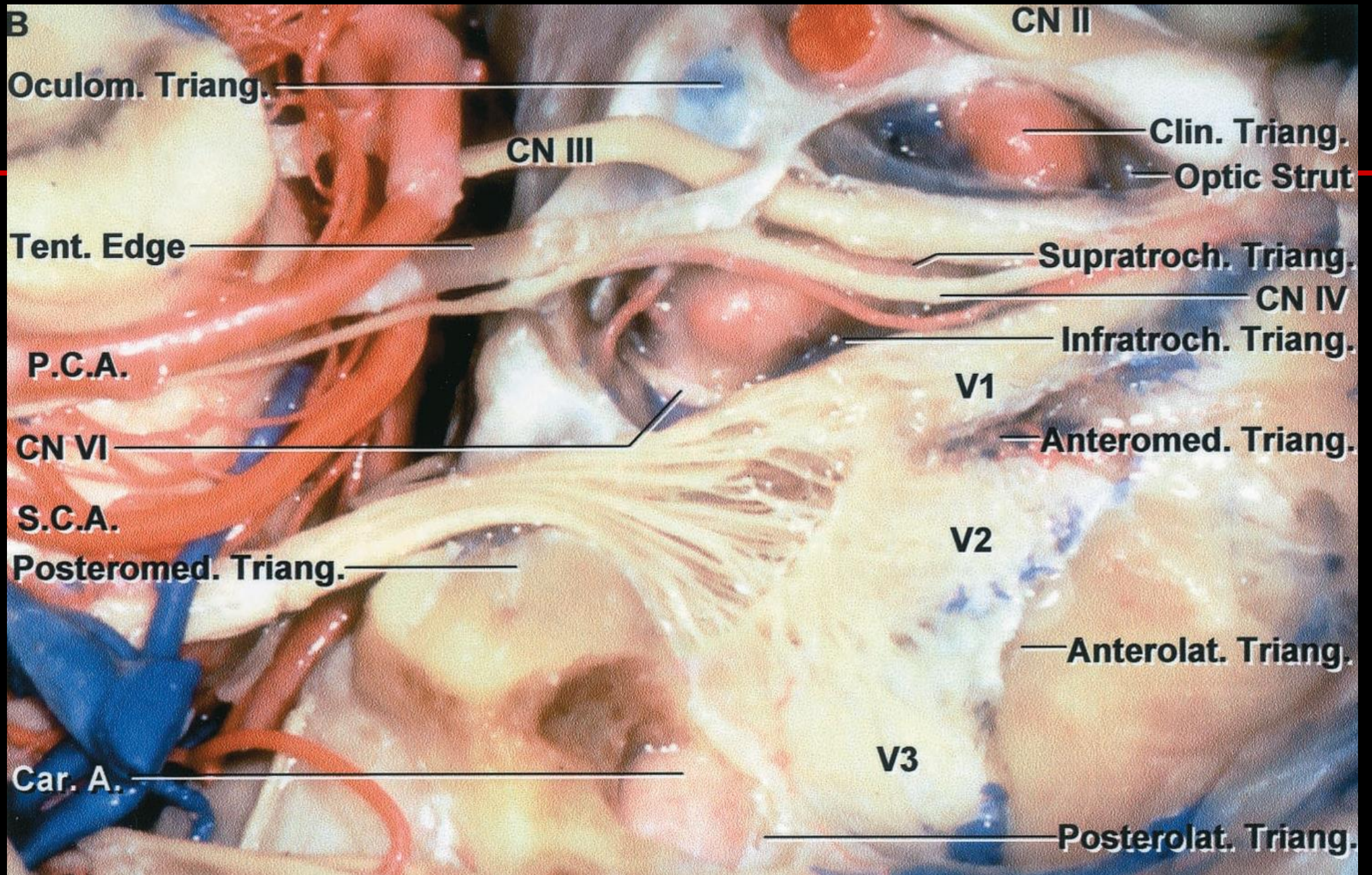
Pet. Seg.

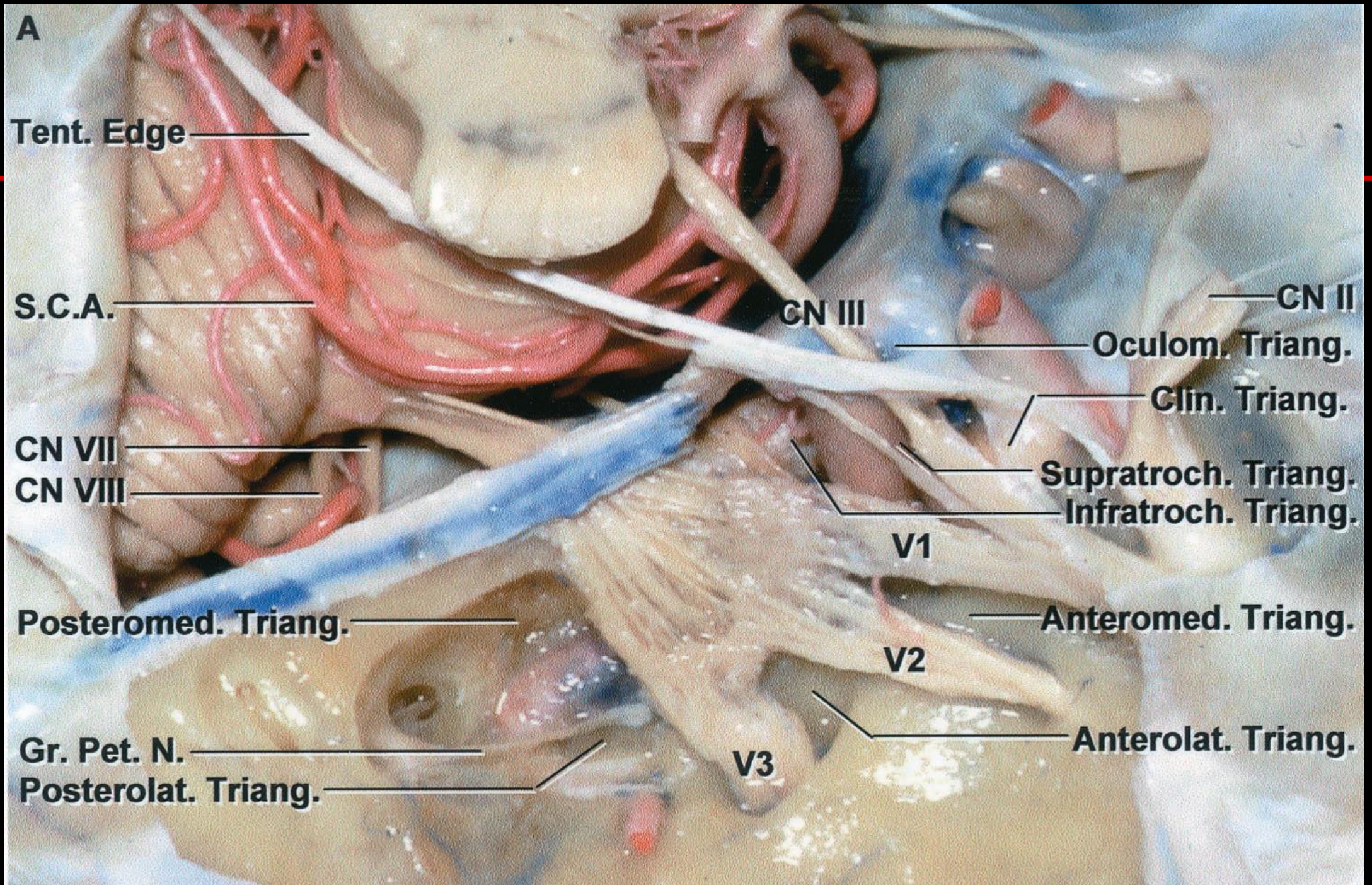
Gr. Pet. N.

V3

Deep Pet. N.







Tent. Edge_____

S.C.A._____

CN VII_____

CN VIII_____

Posteromed. Triang._____

Gr. Pet. N._____

Posterolat. Triang._____

CN III

_____**CN II**

_____**Oculom. Triang.**

_____**Clin. Triang.**

_____**Supratroch. Triang.**

_____**Infratroch. Triang.**

V1

_____**Anteromed. Triang.**

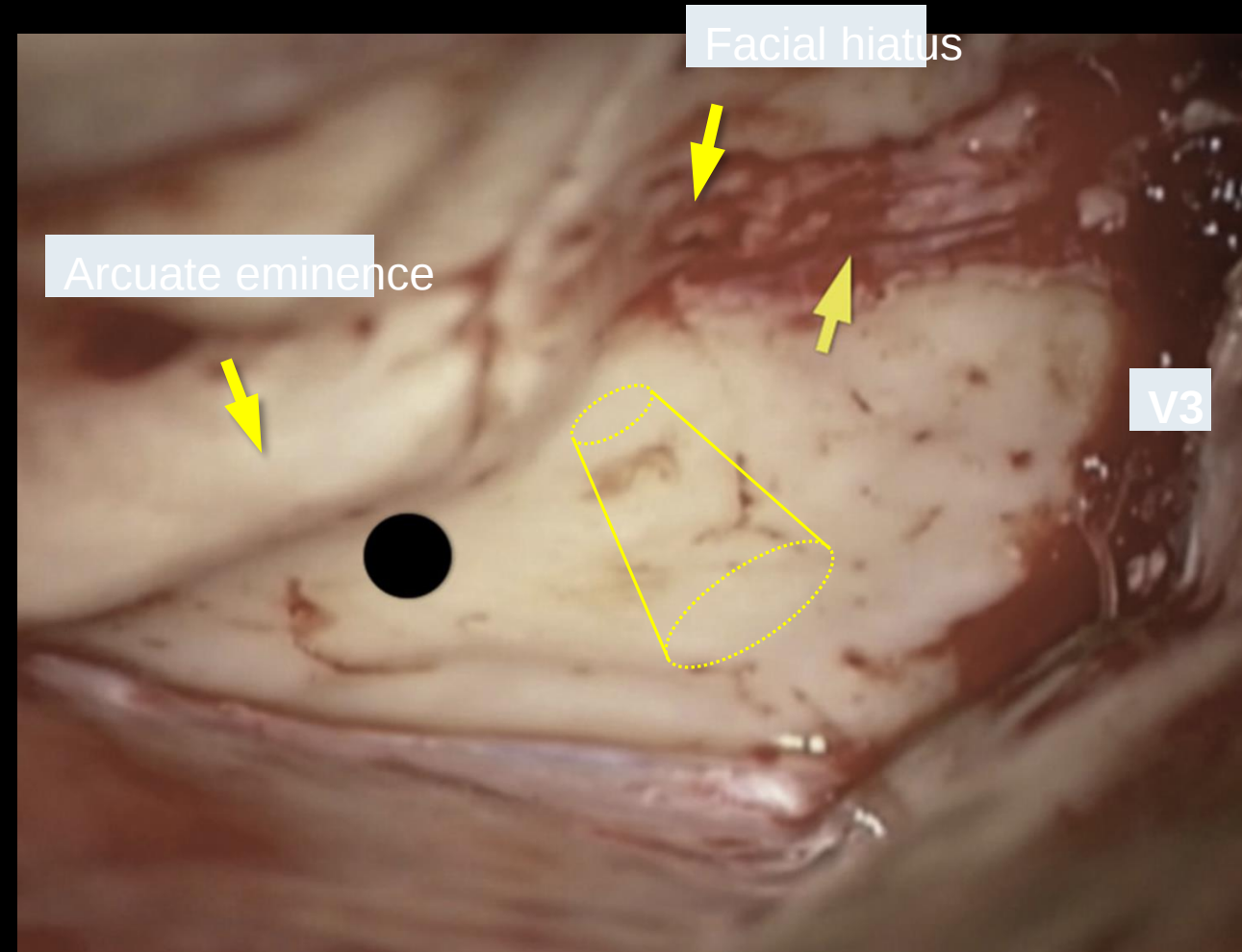
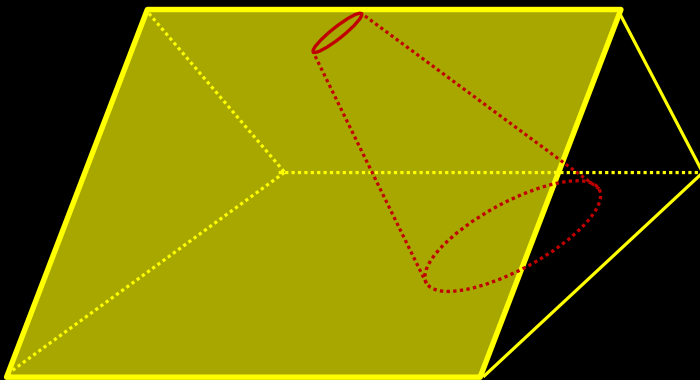
V2

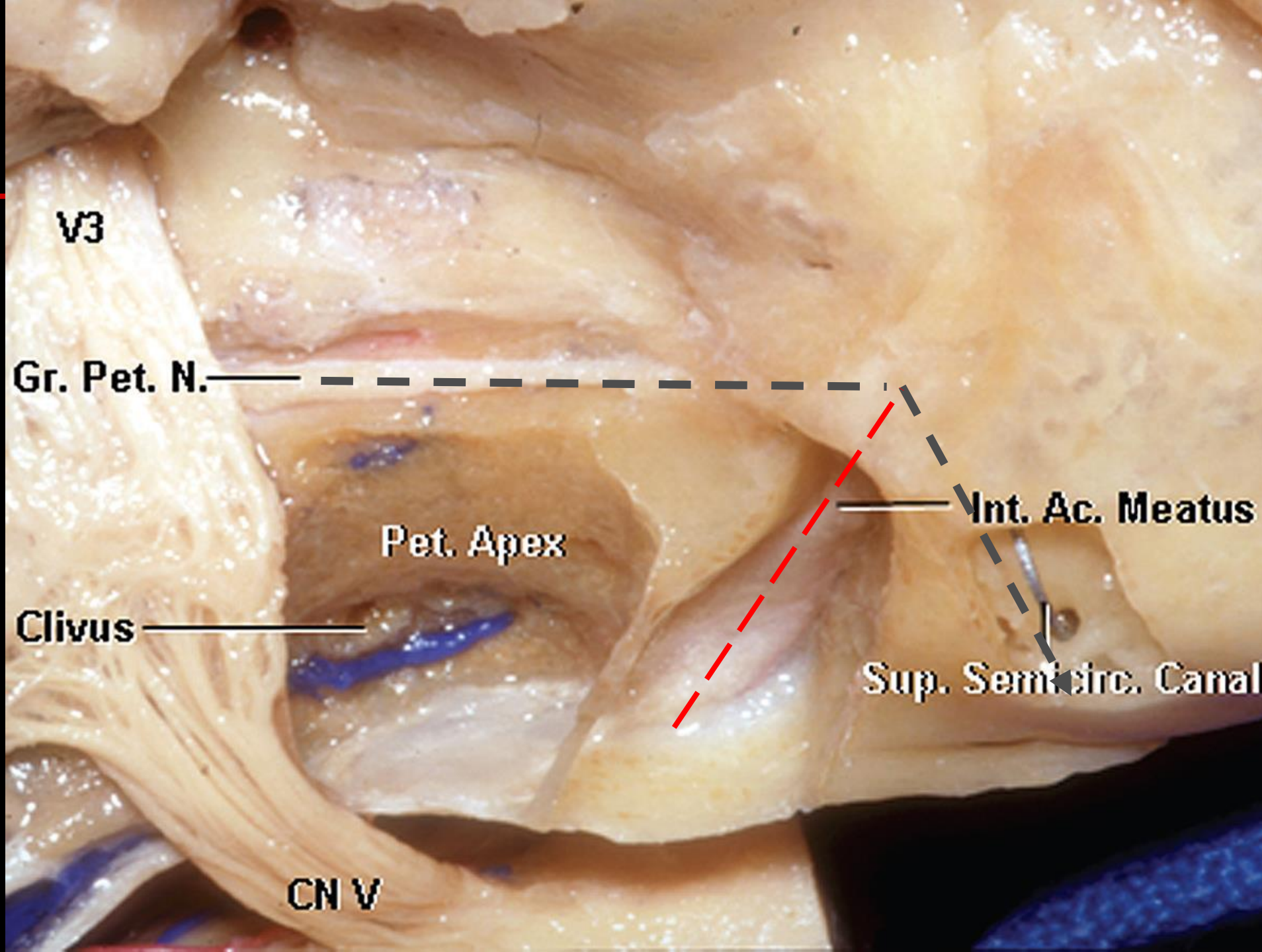
_____**Anterolat. Triang.**

V3

Anatomical feature of Rhomboid fossa

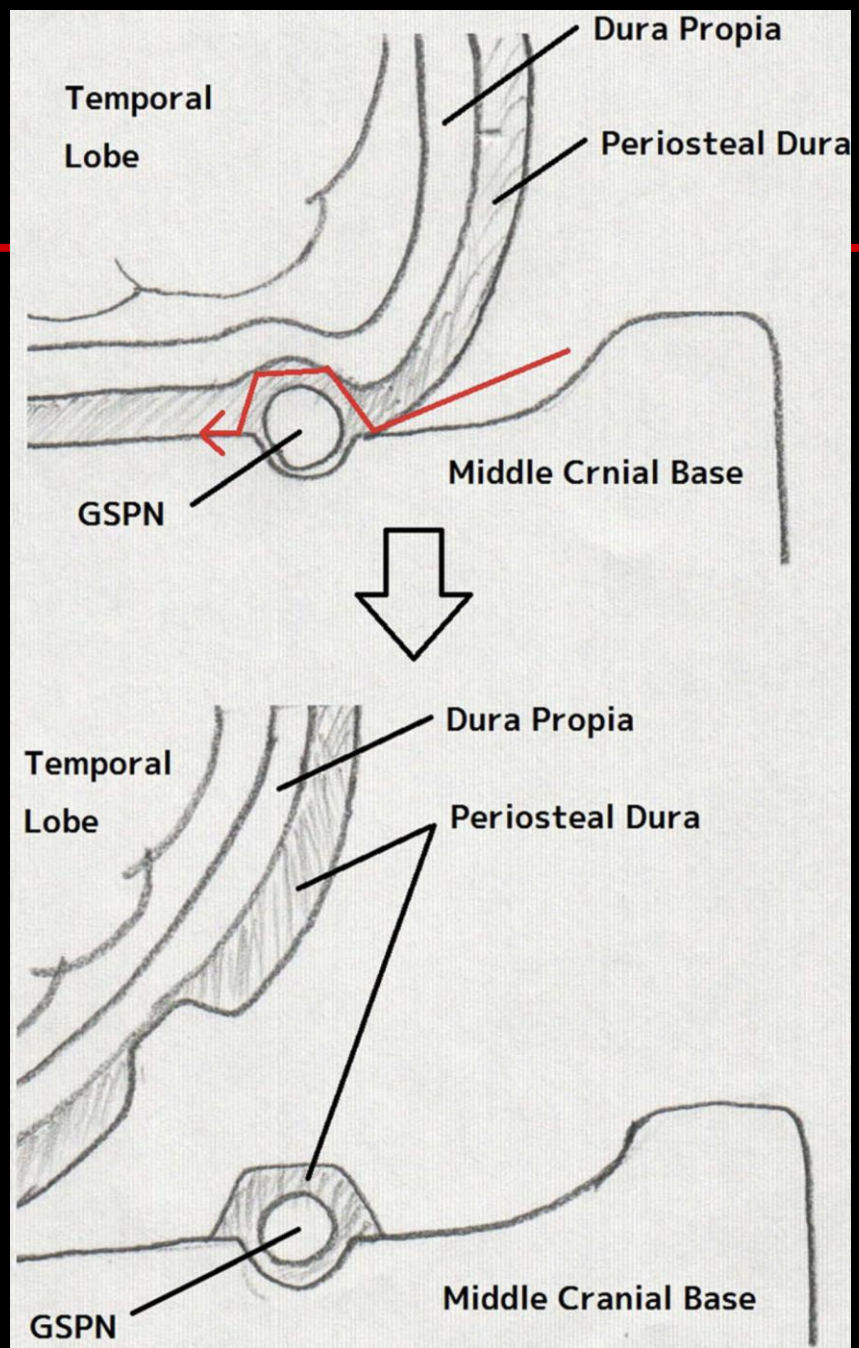
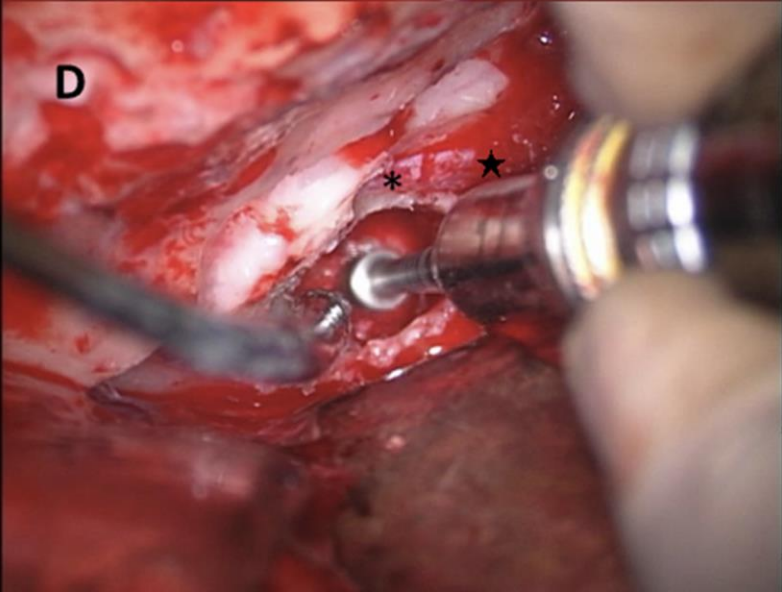
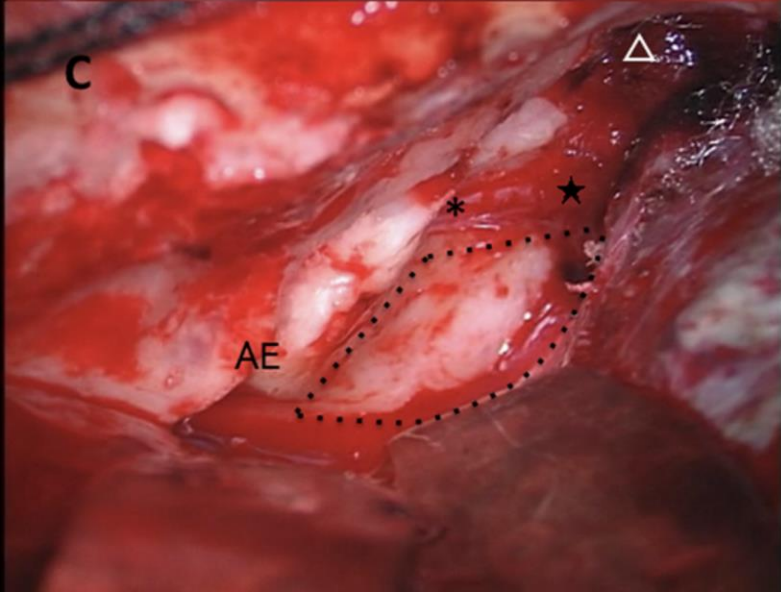
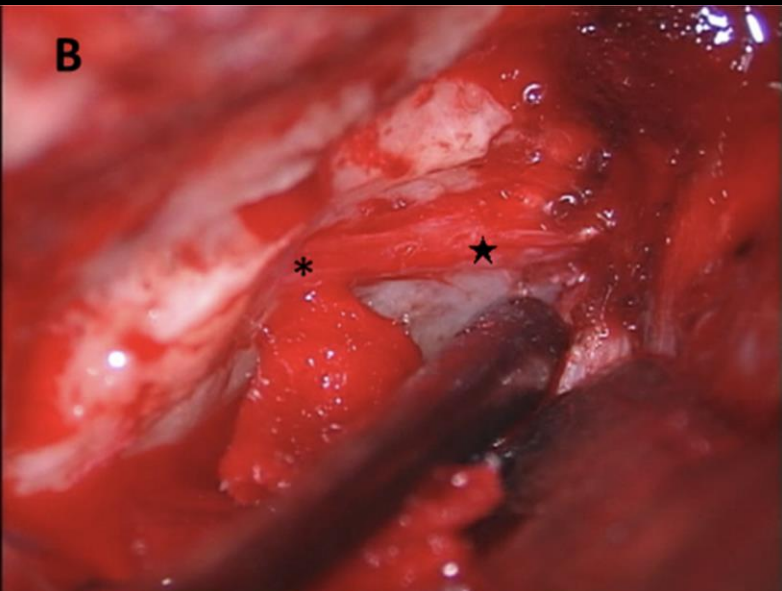
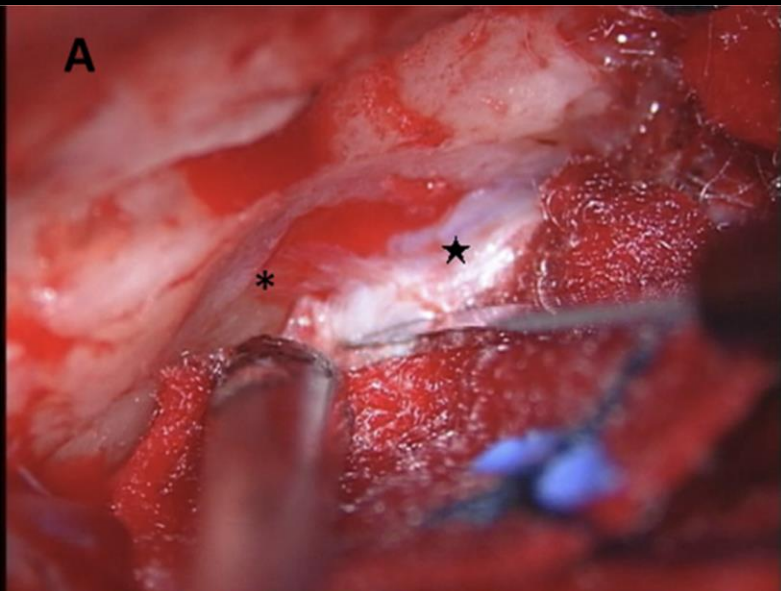
- GSPN
- Internal auditory meatus
- Petrous ICA





Usefulness of facial nerve monitoring for confirmation of greater superficial petrosal nerve in anterior transpetrosal approach

Ryosuke Tomio • Takenori Akiyama • Takayuki Ohira •
Tomo Horikoshi • Kazunari Yoshida



Rhomboid / Postmeatal triangle

Rt

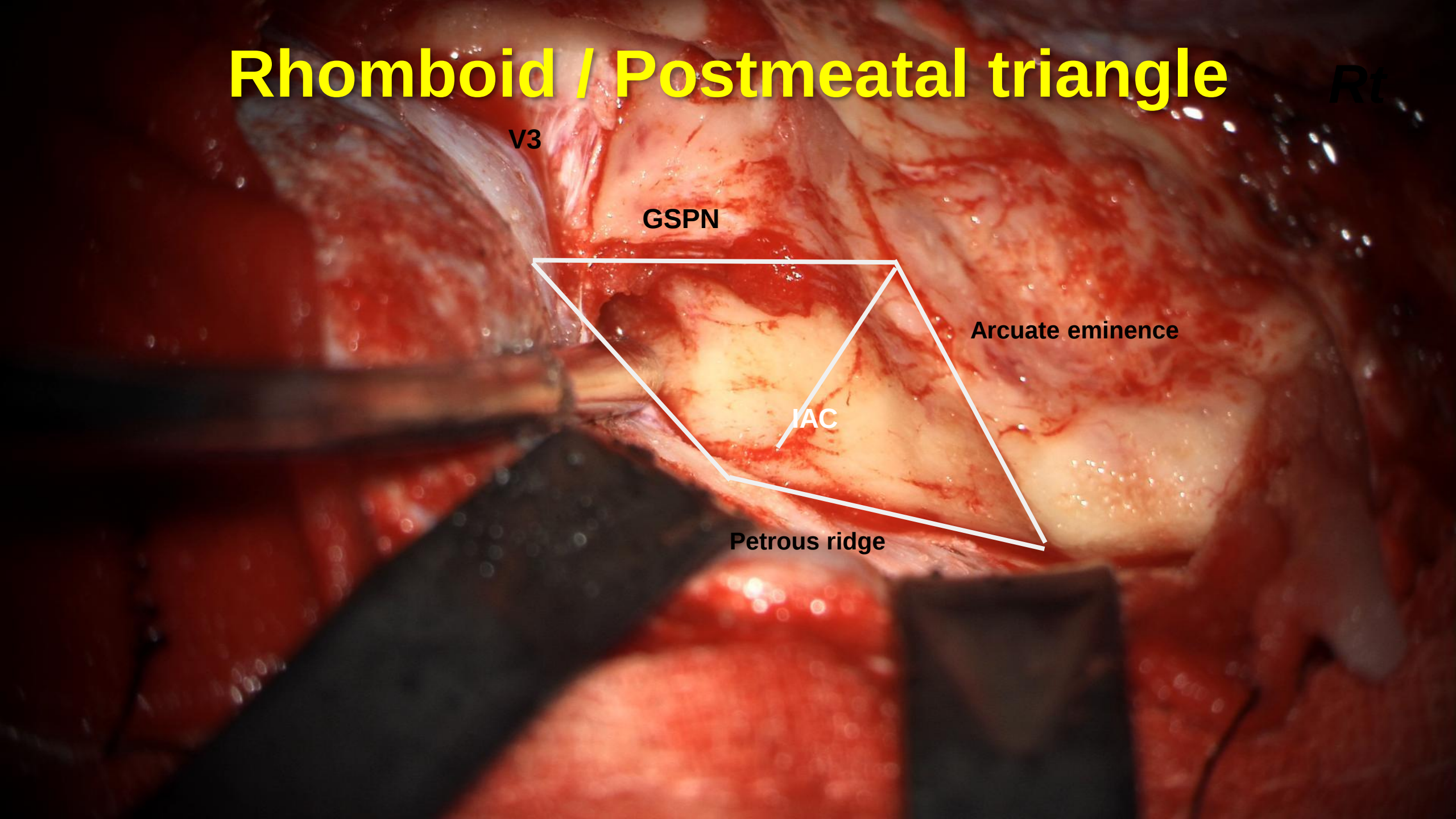
V3

GSPN

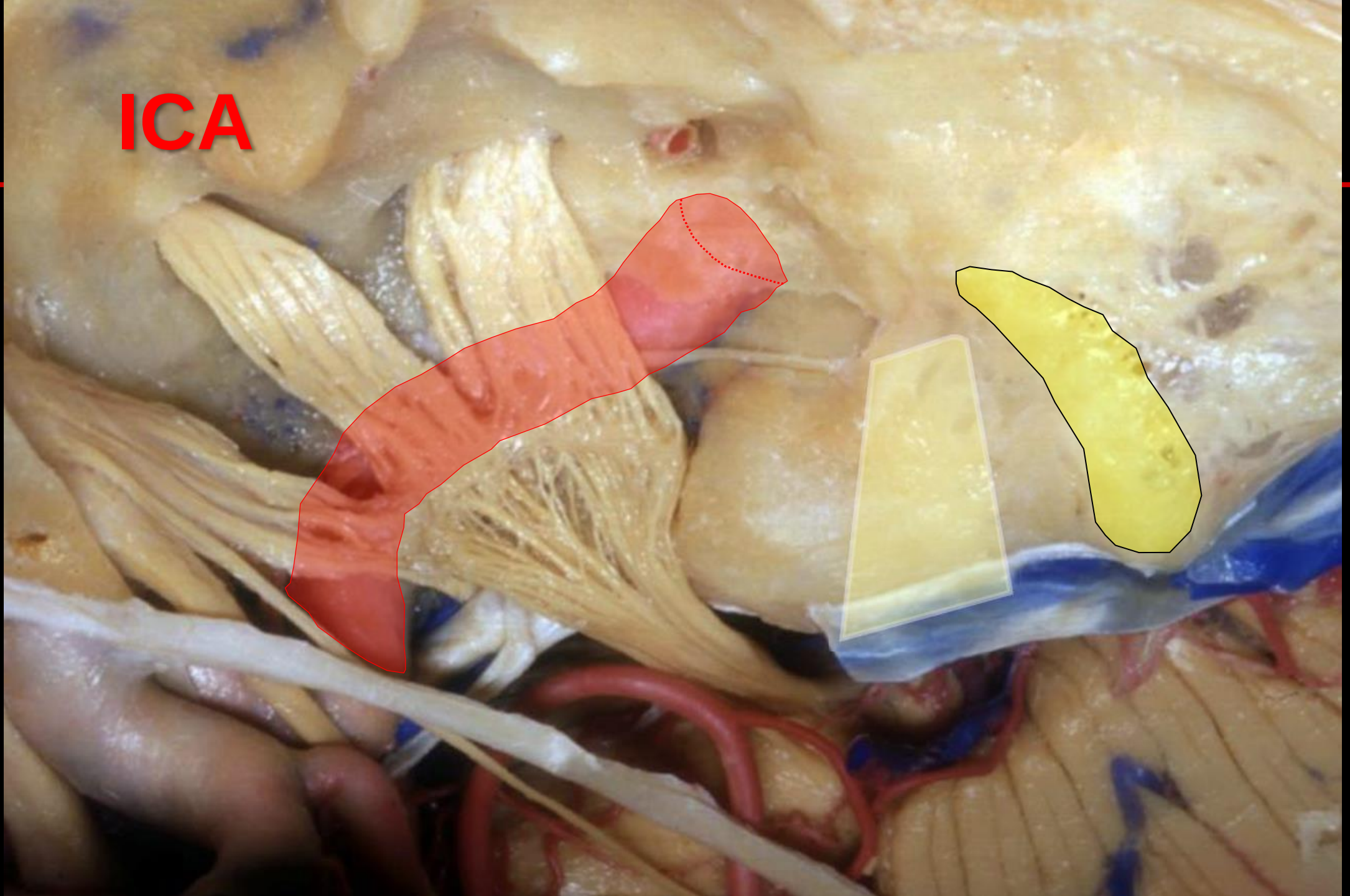
Arcuate eminence

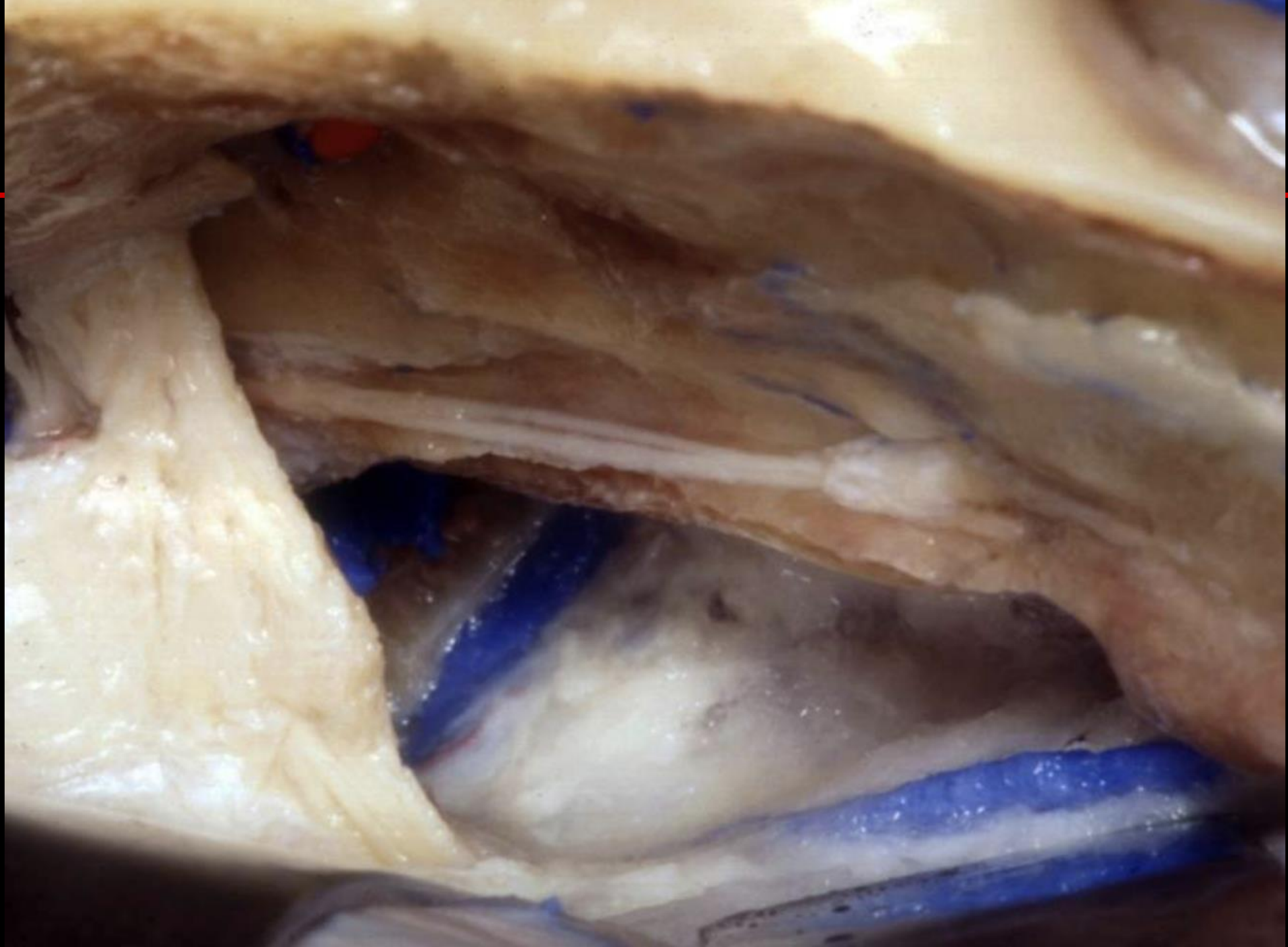
IAC

Petrous ridge



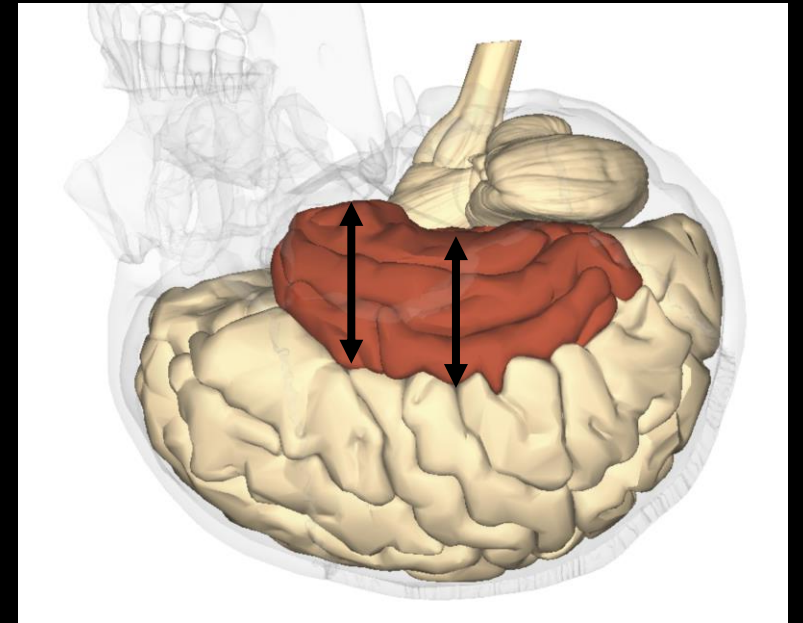
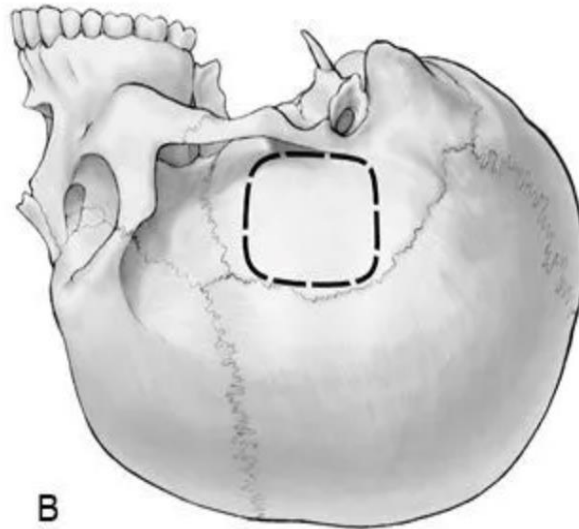
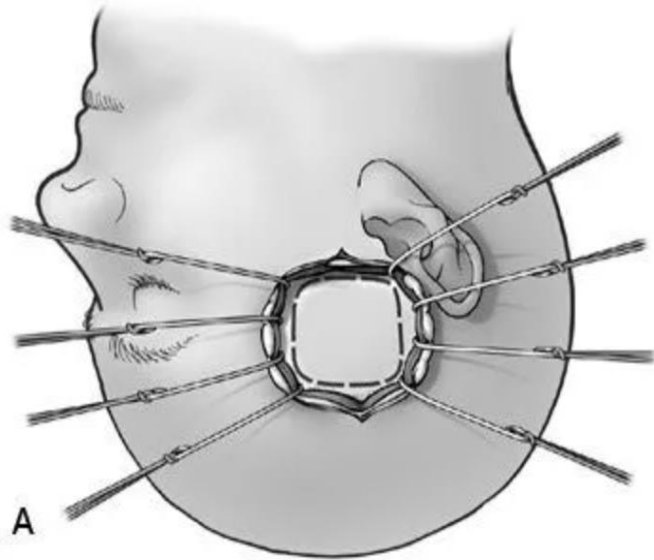
ICA

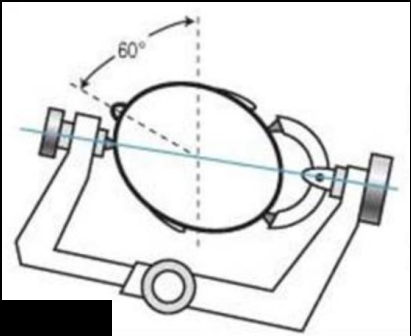
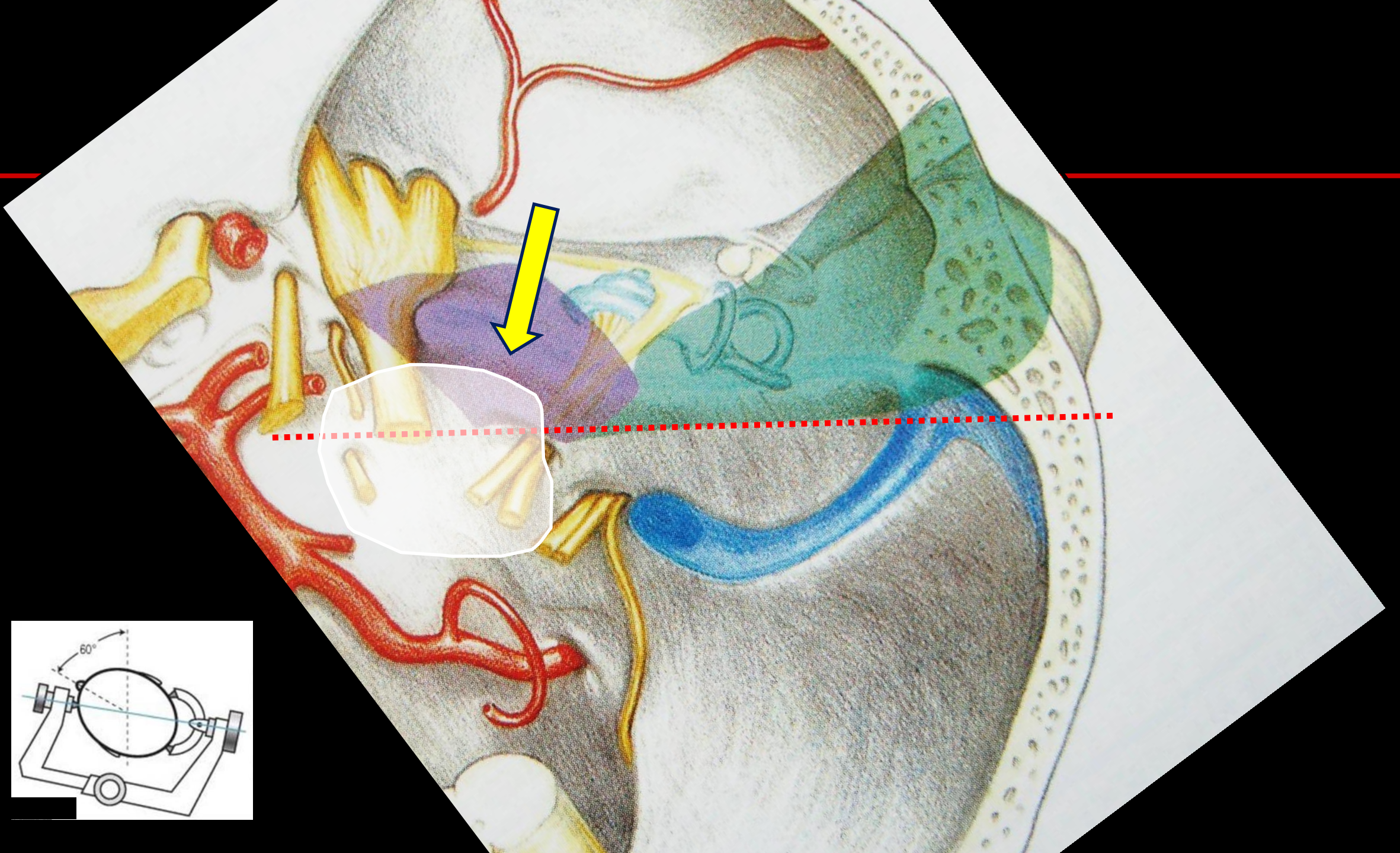




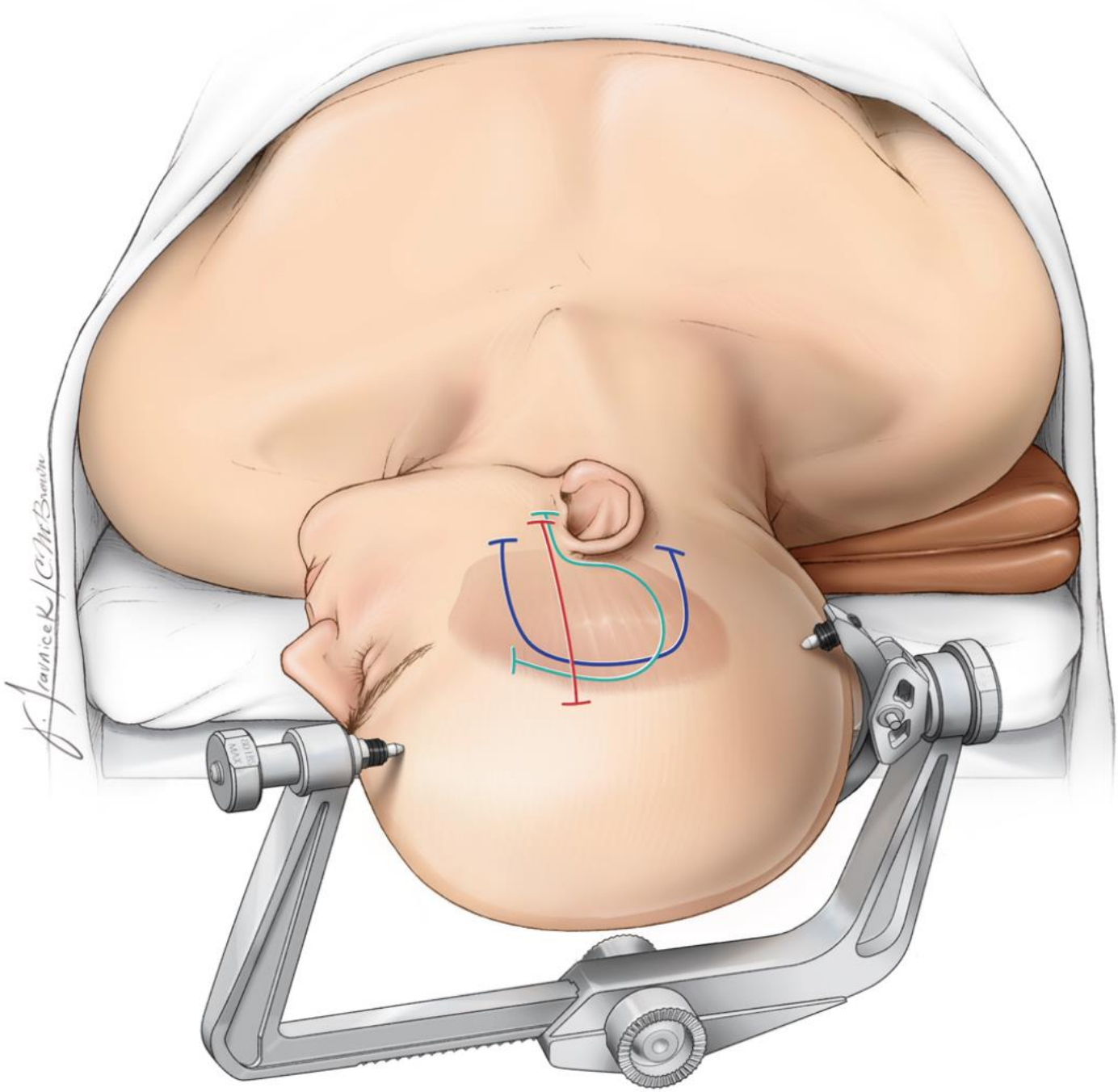
Procedure

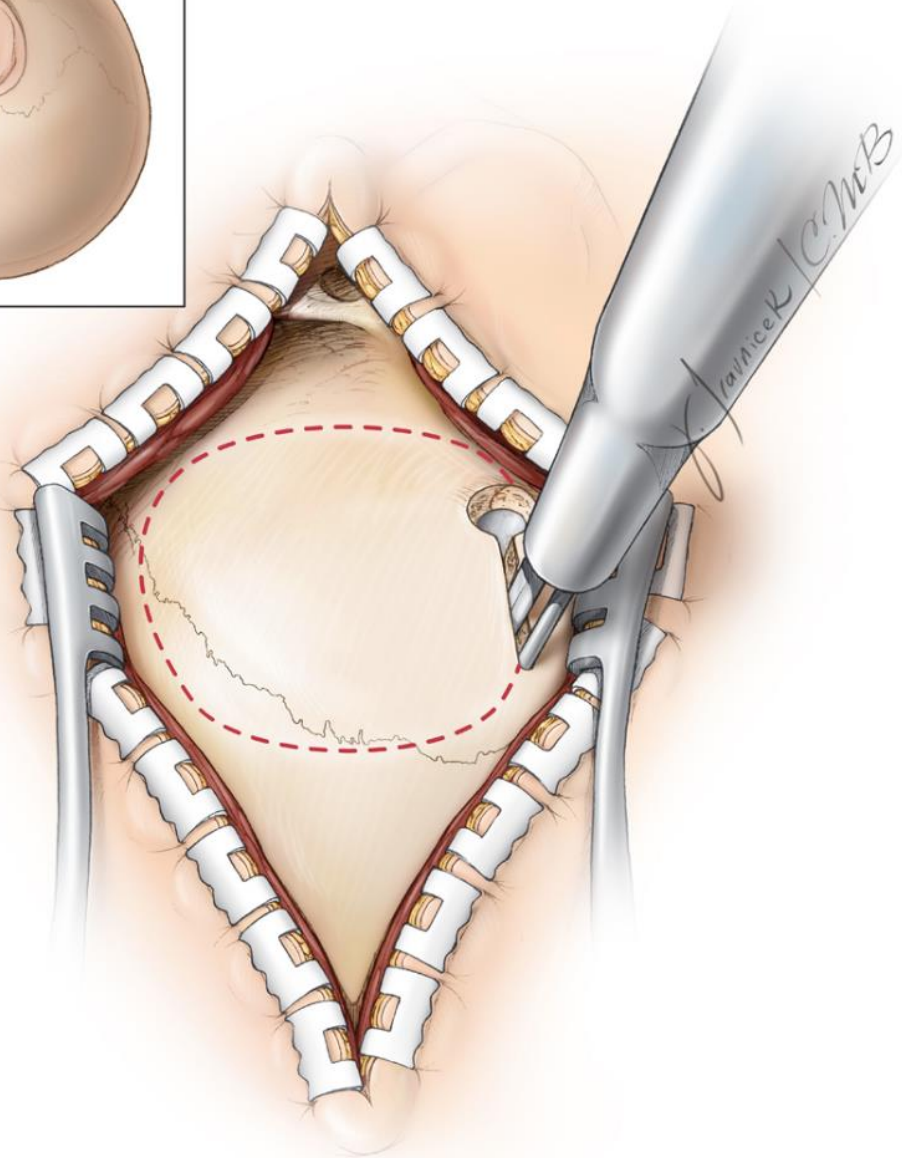
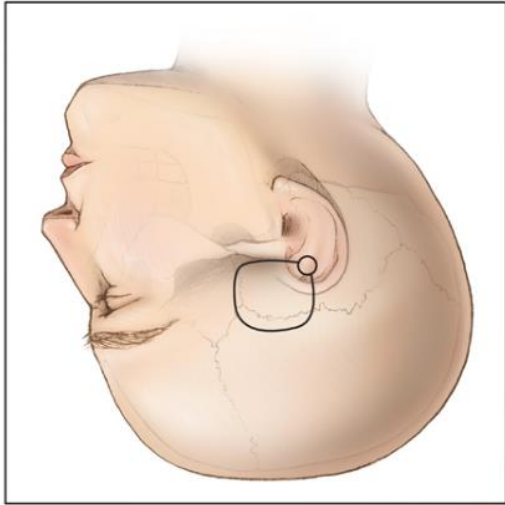
- Petrous apex(Kawase triangle)을 통해 post fossa로 접근
- temporal lobe을 견인하는 것이 중요





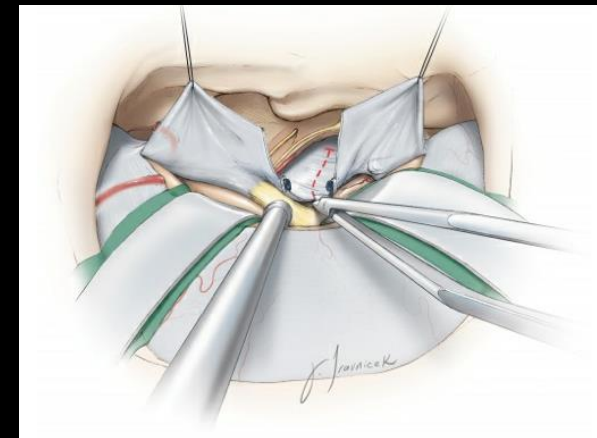
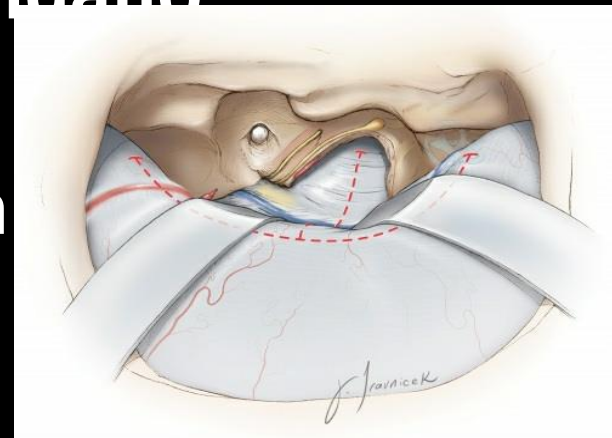
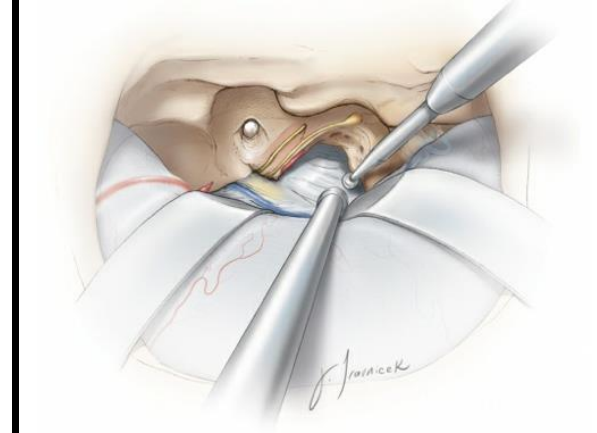
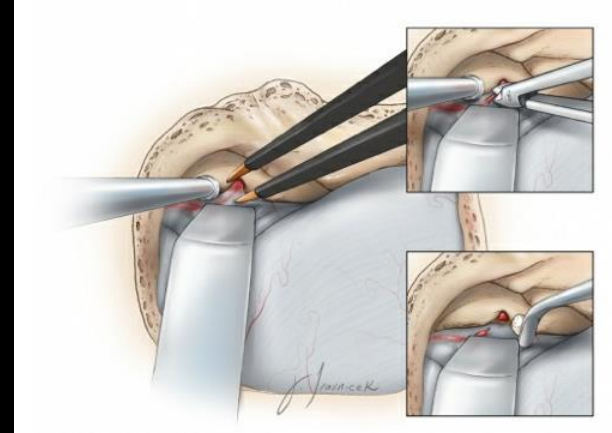
J. Janicek / C. McBrat

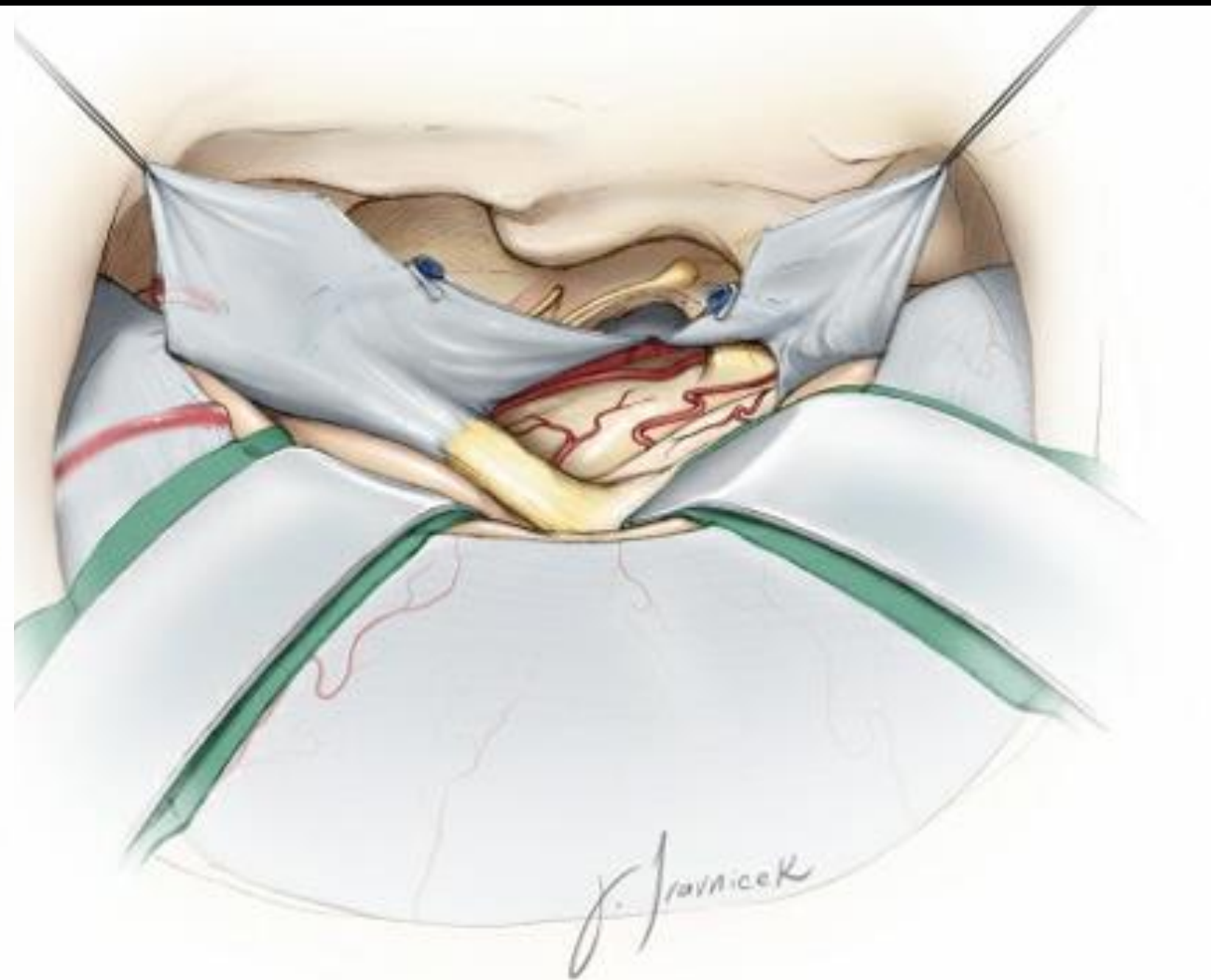
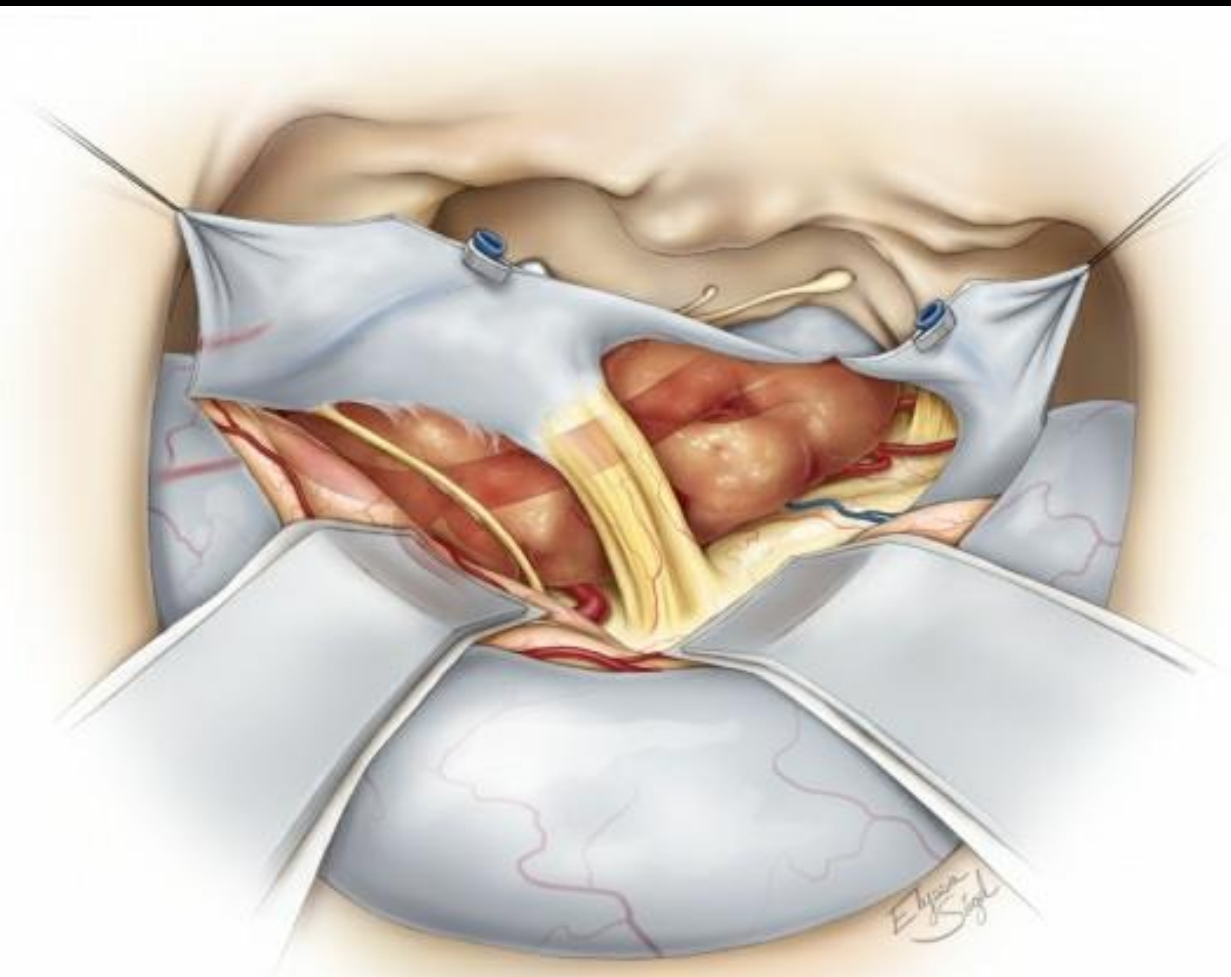




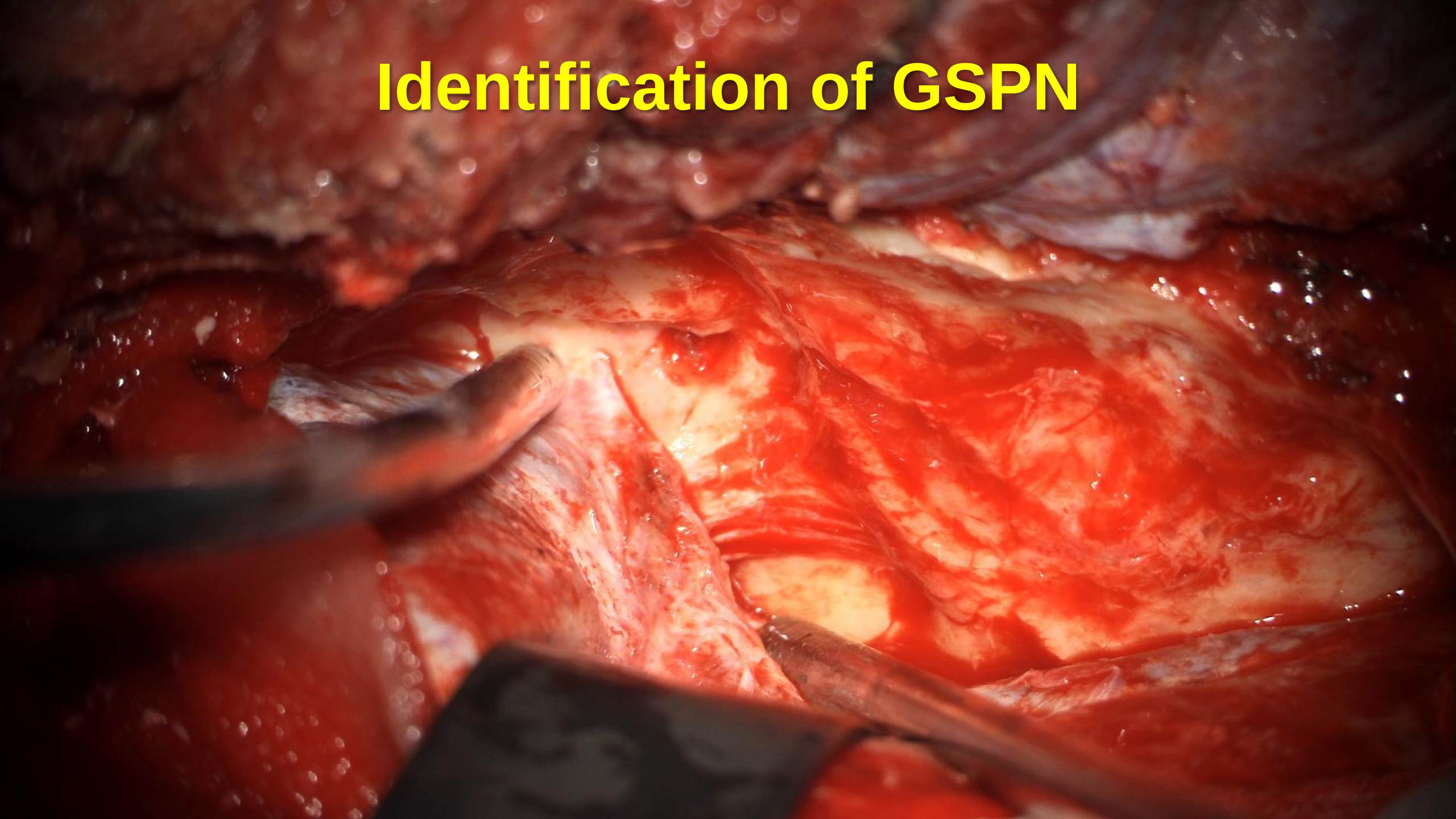
Ant petrosal approach

- 1) Foramen spinosum - MMA
- 2) GSPN
- 3) Petrous apex removal
- 4) Temporal dura incision & SPS ligation
- 5) Tent & post fossa dura incision

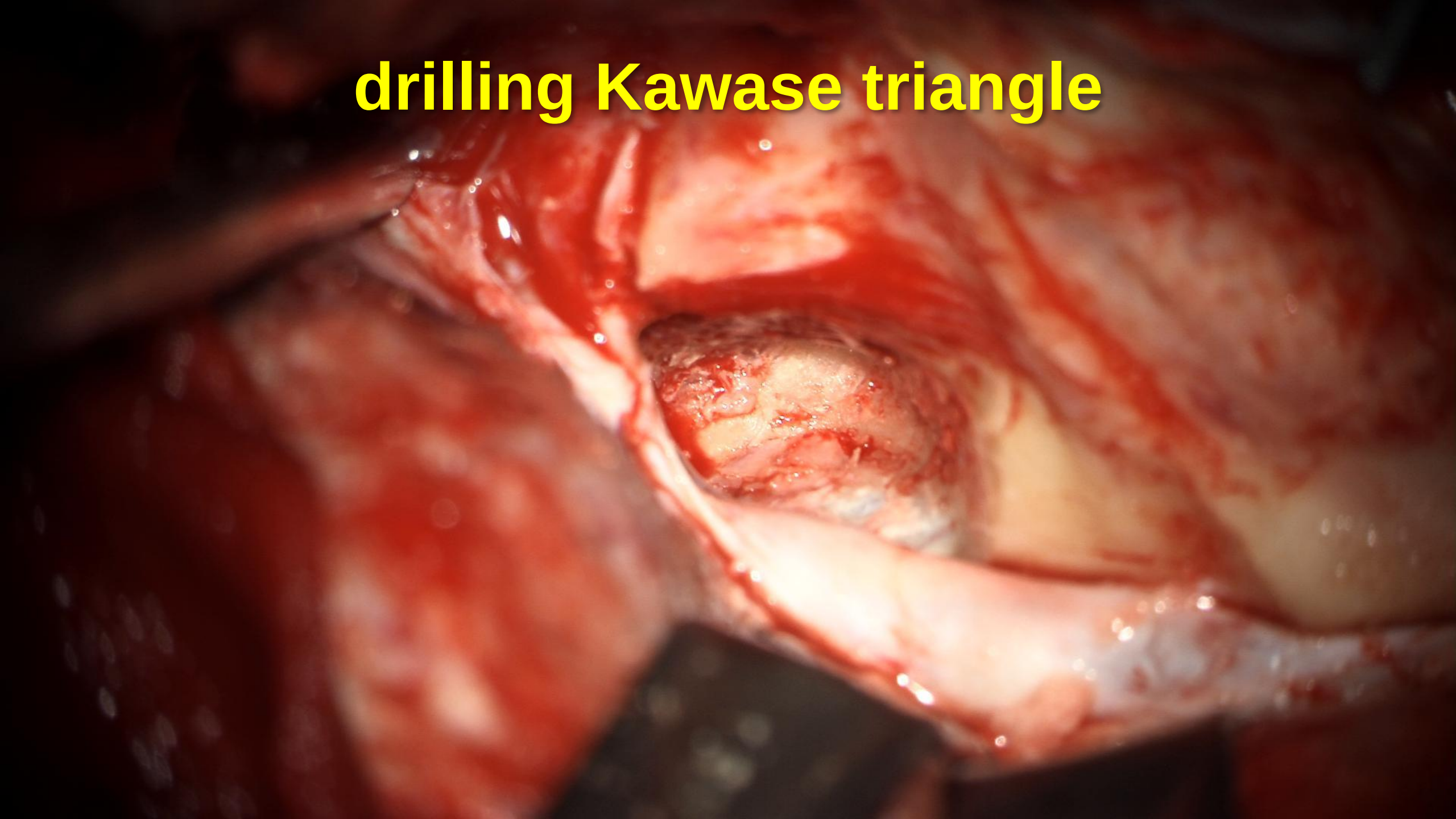




Identification of GSPN



drilling Kawase triangle



drilling Postmeatal triangle



