

DISCUSSION SESSION: GROSS ANATOMY

ONN BLOCK

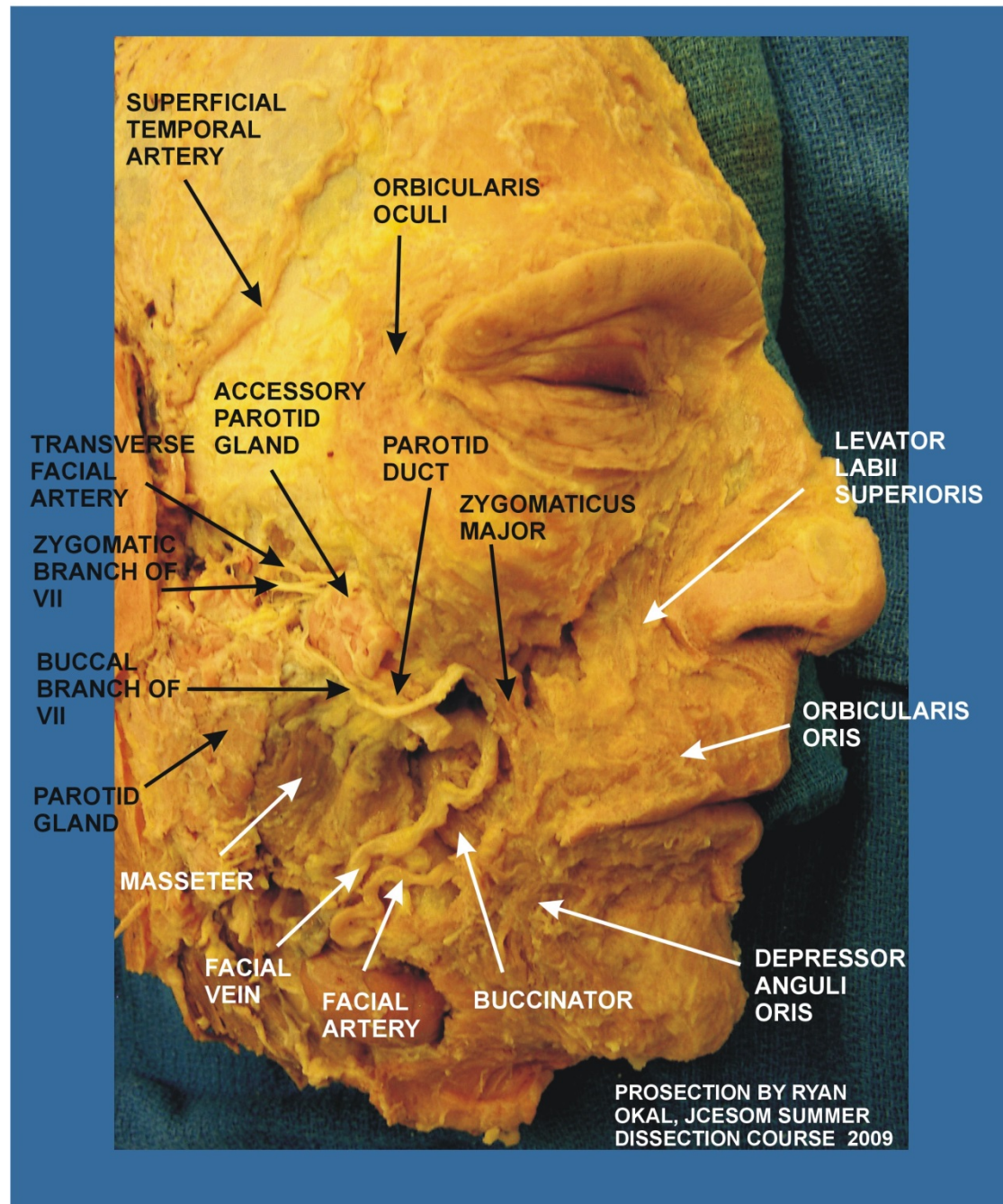
Wednesday Feb 10, 2021

**Review and Orientation to Prosections
of Face, Meninges, Cranial Nerves,
Orbit**

FACIAL MUSCLES

312

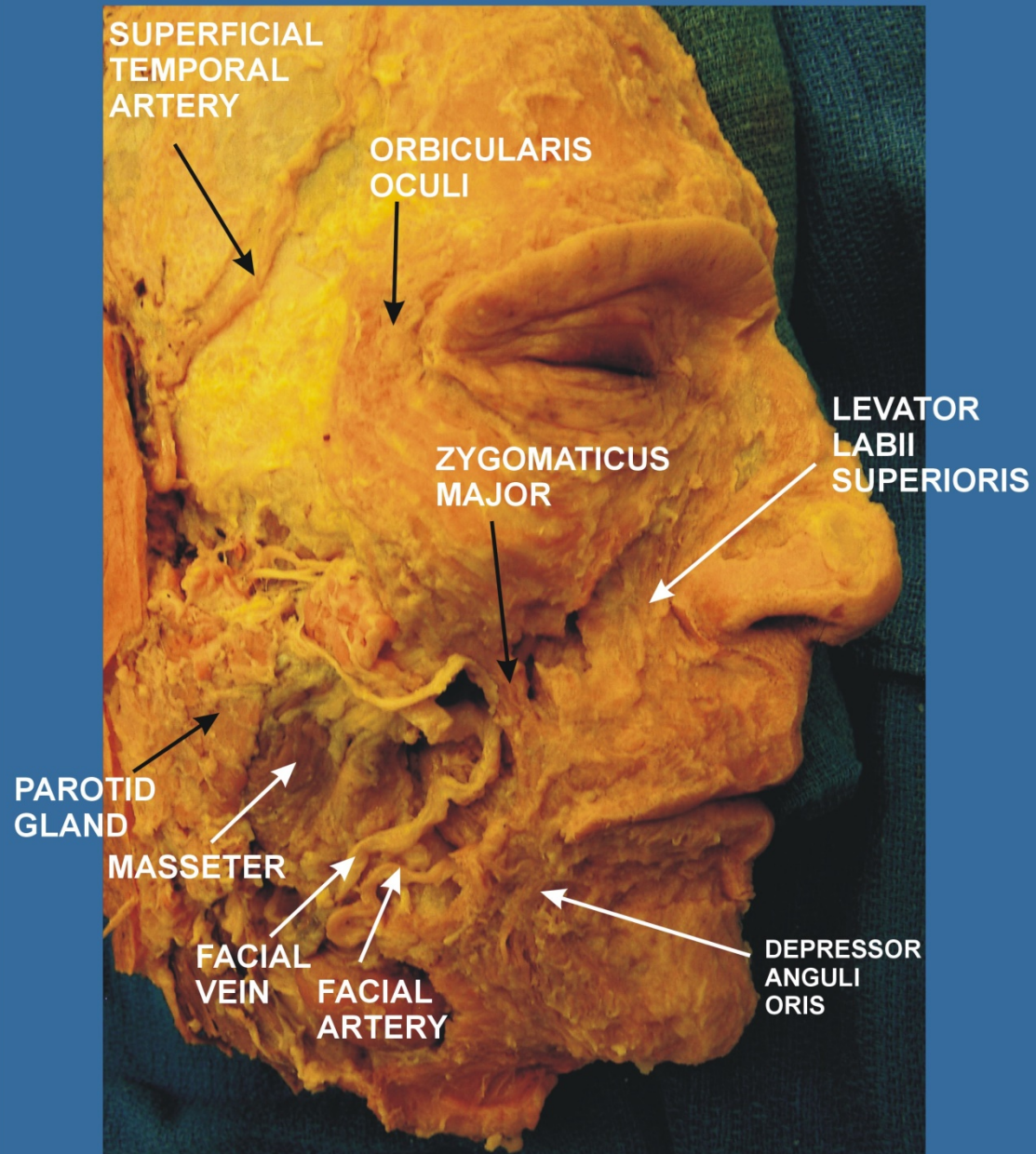
312



FACIAL MUSCLES

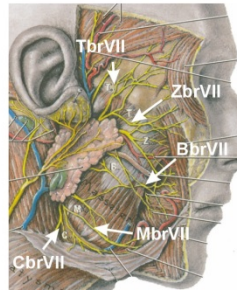
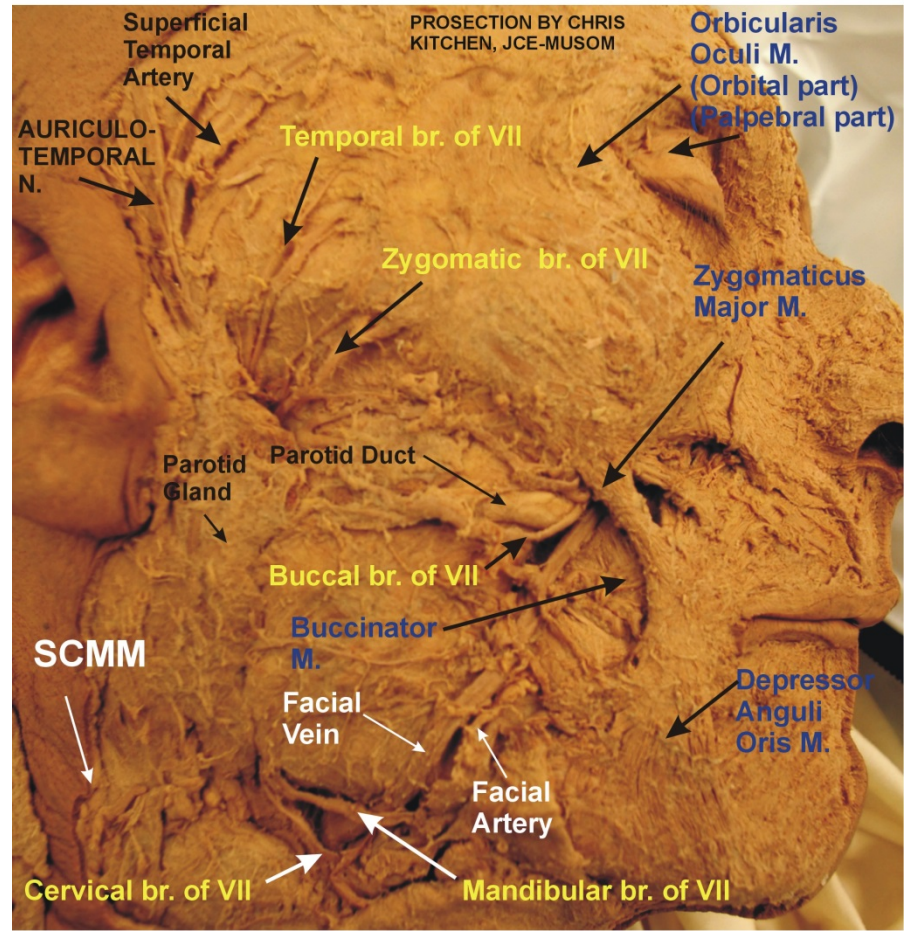
312

312



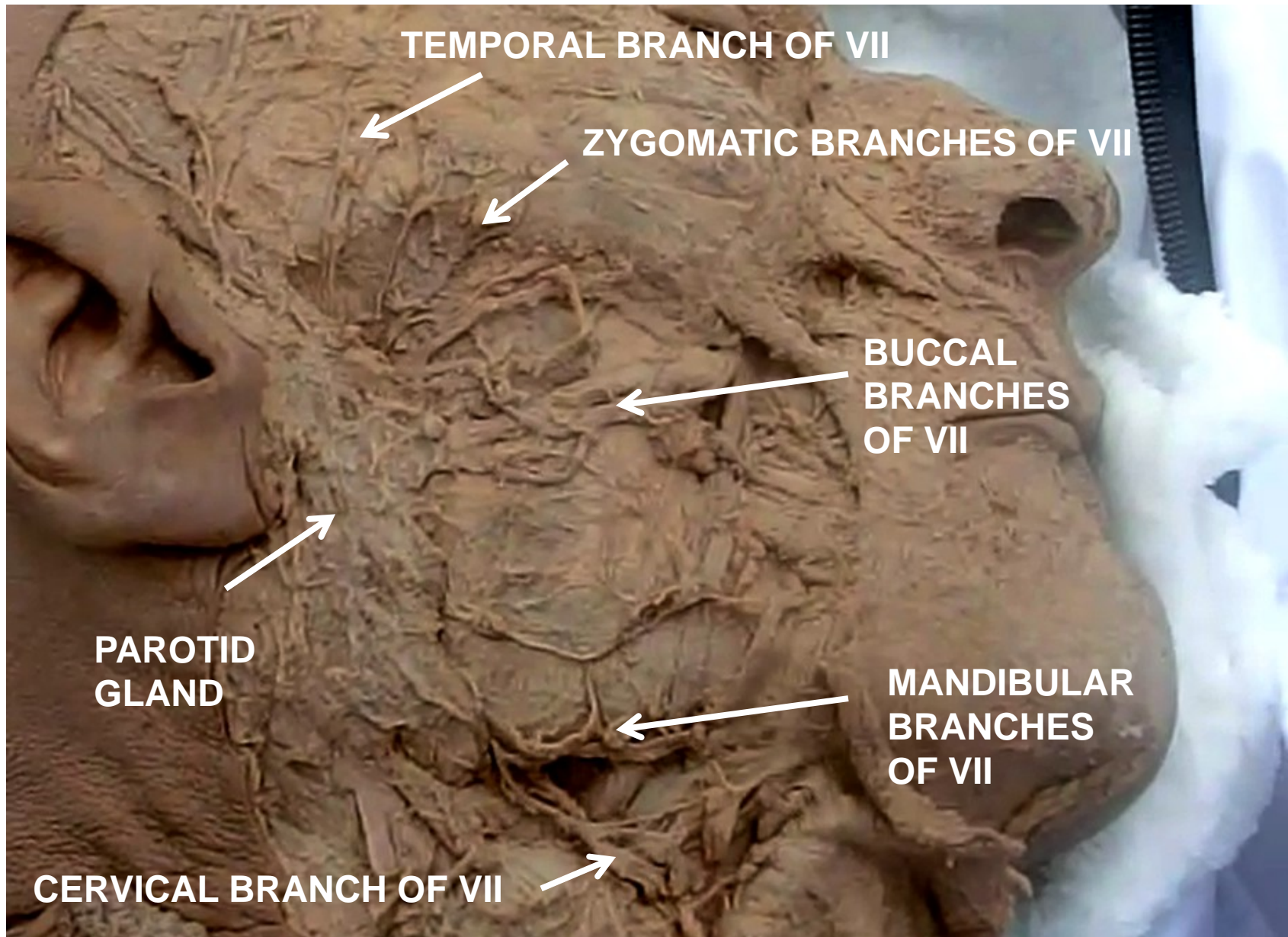
BRANCHES OF FACIAL NERVE (VII) AND SUPERFICIAL FACE

267



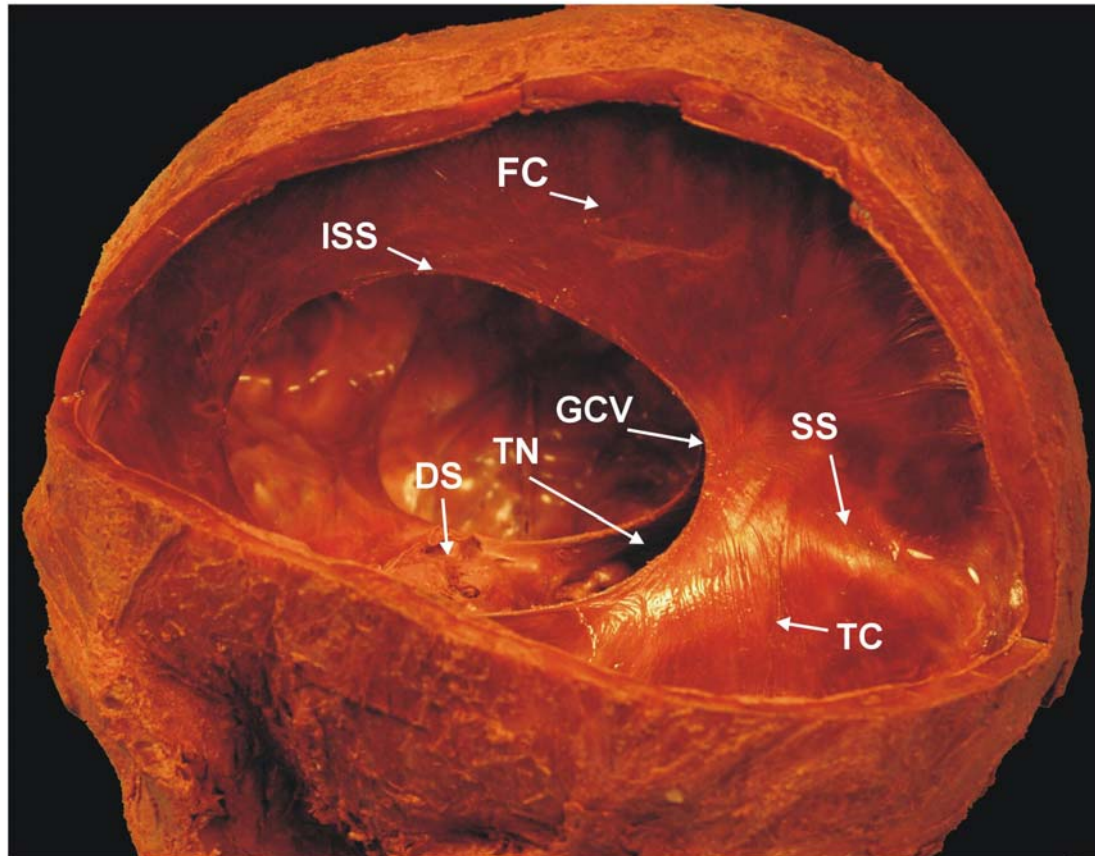
- Superficial Temporal Atery
- Auriculotemporal Nerve
- TbrVII - Temporal branch of VII
- ZbrVII - Zygomatic branch of VII
- BbrVII - Buccal branch of VII
- MbrVII - Mandibular branch of VII
- CbrVII - Cervical branch of VII
- Orbicularis oculi (orbital part)
- Zygomaticus major
- Levator Labi Superioris
- Depressor Anguli Oris
- Buccinator Muscle
- Facial Vein
- Facial Artery
- Parotid Gland
- Parotid Duct
- Sternocleido-mastoid M.

267 – SEE BRANCHES OF FACIAL NERVE



DURAL REFLECTIONS AND VENOUS SINUSES

279



FC - FALX CEREBRI

TC - TENTORIUM CEREBELLI

ISS - LOCATION OF INFERIOR SAGITTAL SINUS

SS - LOCATION OF STRAIGHT SINUS

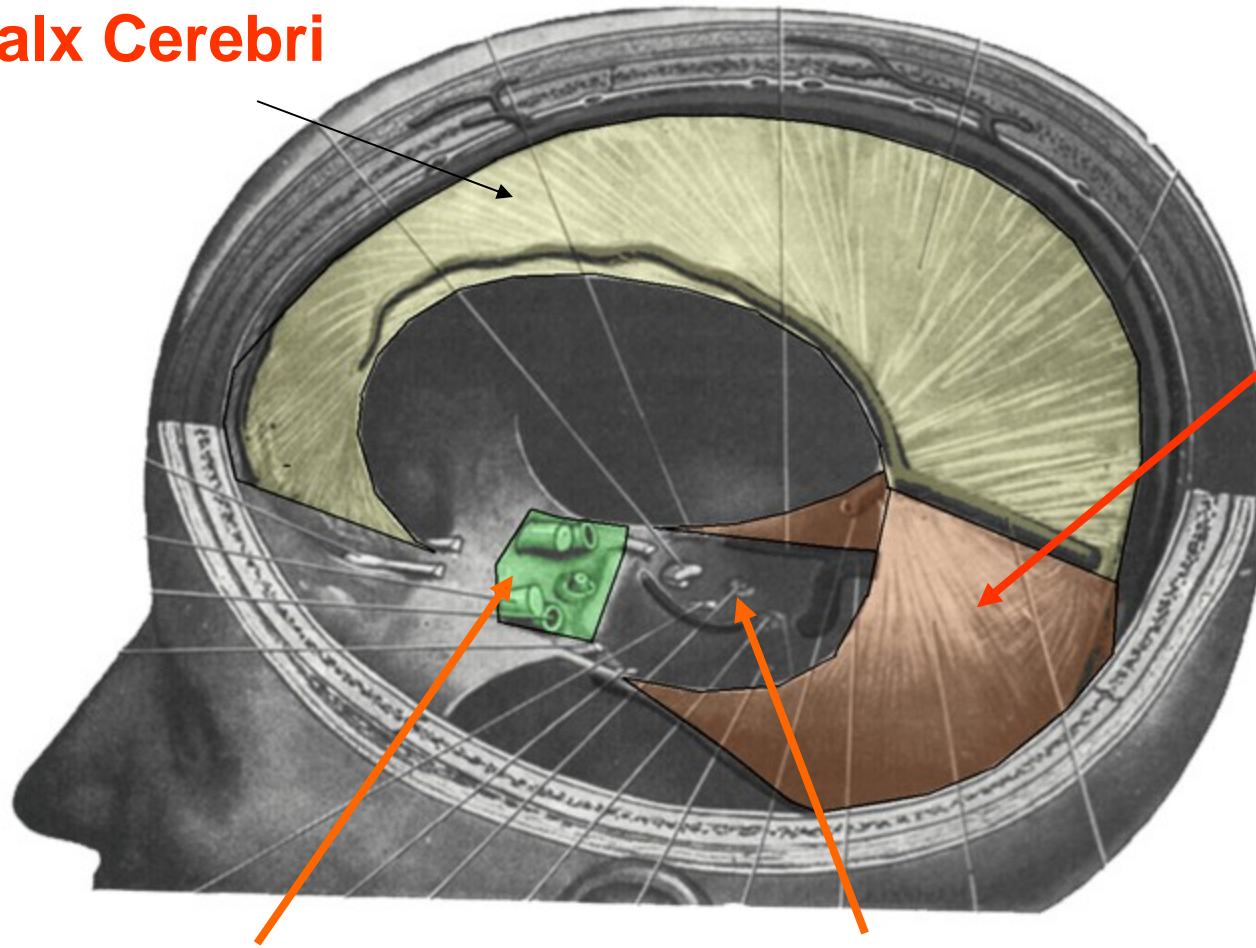
GCV - OPENING OF GREAT CEREBRAL VEIN OF GALEN

DS - DIAPHRAGMA SELLA

TN - TENTORIAL NOTCH

DURAL REFLECTIONS

Falx Cerebri



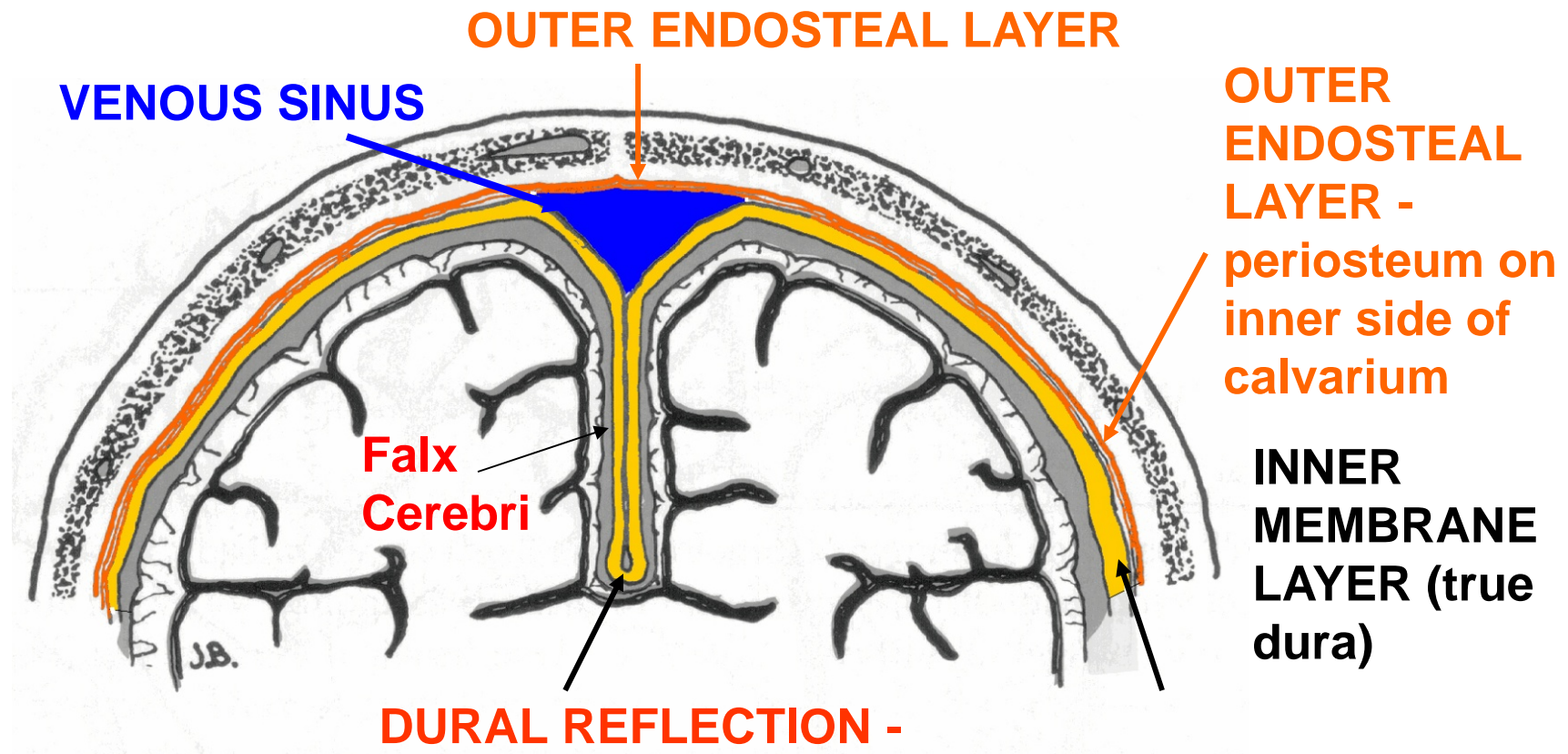
Tentorium Cerebelli – forms **roof** of post. cran. fossa

Diaphragma Sella – fold over sella turcica

Tentorial Notch – opening for brainstem

DURAL REFLECTIONS

2 Layers of Dura separate form Inward Folds (Reflections)-
Function to stabilize brain and contain **venous sinuses**



DURAL REFLECTION -
TWO LAYERS OF
INNER MEMBRANE
LAYER (true dura)

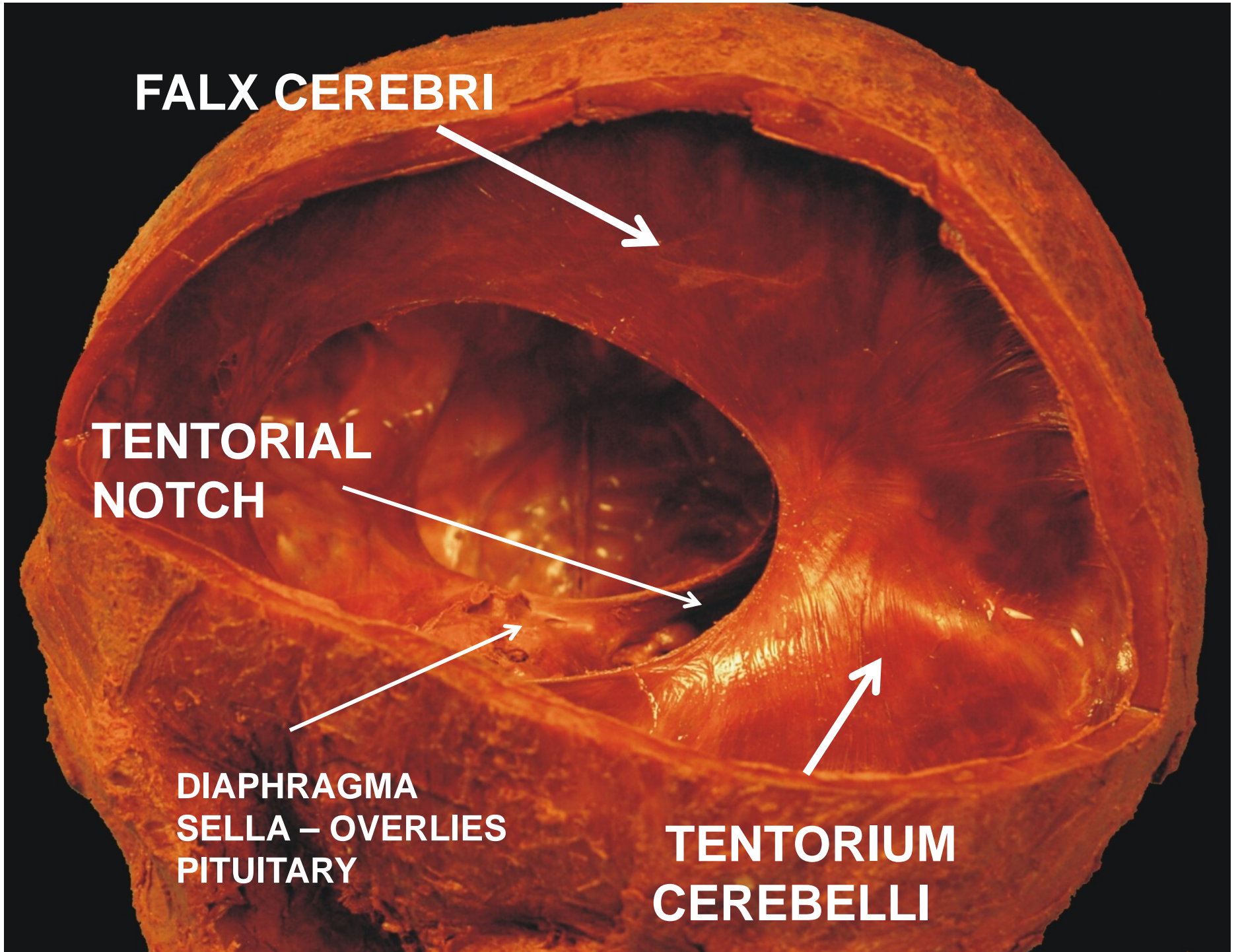
Reflection = dura
projects out and turns
back

FALX CEREBRI

**TENTORIAL
NOTCH**

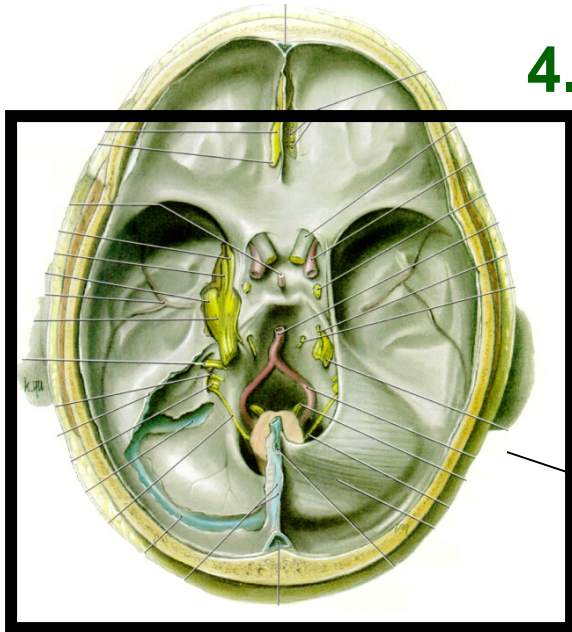
**DIAPHRAGMA
SELLA – OVERLIES
PITUITARY**

**TENTORIUM
CEREBELLI**



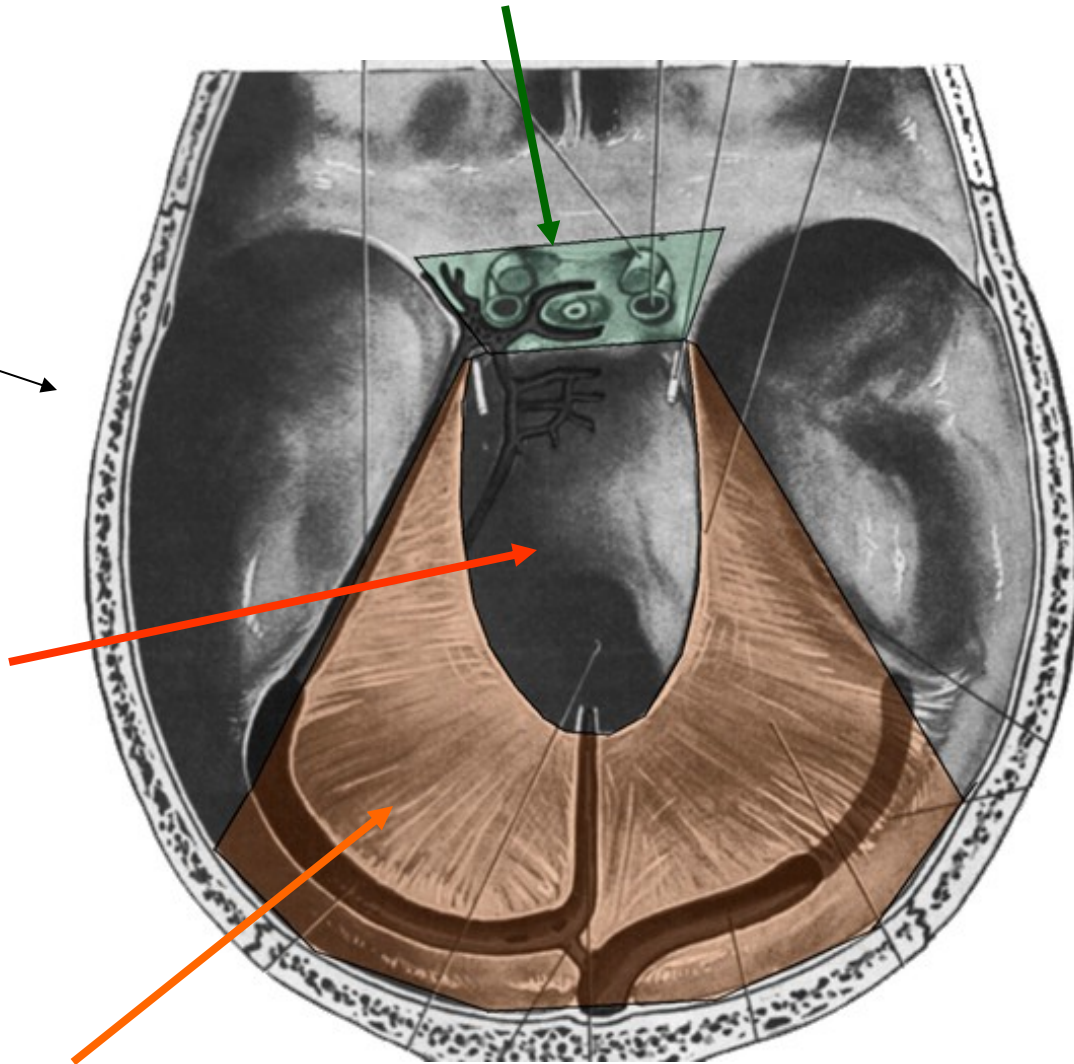
DURAL REFLECTIONS

4. Diaphragma Sella – over sella turcica



view inside cranial cavity

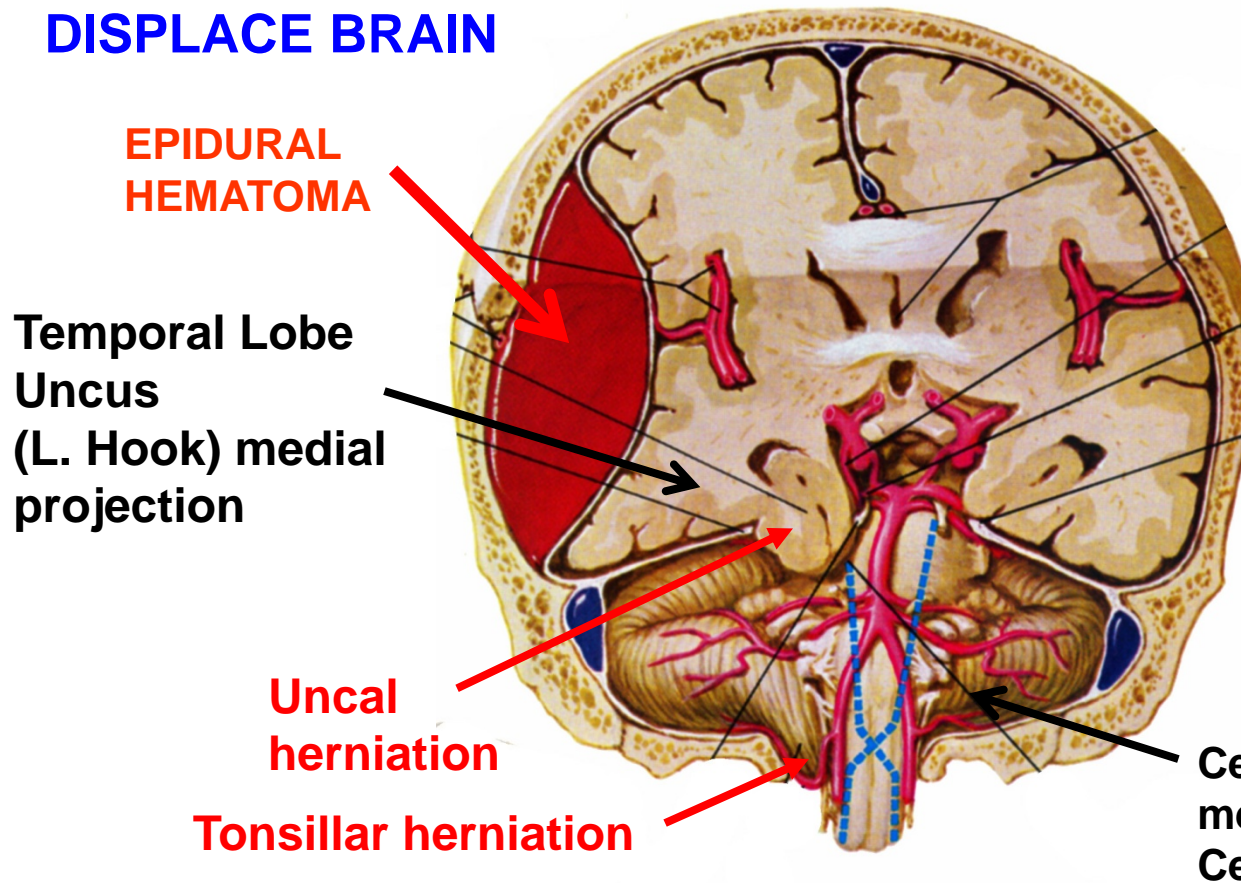
**Tentorial Notch –
opening for
brainstem**



3. Tentorium Cerebelli – forms roof of post. cran. fossa

EPIDURAL HEMATOMA

MASS OF BLOOD CAN
DISPLACE BRAIN



6) Herniation -

i. Uncal herniation -
push Temporal lobe
(uncus) through
Tentorial Notch

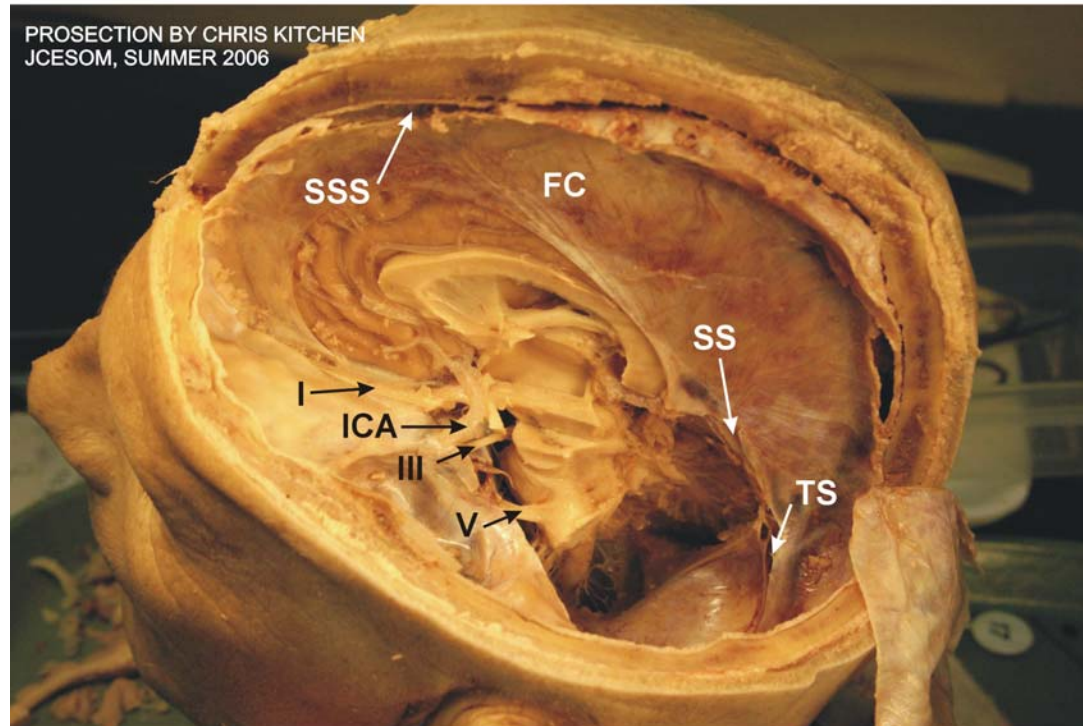
ii. Tonsillar
herniation -
push Cerebellum
(tonsil) through
Foramen Magnum

Clinical - bleeding can be profuse and rapid (ex, car accident); patient lucid at first; can be fatal within hours if herniation occurs



BRAIN (HEMISECTED) IN CRANIAL CAVITY

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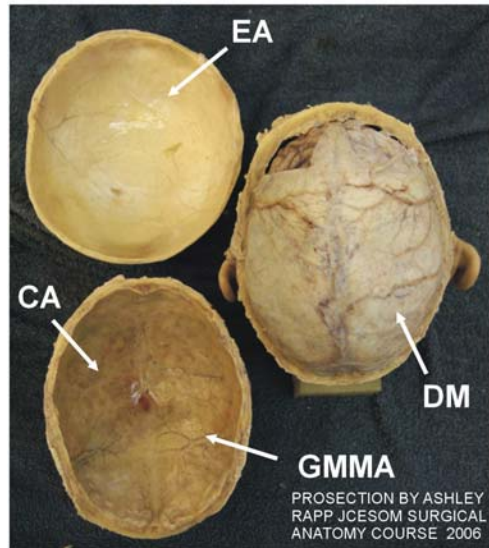


I - OLFACTORY TRACT
ICA - INTERNAL CAROTID ARTERY
III - OCULOMOTOR NERVE
V - TRIGEMINAL NERVE
SSS - SUPERIOR SAGITTAL SINUS
FC - FALX CEREBRI
SS - STRAIGHT SINUS
TS - TRANSVERSE SINUS

SCALP, CALVARIUM AND DURA MATER

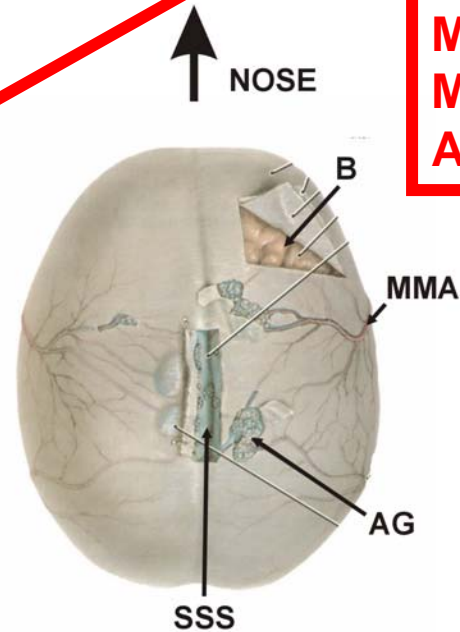
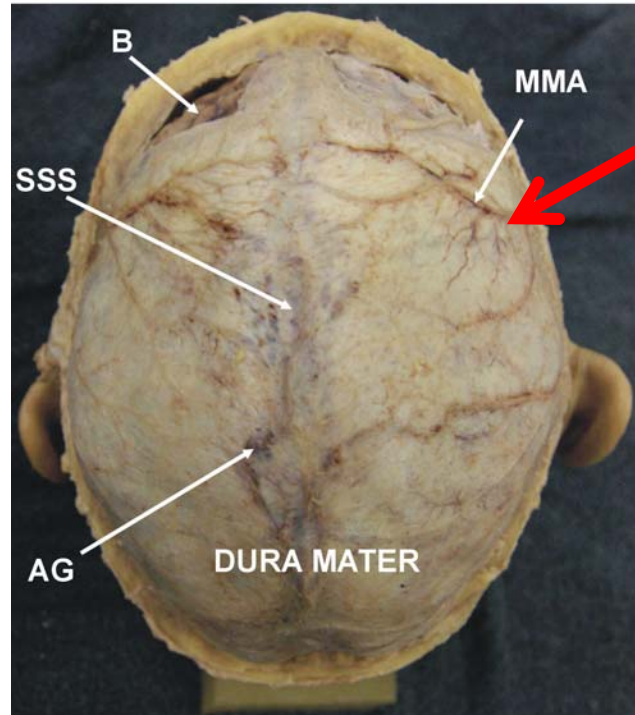
INNER SIDE OF CALVARIUM AND SCALP

282



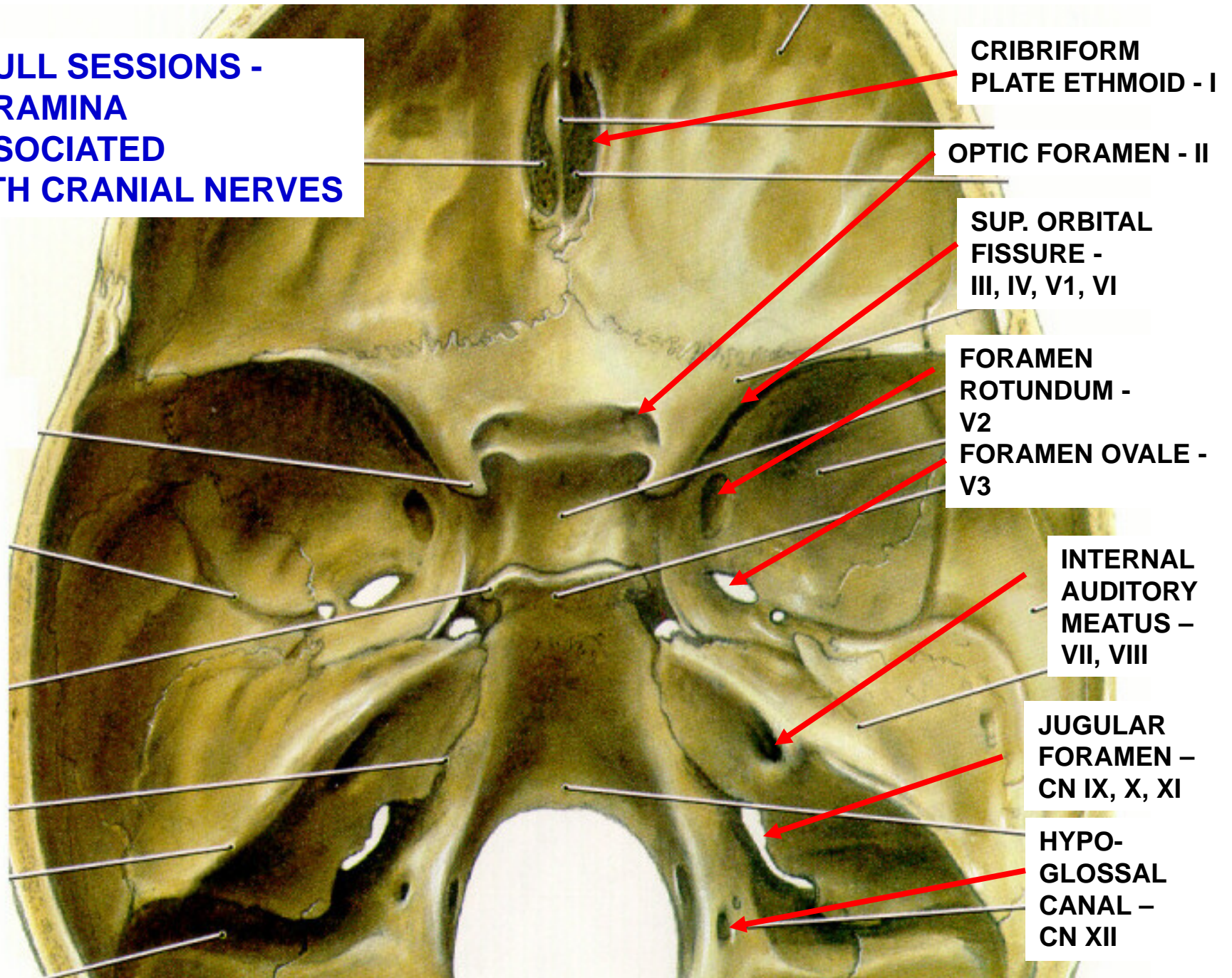
- EA - EPICRANIAL APONEUROSIS (ON INNER SIDE OF SCALP)
- CA - CALVARIUM WITH DURA MATER REMOVED
- GMMA - GROOVE FOR MIDDLE MENINGEAL ARTERY
- DM - DURA MATER
- B - BRAIN
- SSS - SUPERIOR SAGITAL SINUS
- AG - ARACHNOID GRANULATION
- MMA - MIDDLE MENINGEAL ARTERY

DURA MATER AT HIGH MAG



STILL SEE BRANCHES OF MIDDLE MENINGEAL ARTERY

**SKULL SESSIONS -
FORAMINA
ASSOCIATED
WITH CRANIAL NERVES**



**BRAINSTEM
DISSECTION
IDENTIFY**



II

**PITUITARY
STALK**

INTERNAL CAROTID A.

V1

III

V2

V3

**MIDDLE
MENINGEAL A.**

BASILAR A.

IV

V

VI

VII

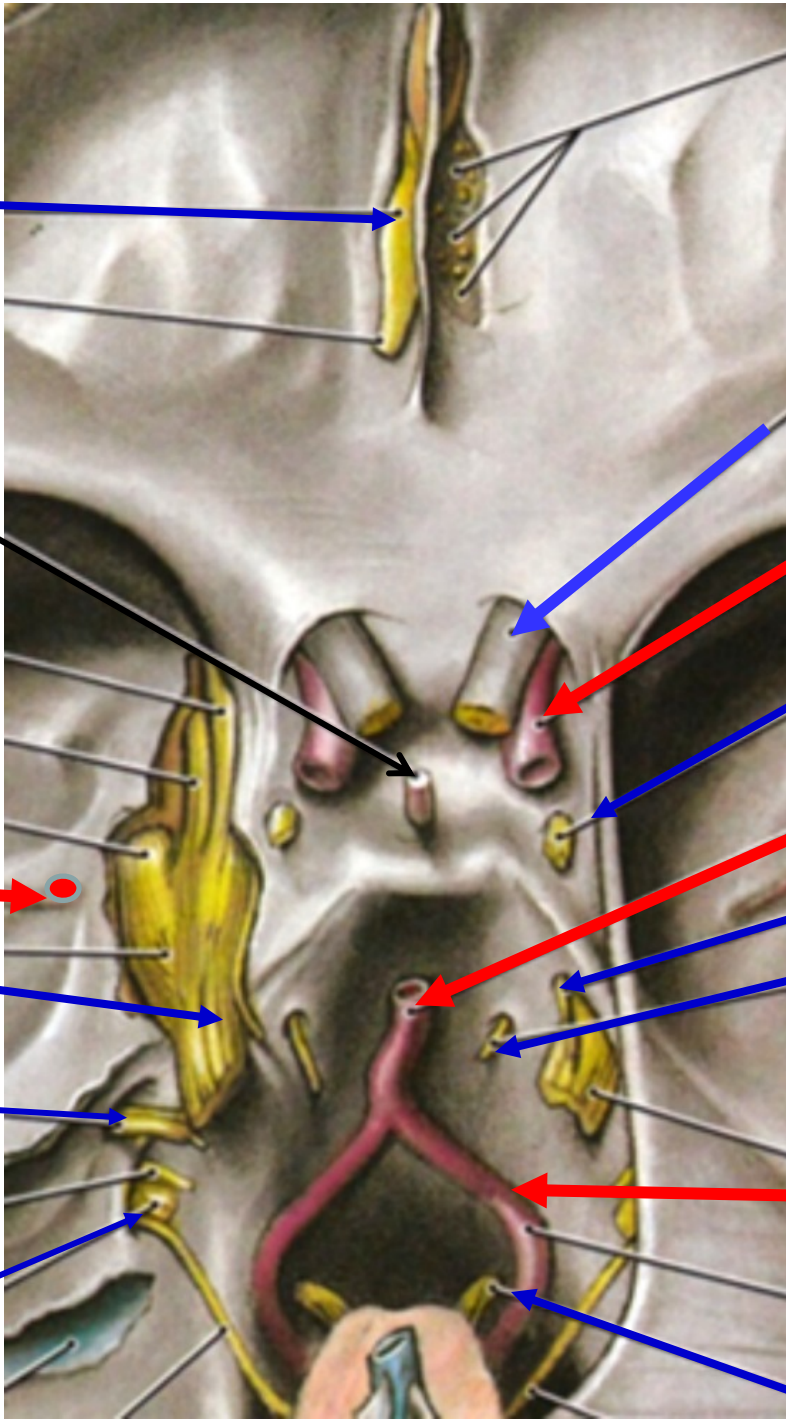
+VIII

VERTEBRAL A.

IX, X

+XI

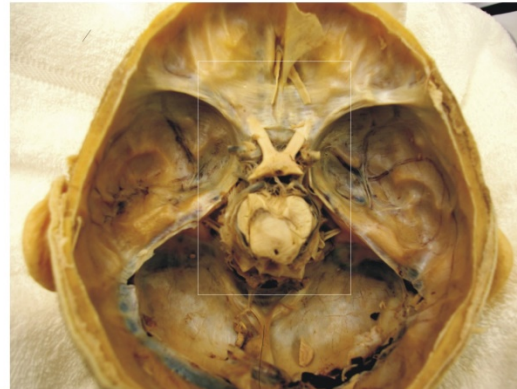
XII



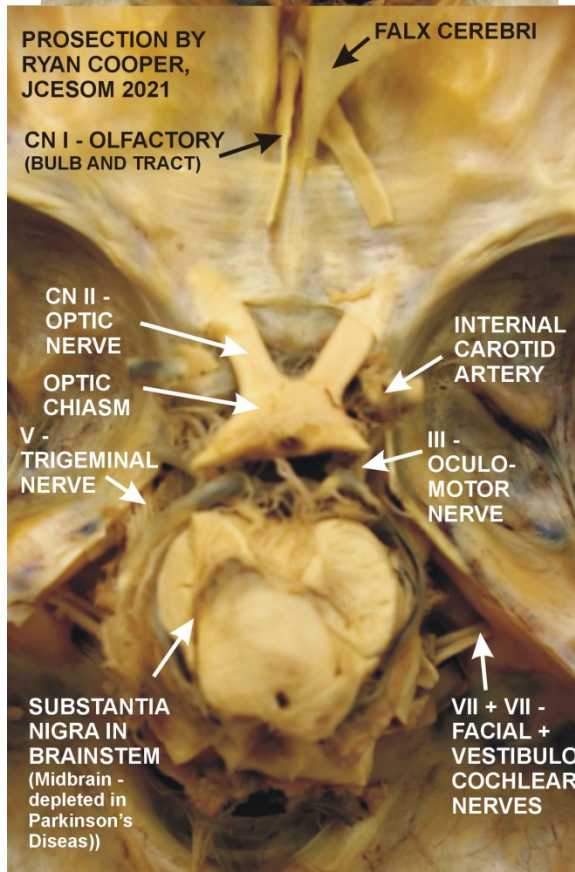
77

BRAINSTEM IN CRANIAL CAVITY

77

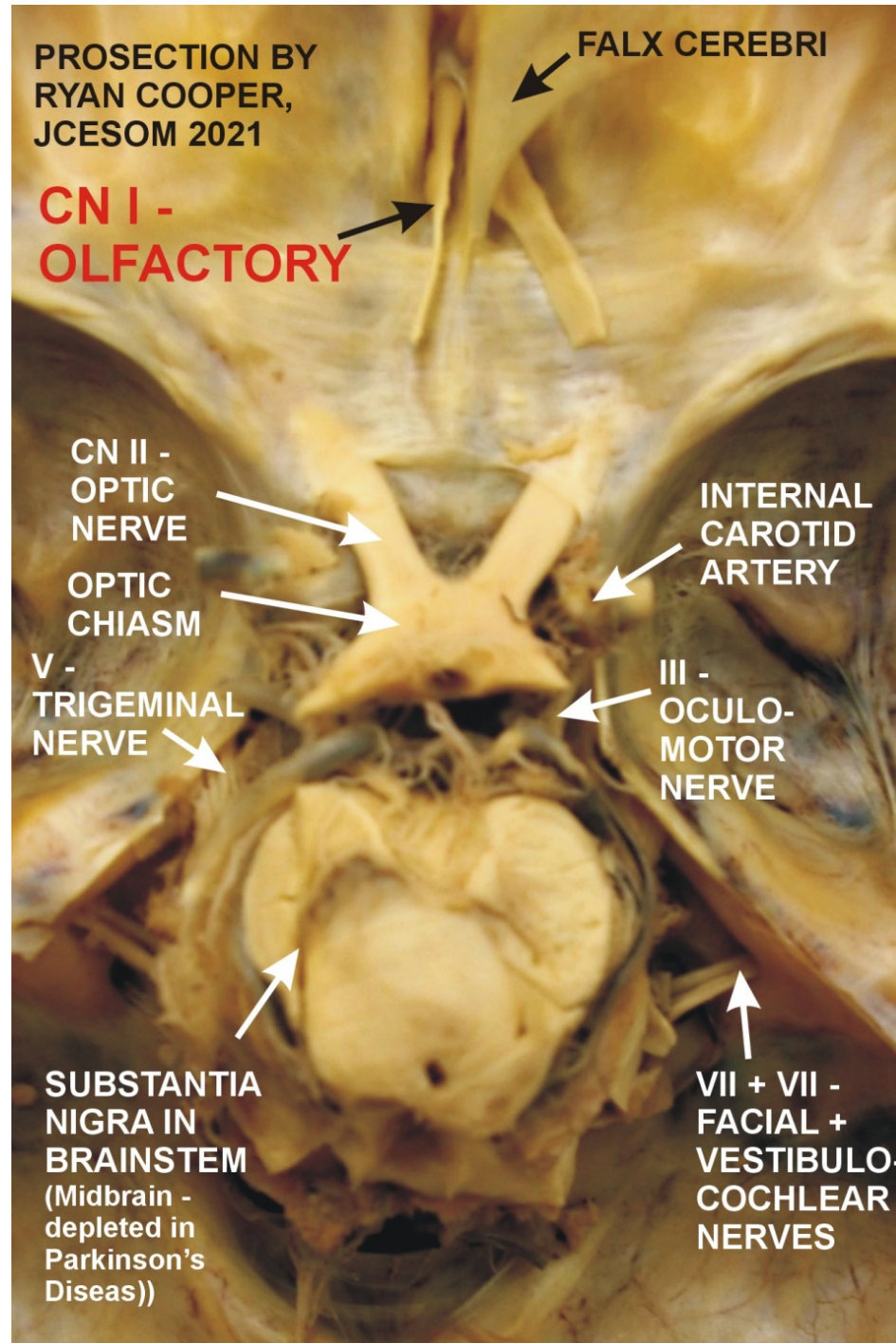


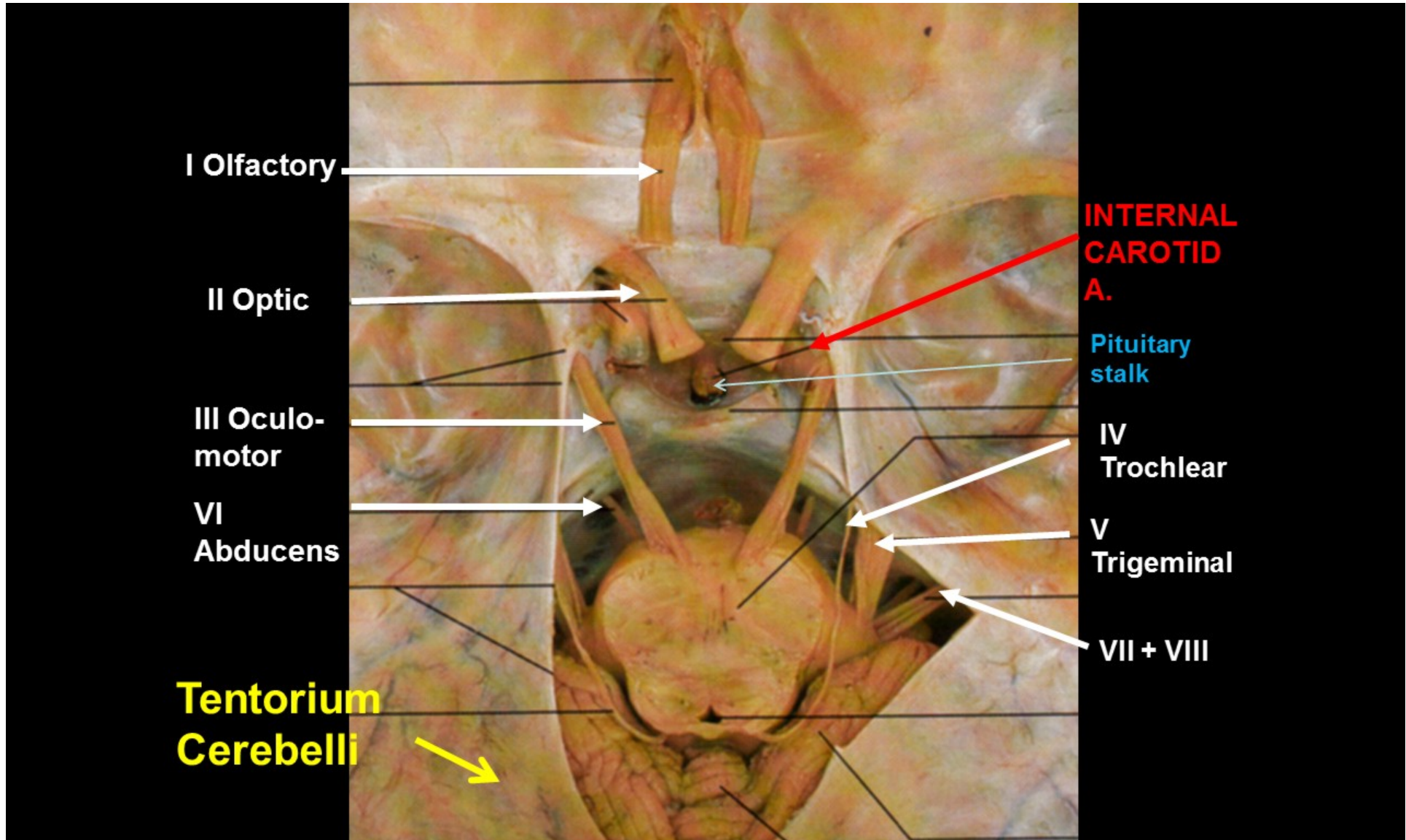
ORIENT: CALVARIUM,
BRAIN REMOVED;
BRAINSTEM,
EXPOSED IN
CRANIAL CAVITY



NOTE:
PLEASE
TREAT
THIS
PROSECTIONS
GENTLY;
DO NOT
PULL ON
BRAINSTEM

**PROSECTIONS
77 -
BRAINSTEM
IN CRANIAL
CAVITY**





IV
Trochlear

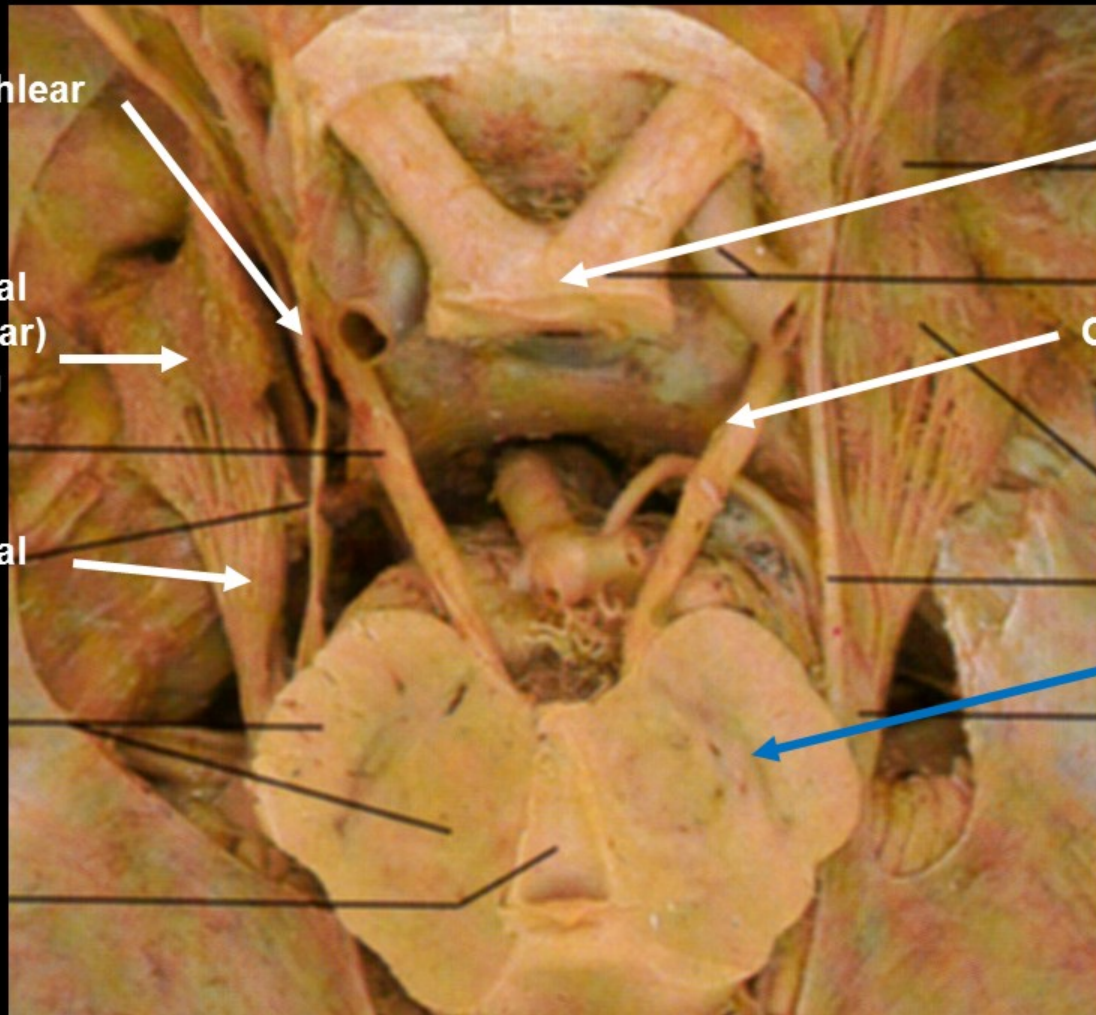
II Optic
Chiasm

Trigeminal
(Semilunar)
Ganglion

III
Oculomotor

V
Trigeminal

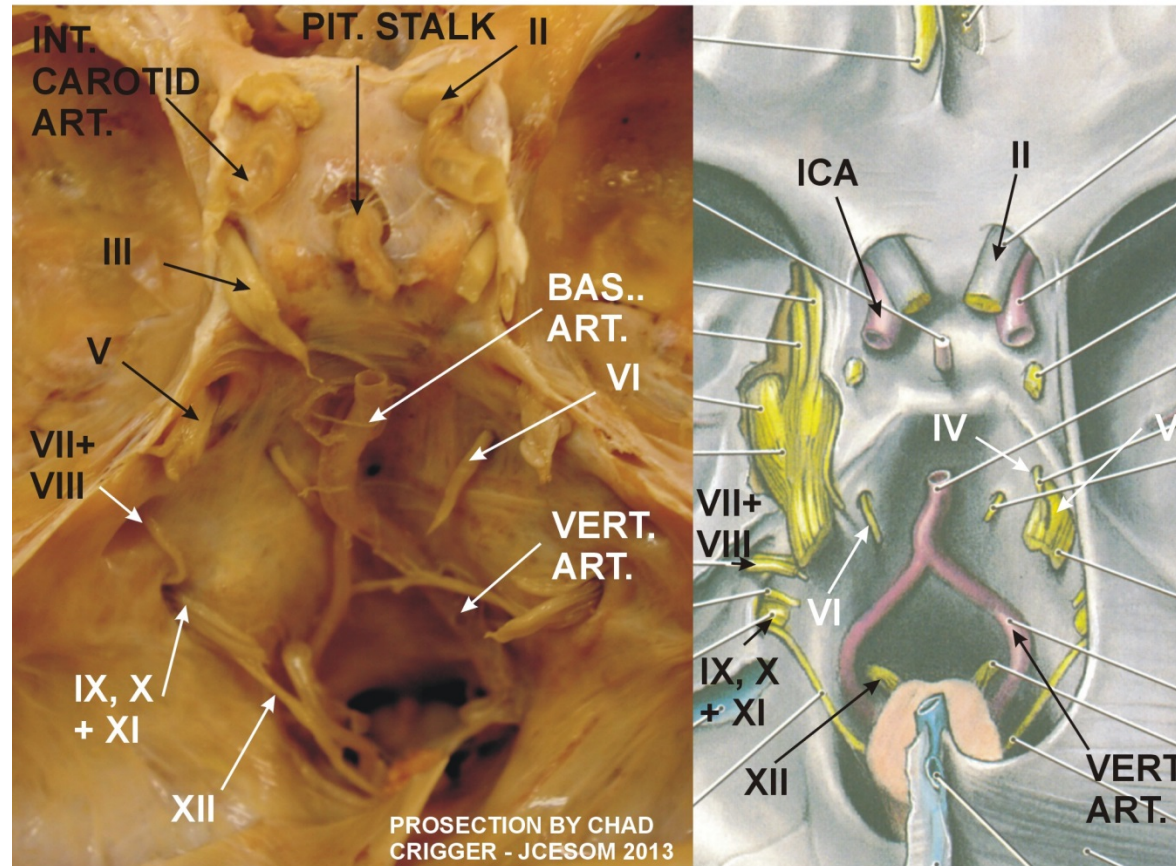
Substantia
Nigra
in
Midbrain
(Parkinson's
Disease)



CRANIAL NERVES

13

13



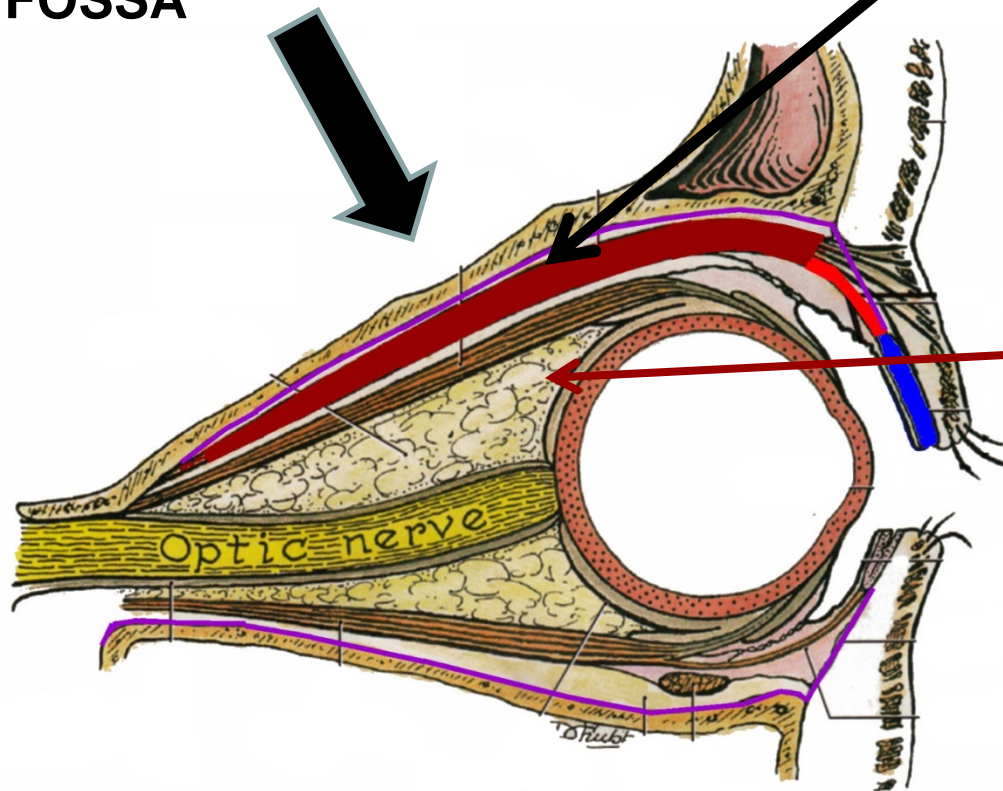
VERT. ART. - Vertebral Artery
VII - Facial Nerve
VIII - Vestibulocochlear Nerve
IX - Glossopharyngeal Nerve
X - Vagus
XI - Accessory
XII - Hypoglossal

INT. CAROTID ART. - Internal Carotid Artery
BAS. ART. - Basilar Artery
II - Optic Nerve
V - Trigeminal
VI - Abducens

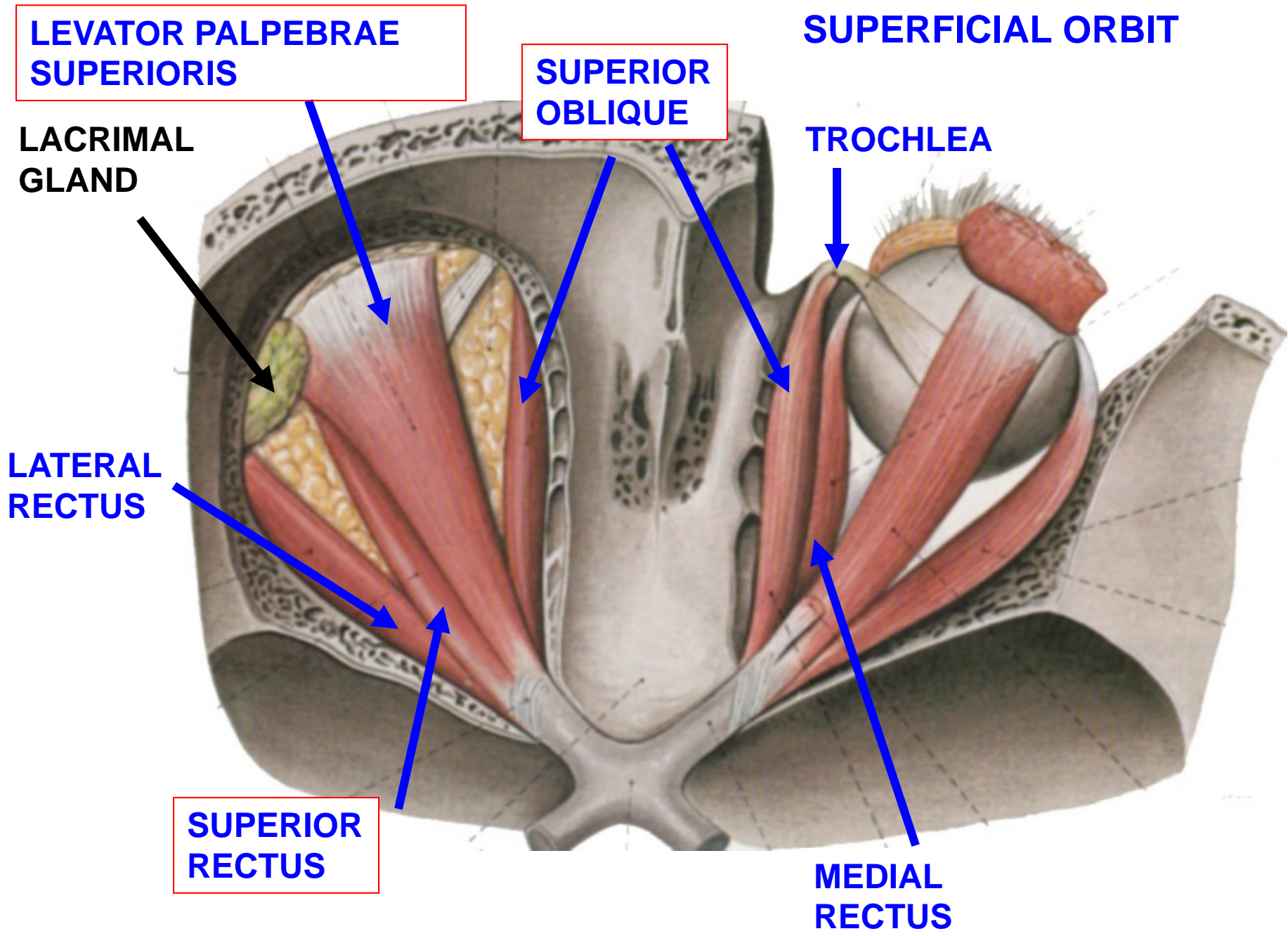
ORBIT DISSECTION

ORBIT IS DISSECTED FROM FLOOR OF ANTERIOR CRANIAL FOSSA

SUPERFICIAL DISSECTION - remove bone, periorbita, fat; shows structures leaving orbit (V1 branches to face); also muscle of upper eyelid (Lev. Palp. Sup.) , Lacrimal gland



DEEP DISSECTION - Reflect Lev. Palp. Sup., Superior Rectus Muscles; see Optic Nerve, structures entering back of eye (Ciliary ganglion); also V1 branches to nasal cavity



SUPERFICIAL ORBIT

see
NERVES (V1)
- V1 - Frontal n.: divides to form Supraorbital, Supratrochlear Nerves

Muscles - Lev.Palpebrae Superioris to Upper Eyelid

Lev.Palpebrae Superioris M.

Supraorbital N.
Supratrochlear N.

Superior Oblique M.

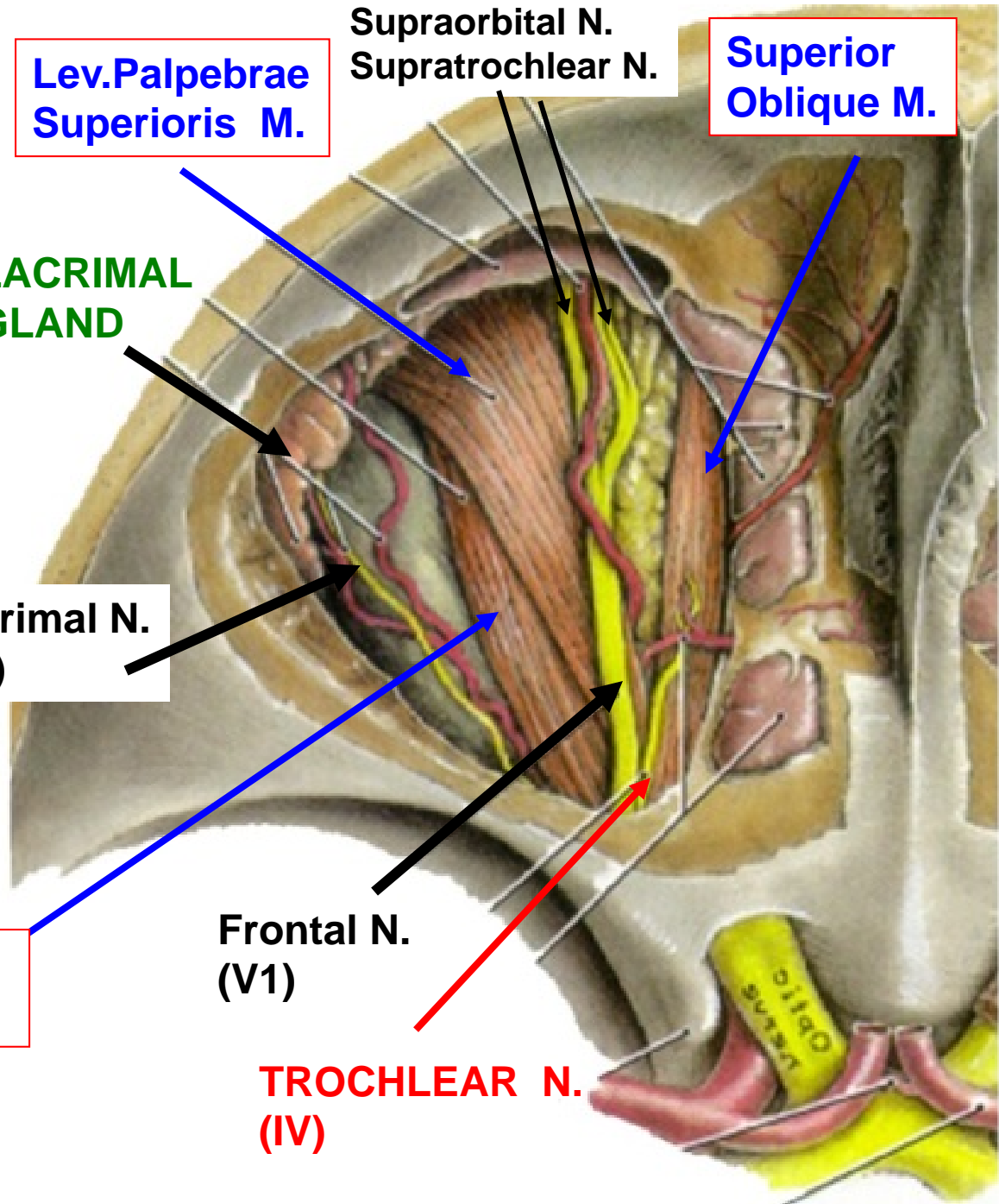
LACRIMAL GLAND

Lacrimal N. (V1)

Frontal N. (V1)

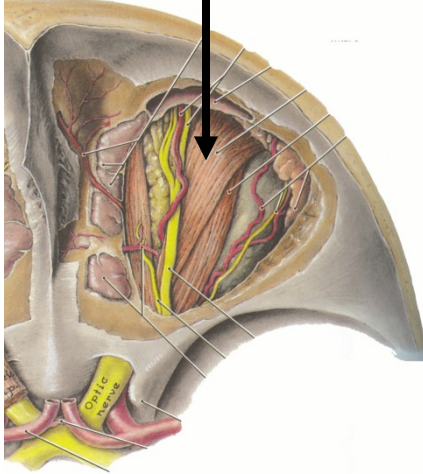
TROCHLEAR N. (IV)

Superior Rectus M



DEEP ORBIT

REFLECT LEV PALP SUP,
SUP. RECTUS.



↑
N
O
S
E

TROCHLEA OF SUP. OBLIQUE

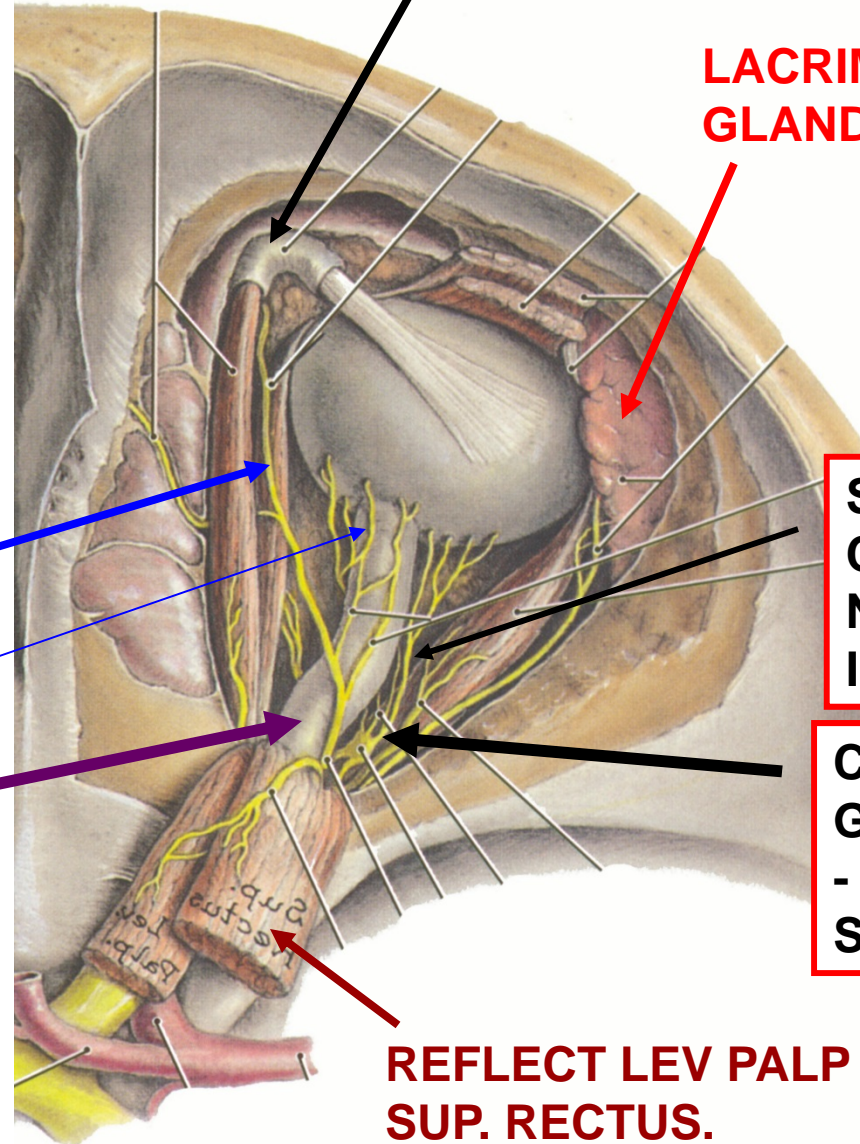
LACRIMAL
GLAND

ANTERIOR AND POSTERIOR
ETHMOIDAL NERVES (V1)

LONG CILIARY NERVES (V1)

OPTIC NERVE

SENSORY - V1
branches - MEDIAL
PARASYMPATHETIC -
III - LATERAL



SHORT
CILIARY
NERVES
III

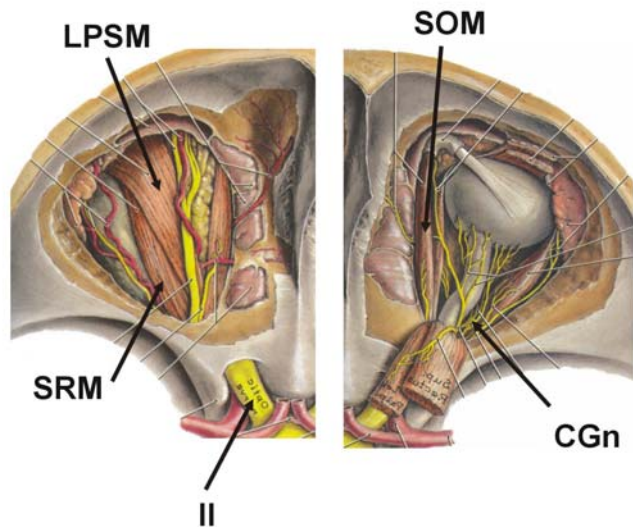
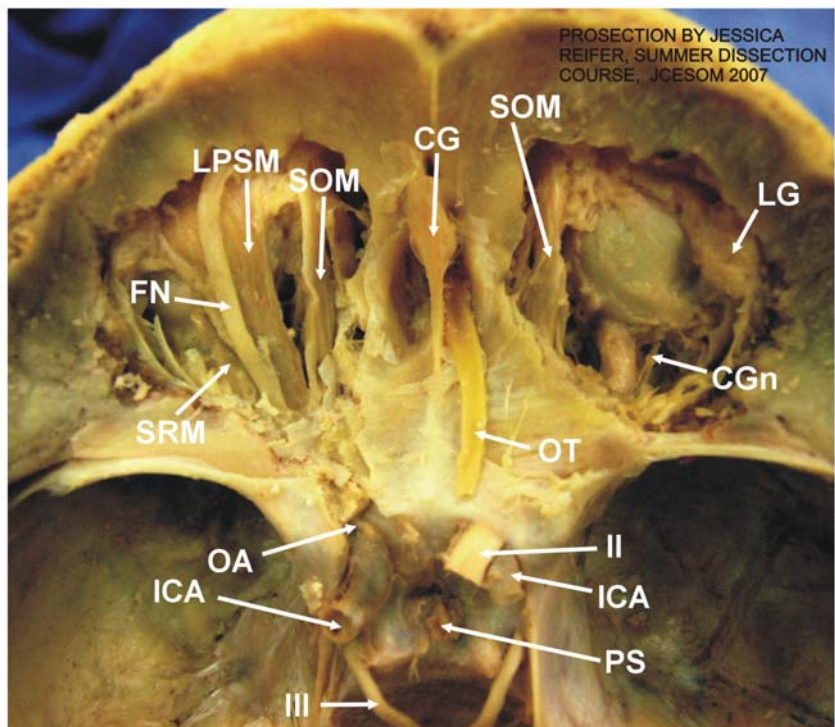
CILIARY
GANGLION
- PARA-
SYMP. III

REFLECT LEV PALP SUP,
SUP. RECTUS.

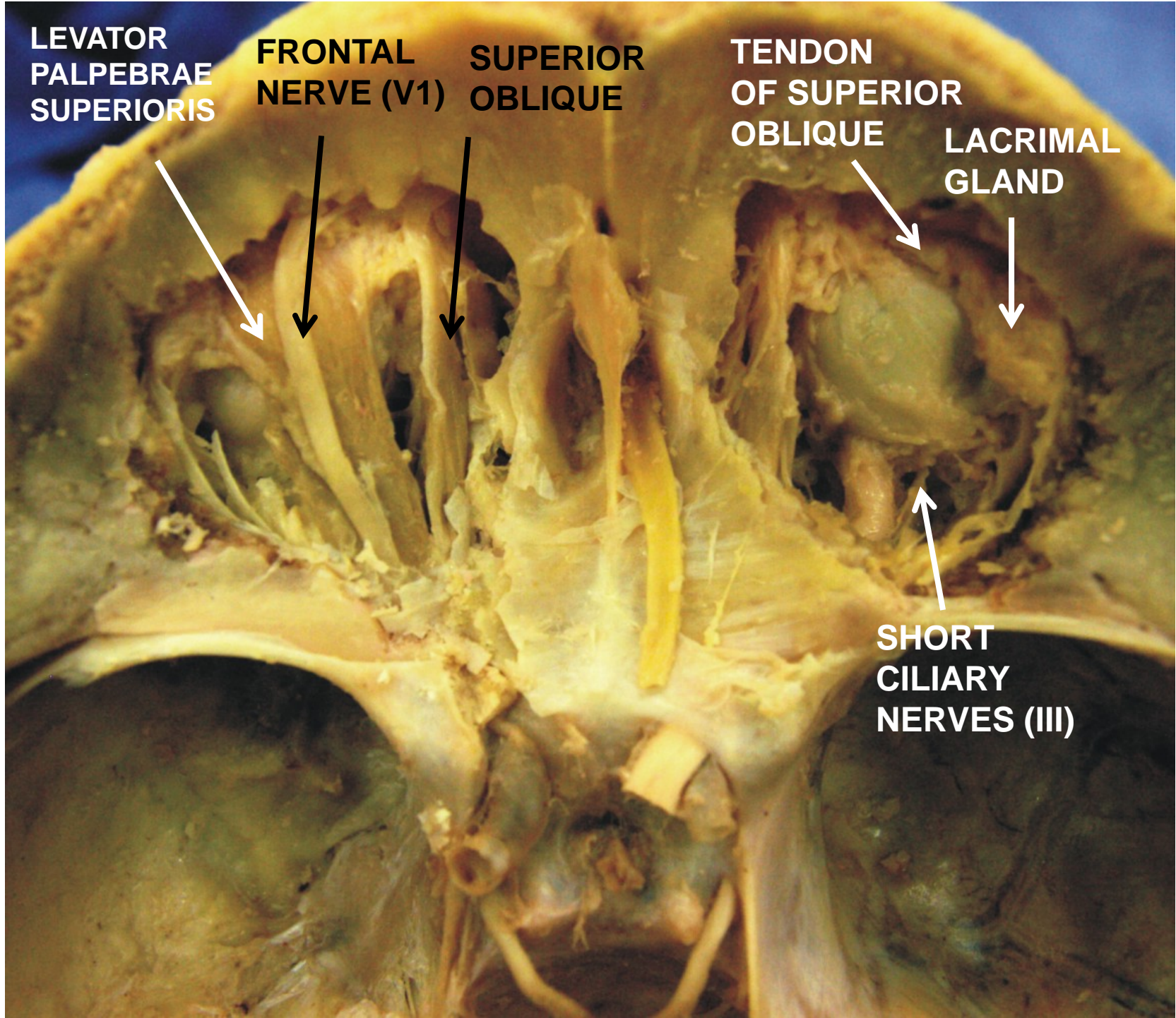
ORBIT: SUPERFICIAL AND DEEP DISSECTIONS

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- ICA - INTERNAL CAROTID ARTERY
- III - OCULOMOTOR NERVE
- PS - PITUITARY STALK
- II - OPTIC NERVE
- OT - OLFATORY TRACT
- CGn - CILIARY GANGLION
- LG - LACRIMAL GLAND
- CG - CRISTA GALLI
- SOM - SUPERIOR OBLIQUE MUSCLE
- LPSM - LEVATOR PALPEBRAE SUPERIORIS M.
- FN - FRONTAL NERVE
- SRM - SUPERIOR RECTUS MUSCLE
- OA - OPHTHALMIC ARTERY



**LEVATOR
PALPEBRAE
SUPERIORIS**

**FRONTAL
NERVE (V1)**

**SUPERIOR
OBLIQUE**

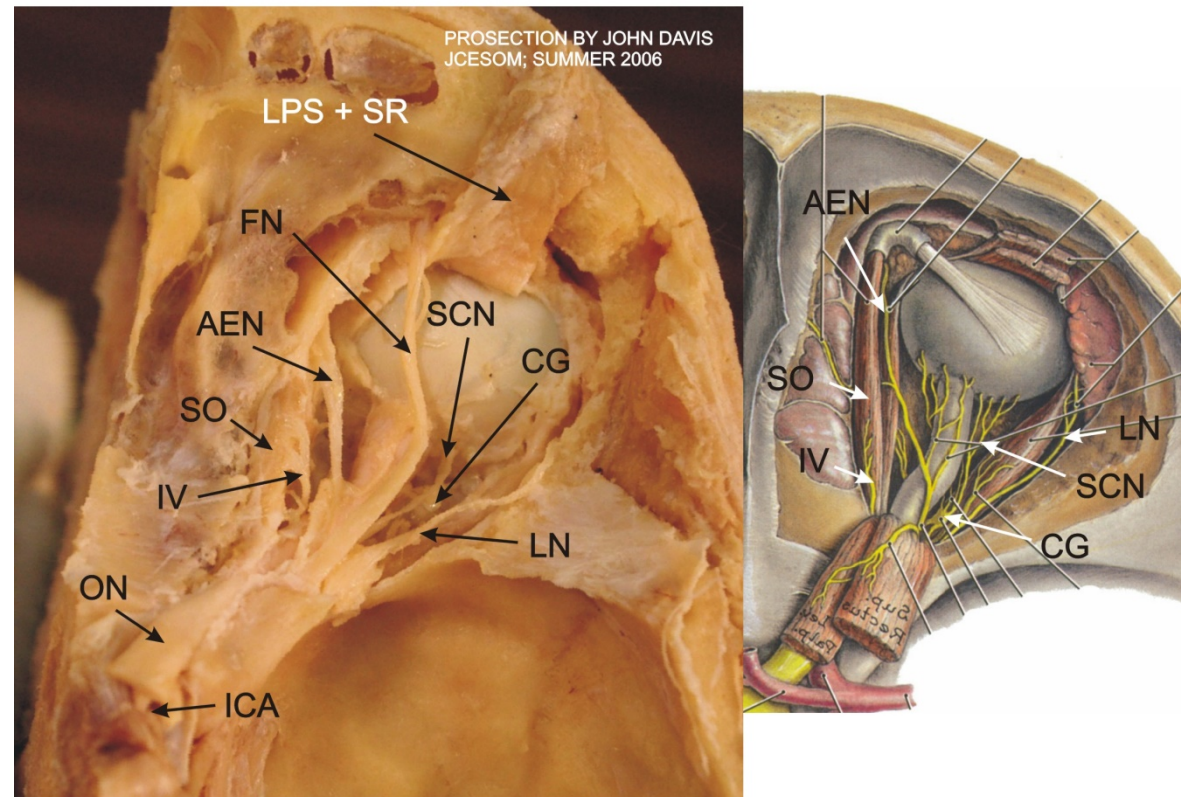
**TENDON
OF SUPERIOR
OBLIQUE**

**LACRIMAL
GLAND**

**SHORT
CILIARY
NERVES (III)**

PROSECTION OF ORBIT - Deep Dissection

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LPS + SR - LEVATOR PALPEBRAE SUPERIORIS
AND SUPERIOR RECTUS MUSCLES REFLECTED

IV - TROCHLEAR NERVE

SO - SUPERIOR OBLIQUE MUSCLE

AEN - ANTERIOR ETHMOIDAL NERVE

FN - FRONTAL NERVE

CG - CILIARY GANGLION

SCN - SHORT CILIARY NERVES

LN - LACRIMAL NERVE

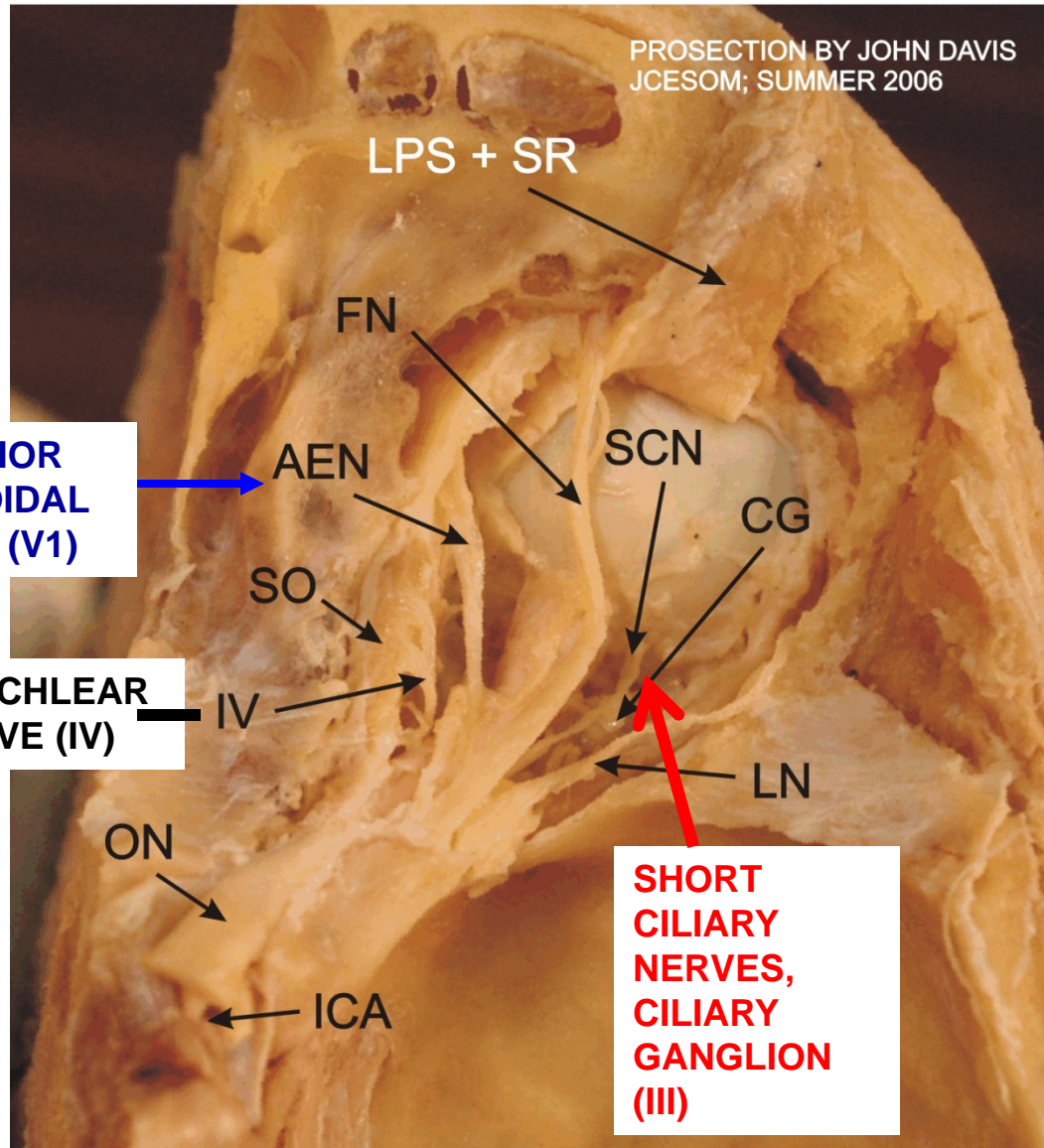
ON - OPTIC NERVE

ICA - INTERNAL CAROTID ARTERY

NOTE:
MANY STRUCTURES
DESSICATED
BUT INTACT
CILIARY GANGLION

PROSECTION OF ORBIT - Deep Dissection

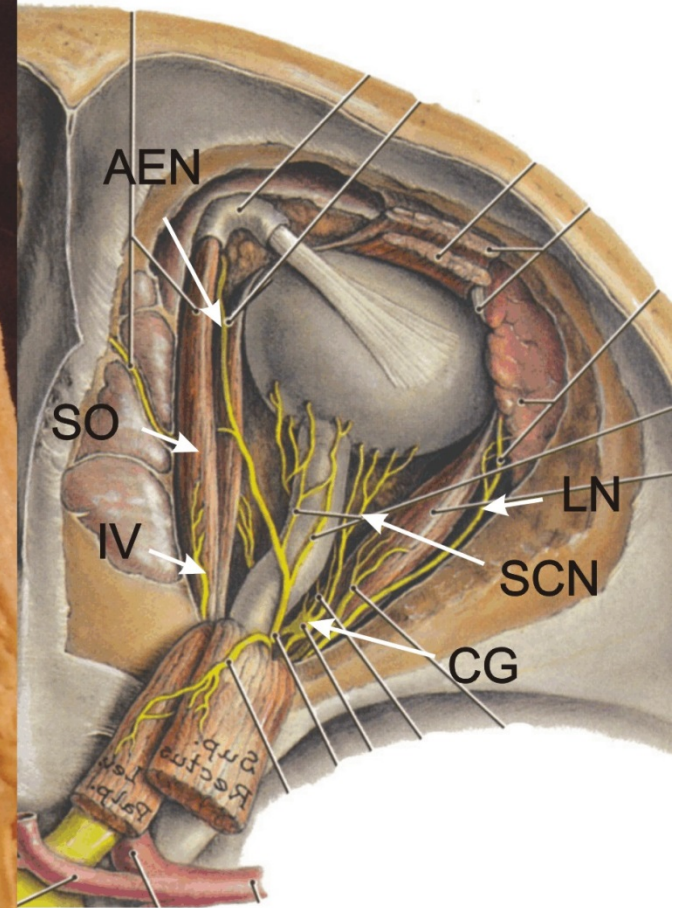
PROSECTION BY JOHN DAVIS
JCESOM; SUMMER 2006

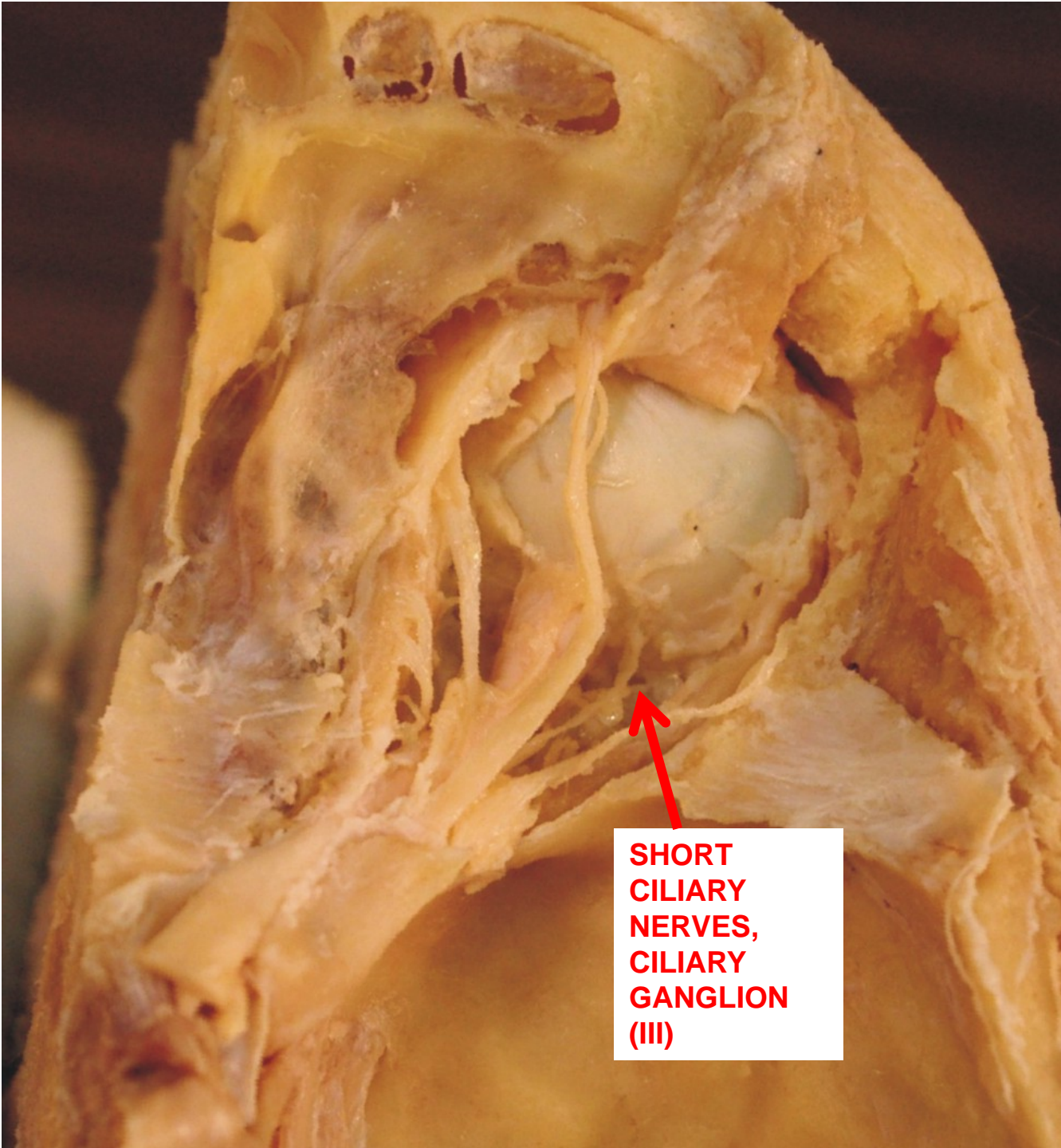


ANTERIOR
ETHMOIDAL
NERVE (V1)

TROCHLEAR
NERVE (IV)

SHORT
CILIARY
NERVES,
CILIARY
GANGLION
(III)



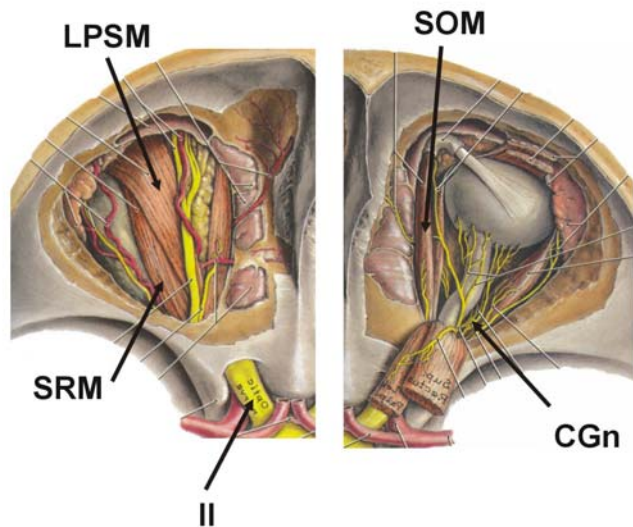
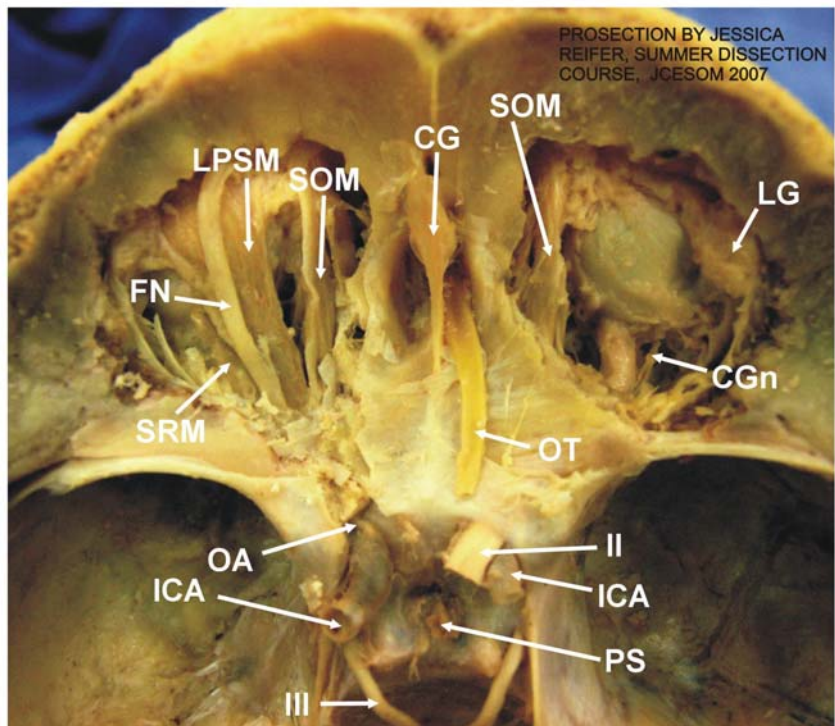


**SHORT
CILIARY
NERVES,
CILIARY
GANGLION
(III)**

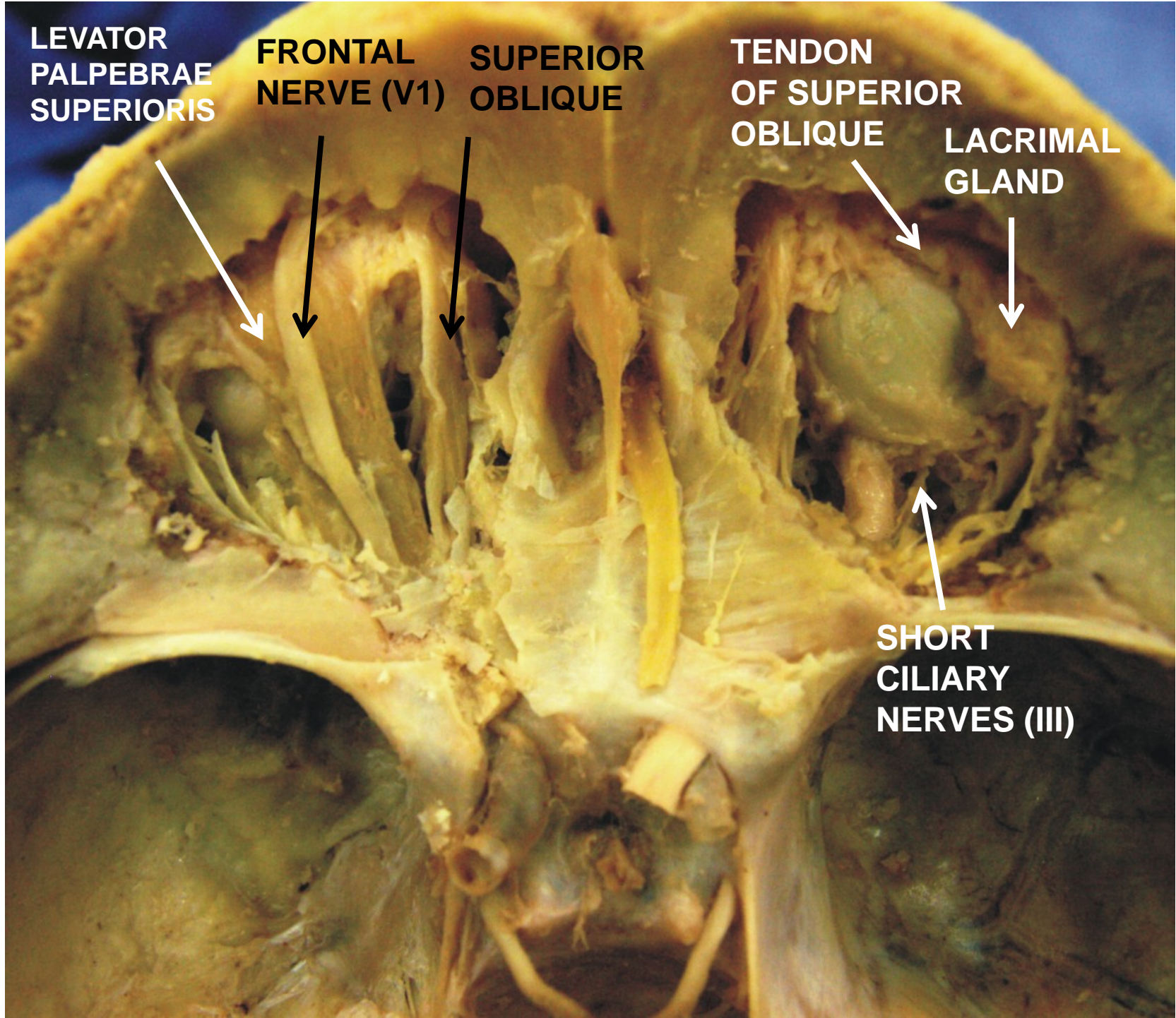
ORBIT: SUPERFICIAL AND DEEP DISSECTIONS

287

287



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**LEVATOR
PALPEBRAE
SUPERIORIS**

**FRONTAL
NERVE (V1)**

**SUPERIOR
OBLIQUE**

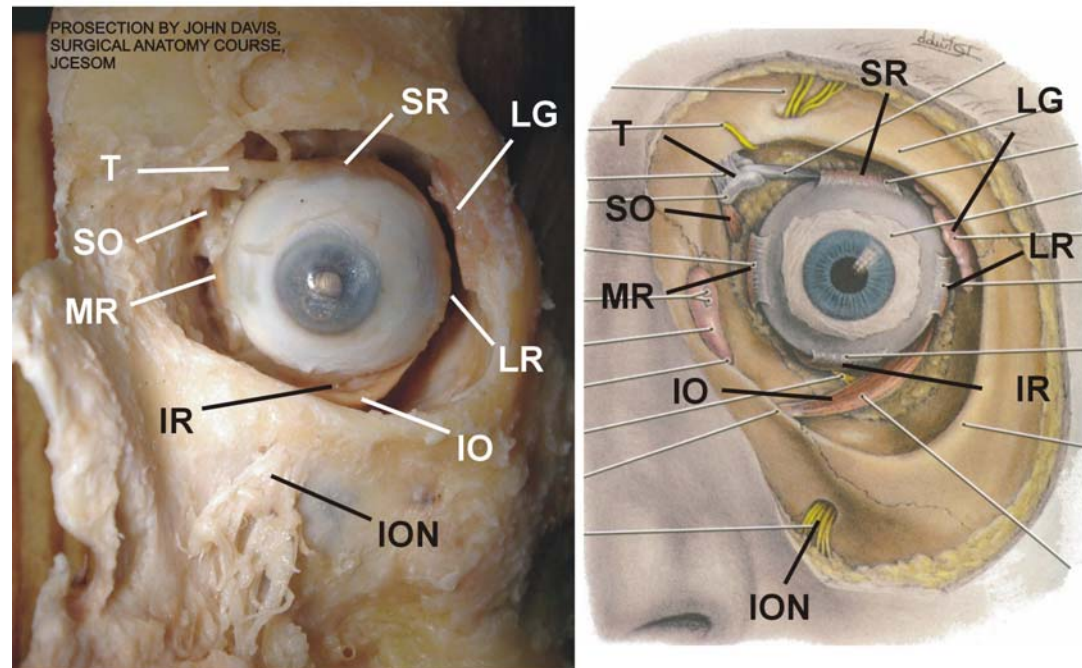
**TENDON
OF SUPERIOR
OBLIQUE**

**LACRIMAL
GLAND**

**SHORT
CILIARY
NERVES (III)**

PROSECTION OF ORBIT - ANTERIOR VIEW

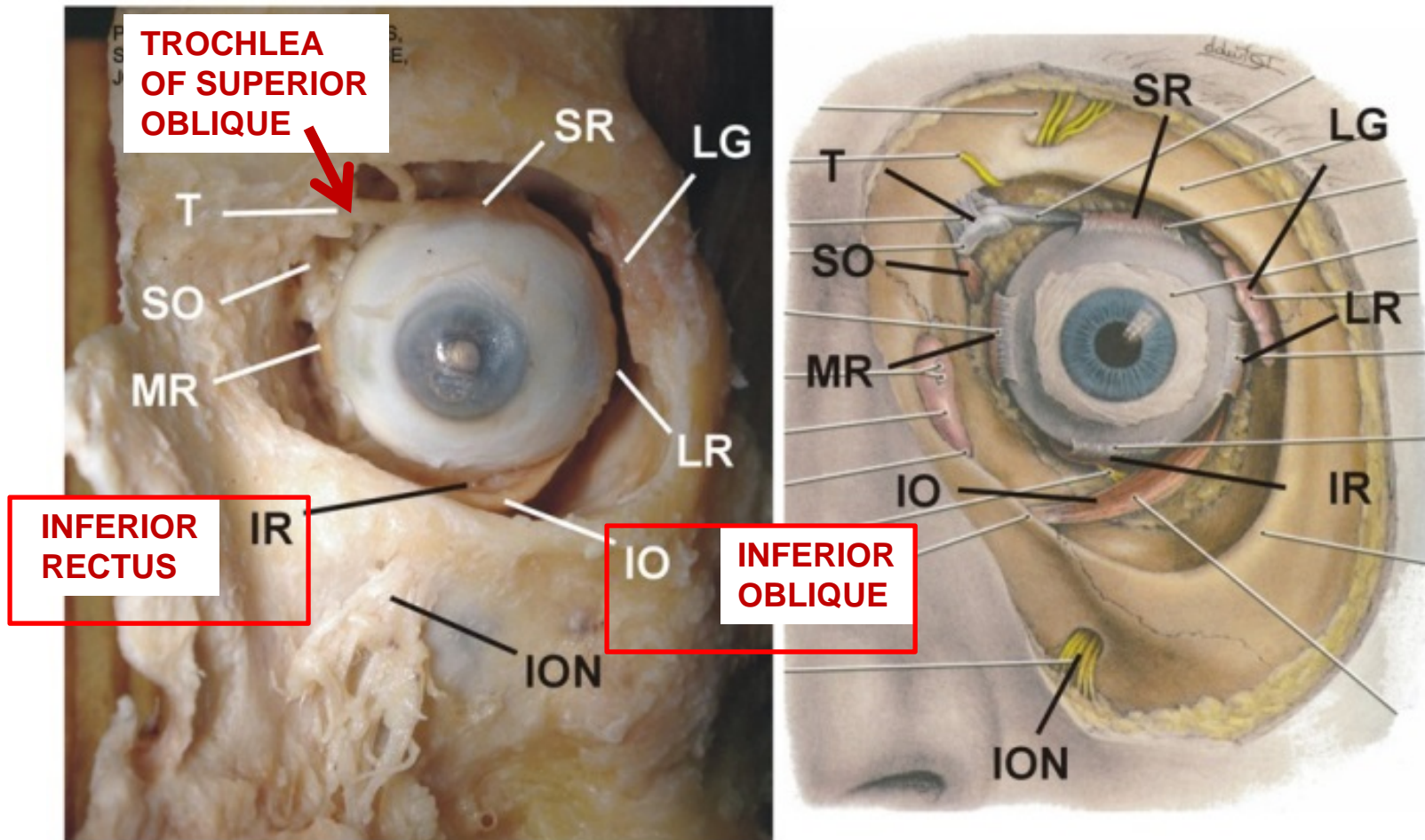
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- SO - Superior oblique muscle
- T - Trochlea (pulley for SO tendon)
- SR - Superior rectus muscle (insertion)
- LR - Lateral rectus muscle (insertion)
- IR - Inferior rectus muscle (insertion)
- IO - Inferior oblique muscle
- MR - Medial rectus muscle (insertion)
- LG - Lacrimal Gland
- ION - Infraorbital nerve (V2)

Note: tilt prosection or gently move eye to see rectus muscles

PROSECTION OF ORBIT - ANTERIOR VIEW



See why rotation (intorsion, extorsion) occurs