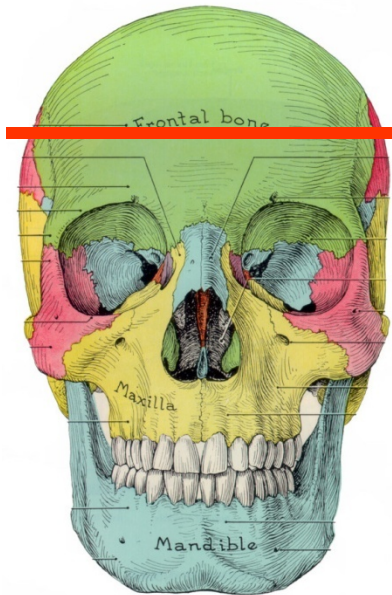
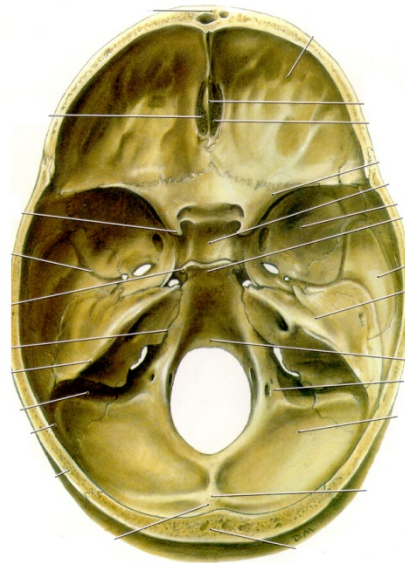


3. DISSECTION FRIDAY FEB 11: EXPOSE BRAINSTEM IN CRANIAL CAVITY

STRUCTURE OF CRANIAL
CAVITY – ALREADY DONE -
saw cut to remove calvarium

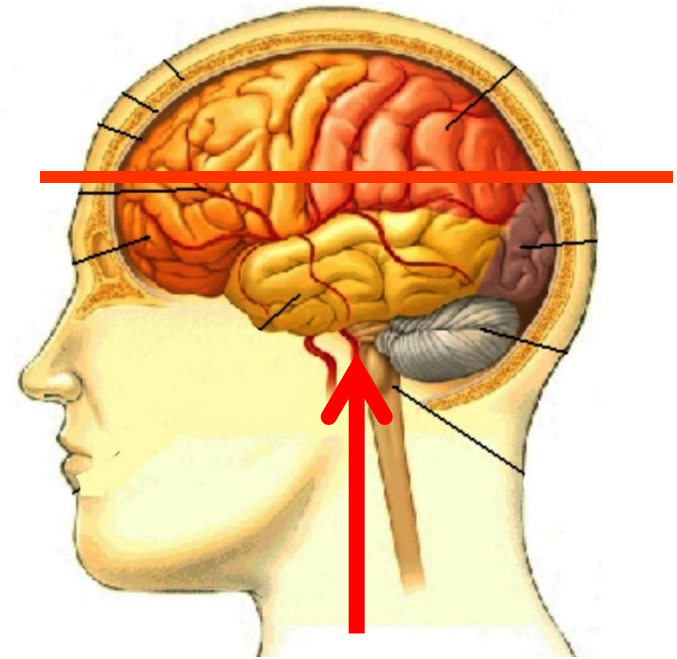


SKULL



INTERIOR OF
SKULL -
LEARN
OPENINGS
FORAMINA

ALSO CUT THROUGH BRAIN
– DISSECT LOWER HALF TO
EXPOSE BRAIN STEM



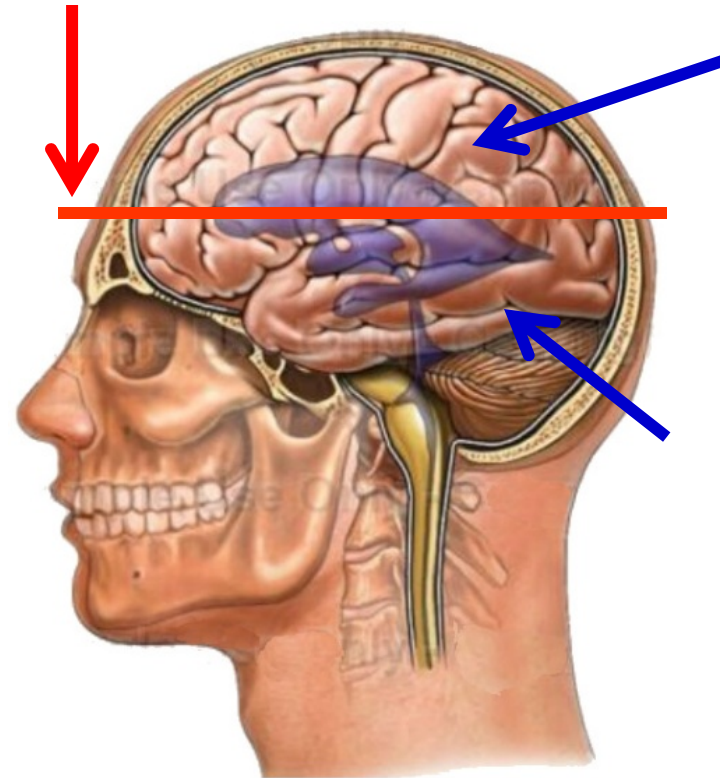
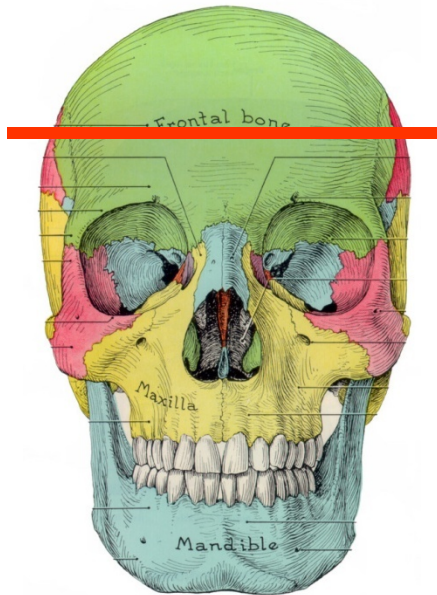
BRAIN STEM –
SEE CRANIAL
NERVES,
ARTERIAL
CIRCLE OF WILLIS

DISSECT LOWER HALF (ATTACHED TO BODY) TO EXPOSE BRAINSTEM; LEAVE UPPER HALF INTACT

VIEW FROM ABOVE AFTER REMOVE CALVARIUM (SKULL CAP)

UPPER HALF HAS CALVARIUM (WITH DURA) AND UPPER HALF OF BRAIN - LEAVE INTACT WITH CADAVER FOR REVIEW

LOWER HALF ON CADAVER HAS REMAINDER OF BRAIN, BRAINSTEM, CRANIAL NERVES, ARTERIES



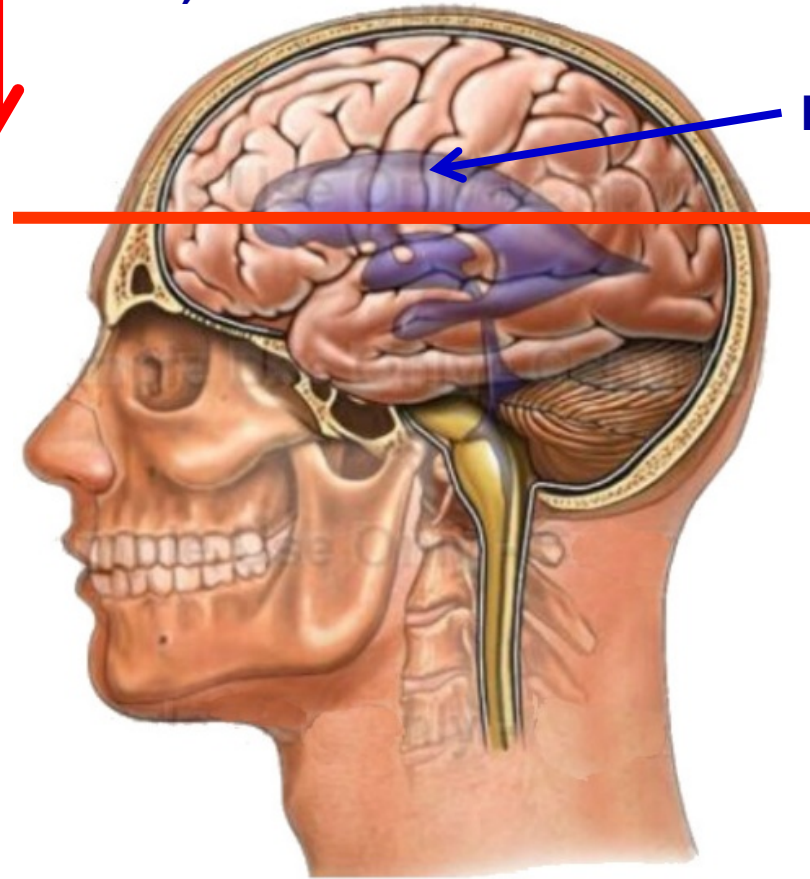
REMOVE CALVARIUM (SAW CUTS ALREADY MADE)

DISSECT BRAIN ON CADAVER (LOWER HALF) TO EXPOSED BRAINSTEM

**VIEW FROM ABOVE AFTER
REMOVE CALVARIUM (SKULL
CAP)**

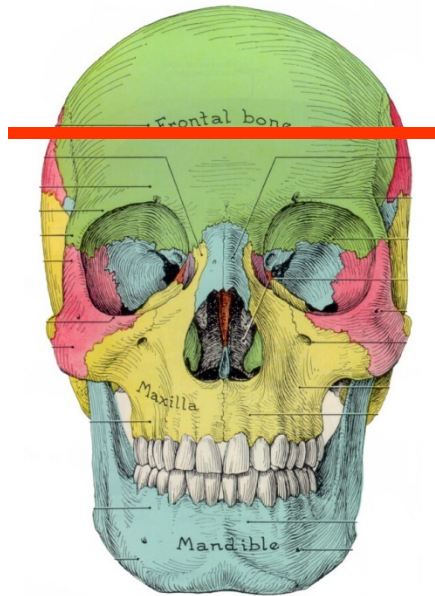


LATERAL VENTRICLE

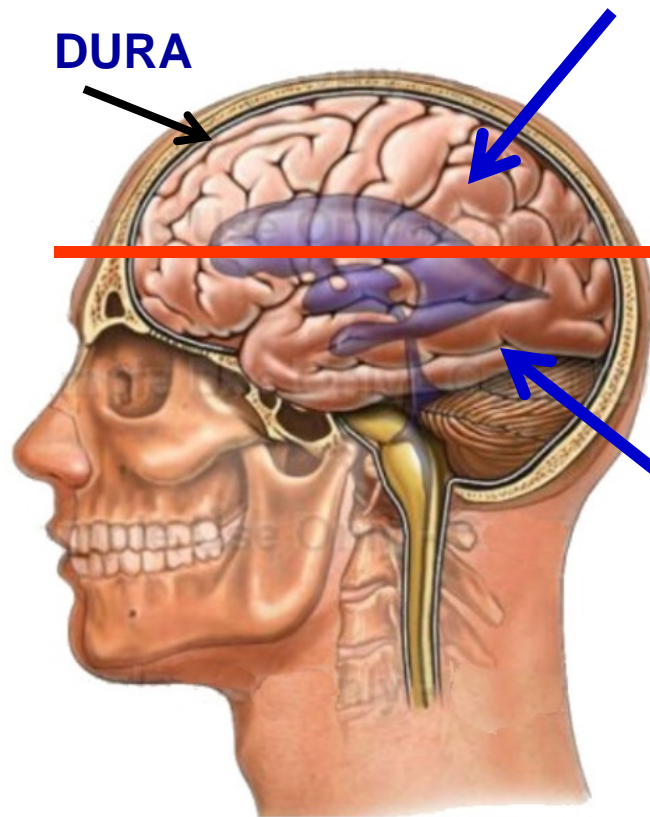


**CUT
THROUGH
BRAIN – VIEW
VENTRICLES
OF BRAIN,
CHOROID
PLEXUS**

SEPARATE DURA AND BRAIN FROM CALVARIUM: LIFT DURA TO SEE 'BRIDGING' VEINS



REMOVE CALVARIUM
(SAW CUTS ALREADY MADE)



UPPER HALF HAS
CALVARIUM (WITH
DURA) AND UPPER
HALF OF BRAIN

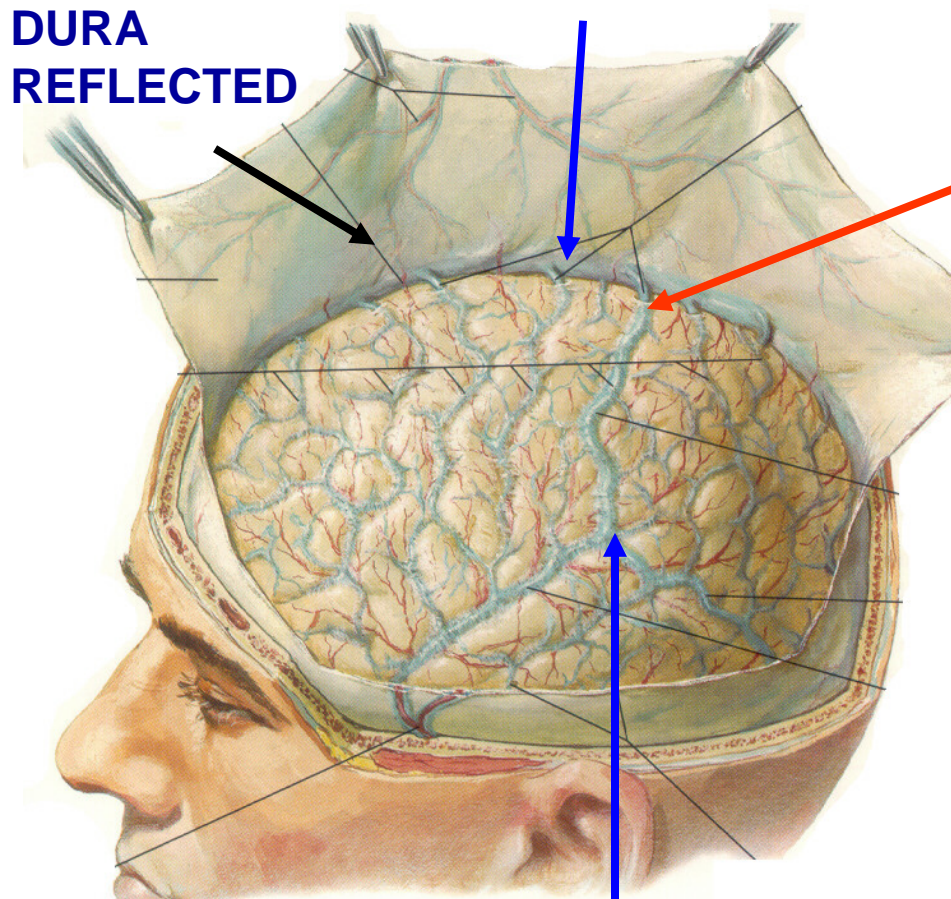
LOWER HALF
HAS REMAINDER
OF BRAIN,
BRAINSTEM,
CRANIAL
NERVES,
ARTERIES

CALVARIUM ALREADY REMOVED
WITH UPPER HALF OF BRAIN;
DURA CUT BUT STILL TIGHTLY
ATTACHED TO CALVARIUM

SEPARATE DURA AND BRAIN FROM CALVARIUM: LIFT DURA TO SEE 'BRIDGING' VEINS

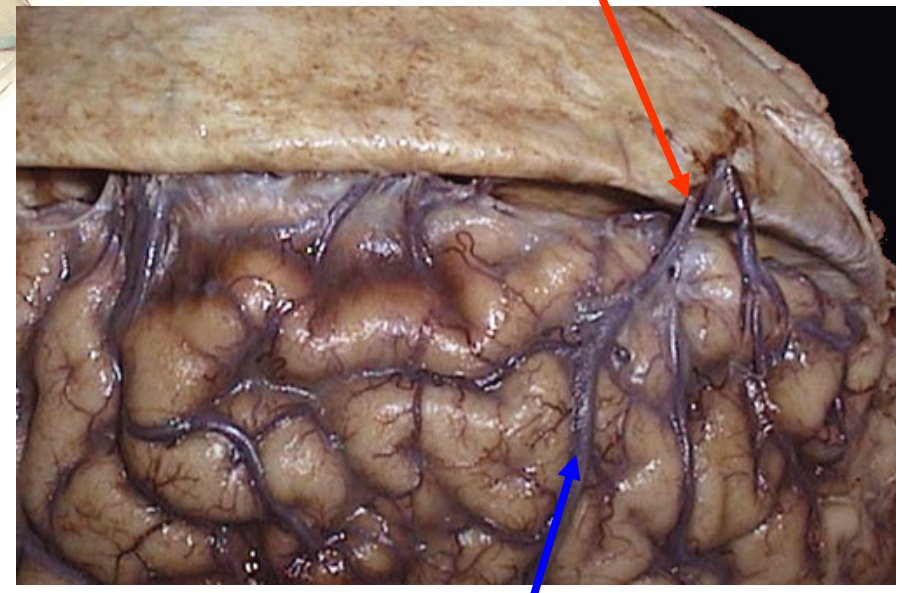
Superior Sagittal Sinus

DURA REFLECTED



Superior Cerebral veins

'BRIDGING' VEINS

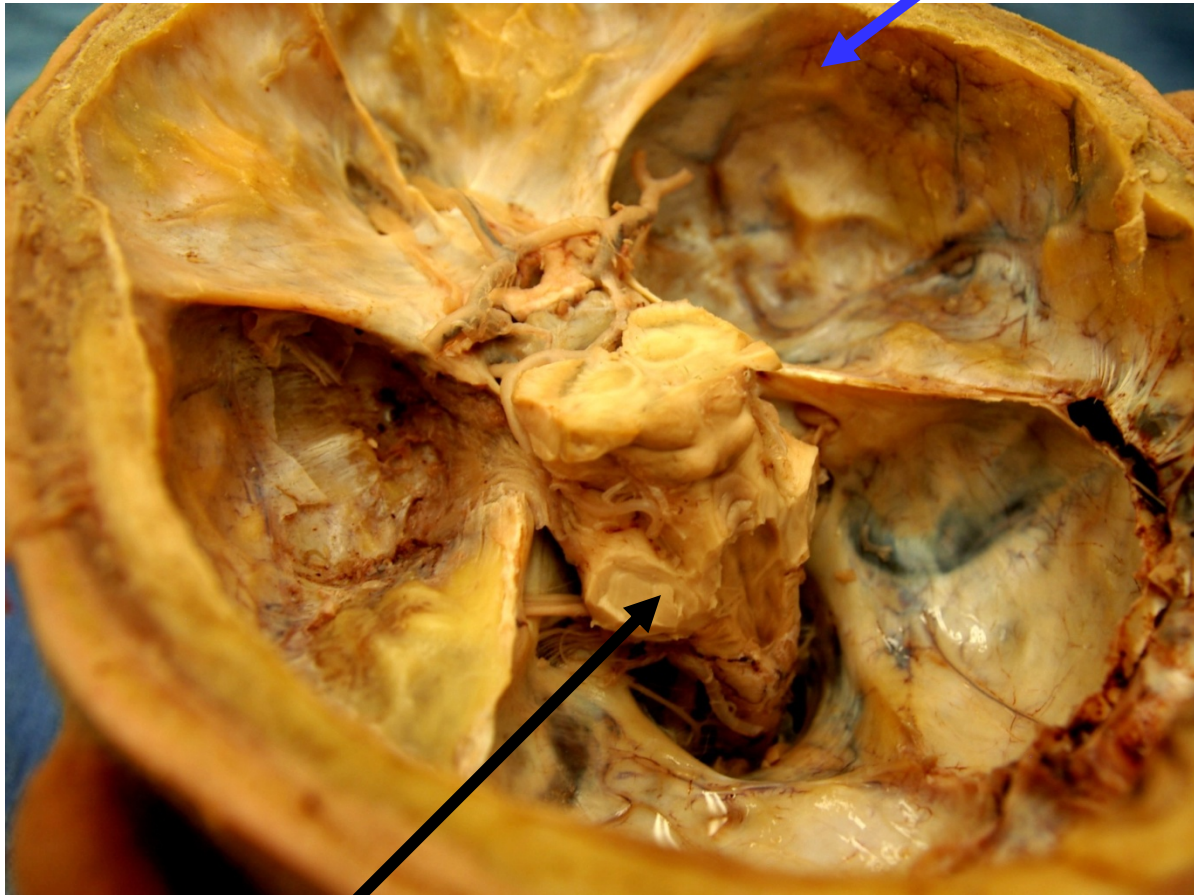


Superior Cerebral veins

Photo from lecture of Dr. Nancy Norton

END OF DISSECTION SHOULD LOOK LIKE THIS

CRANIAL CAVITY



**REMOVE BRAIN AND
LEAVE BRAIN STEM
AND CRANIAL NERVES**

**OVERALL: HOW BRAIN
FITS INTO CRANIAL
CAVITY**

**DONE ON BODIES ON
WHICH YOU HAVE
ALREADY WORKED**

BRAINSTEM

PICTURES OF BRAINS OF CADAVERS IN GROSS LAB (DISTRIBUTED)



VIEW IN PICTURES

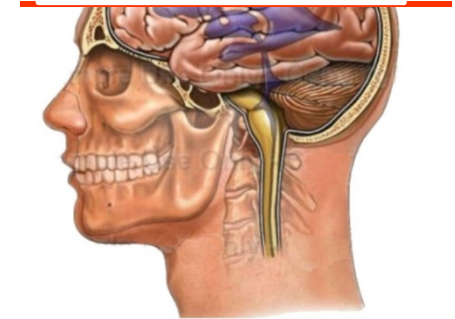
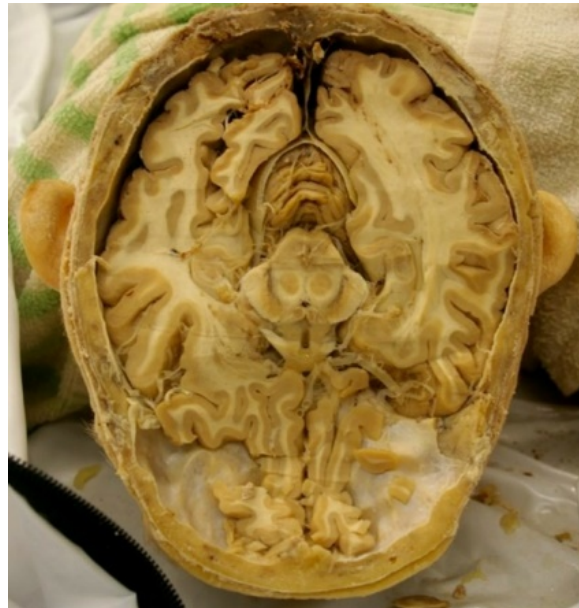


TABLE 13



TABLE 14



CUTS THROUGH BRAIN CAN BE AT DIFFERENT LEVELS

ALREADY DONE: SAW CUTS TO REMOVE CALVARIUM AND TOP OF SKULL

CUT MADE THROUGH ENTIRE BRAIN

DISSECT PART STILL IN BODY

PART OF BRAIN IN CALVARIUM WILL STILL BE INTACT

**NOTE: SPECIMENS HAVE BEEN CUT AT DIFFERENT LEVELS
SOME DISSECTIONS WILL BE REQUIRE REMOVAL OF LESS TISSUE
TO REACH MID BRAIN**

TABLE 13

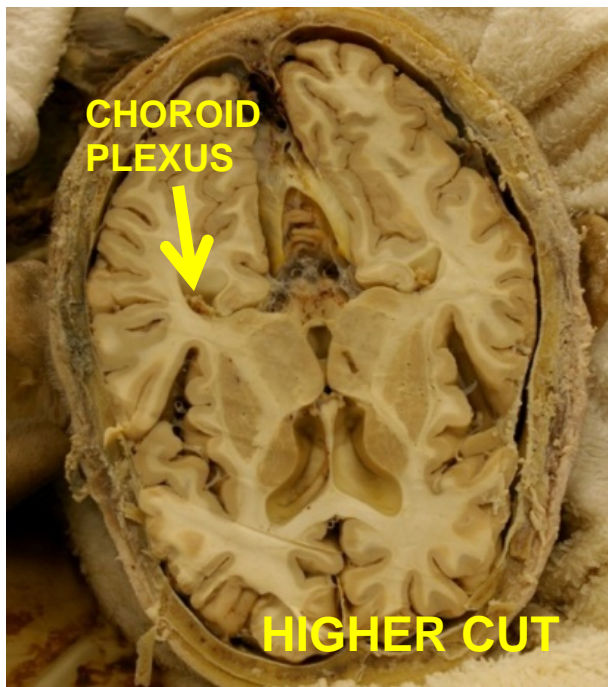
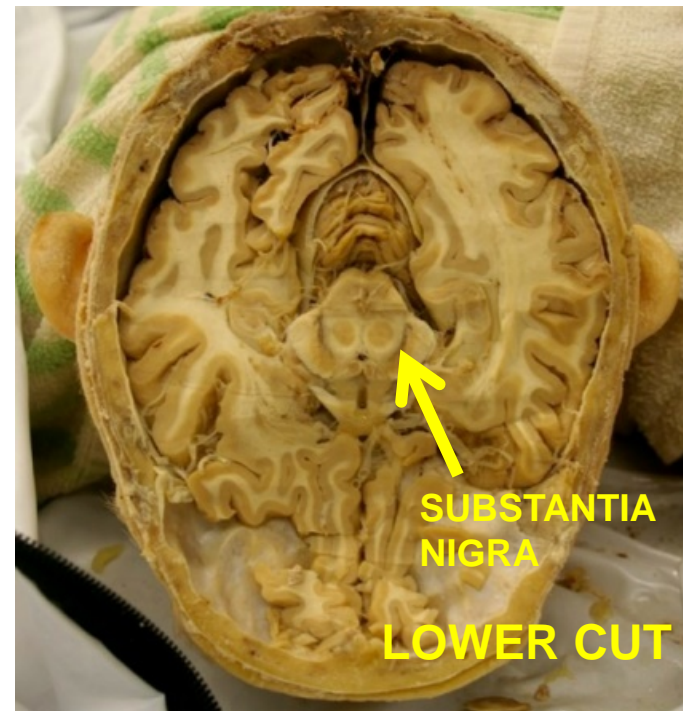
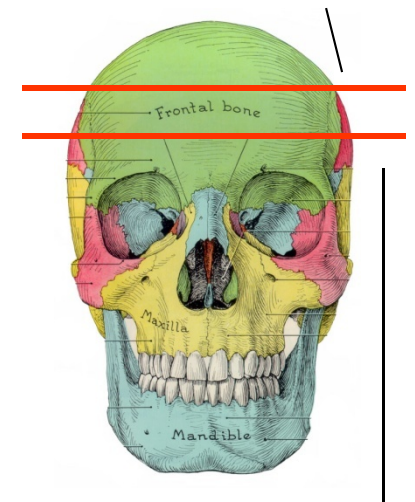


TABLE 14



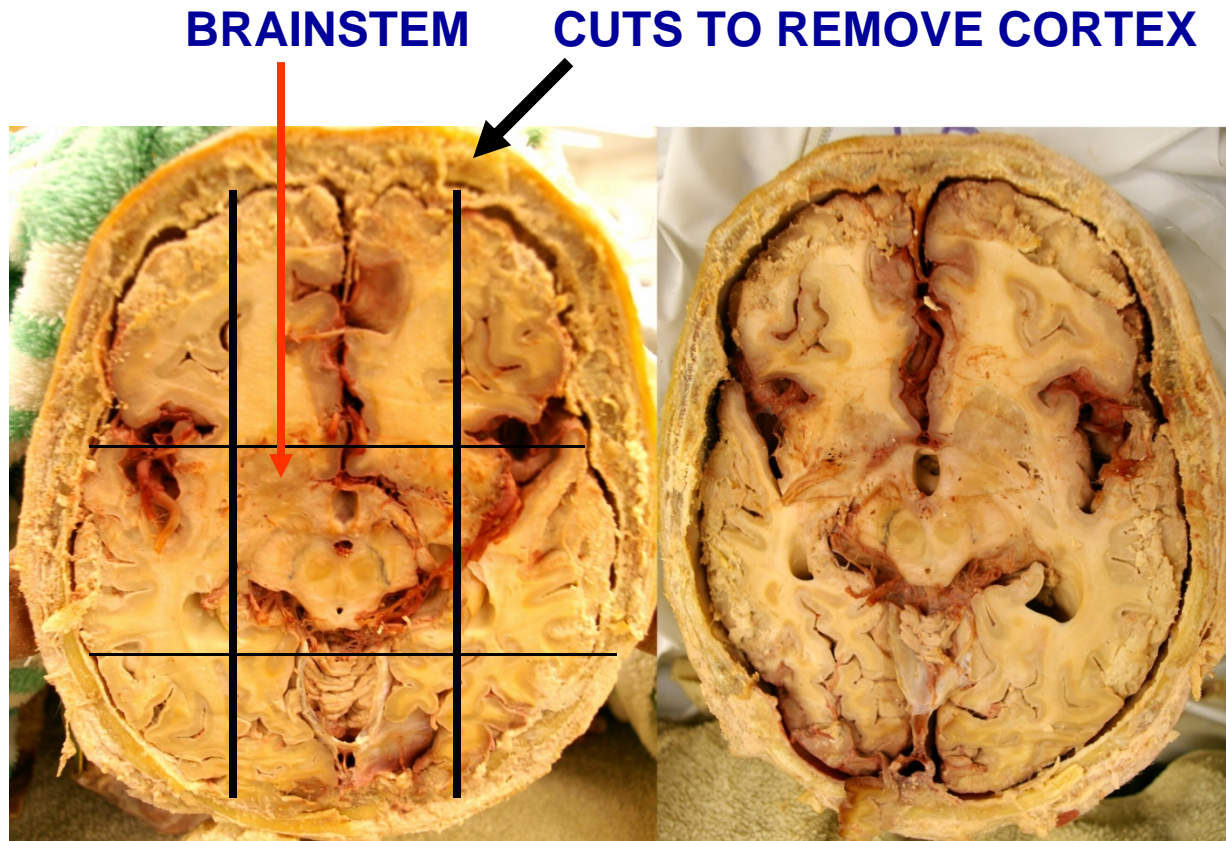
**HIGHER -
TABLE 13**



**LOWER -
TABLE 14**

CUTS THROUGH BRAIN CAN BE AT DIFFERENT LEVELS

**INSTRUCTIONS FOR DISSECTION FRIDAY FEB 11:
EXPOSE BRAINSTEM IN CRANIAL CAVITY - WILL BE
POSTED THIS WEEK**



**CUTS WILL BE
MADE TO REMOVE
CORTEX AND
OTHER BRAIN
STRUCTURES
SURROUNDING
BRAIN STEM**

**SURROUNDING
TISSUE IS
REMOVED BY
HAND**

**NOTE: PART OF
BRAIN IN
CALVARIUM WILL
BE LEFT INTACT**

DISSECTION SEQUENCE: EXPOSE BRAINSTEM IN CRANIAL CAVITY

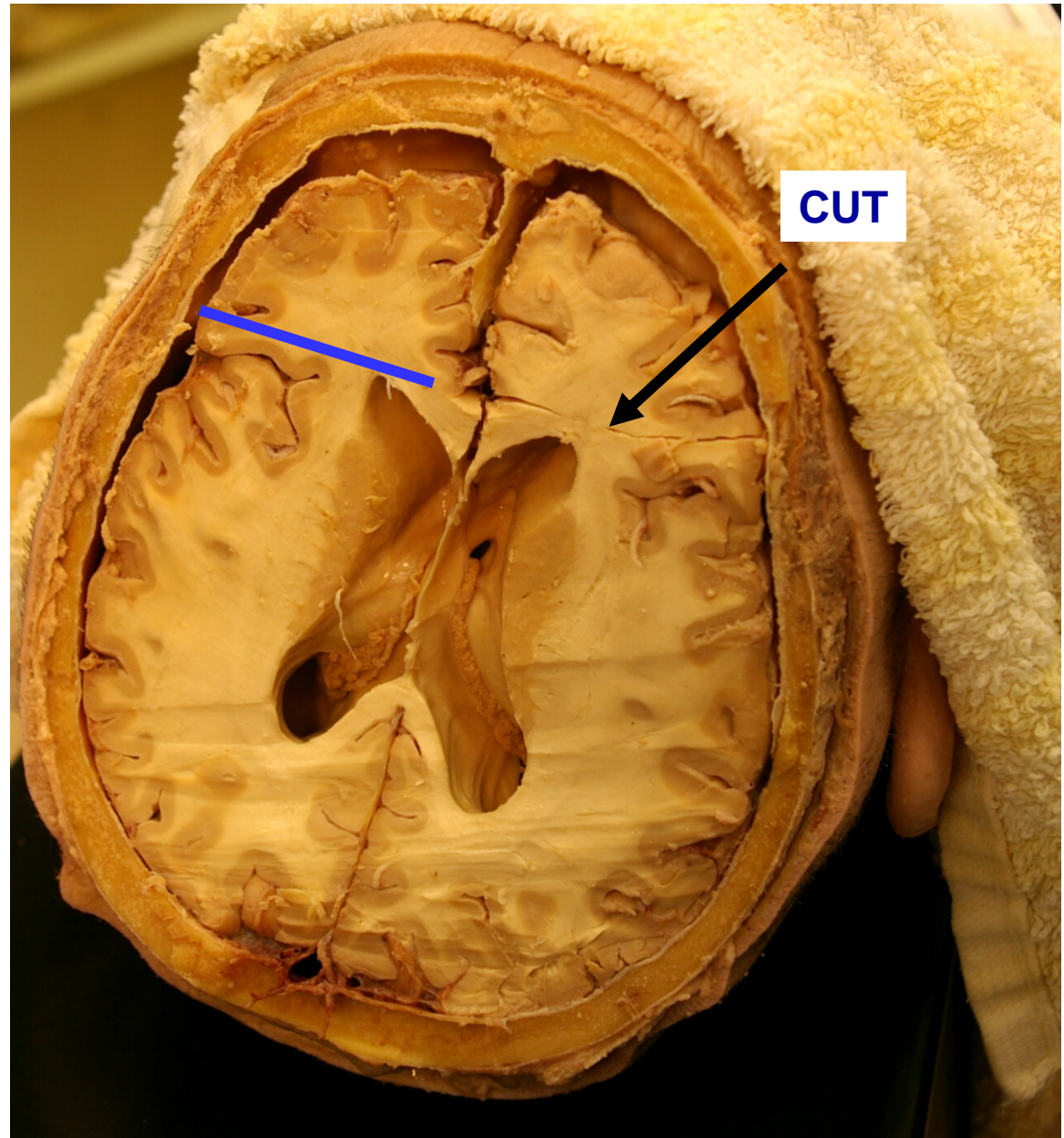


- SUPPORT HEAD WITH PLASTIC BLOCKS (IN CENTER ISLAND)
- ELEVATE SO YOU CAN EASILY LOOK IN CRANIAL CAVITY

DISSECTION: EXPOSE BRAINSTEM IN CRANIAL CAVITY

FIRST CUT:

- 1) LIFT UP FRONTAL LOBE GENTLY (FRONTAL POLE) AND SEE OLFACTORY BULB BELOW
- 2) TRY TO PUSH DOWN AND RETAIN BULB IN CRANIAL CAVITY
- 3) THEN CUT ACROSS FRONTAL POLE ANTERIOR TO GENU OF CORPUS CALLOSUM (ALL THE WAY THROUGH)



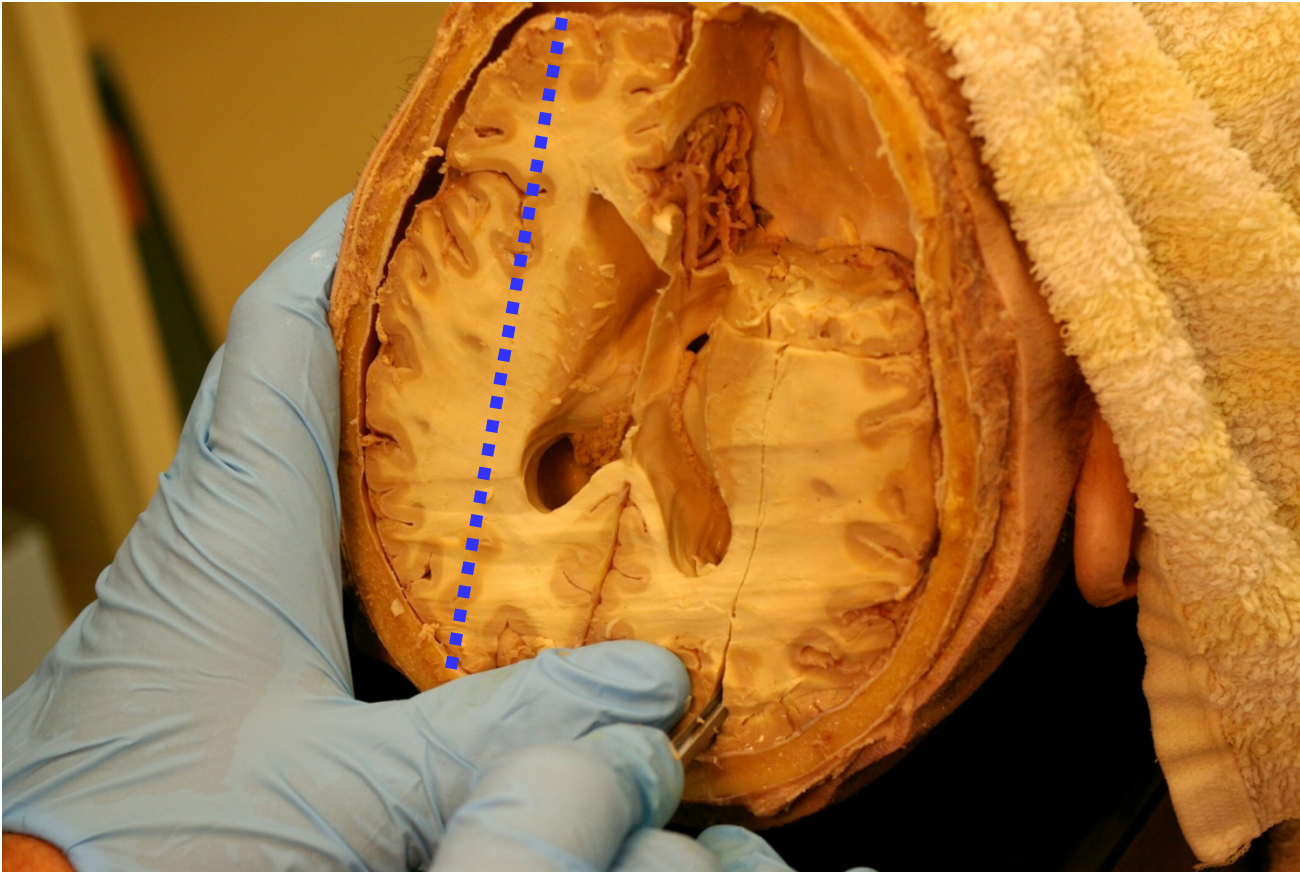
DISSECTION: EXPOSE BRAINSTEM IN CRANIAL CAVITY



**FRONTAL
CORTEX IS
THEN GENTLY
REMOVED
BY HAND**

DISSECTION: EXPOSE BRAINSTEM IN CRANIAL CAVITY

PLANE OF CUT 2



SECOND CUT:

- 1) CUT THROUGH TEMPORAL AND OCCIPITAL LOBES IN PARASAGITTAL PLANE
- 2) PUSH DOWN SCALPEL UNTIL MEET RESISTANCE OF BONE OR TENTORIUM CEREBELLI

DISSECTION: EXPOSE BRAINSTEM IN CRANIAL CAVITY

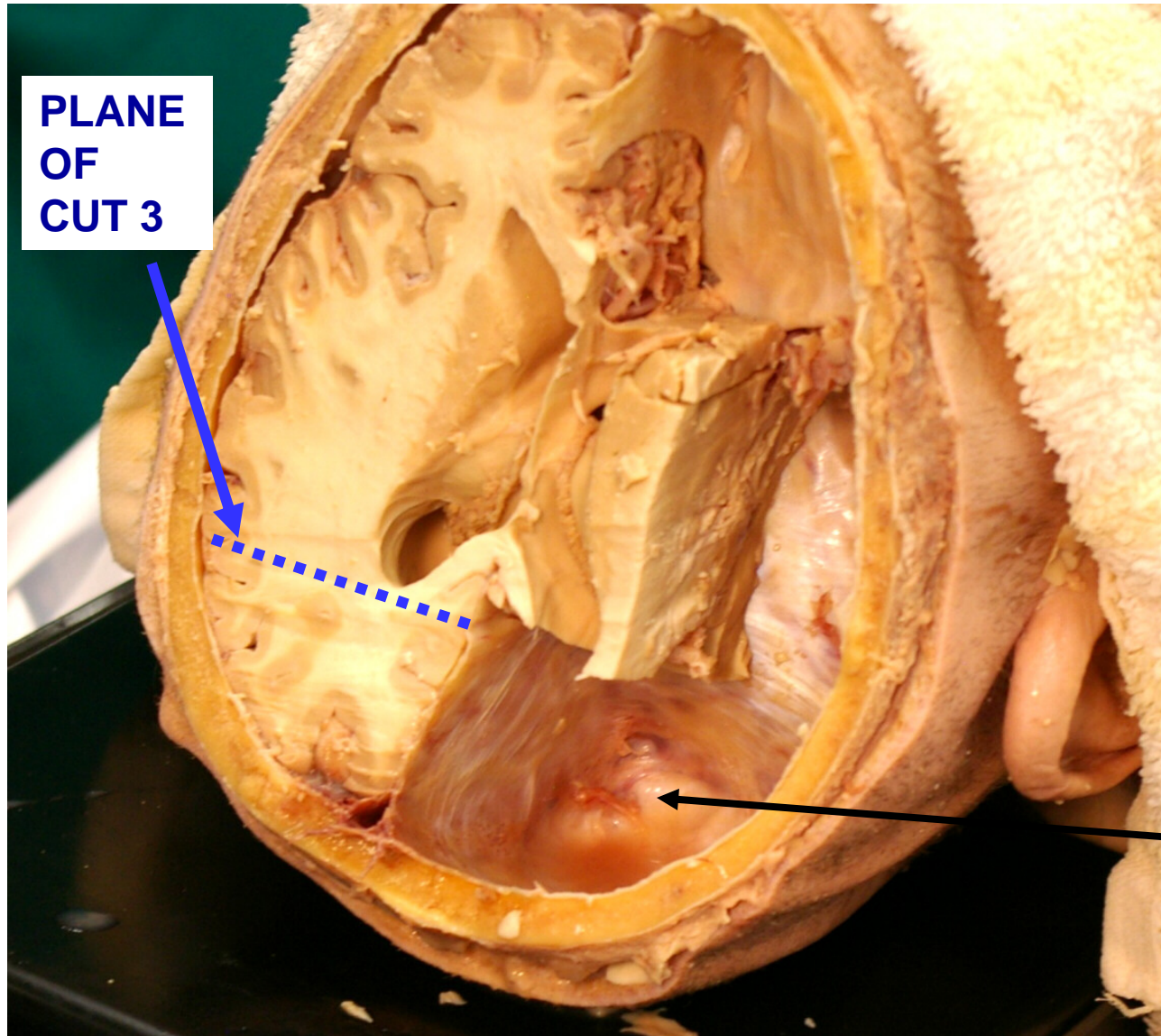


DISSECTION: EXPOSE BRAINSTEM IN CRANIAL CAVITY



**CUT SECTION
OF TEMPORAL
AND OCCIPITAL
LOBES
THEN
REMOVED BY
HAND**

DISSECTION: EXPOSE BRAINSTEM IN CRANIAL CAVITY



PLANE
OF
CUT 3

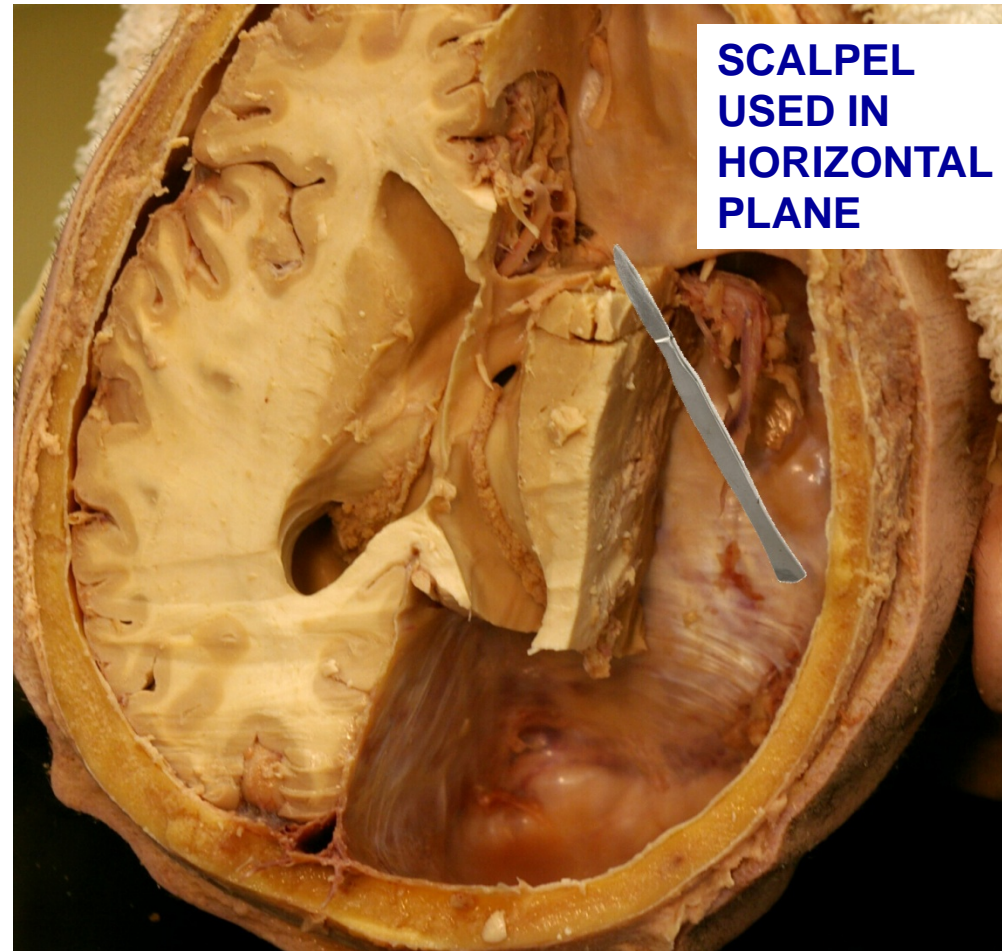
THIRD CUT:

- 1) CUT THROUGH OCCIPITAL LOBE IN CORONAL PLANE
- 2) CAREFULLY REMOVED REMAINING PART OF OCCIPITAL LOBE BY HAND

see Tentorium cerebelli overlying cerebellum

DISSECTION: EXPOSE BRAINSTEM IN CRANIAL CAVITY

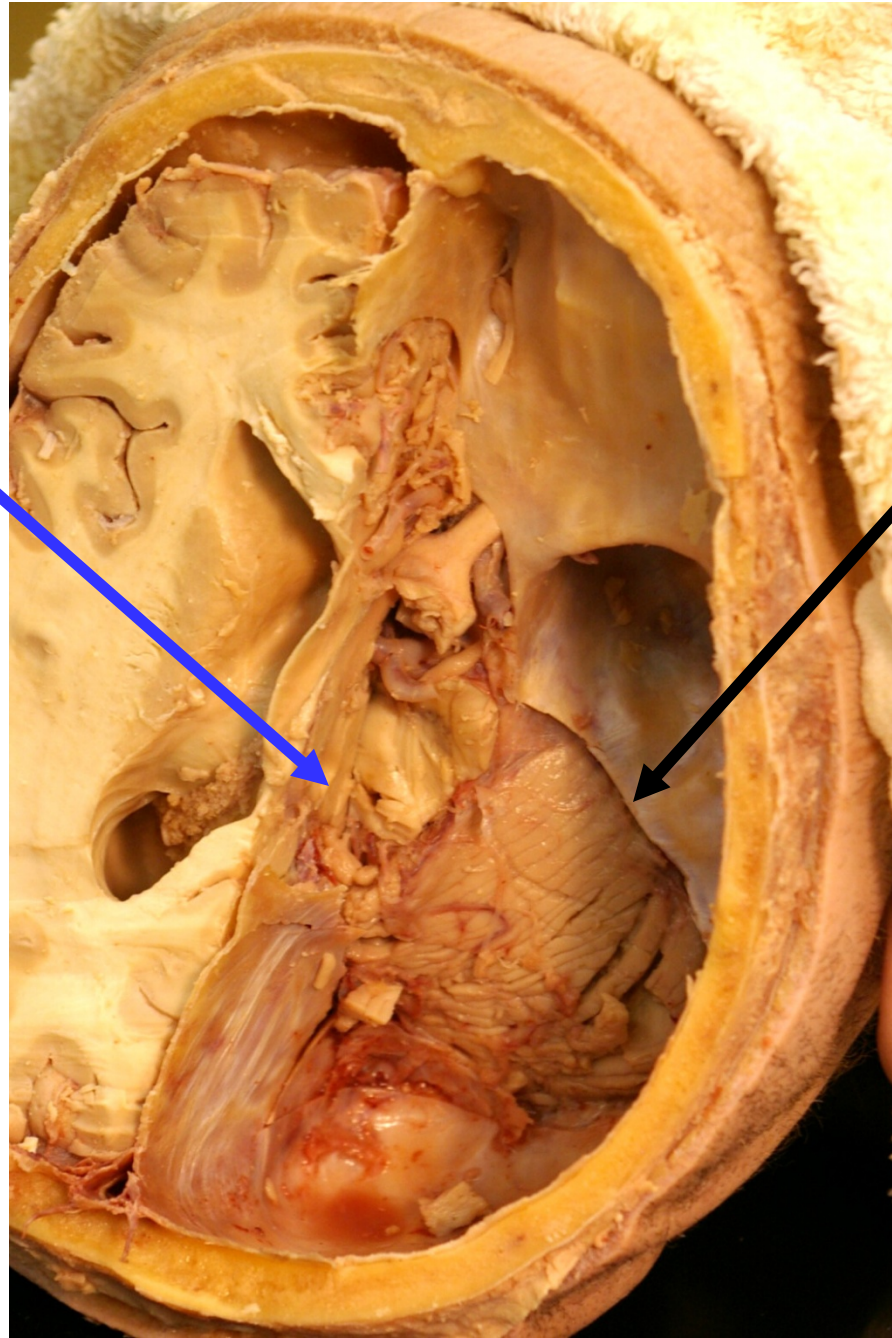
NEXT CUTS: Use scalpel to cut thalamus and basal ganglia in horizontal plane; remove progressively as sections (carefully cut down to level of optic nerve, int. carotid a.)



KNIFE CUTTING SECTIONS IN HORIZONTAL PLANE

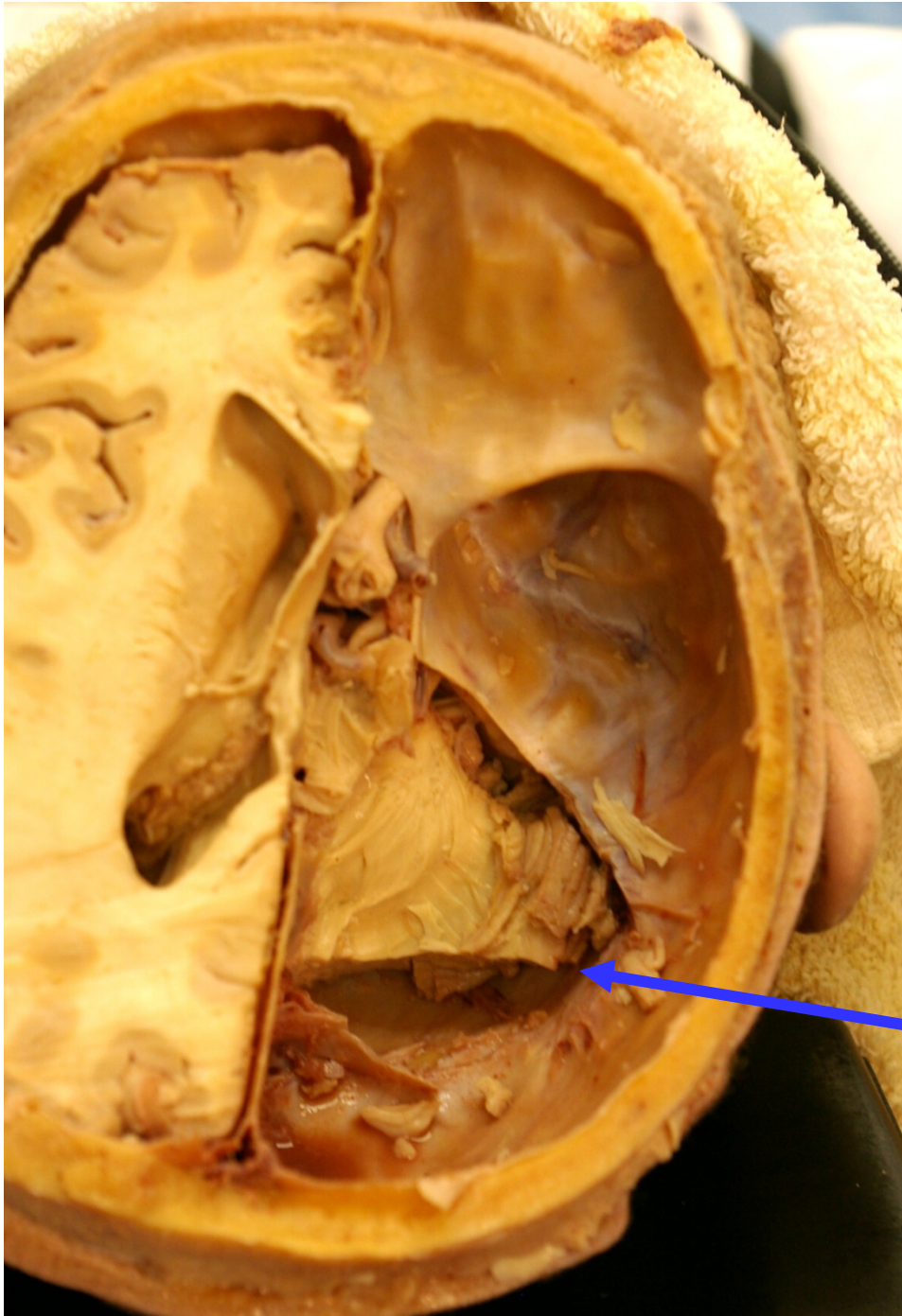
**BRAINSTEM
CUT TO
MIDBRAIN,
OPTIC CHIASM;**

**RETAIN
INTERNAL
CAROTID
ARTERY AND
CUT
BRANCHES**



**NEXT CUT:
INCISE MARGING
OF TENTORIUM
CEREBELLI AT
TEMPORAL BONE
AND EXTEND
POSTERIORLY
THROUGH
TRANSVERSE
SINUS**

**REMOVE
TENTORIUM AND
EXPOSE
CEREBELLUM**



**NEXT CUT:
POSTERIOR PART
OF CEREBELLUM
IS CUT IN A
CORONAL PLANE
AND REMOVED**

**REMAINING PART
OF CEREBELLUM
IS CAREFULLY
REMOVED AND
CUT AT
PEDUNCLES**

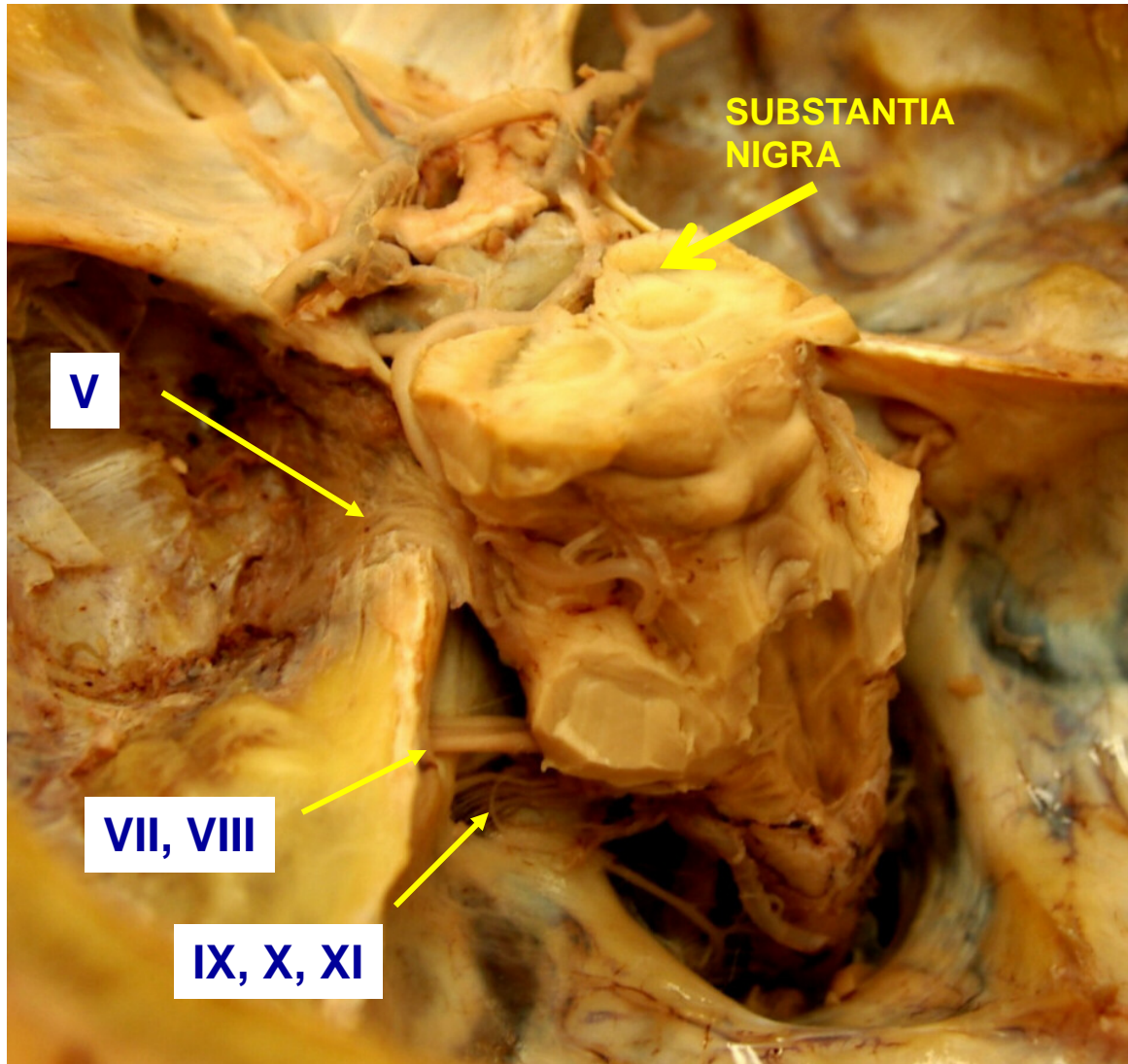
CUT



**CAREFULLY
EXPOSE CRANIAL
NERVES FROM
SURROUNDING PIA
MATER**

**TRIM REMAINING
TENTORIUM IF
NECESSARY**

FINAL RESULT: BRAINSTEM IN SITU IN CRANIAL CAVITY

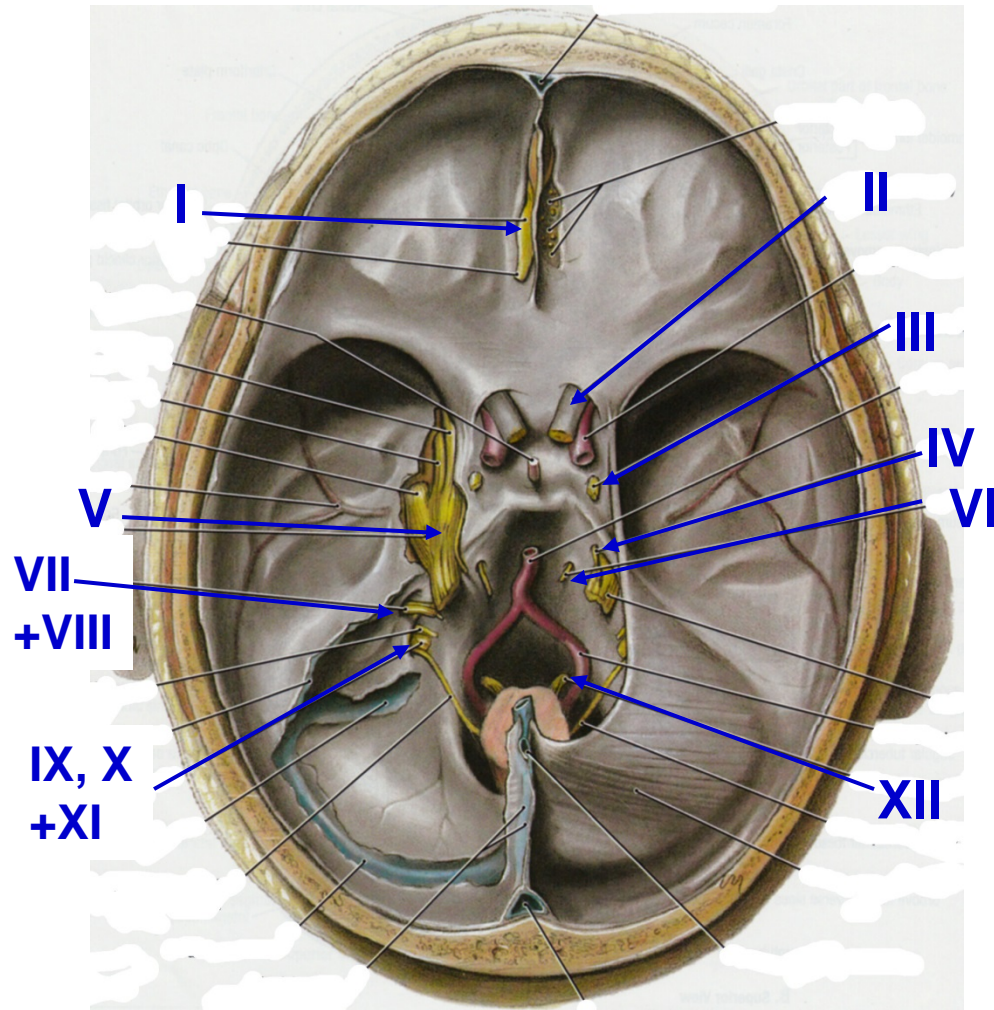


DO DISSECTION ON BOTH SIDES

WHEN COMPLETE CAN SEE CN I-XII, BRANCHES OF INTERNAL CAROTID AND BASILAR ARTERIES

CAN CAREFULLY REMOVE DURA MATER FROM MIDDLE CRANIAL FOSSA TO EXPOSE V1, V2, V3 AND TRIGEMINAL GANGLION

LEARN NAMES AND NUMBERS OF CRANIAL NERVES



- I. OLFACTORY - sense of smell
- II. OPTIC - vision
- III. OCULOMOTOR - eye movement
- IV. TROCHLEAR - eye movement
- V. TRIGEMINAL - touch, general sensation to skin, oral cavity, nasal cavity + more
- VI. ABDUCENS - eye movement
- VII. FACIAL - muscles of facial expression + lots more
- VIII. VESTIBULO-COCHLEAR - hearing and balance
- IX. GLOSSOPHARYNGEAL - sensory to pharynx + more
- X. VAGUS - larynx, pharynx + rest of body
- XI. ACCESSORY - sternocleidomastoid, trapezius
- XII. HYPOGLOSSAL - muscles of tongue

DISSECTION CHECKLIST BRAIN DISSECTION - Friday Feb 11, 2022

ORIENT BEFORE DISSECTION: SEE

- _____ LATERAL VENTRICLE
- _____ CHOROID PLEXUS

MENINGES

- _____ ARACHNOID GRANULATIONS
- _____ SUPERIOR SAGITTAL SINUS
- _____ FALX CEREBRI

VEINS

- _____ BRIDGING VEINS

NERVES -

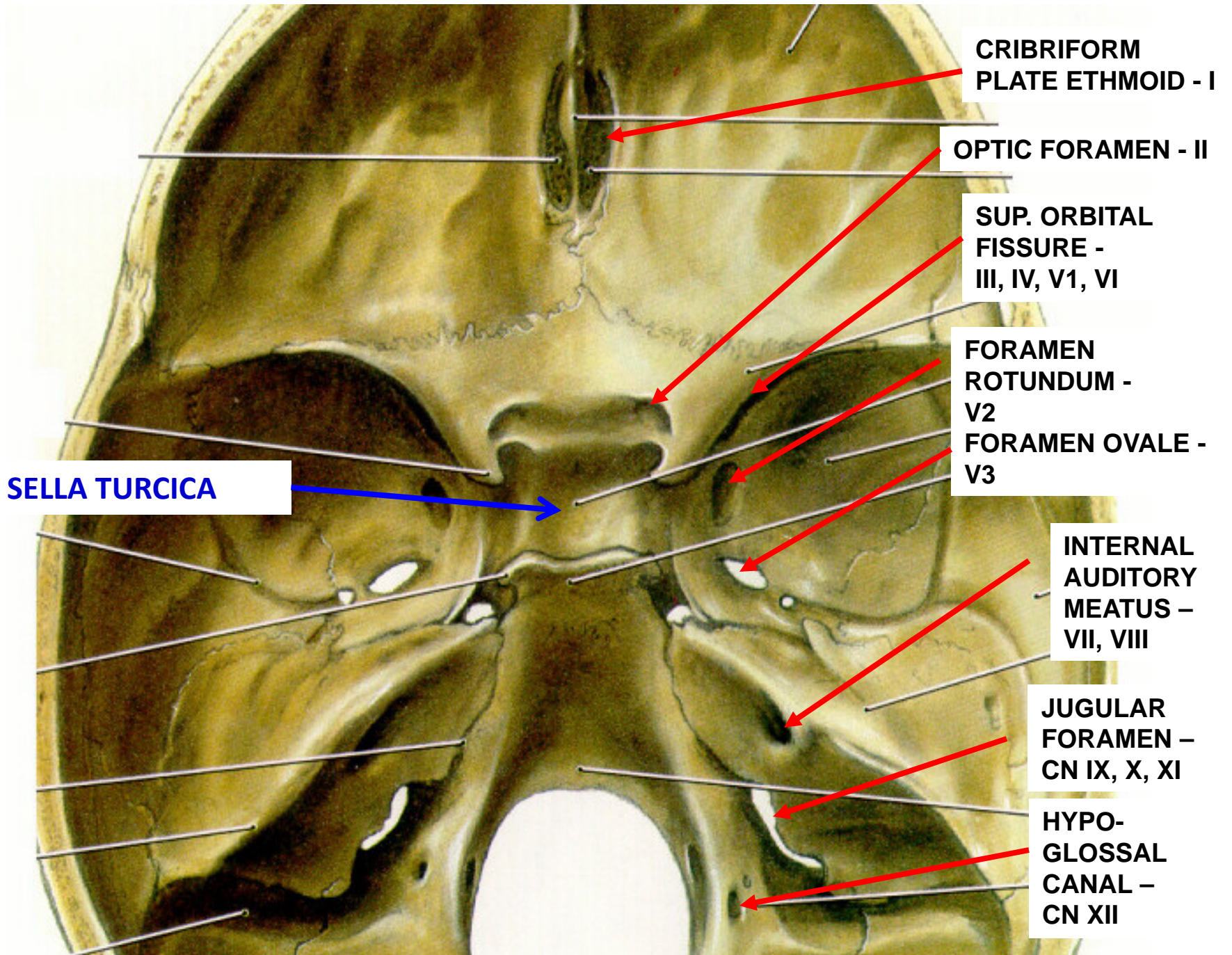
- _____ OLFACTORY BULB CN I
- _____ OPTIC NERVE AND OPTIC CHIASM CN II
- _____ OCULOMOTOR NERVE CN III
- _____ TROCHLEAR NERVE CN IV
- _____ TRIGEMINAL NERVE CN V
- _____ ABDUCENS NERVE CN VI
- _____ FACIAL AND VESTIBULOCOCHLEAR NERVES CN VII AND VIII
- _____ GLOSSOPHARYNGEAL, VAGUS AND ACCESSORY NERVES CN IX, X, XI
- _____ HYPOGLOSSAL NERVE CN XII

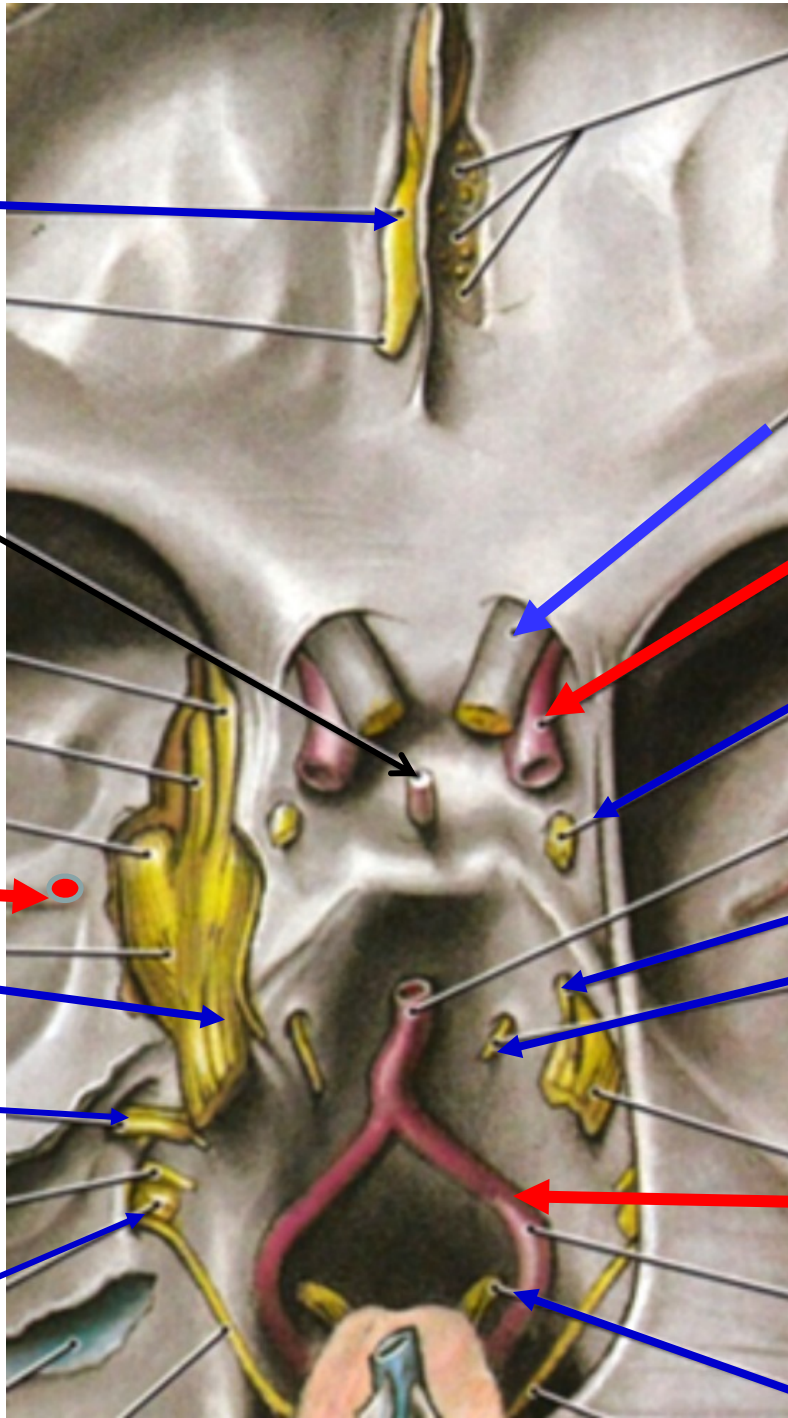
ARTERIES -

- _____ INTERNAL CAROTID ARTERY
- _____ BASILAR ARTERY

VENOUS SINUSES -

- _____ SUPERIOR SAGITTAL SINUS
- _____ TRANSVERSE SINUS





**BRAINSTEM
PROSECTIONS
IDENTIFY**

I

II

**PITUITARY
STALK**

INTERNAL CAROTID A.

V1

III

V2

V3

**MIDDLE
MENINGEAL A.**

IV

V

VI

VII

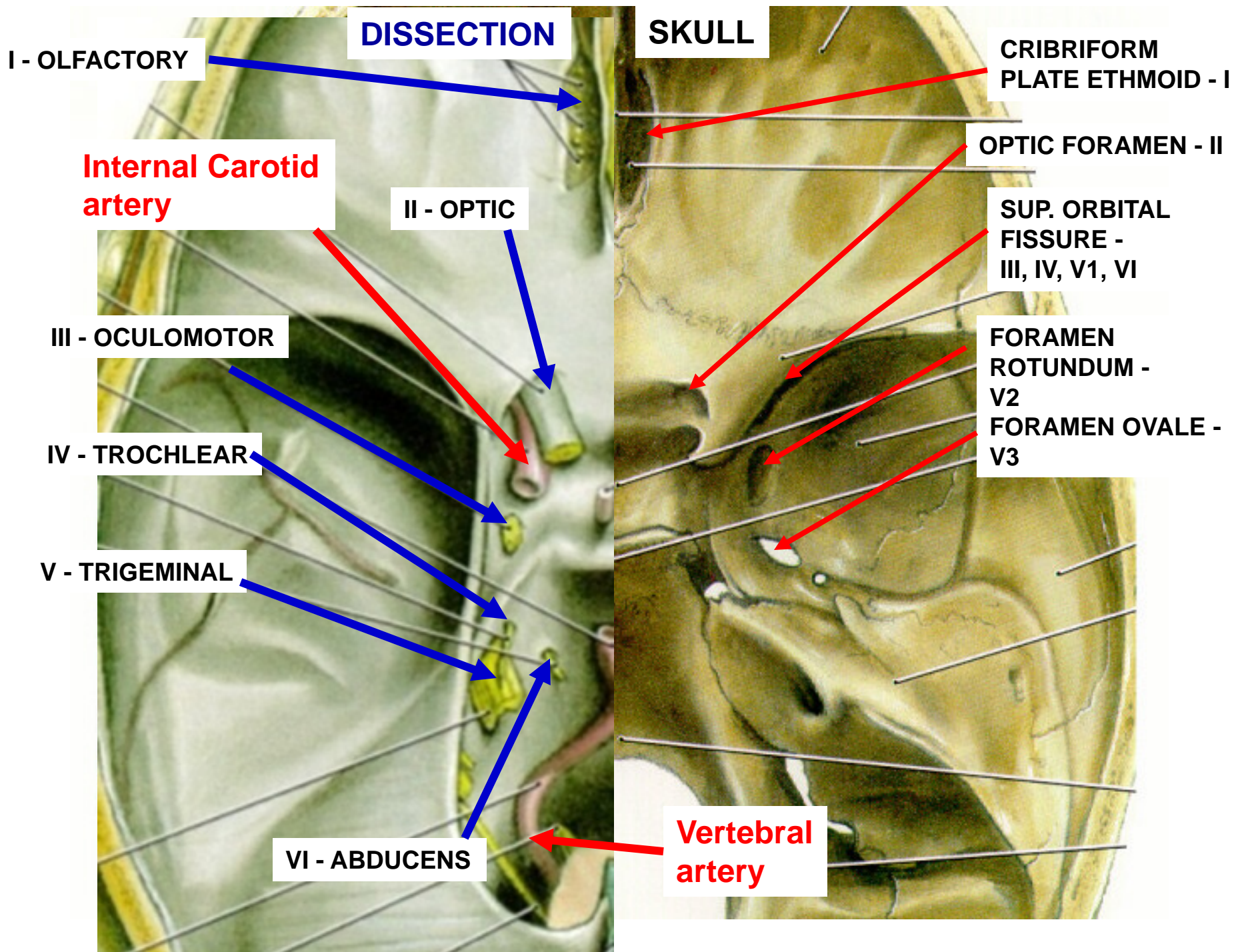
+VIII

IX, X

+XI

VERTEBRAL A.

XII



STUDY THIS PICTURE

I Olfactory

II Optic

III Oculo-
motor

VI
Abducens

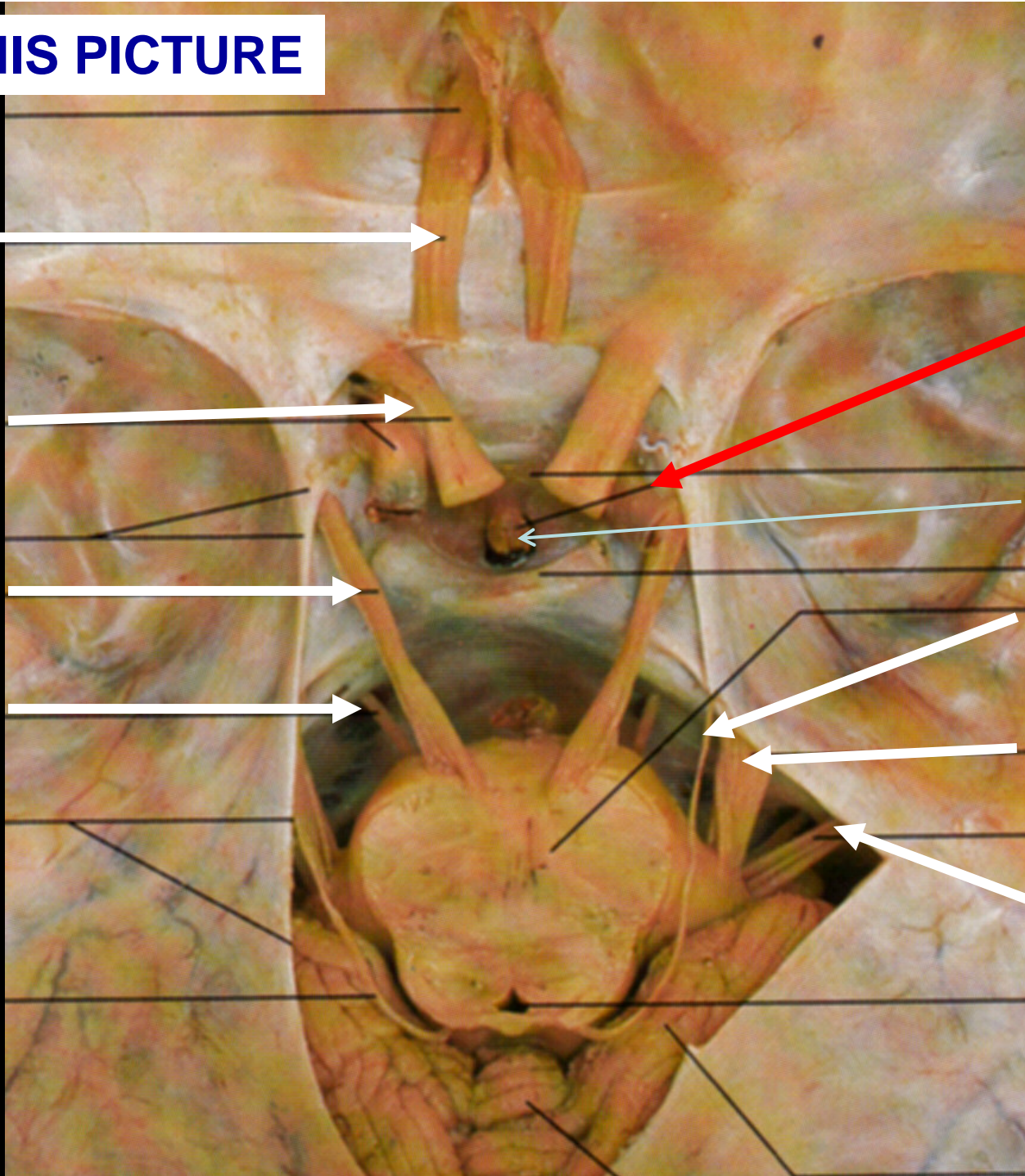
**INTERNAL
CAROTID
A.**

Pituitary
stalk

IV
Trochlear

V
Trigeminal

VII + VIII



STUDY THIS PICTURE

**IV
Trochlear**

**II Optic
Chiasm**

**Trigeminal
(Semilunar)
Ganglion**

**III
Oculomotor**

**V
Trigeminal**

**Substantia
Nigra
in
Midbrain
(Parkinson's
Disease)**

