

**FINAL HEAD AND NECK PART 1
DISCUSSION SESSION: GROSS ANATOMY**

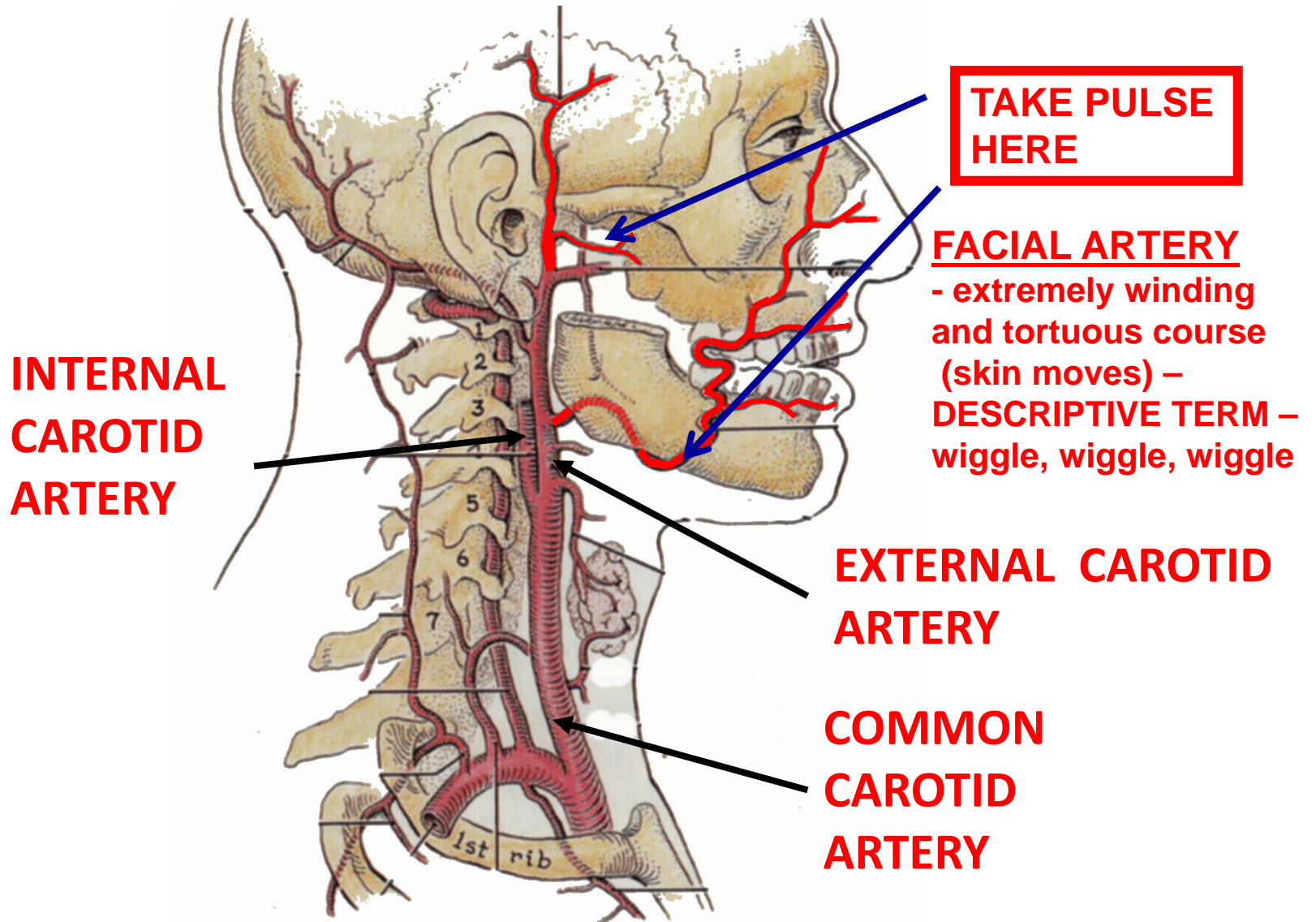
ONN BLOCK

Feb 12, 2021

Discuss A Little Bit of Everything

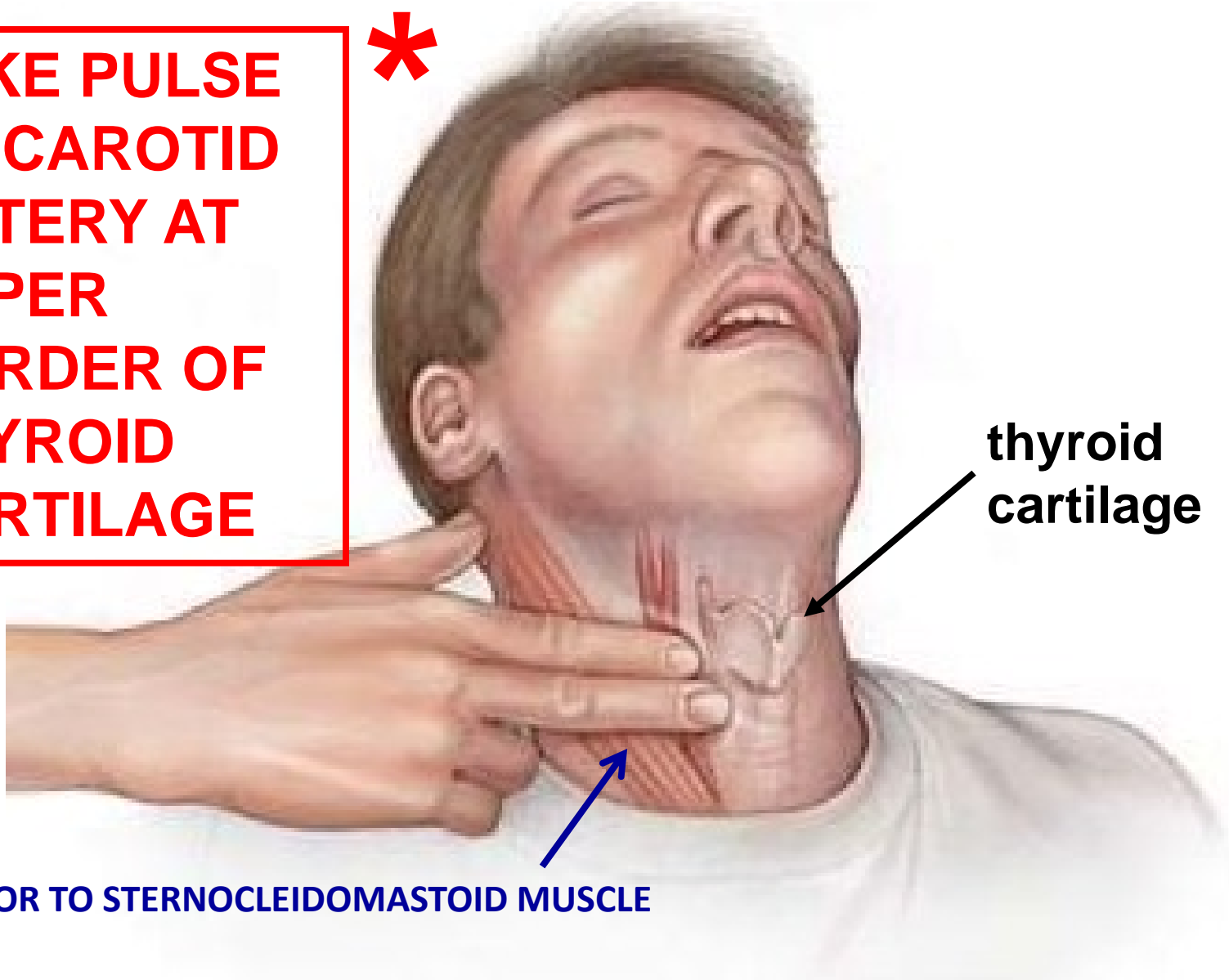
ARTERIAL SUPPLY TO FACE: CAROTID ARTERY

SUPERFICIAL TEMPORAL ARTERY



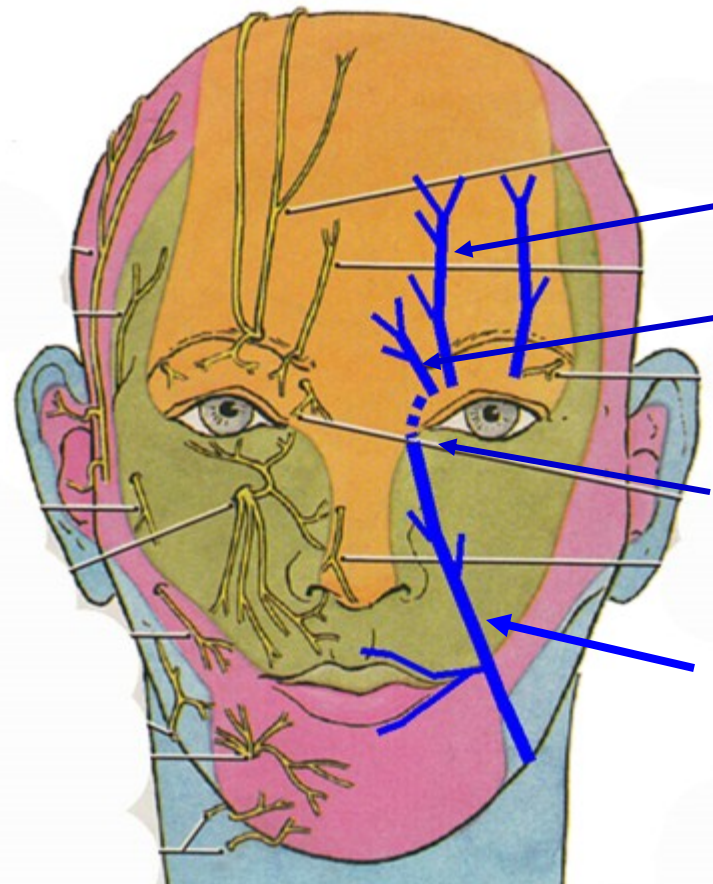
PALPATE CAROTID BIFURCATION AT UPPER BORDER OF THYROID CARTILAGE

TAKE PULSE OF CAROTID ARTERY AT UPPER BORDER OF THYROID CARTILAGE



ANTERIOR TO STERNOCLEIDOMASTOID MUSCLE

VENOUS DRAINAGE - branches follow arteries



to Ophthalmic veins -

1) Supraorbital Vein

2) Supratrochlear Vein

1) Facial Vein -
straight course

ANASTOMOSE WITH
OPHTHALMIC VEINS

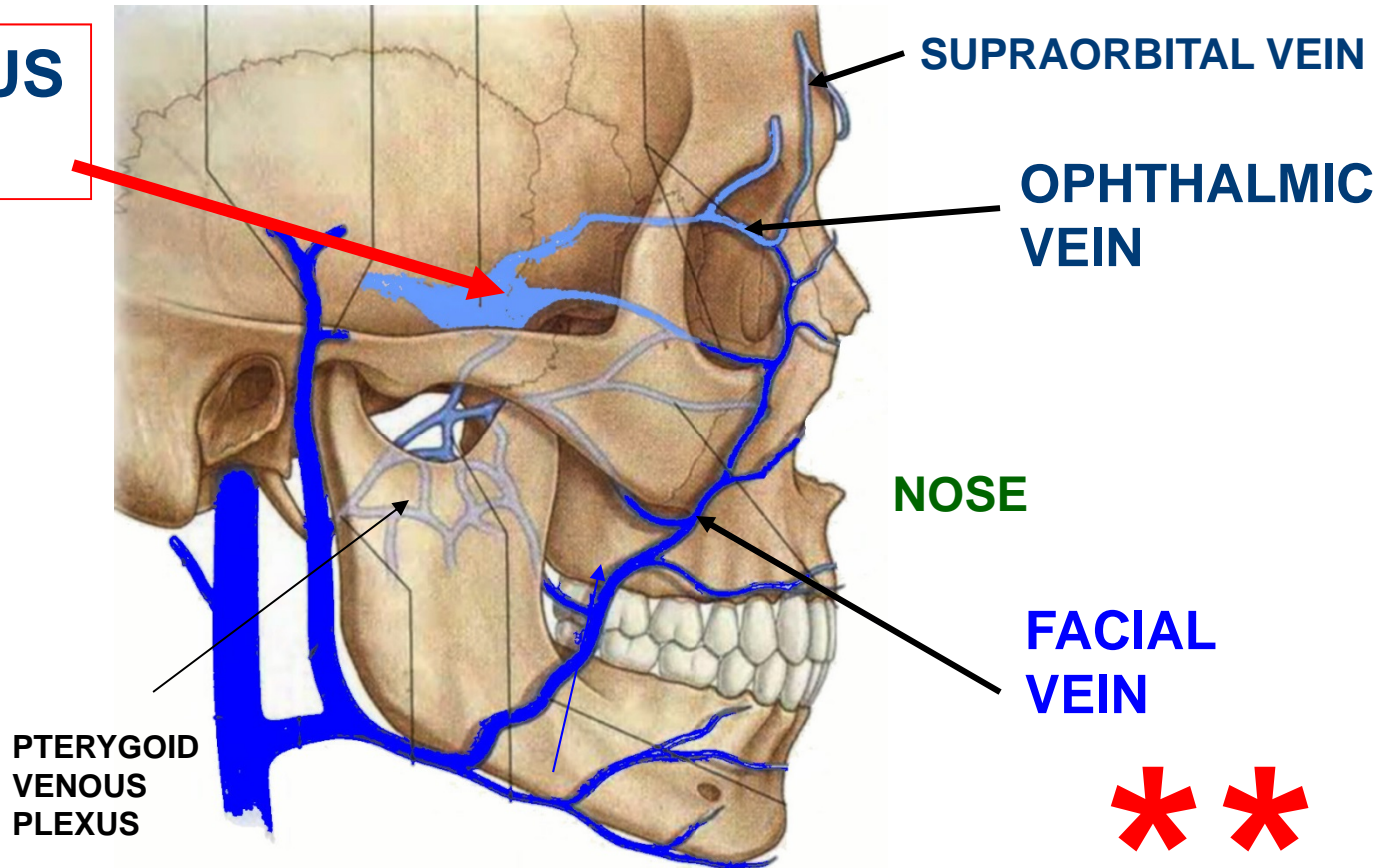


- NOTE: Veins of Face have no (OR FEW AND VARIABLE) valves; drain to neck and into skull;
Extensive anastomoses between branches of Facial
AND Ophthalmic Veins

SPREAD OF INFECTION FROM FACE TO BRAIN

CAVERNOUS SINUS

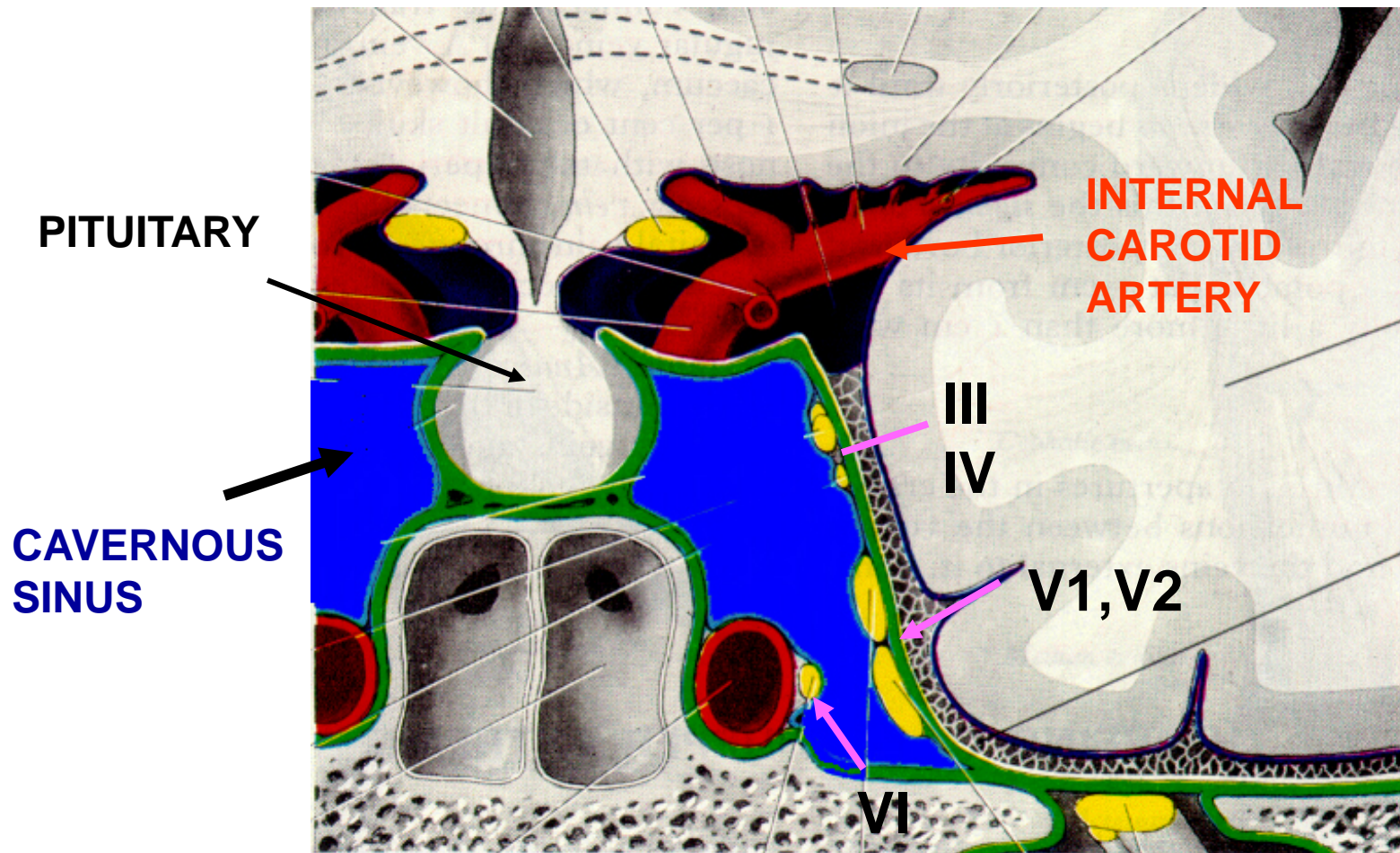
Anastomoses of Facial and Ophthalmic Veins
- Ophthalmic veins drain to cavernous sinus (venous sinus inside skull)



- **Prolonged infections** spread via veins (pressure low, no valves)
- Pass through orbit to Cavernous Sinus - **CAVERNOUS SINUS THROMBOSIS**; infections lateral to nose particularly dangerous
- **Clinical sign: 'Blurred' vision (actually DIPLOPIA) (cranial nerves to eye muscles pass through Cavernous sinus)**

NERVES TO EYE MUSCLES PASS IN WALL OF CAVERNOUS SINUS

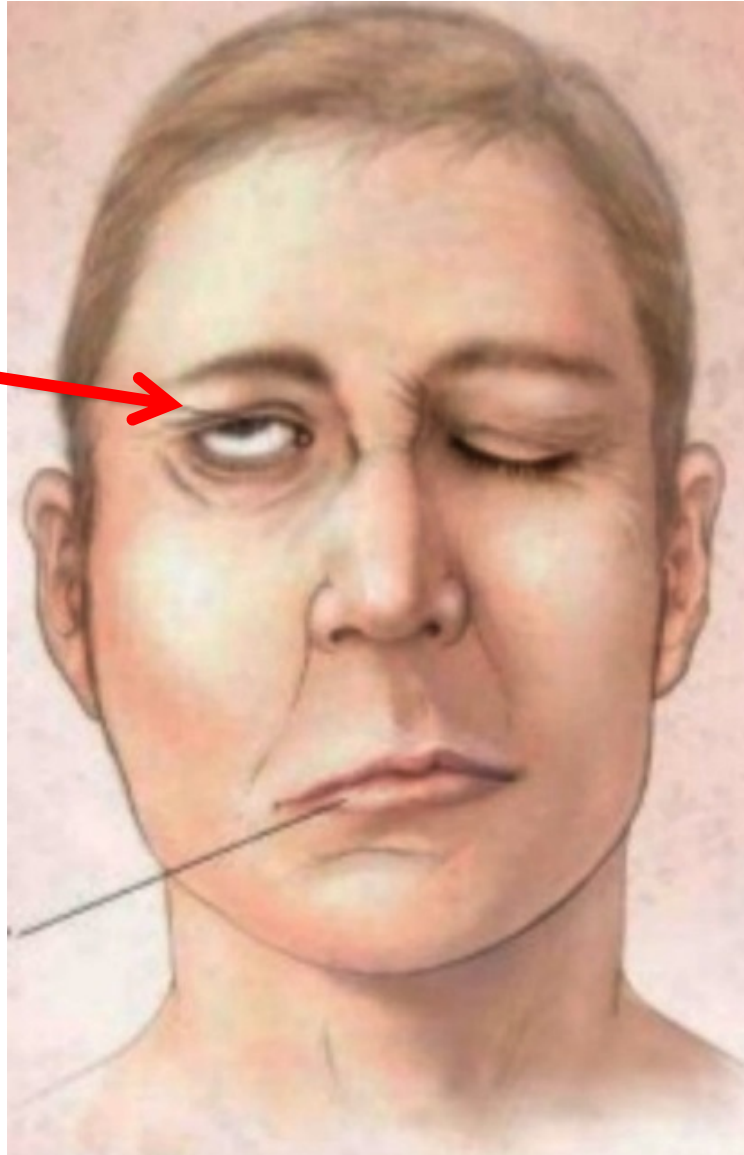
STRUCTURES PASSING THROUGH WALL OF CAVERNOUS SINUS - Int. Carotid A., Cranial N.'s III, IV, V1, V2, VI;
Clinical sign of Infection in Sinus – **'BLURRED' VISION (Diplopia)**



CN III, IV, VI – EYE MOVEMENTS

BELL'S PALSY

UNABLE TO
CLOSE EYE
DUE TO
PARALYSIS
OF
ORBICULARIS
OCULI
MUSCLE



* *

FACIAL PARALYSIS

(as in Bell's Palsy)

can paralyze

ORBICULARIS

OCULI MUSCLE

- patient is unable to
close eye

- can damage cornea
of eye

- in newborns, can
sew eyelid shut to
prevent corneal
damage

NOTE:

1) CLOSE
EYELIDS

= CRANIAL
NERVE VII
(FACIAL N.)

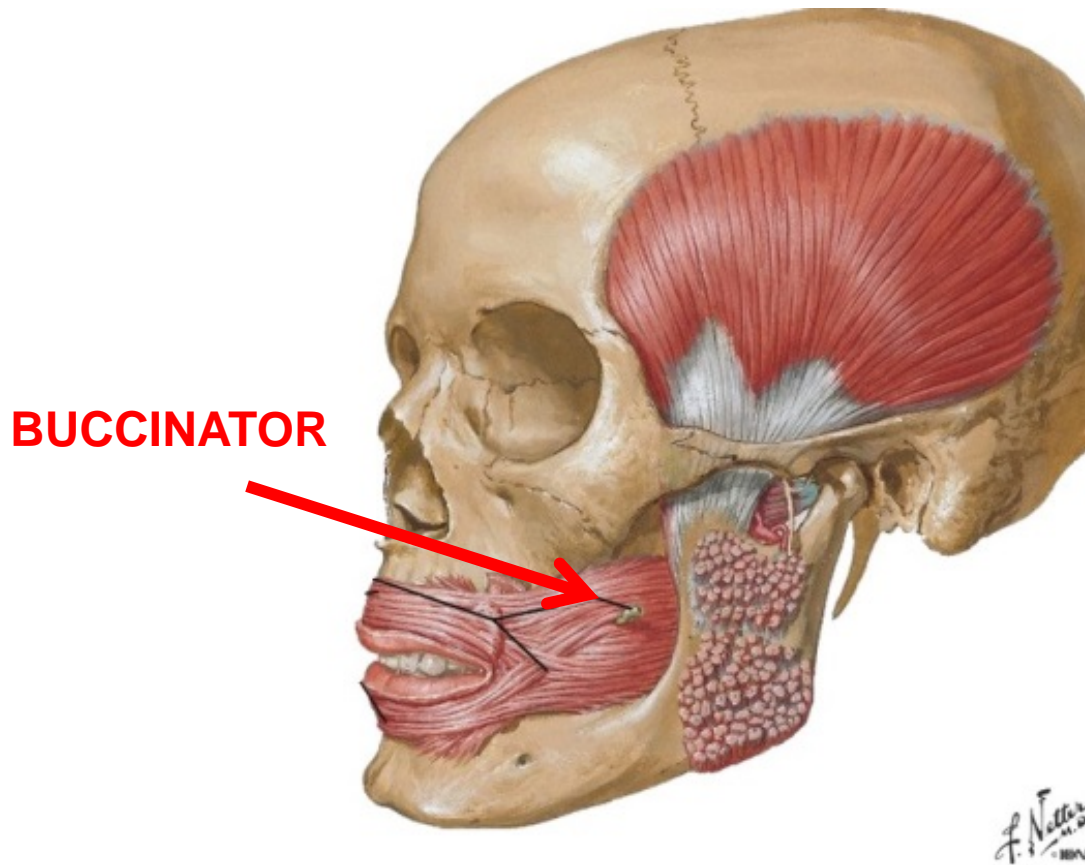
2) OPEN EYELIDS

- CRANIAL
NERVE III
(OCULOMOTOR)

+
SYMPATHETICS

PARALYSIS OF BUCCINATOR MUSCLE

CLINICAL * *



**FACIAL PARALYSIS
can paralyze
BUCCINATOR**

**- patient is unable to
hold food between
teeth**

**- DIFFICULTY IN
CHEWING FOOD**

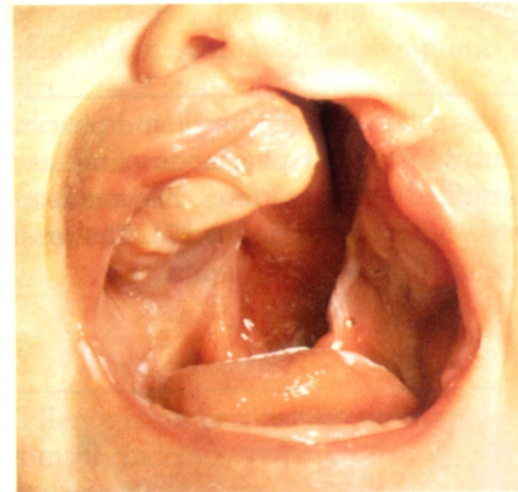
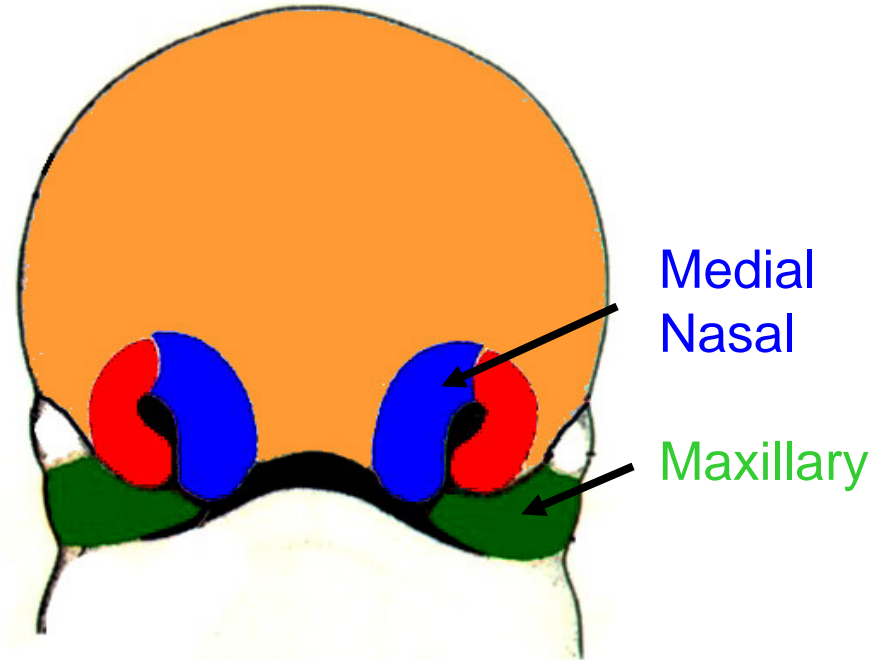
**BUCCINATOR FORMS WALL OF
MOUTH - PARALYZE UNABLE TO
HOLD FOOD BETWEEN TEETH**

CLEFT LIP = CHEILOSCHISIS

*
– failure of fusion of
Medial Nasal Process
and Maxillary process

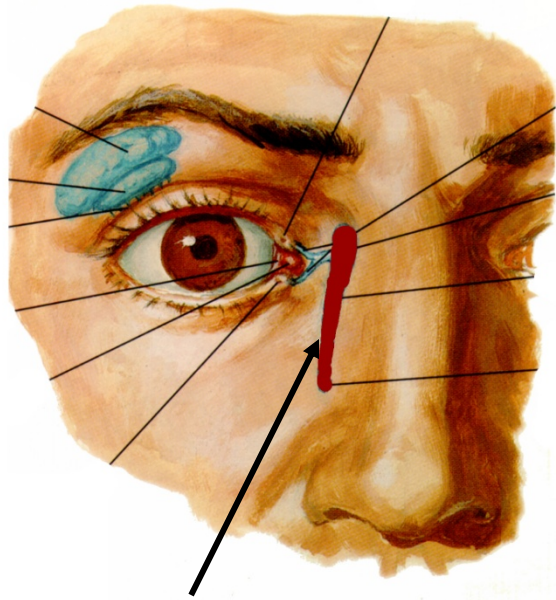
- 1/1000 Births, can be unilateral or bilateral
- At philtrum of lip

CLEFT LIP (cheiloschisis)
CAN OCCUR
IN COMBINATION WITH
CLEFT PALATE
(palatoschisis)



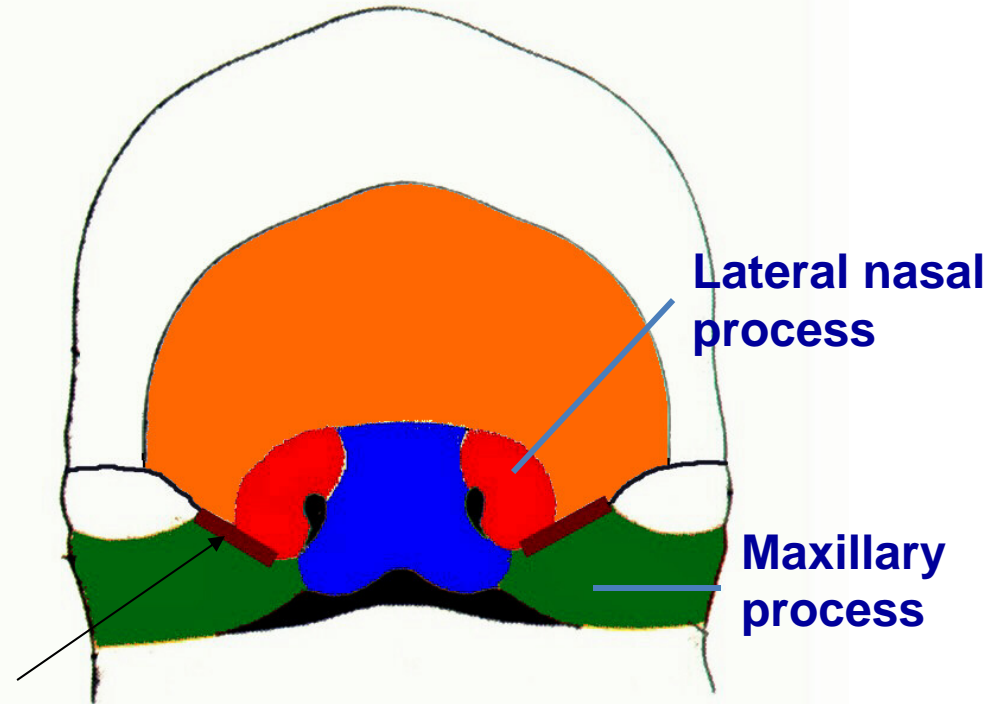
Gk. Cheilos,
Lip;
Pronounce -
KAI-LOS'-KESIS

DEVELOPMENT OF NASOLACRIMAL DUCT



NASOLACRIMAL DUCT

– connects anterior eye to nasal cavity

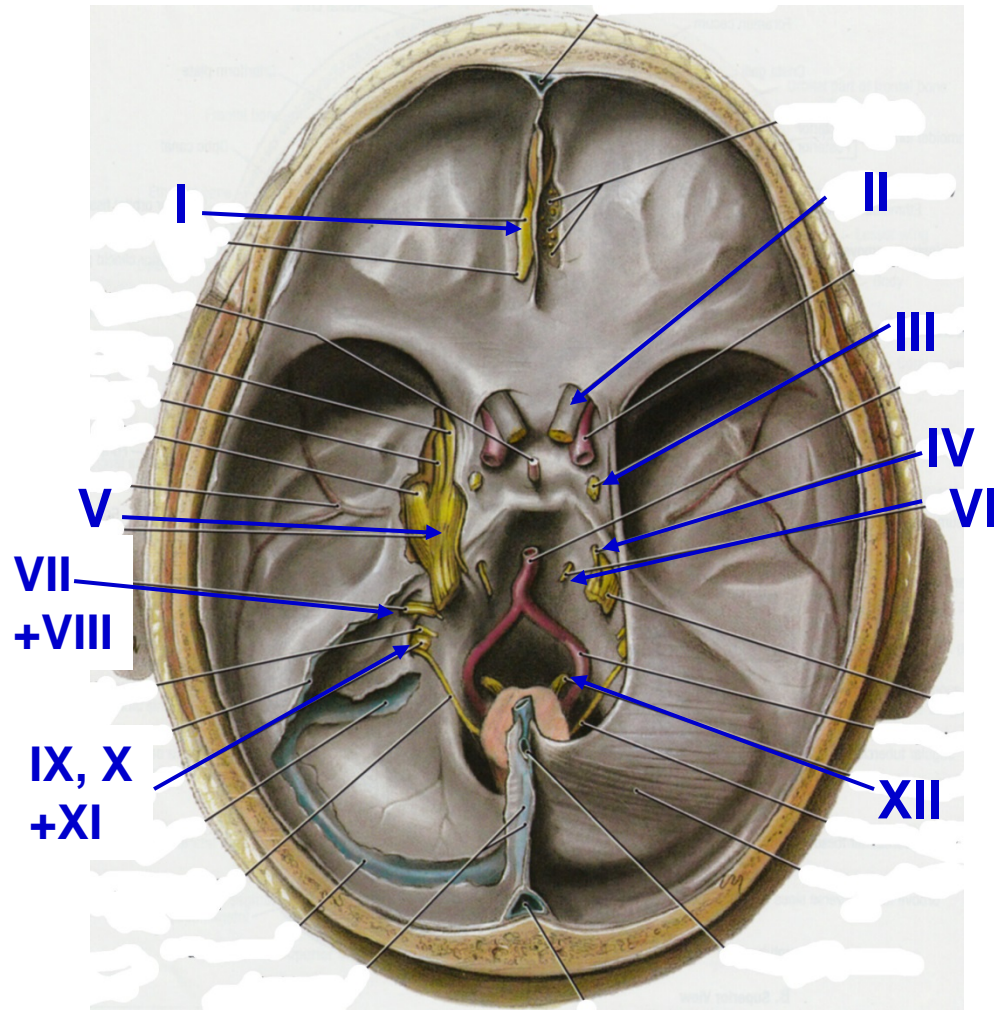


- Develops as solid cord from medial angle of eye to nasal cavity
- becomes canalized.



Obstructed Duct - failure of duct to canalize; opened surgically for tears to drain to nasal cavity

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

SUMMARY TYPES OF NEURONS IN CRANIAL NERVES

TYPES OF NEURONS	INNERVATE	ASSOCIATED CRANIAL NERVES	CLINICAL
SOMATIC MOTOR (GSE)	Motor to voluntary skeletal muscles (derived from somites)	CN III, IV, VI - 1) Extraocular muscles (pre-otic somites) CN XII - muscles of tongue (occipital somites)	see ORBIT, TONGUE lectures
SOMATIC SENSORY (GSA)	<u>Precise sensation</u> Sensory to skin, joints (oral cavity, nasal cavity)	CN V - mostly V1 - Ophthalmic (above angle of eye) V2 - Maxillary (angle of eye to angle of mouth) V3 - Mandibular (below angle of mouth) also Skin of External (Outer) Ear - V, VII, IX, X	1) Trigeminal Neuralgia - pain in region of affected division 2) Bell's palsy (VII) - pain in outer ear
VISCERAL MOTOR (GVE) (Parasympathetics in Cranial Nerves)	Smooth muscles, Glands, etc. (ganglia close to target organ)	III - Ciliary ganglion - Pupillary constrictor, Ciliary muscle VII - Pterygopalatine ganglion - Lacrimal gland, mucous glands of nose and palate VII - Submandibular ganglion - Submandibular, Sublingual salivary glands IX - Otic ganglion - Parotid	see Associated lectures (Orbit; Nasal, Oral Cavities; Ear)
VISCERAL SENSORY (GVA)	<u>Imprecise sensation:</u> Innervation of Gut, Blood Vessels, etc. Specific for Innervation of Pharynx, Middle Ear	Pharynx VII - Nasopharynx IX - Oropharynx X - Laryngopharynx also Middle Ear - IX	Imprecise localization in Choking on food; Middle ear infections
SPECIAL SENSES (SSA)	Vision, Audition, Balance	II - Vision VIII - Audition (hearing), Balance (vestibular apparatus)	many; see associated lectures
CHEMICAL SENSE (SVA)	Taste, Smell	Taste is distributed: VII - anterior 2/3 of tongue IX - posterior 1/3 of tongue X - taste buds anterior to epiglottis Smell - I - olfaction	Damage produces loss of taste in region of innervation
BRANCHIO-MOTOR (SVE)	Voluntary skeletal muscles derived from Branchial Arches	V - muscles of First Branchial Arch VII - muscles of Second Branchial Arch IX - muscles of Third Branchial Arch X - muscles of Fourth and Sixth Branchial Arches XI - muscles of caudal Sixth Branchial arch (disagreement among authors)	see Branchial arch chart (above); also Branchial Arch Lecture, etc.

Note: No questions on quiz require knowledge of three letter description of types of neurons (ex. GSE)

However, may appear in future lectures in Neuro

(INCANTATION)

TRIGEMINAL NERVE - 3 DIVISIONS (MAJOR BRANCHES)

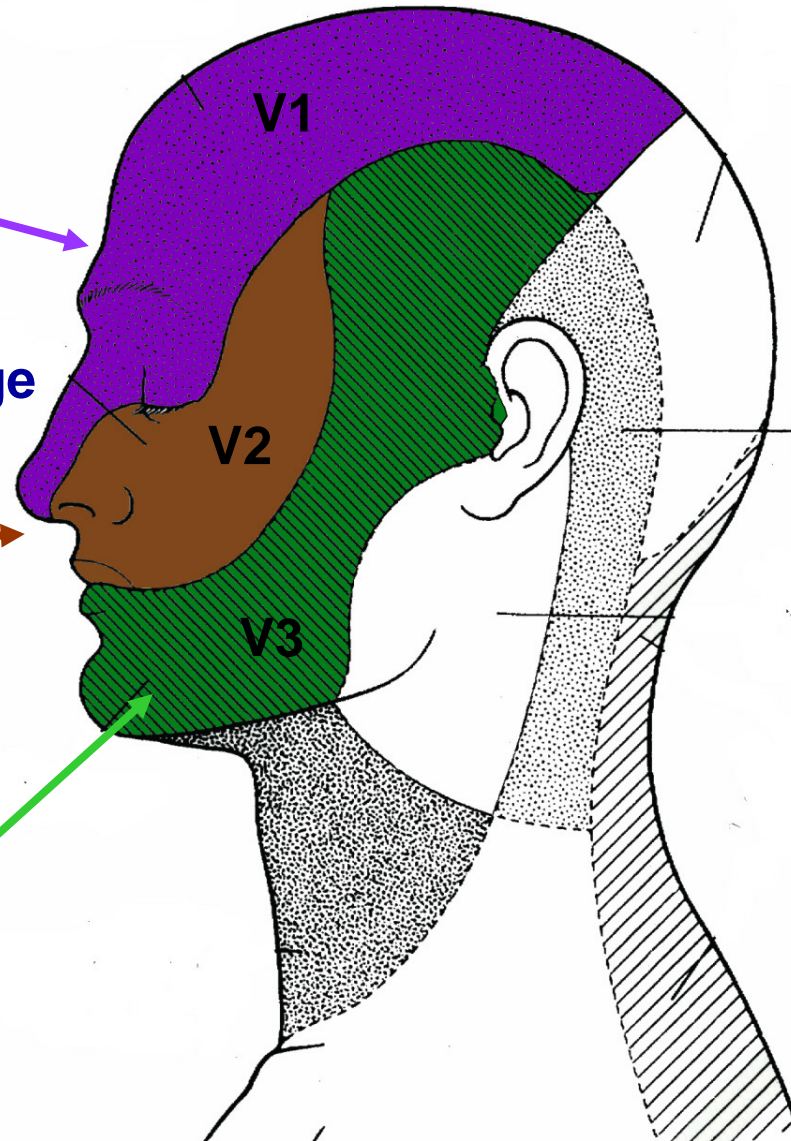
**V1 –
OPHTHALMIC
DIVISION**

**V2 –
MAXILLARY
DIVISION**

**V3 –
MANDIBULAR
DIVISION**

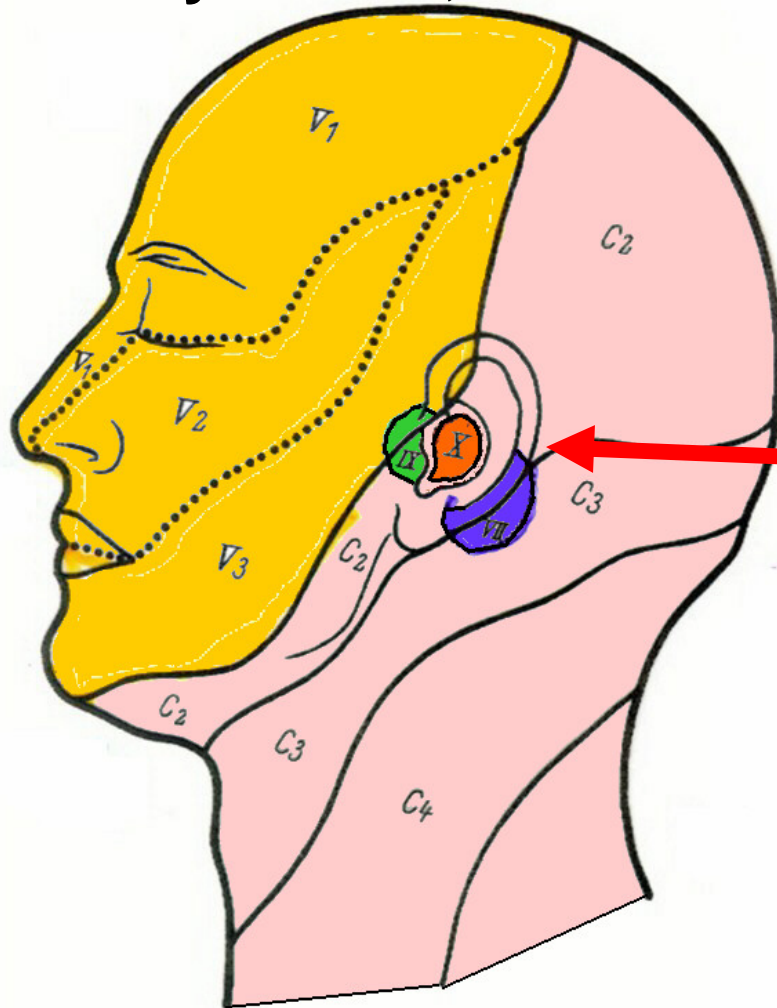
Boundary-
Lateral edge
of eye

Boundary
Lateral
edge
of mouth



SOMATIC SENSORY

sensory to skin, ORAL cavity, NASAL cavity, joints, muscles



**ALMOST ALL
TRIGEMINAL V
EXCEPTION:
SKIN OF OUTER EAR –
FOUR CRANIAL
NERVES**

- 1) V - TRIGEMINAL
- 2) VII- FACIAL
- 3) IX - GLOSSO-
PHARYNGEAL
- 4) X - VAGUS

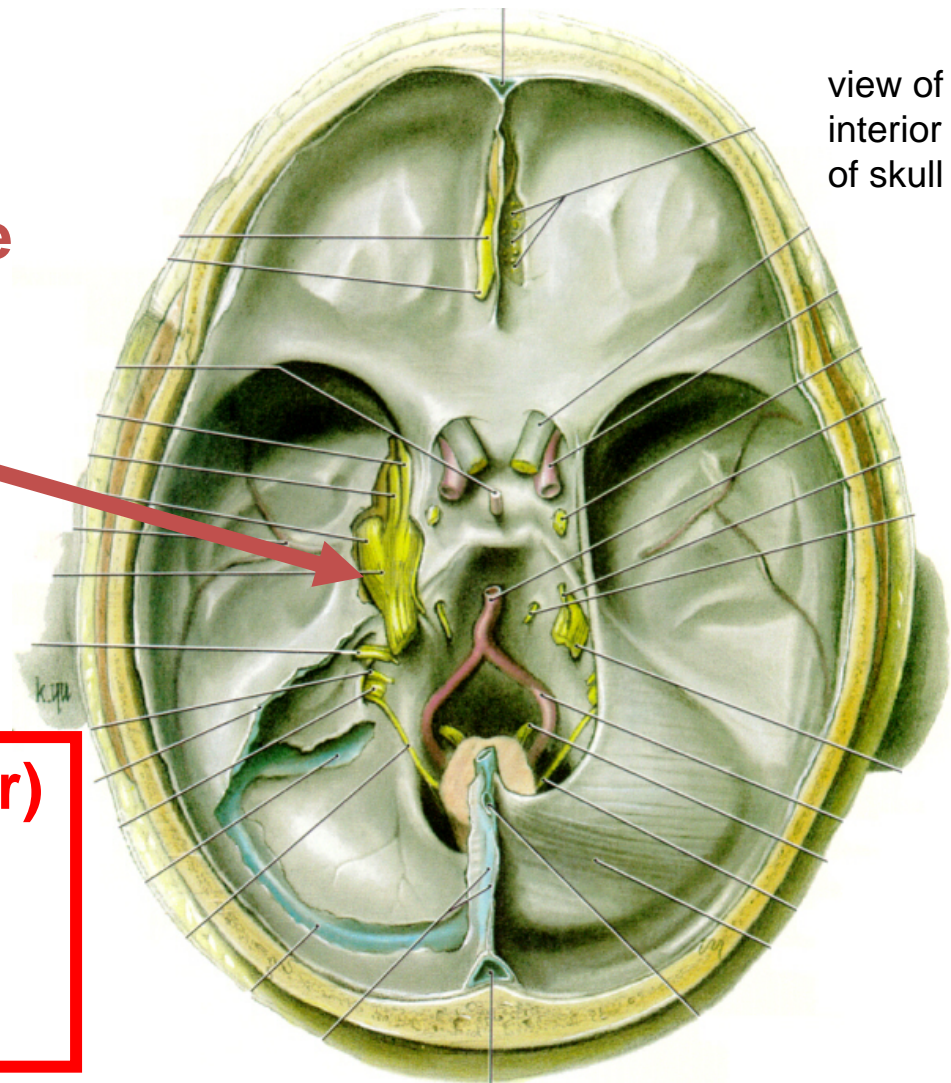
BELL'S PALSY (VII) - PARALYSIS OF FACIAL MUSCLES; IN RECOVERY, PATIENTS COMPLAIN OF EARACHES

SENSORY GANGLIA ARE ATTACHED TO CRANIAL NERVES

- cell bodies of sensory neurons in Trigeminal Nerve are in Trigeminal (Semilunar) Ganglion

Clinical - Mass (ex. tumor) pressing on Trigeminal Ganglion can produce numbness, intense pain

Cell bodies of sensory neurons in VII (Facial Nerve) in Geniculate Ganglion



VENOUS DRAINAGE OF BRAIN – MOST THROUGH VENOUS SINUSES

SUPERIOR SAGITTAL SINUS

INFERIOR SAGITTAL SINUS

CAVERNOUS SINUS

falx cerebri

STRAIGHT SINUS

tentorium cerebelli

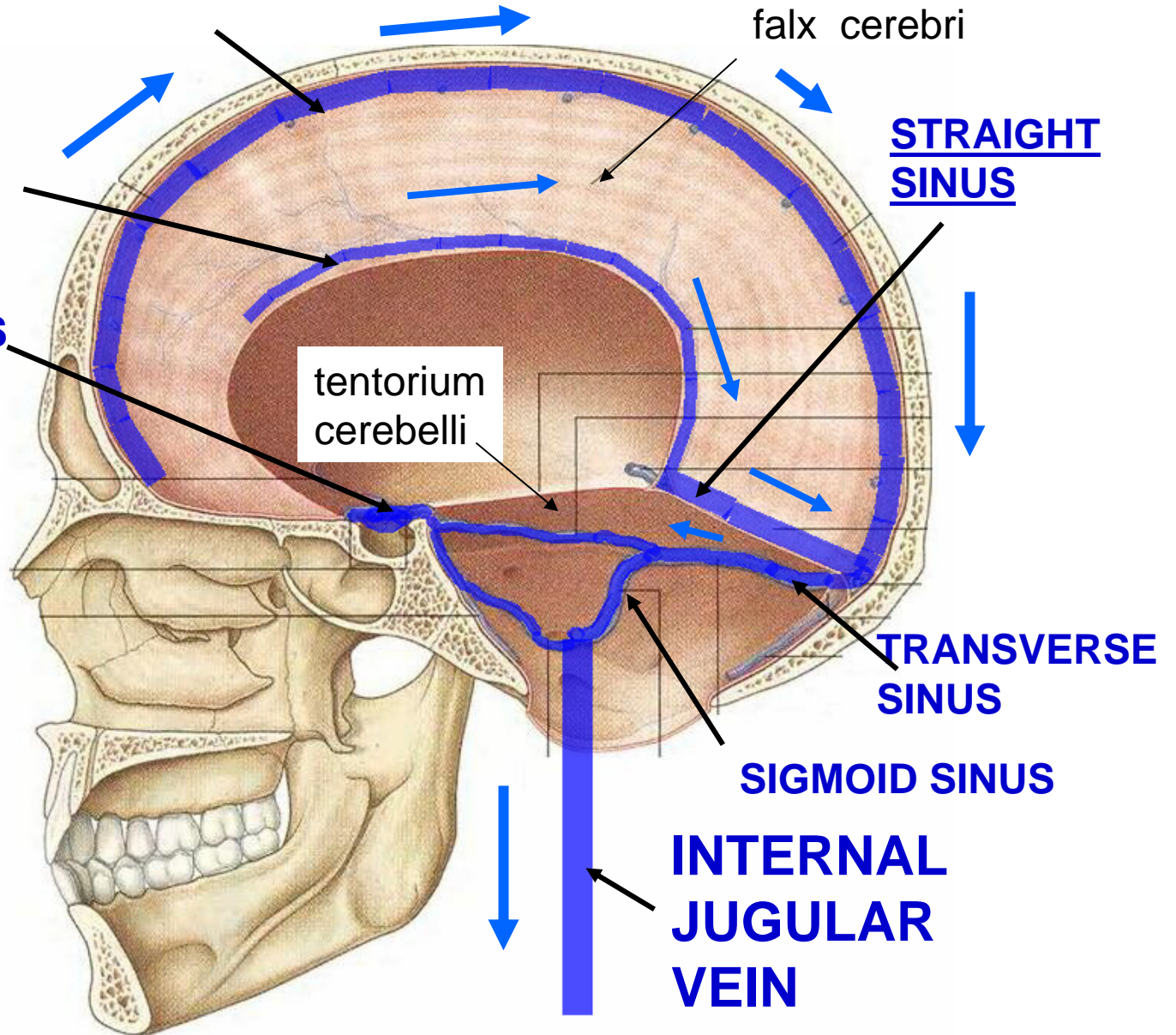
TRANSVERSE SINUS

SIGMOID SINUS

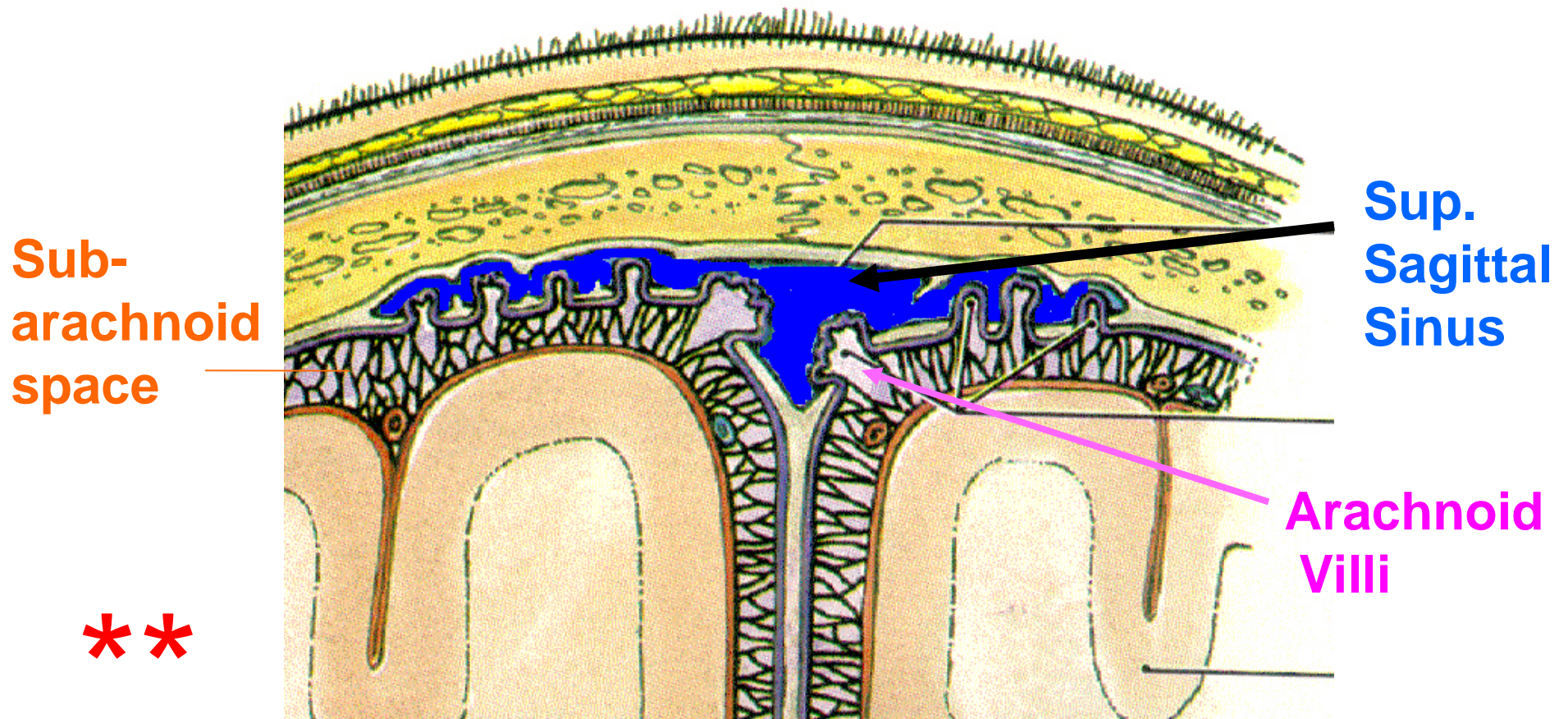
INTERNAL JUGULAR VEIN



NOTE: INFERIOR SAGITTAL SINUS DOES NOT DIRECTLY JOIN SUPERIOR SAGITTAL SINUS; INSTEAD JOINS GREAT CEREBRAL VEIN TO FORM STRAIGHT SINUS



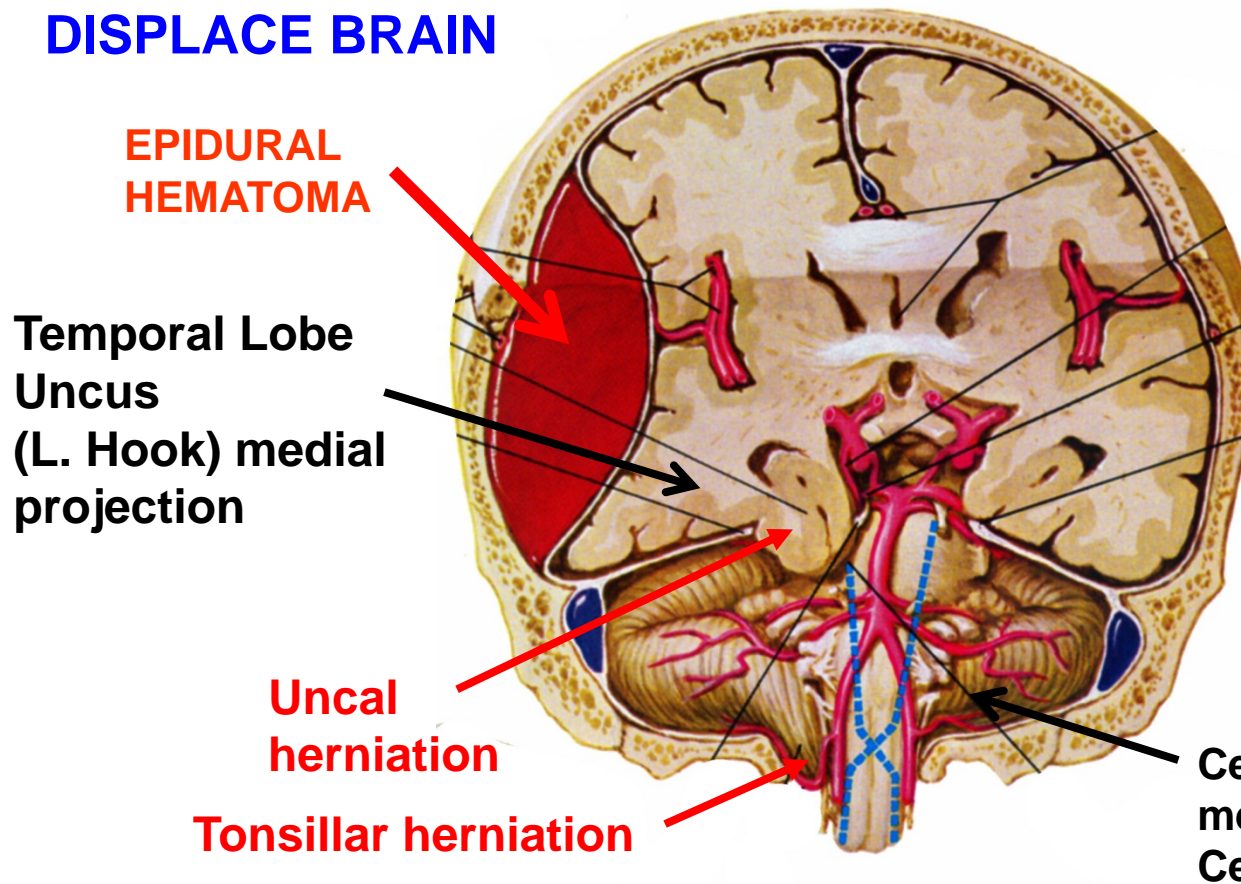
CSF REABSORBED INTO VENOUS SINUSES



CSF reabsorbed into venous sinuses (ex. Sup. Sagittal sinus) at Arachnoid Villi; - In elderly arachnoid villi can become calcified- Arachnoid Granulations; Reduced Re-Absorption can produce Communicating Hydrocephalus

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 is arterial; can be profuse and rapid (ex, car accident);
patient lucid at first; can be fatal within hours if herniation occurs**

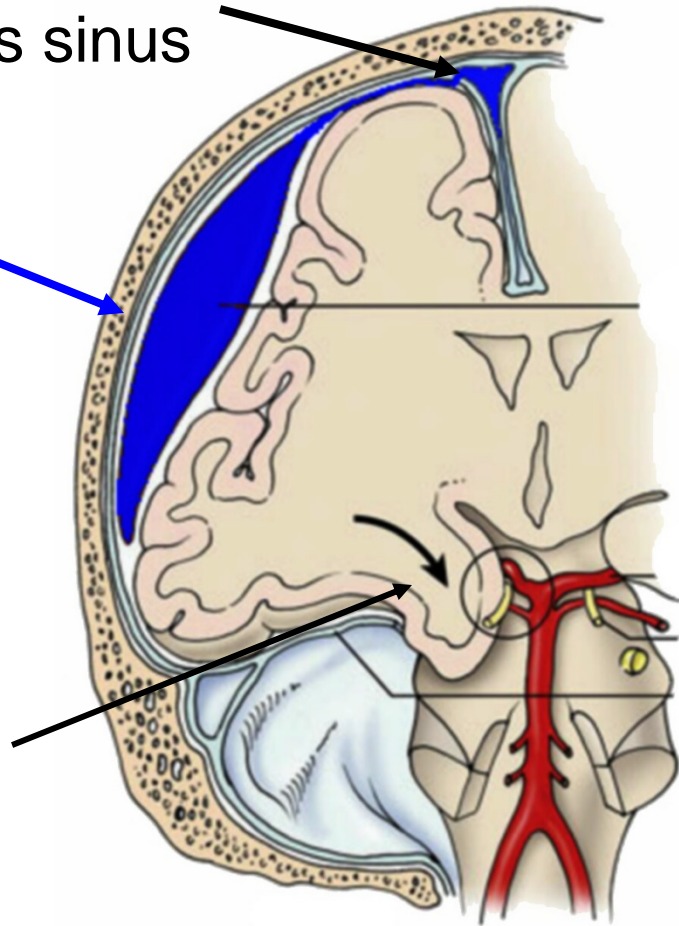


SUBDURAL HEMATOMA

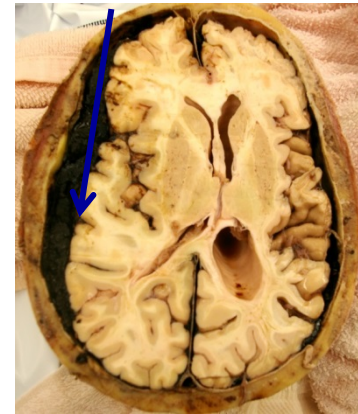
Tear 'bridging' vein
or venous sinus

Crescent
shaped
hematoma
on CT/MRI

Herniation
of uncus (L.
hook) of
temporal
lobe
through
Tentorial
notch



SUBDURAL HEMATOMA
BLOOD



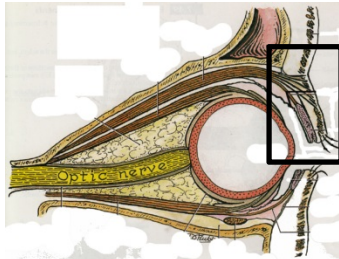
SUBDURAL **
HEMATOMA –
1) VENOUS – often
BRIDGING VEIN
2) CRESCENT
SHAPED MASS
3) SLOW

Clinical: bleeding slow (venous); Chronic Subdural Hematomas can remain undetected; can result in herniation if untreated

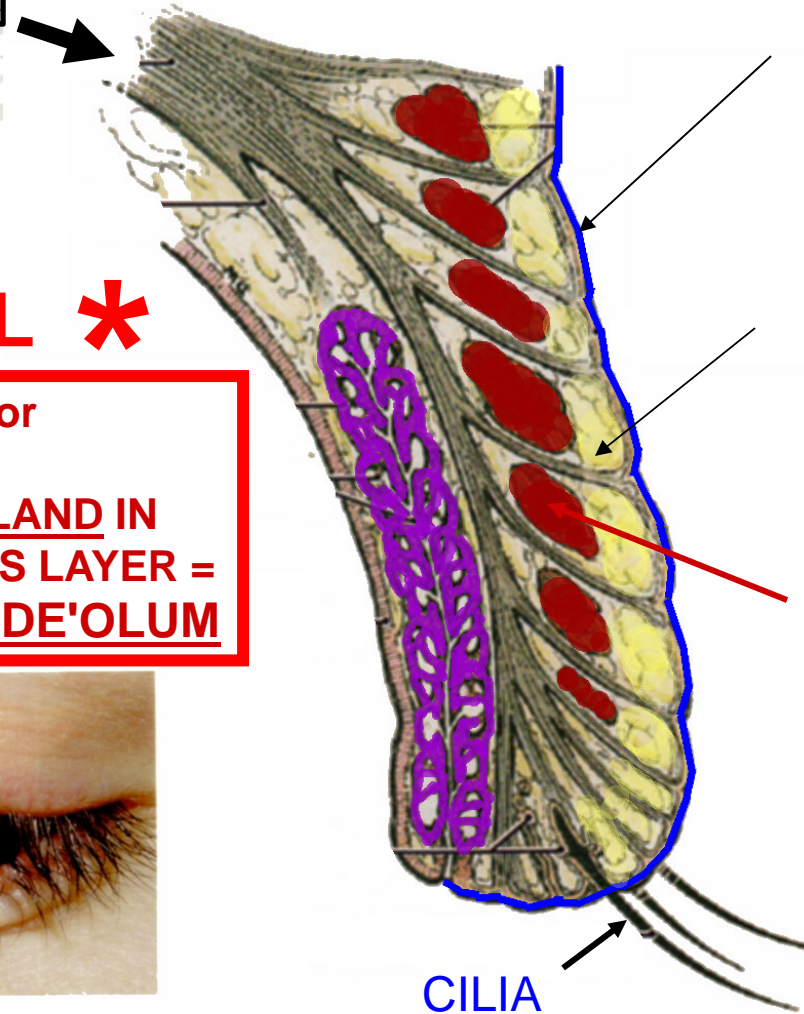


EYELIDS = PALPEBRAE - LAYERED

EYELIDS PROTECT EYE, MOVEABLE, KEEP CORNEA MOIST



ORIENT - EYELID
PARASAGITTAL
SECTION



1. SKIN - CONTAINS EYELASHES (CILIA) AND OPENINGS OF SEBACEOUS, SWEAT GLANDS;

2. SUBCUTANEOUS LAYER - CONNECTIVE TISSUE CONTAINS SEBACEOUS GLANDS; OBSTRUCTION = STYE OR HORDE'OLUM

3. ORBICULARIS OCULI (PALPEBRAL PART) - SKELETAL MUSCLE CLOSES EYE, INNERVATED BY VII - PARALYZE ORBICULARIS OCULI - CAN DAMAGE CORNEA

CLINICAL *

OBSTRUCTION or INFECTION OF SEBACEOUS GLAND IN SUBCUTANEOUS LAYER = STYE OR HORDE'OLUM



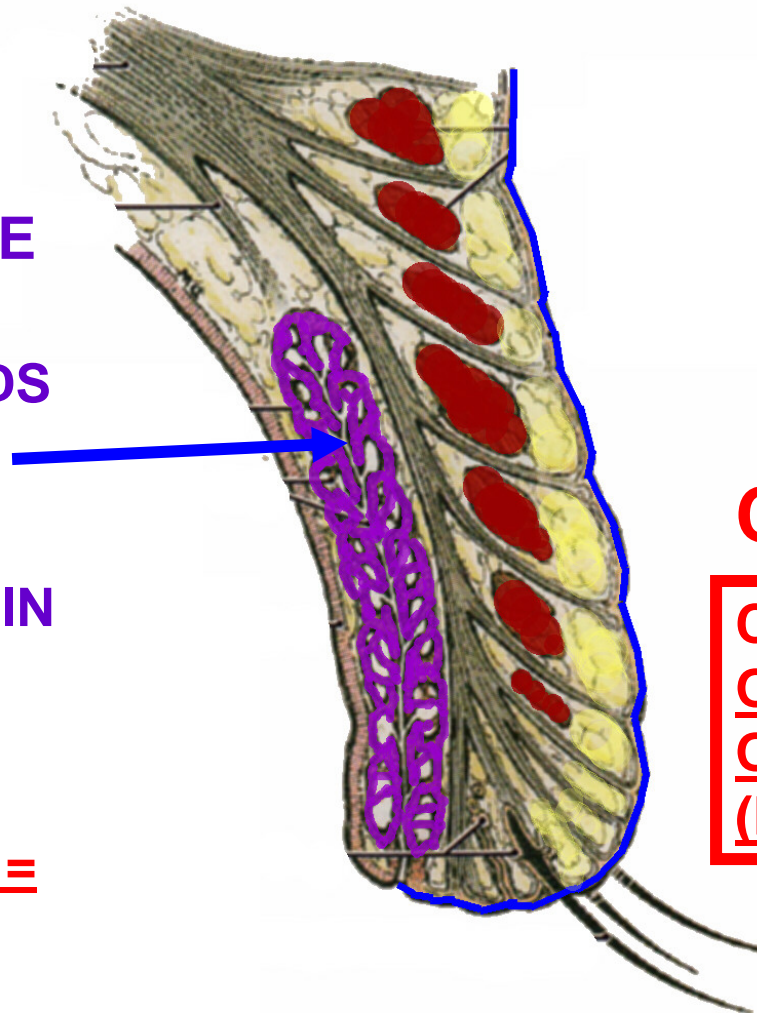
FIGURE 10-10
Acute hordeolum of upper eyelid.
From Palay, Krachmer, 1997.

EYELIDS - LAYERS

TARSAL PLATE - FIBROUS CT 'SKELETON' OF EYELID, DEEP TO ORBITAL SEPTUM

TARSAL PLATE
- CONTAINS
TARSAL GLANDS
(Meibomian glands)

- KEEP TEARS IN EYE, PREVENT EVAPORATION OF TEARS -
OBSTRUCTION = CHALAZION



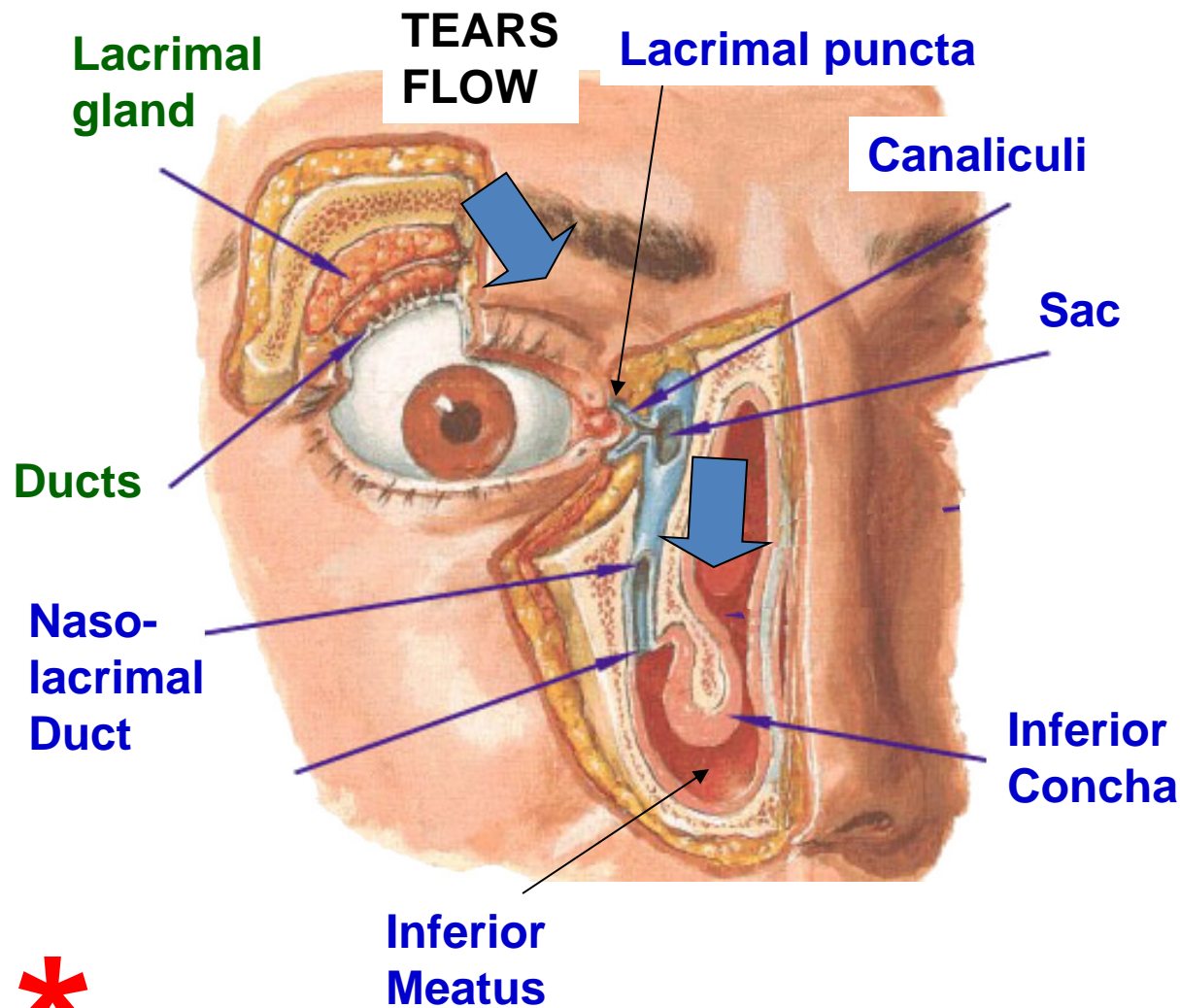
CHALAZION



CLINICAL *

CHALAZION:
OBSTRUCTION
OF TARSAL
(MEIBOMIAN) GLAND

LACRIMAL GLAND



- TEARS FLOW ACROSS EYE TO LACRIMAL PUNCTA ON MEDIAL END OF EYELIDS (eyelids meet at MEDIAL CANTHUS);
- TEARS THEN PASS THROUGH LACRIMAL CANALICULI TO LACRIMAL SAC;
- SAC CONNECTS TO NASOLACRIMAL DUCT WHICH DRAINS TO INFERIOR MEATUS OF NASAL CAVITY

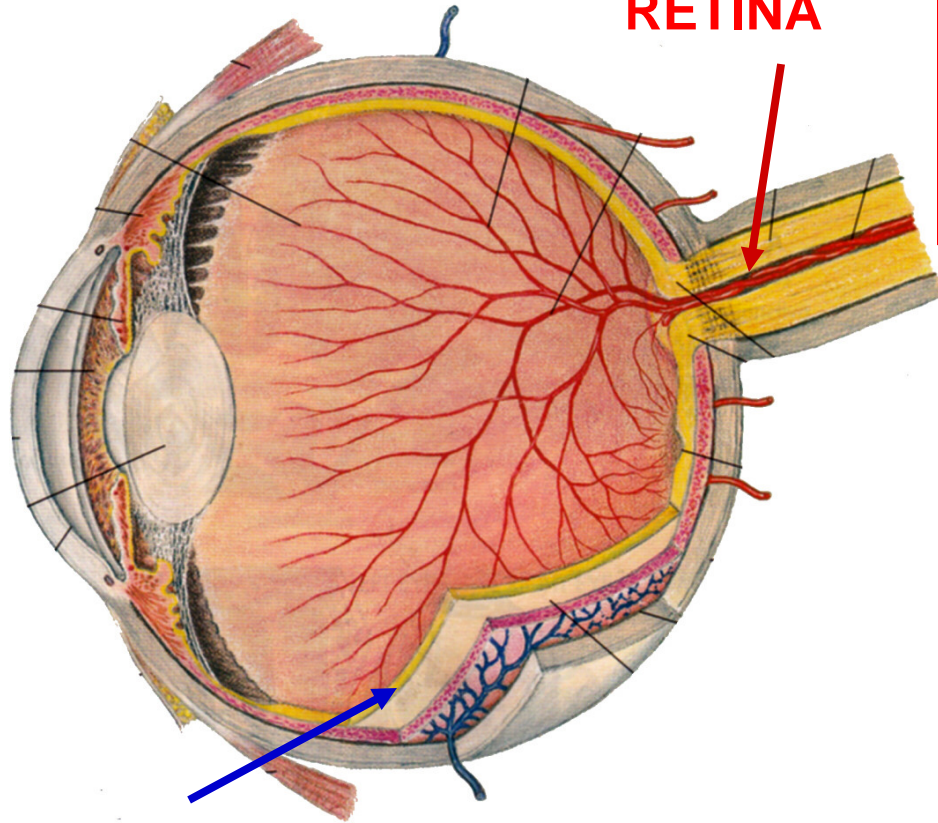


LACRIMAL GLAND IS INNERVATED BY VII - FACIAL NERVE;
BLOCK VII - DECREASE TEARS; PRESSURE/IRRITATION VII - EXCESSIVE TEARS

ARTERIAL SUPPLY – CENTRAL ARTERY OF RETINA

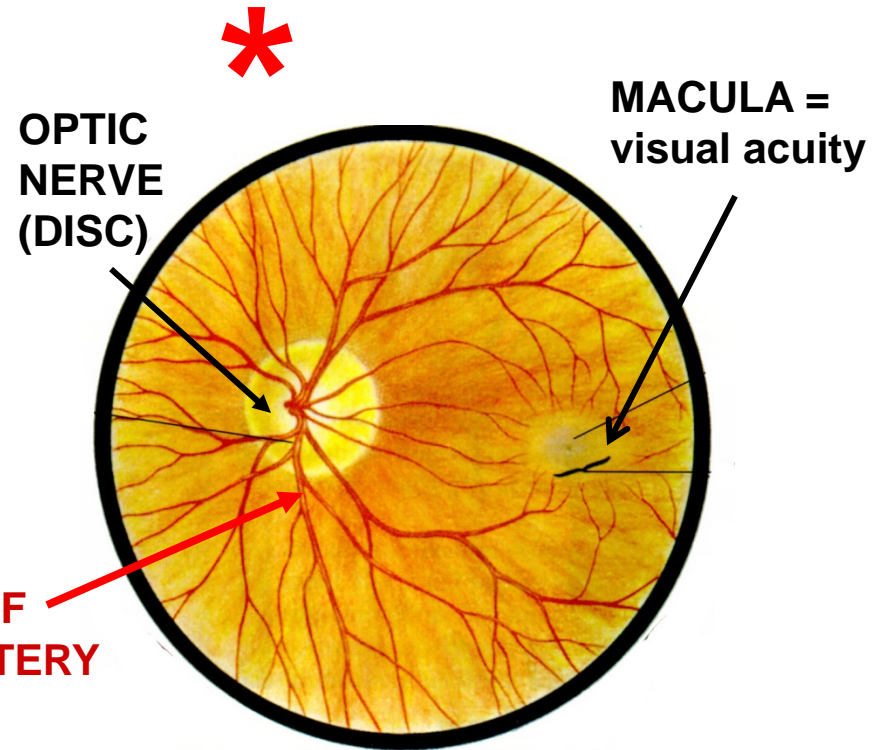
**CENTRAL
ARTERY OF
RETINA**

**CONTAINS RODS AND CONES
(PHOTOSENSITIVE)**
CENTRAL ARTERY OF RETINA-
BRANCH OF OPHTHALMIC ART.
NO (OR LIMITED) ANASTOMOSES;
OCCLUSSION RESULTS IN BLINDNESS
**(EXCEPT WHEN SUPPLY FROM CILIO-
RETINAL ARTERIES)**



RETINA

**BRANCHES OF
CENTRAL ARTERY
AND VEIN OF
RETINA**

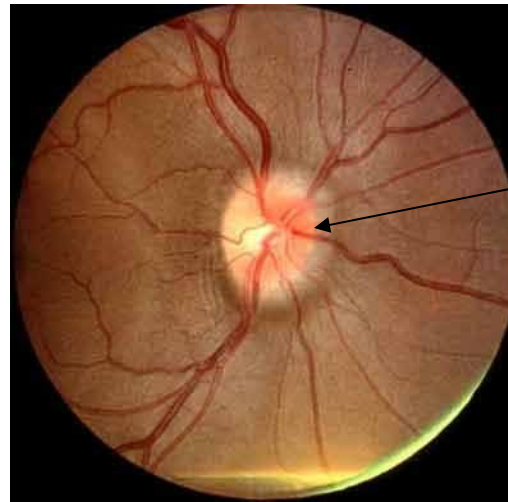
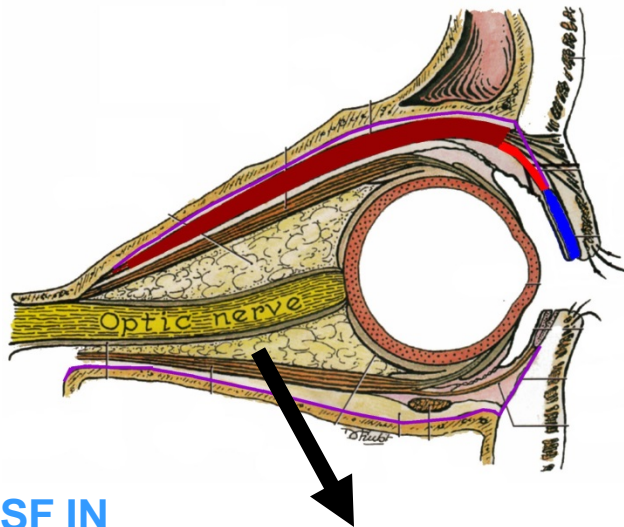


**OPTIC
NERVE
(DISC)**

**MACULA =
visual acuity**

OPHTHALMOSCOPE VIEW

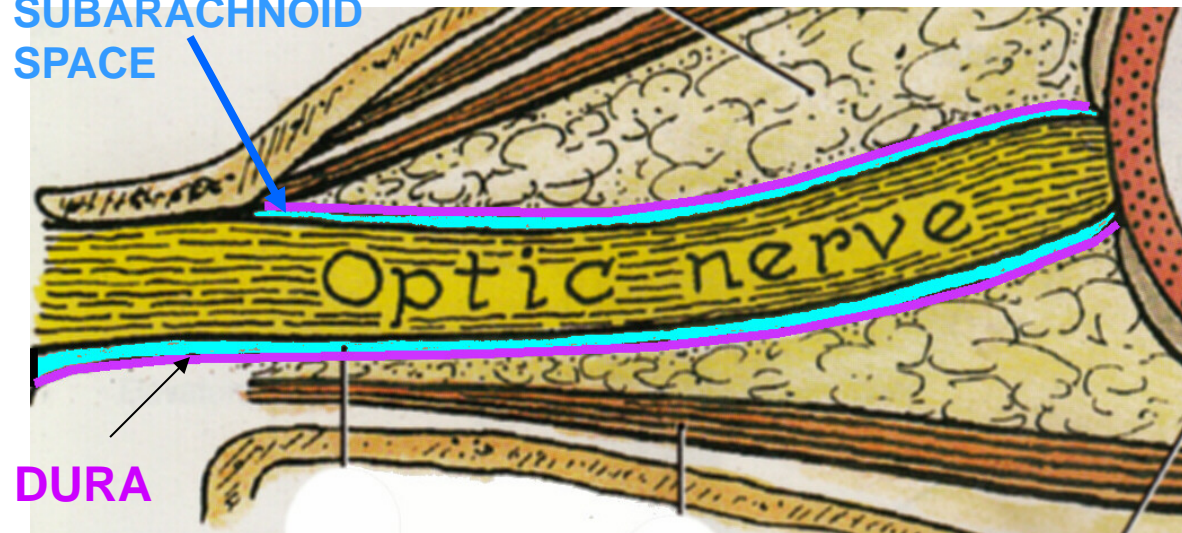
DIAGNOSE CHANGES IN CSF IN OPHTHALMOSCOPE VIEW



HYDROCEPHALUS

PAPILLEDEMA
- engorgement of retinal veins (correspond to branches of central artery)

CSF IN SUBARACHNOID SPACE



CLINICAL

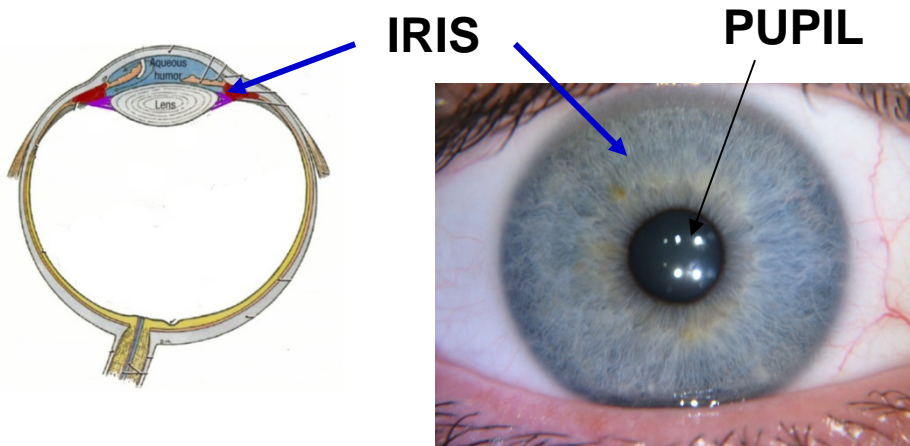


DURA AND SUBARACHNOID SPACE (CSF) EXTEND AROUND OPTIC NERVE; INCREASE IN CSF (PRESSURE) CAN AFFECT VISION

PAPILLEDEMA = swelling of optic disc

Clinical - slow onset; headaches

EYE - STRUCTURE OF EYEBALL- VASCULAR LAYER



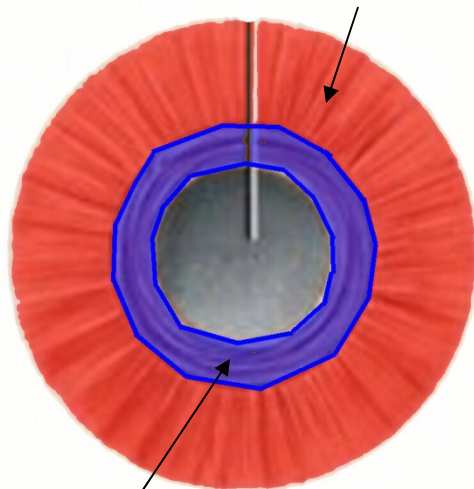
C. IRIS - PIGMENTED, CONTRACTILE LAYER WITH SMOOTH MUSCLES SURROUNDING PUPIL

NORMAL

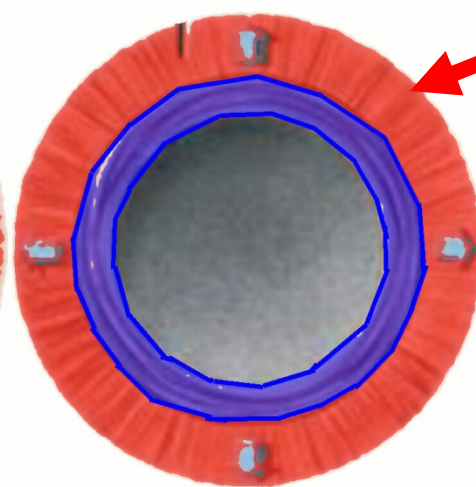
DILATOR

BRIGHT LIGHT - PUPIL CONSTRICTED

DIM LIGHT - PUPIL DILATED



CONSTRUCTOR

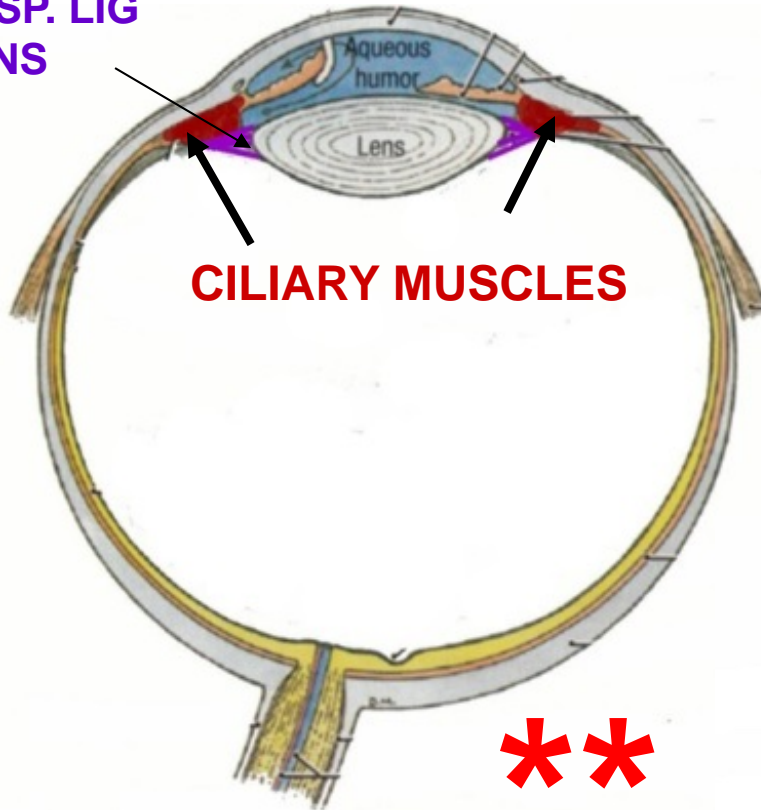


DILATOR PUPIL- RADIAL SMOOTH MUSCLE; SYMPATHETICS

CONSTRUCTOR PUPIL- CIRCULAR SMOOTH MUSCLE; PARASYMPATHETICS (CN III)

EYE- STRUCTURE OF EYEBALL- VASCULAR LAYER

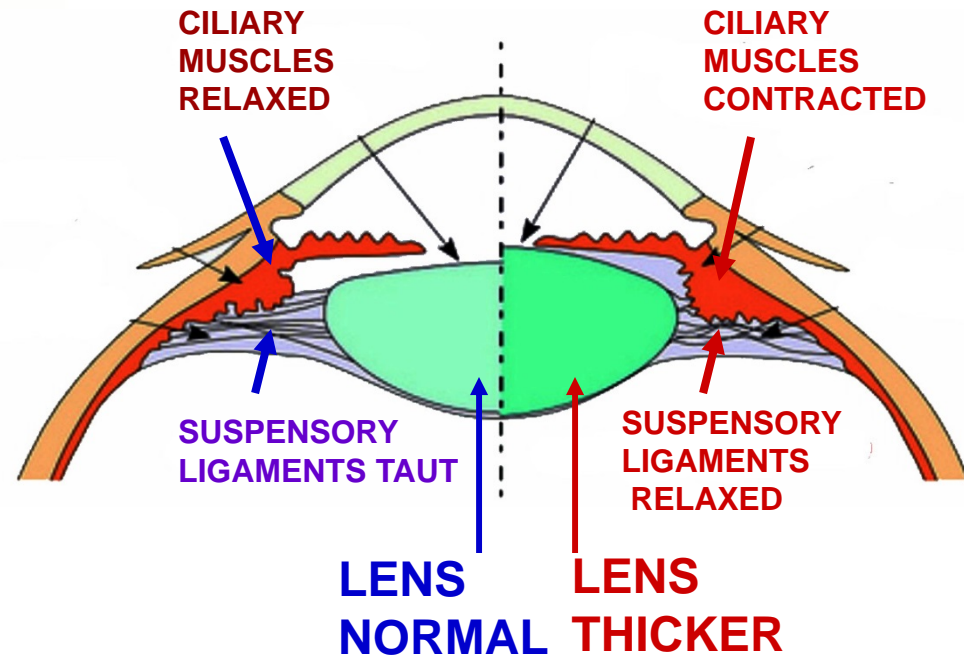
SUSP. LIG
LENS



CILIARY MUSCLES

B. CILIARY BODY- CILIARY MUSCLES- SMOOTH MUSCLES AT ATTACHMENTS OF SUSPENSORY LIGAMENTS OF LENS CONTROL THICKNESS OF LENS

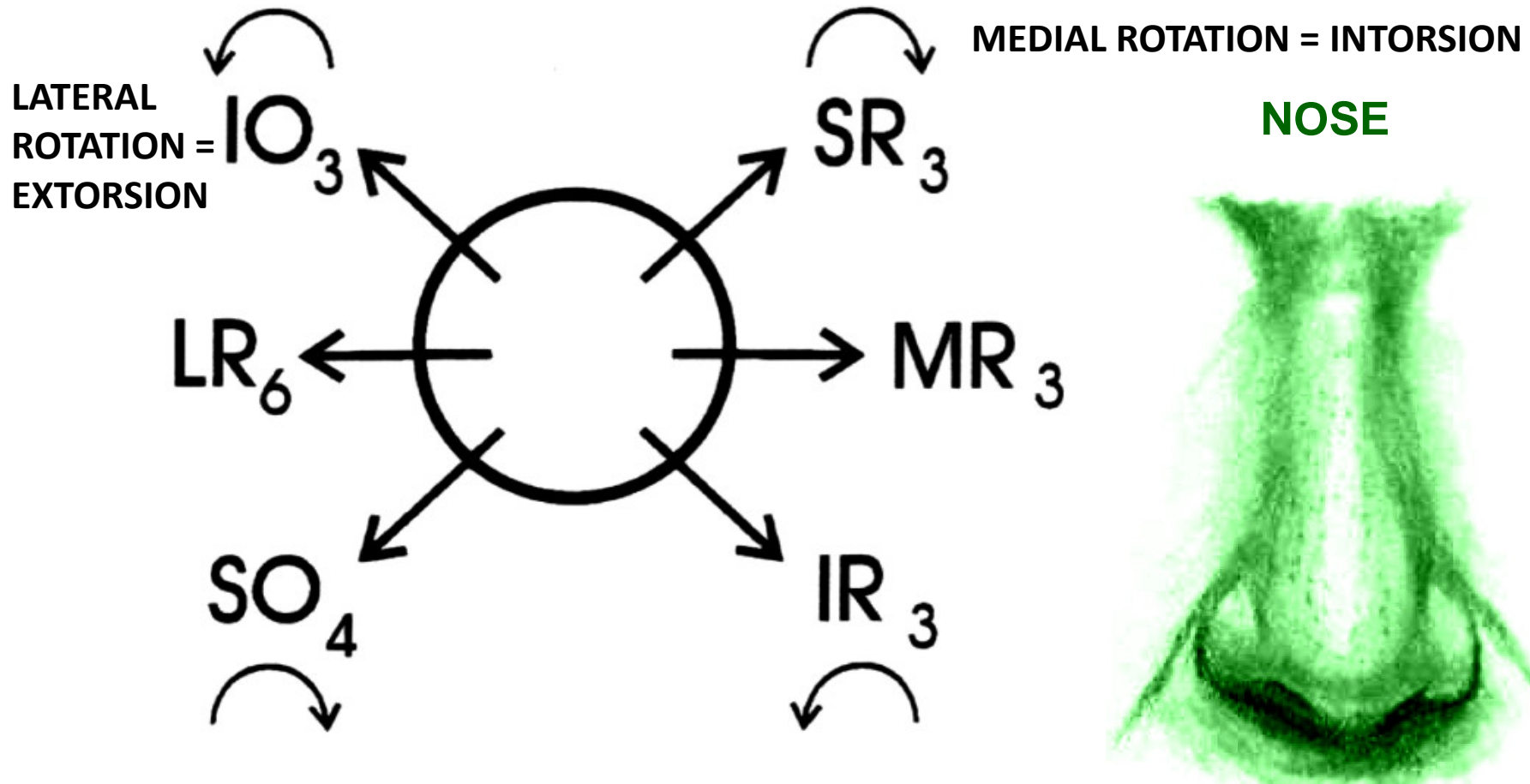
NORMAL VISION



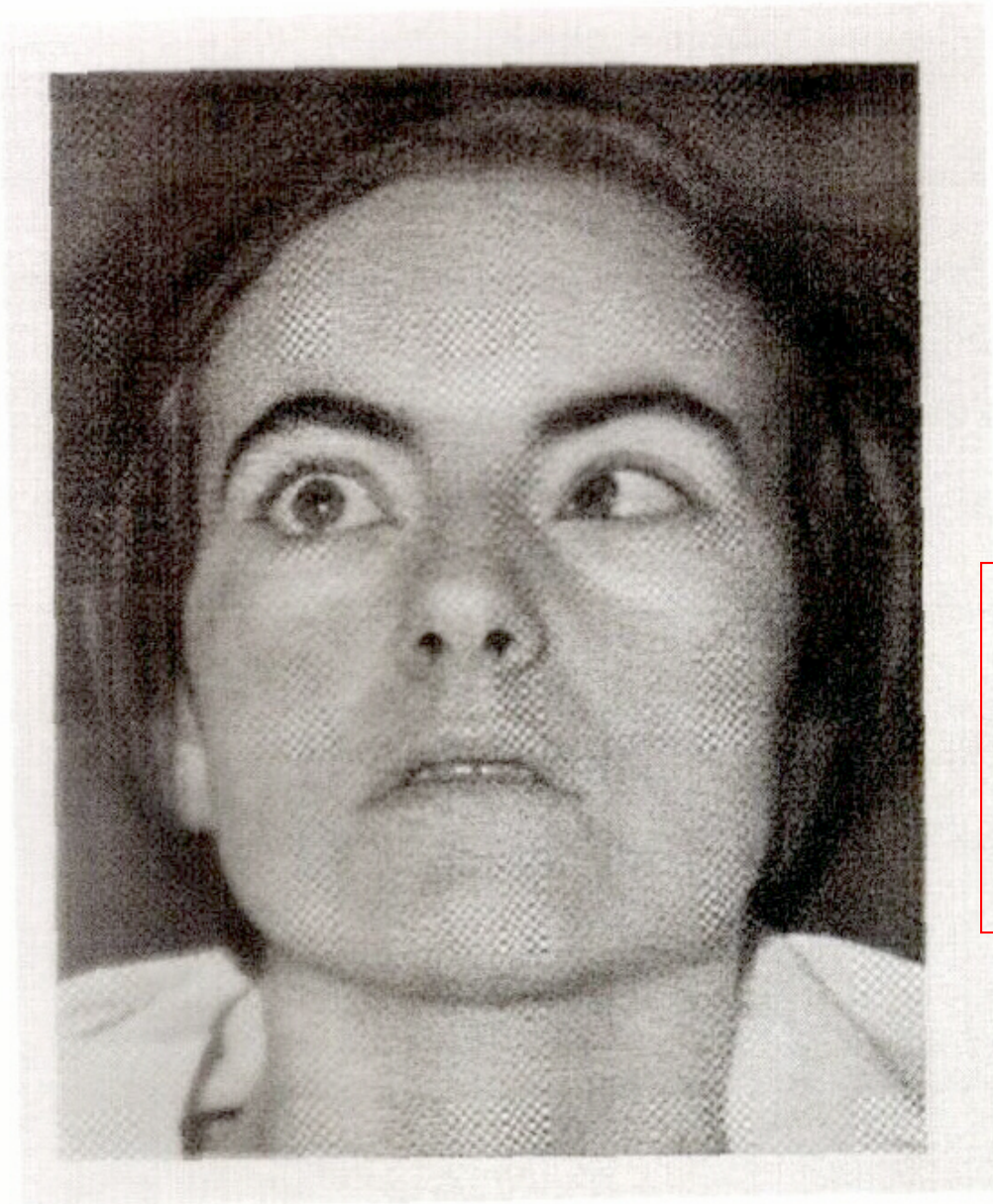
ACCOMMODATION - THICKEN LENS FOR NEAR VISION (VIEWING OBJECTS CLOSE UP)
PARASYMPATHETIC CONTROL- III (Short ciliary nerves)

CILIARY MUSCLES CONTRACT - LENS THICKER

EYE MOVEMENTS DIAGRAM



- 1- Resting position of eye depends upon tonic activities in muscles.
- 2- Damage to any one muscle does not entirely eliminate abduction, adduction, elevation or depression; only get weakness.

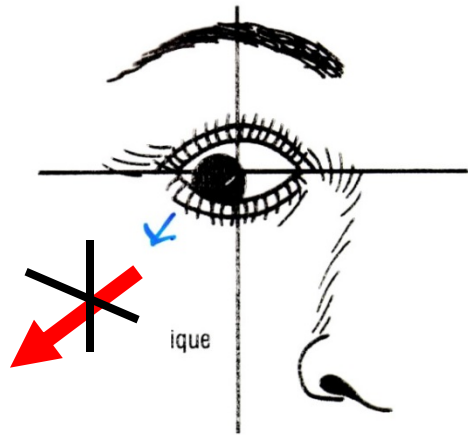


ABDUCENS (VI) NERVE DAMAGE



**ABDUCENS (VI): AT REST 1)
MEDIAL STRABISMUS
(CROSS-EYED) DUE TO
DAMAGE/PARALYZE
LATERAL RECTUS**

TROCHLEAR (IV) NERVE DAMAGE: INABILITY TO TURN EYE DOWN AND OUT; ALSO HEAD TILT

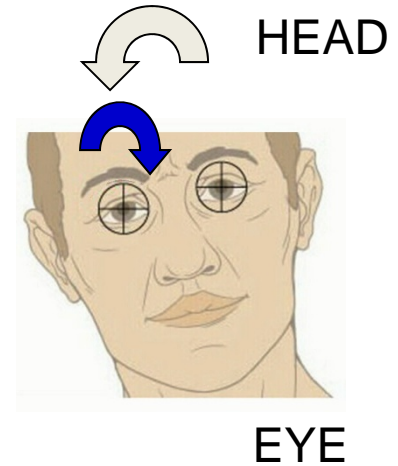
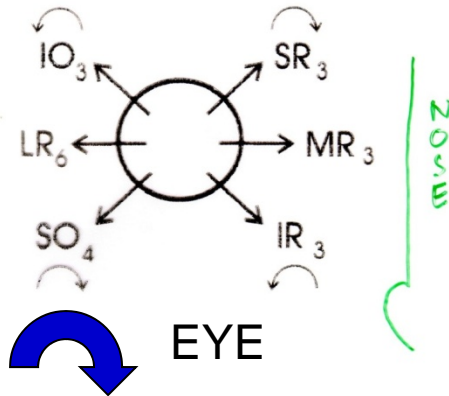


PATIENT CANNOT LOOK DOWN AND OUT

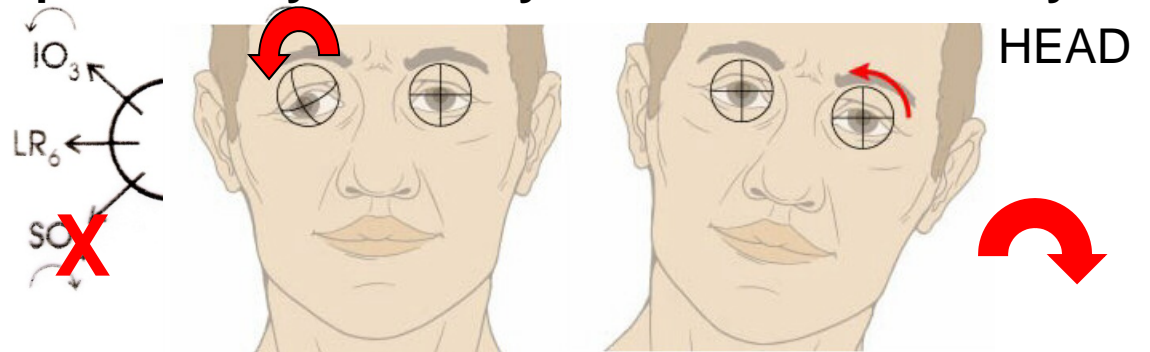
Symptoms - Difficulty walking down stairs; HEAD TILTED

AFTER IV DAMAGE - eye rotated laterally; PATIENT TILTS HEAD TO OPPOSITE SIDE so both eyes rotated

NORMAL



NORMAL Rotation - occurs when tilt head; rotate ipsilateral eye medially when tilt head laterally



OCULOMOTOR (III) NERVE DAMAGE



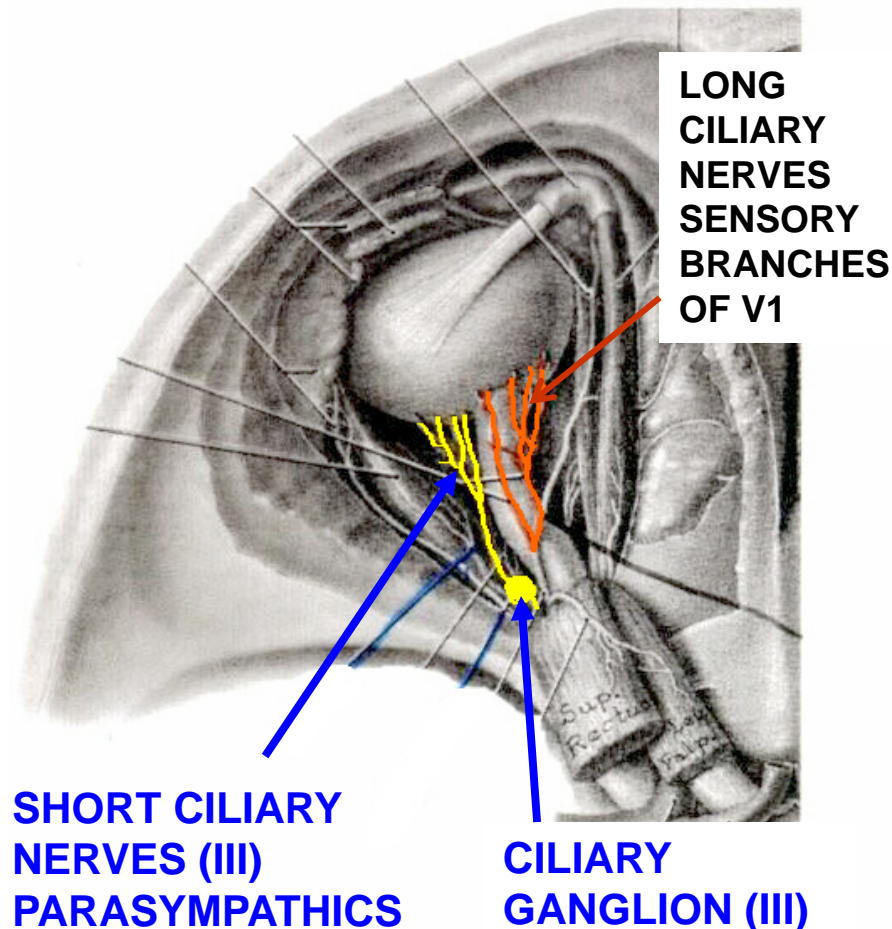
AT REST

1) LATERAL STRABISMUS (WALL-EYED) DUE TO PARALYZE MEDIAL RECTUS

2) PTOSIS - DROOPING EYELID PARALYZE LEV. PALPEBRAE SUPERIORIS

3) DILATED PUPIL - (MYDRIASIS) PARALYZE PUPILLARY CONSTRICTOR

CILIARY GANGLION - PARASYMPATHETIC



CILIARY GANGLION-
PARASYMPATHETICS OF
OCULOMOTOR N (III); TRAVEL IN
SHORT CILIARY NERVES - (FOUND
LATERAL AND DORSAL TO OPTIC
NERVE)

INNERVATE: 1) CILIARY MUSCLES
2) SPHINCTER (CONSTRICTOR)
PUPILLAE

NOTE: LONG CILIARY NERVES
BRANCHES OF V1 (OPHTHALMIC) -
SENSORY TO CORNEA - (FOUND
MEDIAL AND DORSAL TO OPTIC
NERVE)

CLINICAL **

**DAMAGE SHORT CILIARY NERVES (ONLY) - MAIN
SYMPTOM: PUPIL IS DILATED = MYDRIASIS**

BREAK DOWN TO COMPONENT IN LECTURE HANDOUT

STRUCTURES DERIVED FROM BRANCHIAL ARCHES

ARCH/NERVE	SKELETAL	LIGAMENTS	MUSCLES
First (V)	1) Malleus 2) Incus	1) Ant. ligament of malleus 2) Sphenomandibular ligament	1) Muscles of Mastication 2) Tensor tympani 3) Tensor palati 4) Mylohyoid 5) Ant. belly of Digastric
Second (VII)	1) Stapes 2) Styloid process 3) Hyoid bone - lesser horn, upper half of body	Stylohyoid ligament	1) Muscles of Facial Expression 2) Stapedius 3) Stylohyoid 4) Post. belly of Digastric
Third (IX)	Hyoid bone - greater horn, lower half of body	-----	Stylopharyngeus
Fourth (X)	Cartilages of Larynx	-----	1) All muscles of Larynx 2) All muscles of Pharynx (except Stylopharyngeus) 3) All muscles of Soft Palate (except Tensor palati)
Sixth (XI)	-----	-----	1) Sternocleidomastoid 2) Trapezius

CHART OF BRANCHIAL ARCH DERIVATIVES FROM FIRST AID - MEMORIZE

PRACTICE QUESTION CLINICAL VIGNETTE



A young child is brought to a pediatrician by his parents. The child (photo above) shows micrognathia (small mandible) and downward slanting eyes. Tests of auditory function indicate a hearing loss. The physician suspects that the child has Treacher-Collins syndrome, a congenital disorder associated with malformation of structures that develop in association with the first branchial arch. Which of the following structures normally develops with the first branchial arch and could have been malformed to cause the hearing loss?

- A. Auditory tube
- B. Cochlea
- C. Malleus and Incus
- D. Vestibulocochlear nerve
- E. Stapes

FOCUS ON CLINICAL: BRANCHIAL POUCHES, GROOVES, MEMBRANES

POUCH	FORMS	CLINICAL
First	1) Auditory tube 2) Tympanic cavity	First Branchial 'Cleft' cyst - tract linked to external auditory meatus
Second	Lining (crypts) of palatine tonsils	Second Branchial 'Cleft' cyst - tract linked to tonsillar fossa (palatine tonsils)
Third	1) Inferior parathyroid gland 2) Thymus	Third Branchial 'Cleft' cyst - tract at thyrohyoid membrane or piriform recess
Fourth	1) Superior parathyroid gland 2) C-cells of Thyroid	does not form
Sixth (XI)	-----	-----

Note: Cysts and fistuli - in lateral neck are **anterior to Sternocleidomastoid muscle**

CLEFT	FORMS
First	External Auditory Meatus

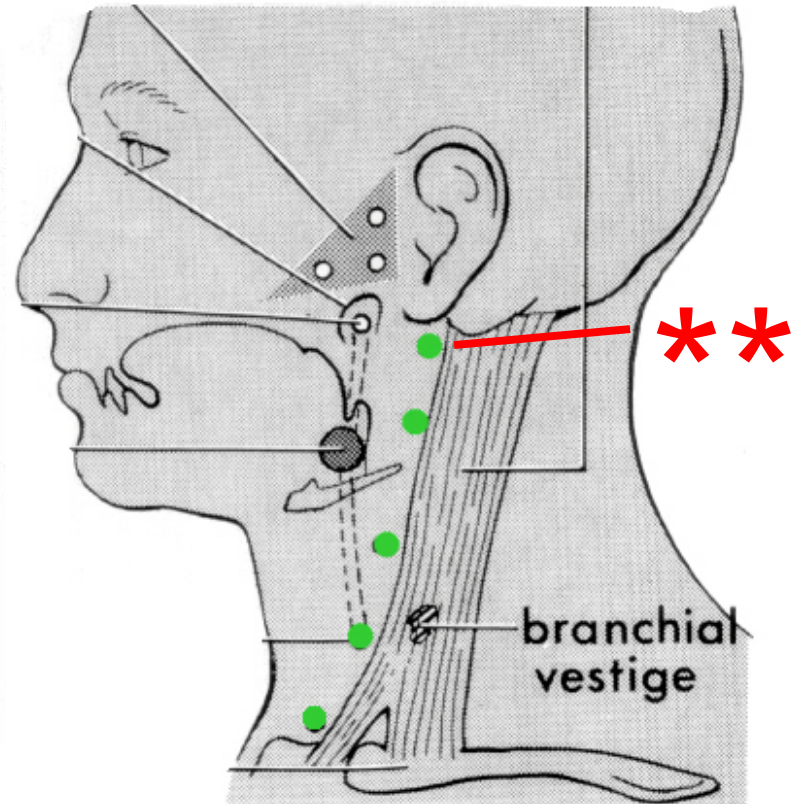
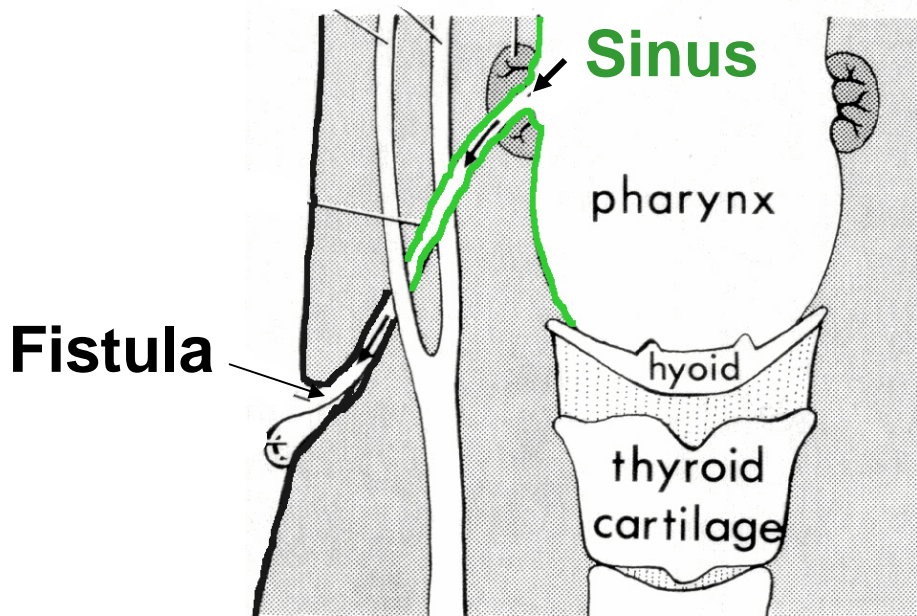
MEMBRANE	FORMS
First	Tympanic membrane

NOTE: CLEFT = GROOVE

BRANCHIAL ANOMALIES

Branchial Sinus = Blind pouch from Pharynx

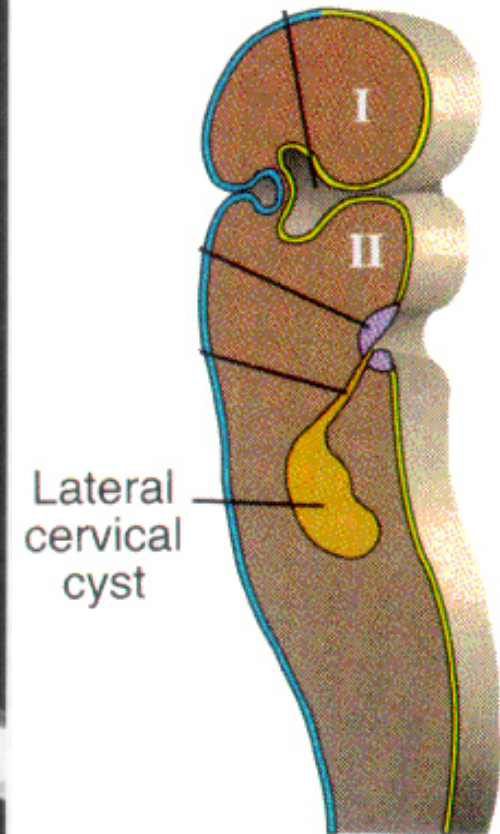
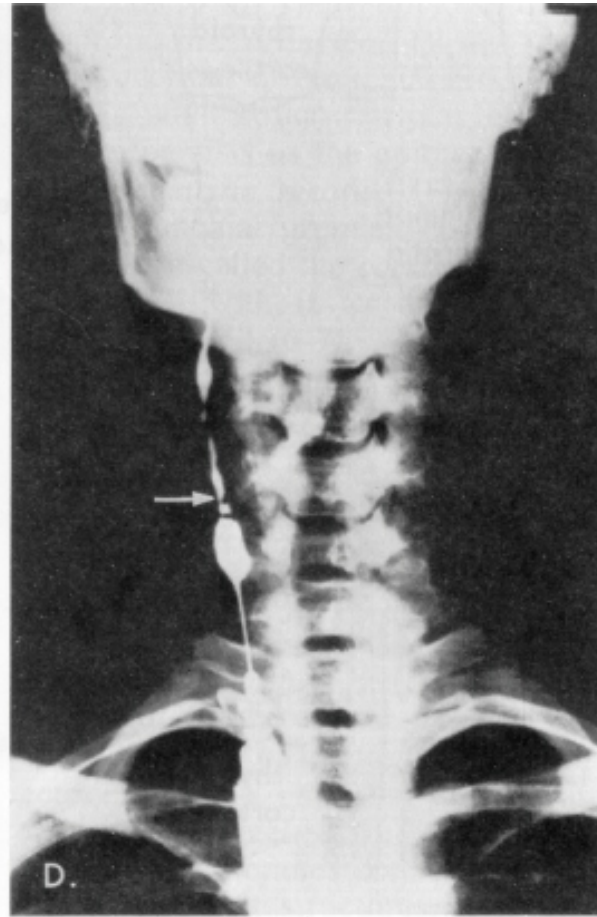
Branchial Fistula = Channel, often connecting Pharynx to skin of neck; usually passes Anterior to Sternocleidomastoid, between Int. and Ext. Carotid A.



FIRST BRANCHIAL POUCH SYNDROME – channel to External Auditory Meatus

SECOND BRANCHIAL POUCH SYNDROME

SECOND BRANCHIAL POUCH FORMS CRYPTS (LININGS)
OF PALATINE TONSILS

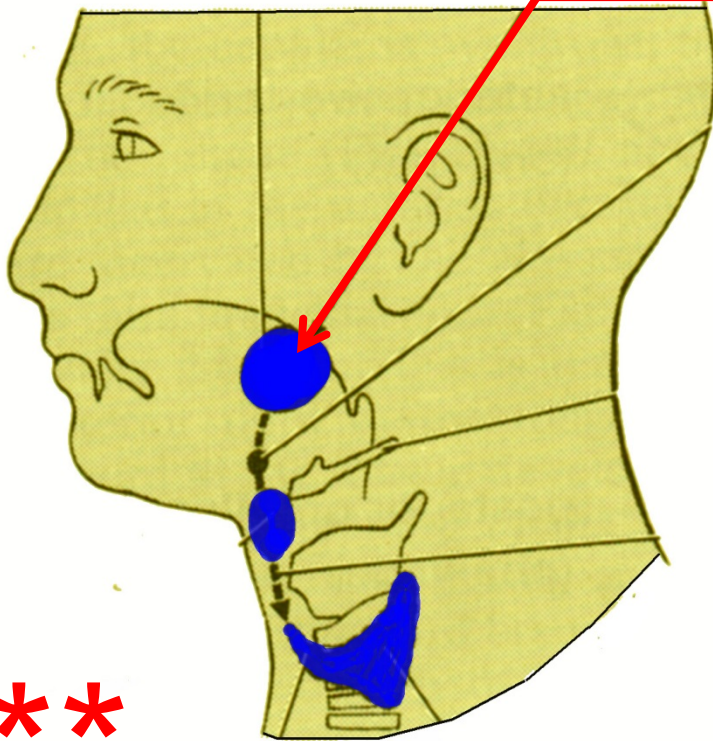


Branchial Fistula - drains to neck

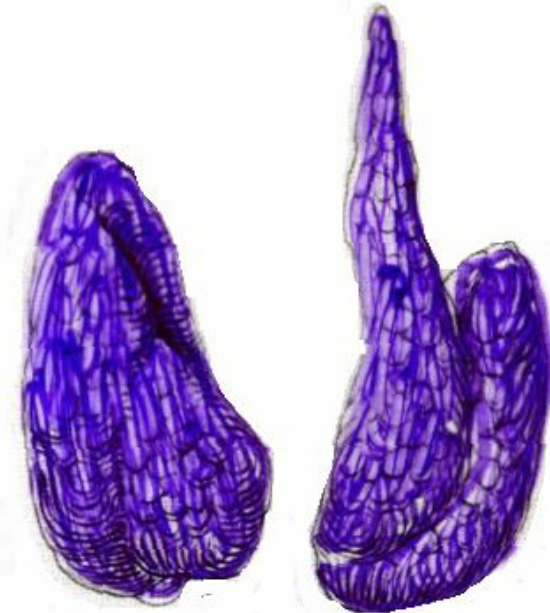
Branchial Cyst
often remnant
of Cervical Sinus

CONGENITAL MALFORMATIONS

LINGUAL THYROID* - gland in tongue



Thyroglossal Duct Remnants - can form thyroid tissue (cysts) along path (midline, ant. to hyoid, larynx)



C. PYRAMIDAL LOBE. ABSENCE OF ISTHMUS

Pyramidal Lobe - 50% of people; attached to hyoid by fibrous strand; no clinical problems

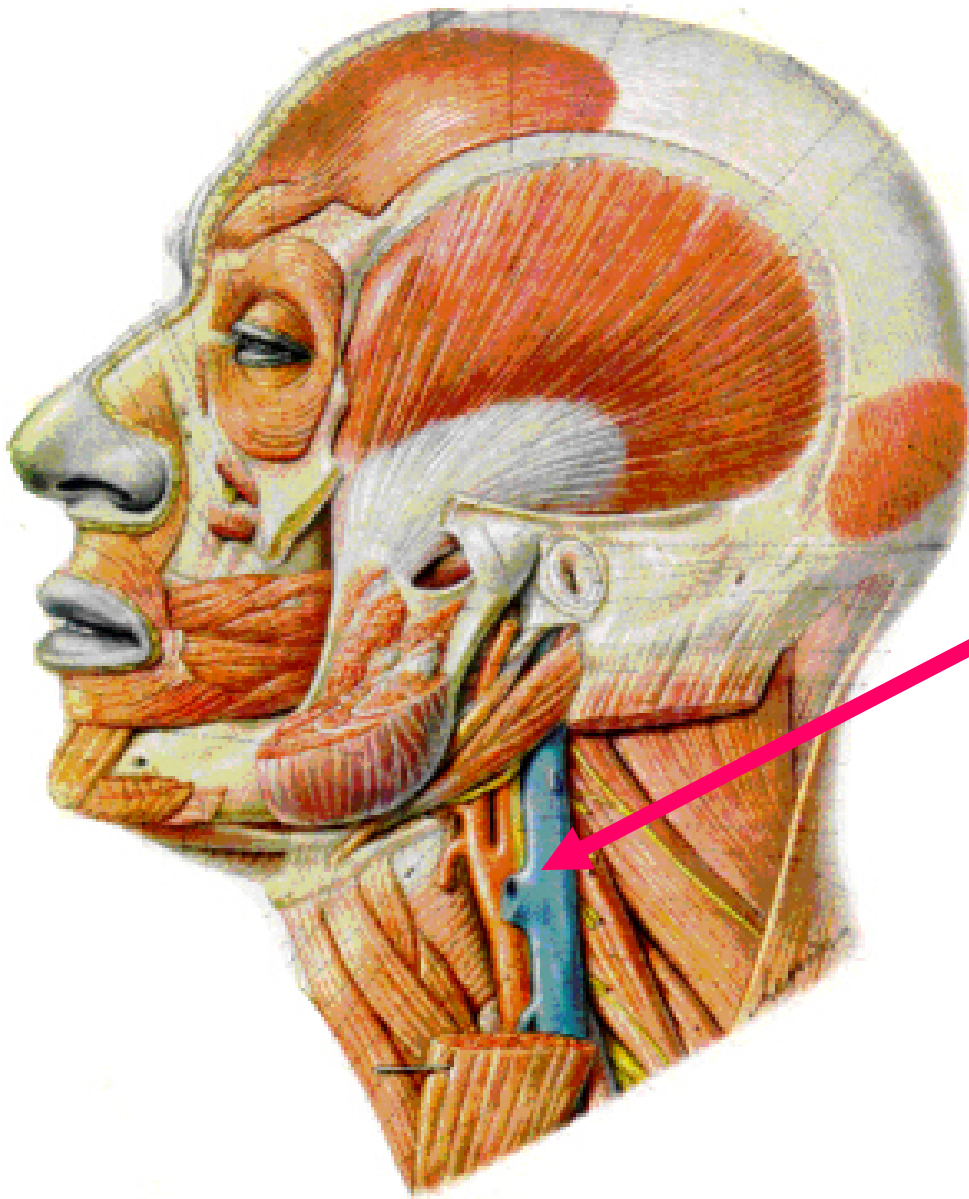
LINGUAL THYROID* - Thyroid gland in tongue



AT: Junction of anterior 2/3 and posterior 1/3 of tongue

3. LATERAL COMPARTMENT - CAROTID SHEATH

CLINICAL **



Lateral Compartment-
lateral and posterior to
pharynx

Contained in Carotid
Sheath

1) Common and Internal
Carotid arteries; 2)
Internal jugular vein, 3)
Vagus nerve

Note: Sympathetic chain
is posterior to (NOT IN)
Carotid Sheath

A. MUSCLES OF NECK - NOT ATTACHED TO HYOID - move head and neck

1. STERNO-CLEIDOMASTOID

O - Two heads: 1) Manubrium of sternum; 2) Clavicle (L. root - cleido) - medial 1/3

I - Mastoid process of temporal bone

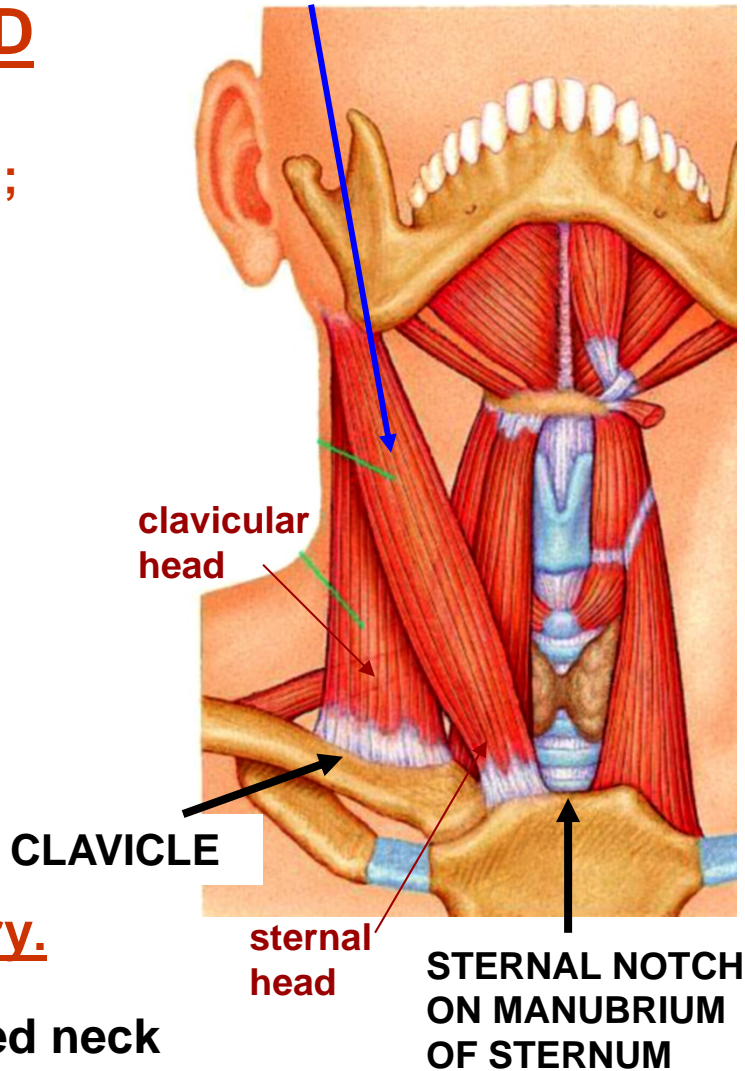
Act - bilateral - flex head; unilateral rotate head, face directed to opposite side

(MASTOID MOVES TOWARD STERNUM)

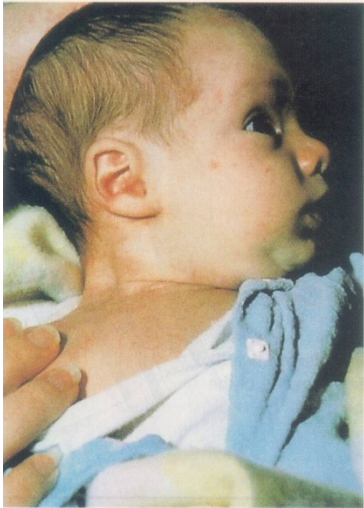
Inn - CN XI Accessory.

TORTICOLLIS = twisted neck

MOST IMPORTANT LANDMARK IN NECK



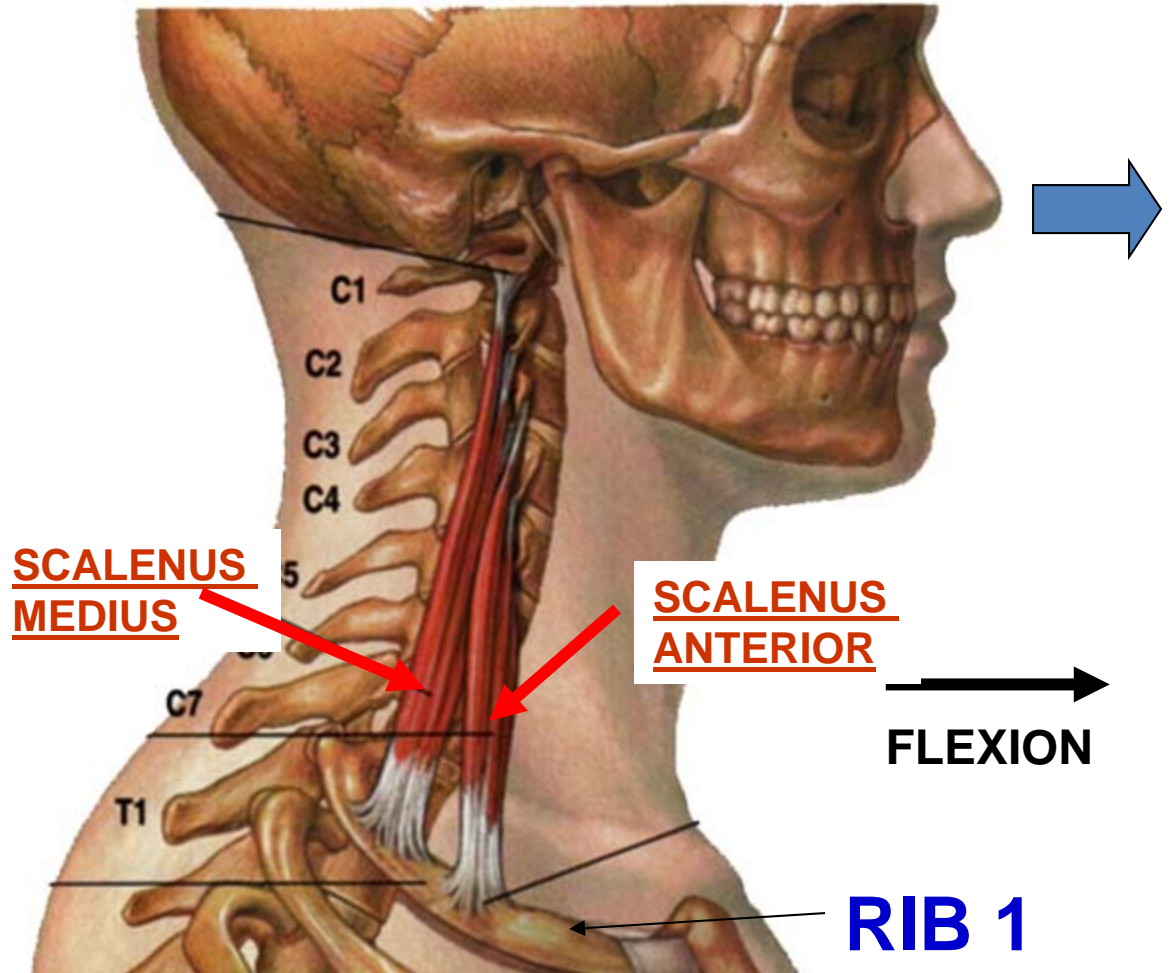
ACTION - PULL MASTOID TOWARD STERNUM



* TORTICOLLIS – Contracture of Sternocleidomastoid (congenital or acquired); face to opposite side

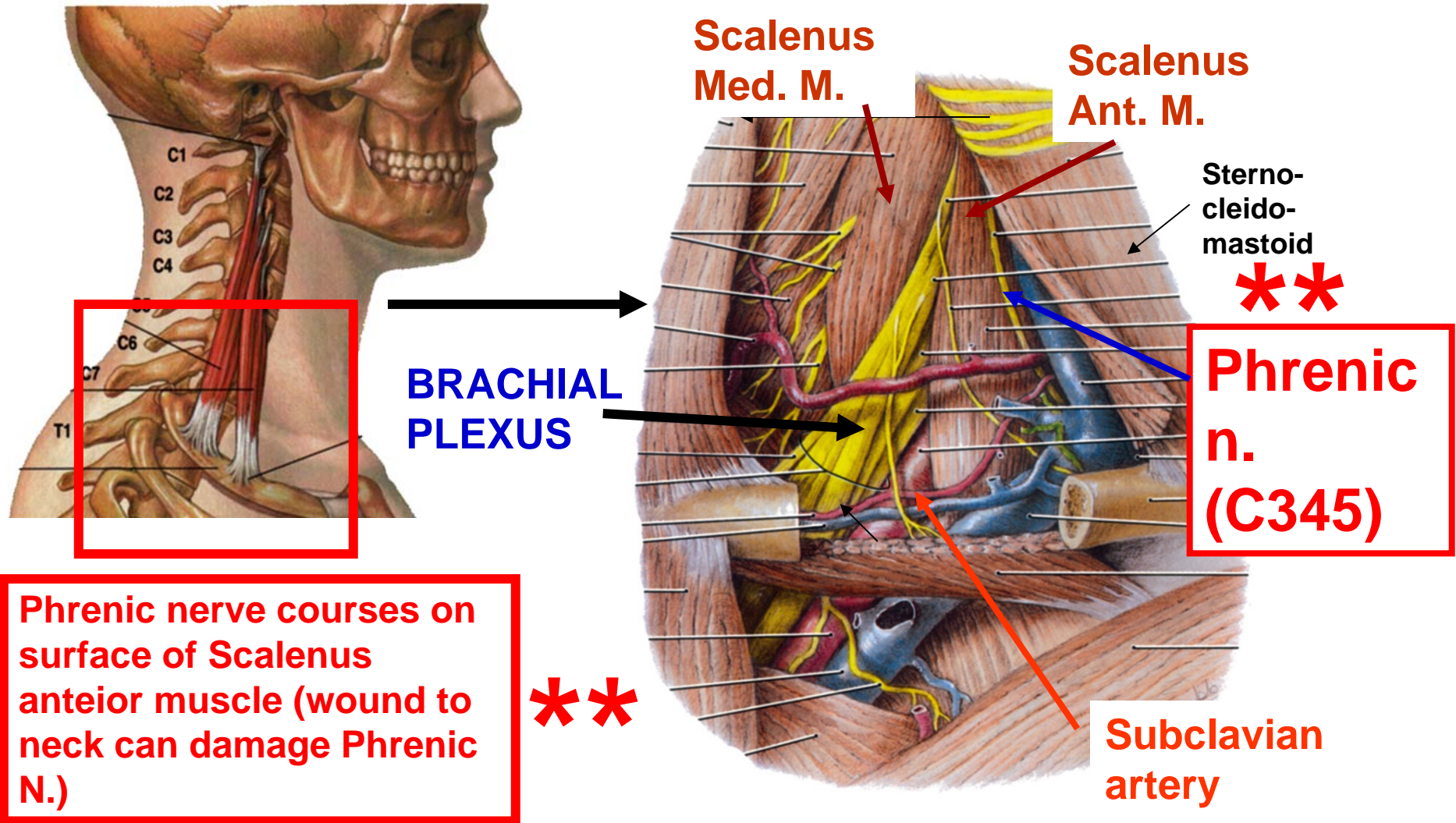
MUSCLES OF NECK – SCALENUS MUSCLES

SCALENUS
ANTERIOR
AND
SCALENUS
MEDIUS



SCALENUS ANTERIOR AND SCALENUS MEDIUS ARE IMPORTANT LANDMARKS

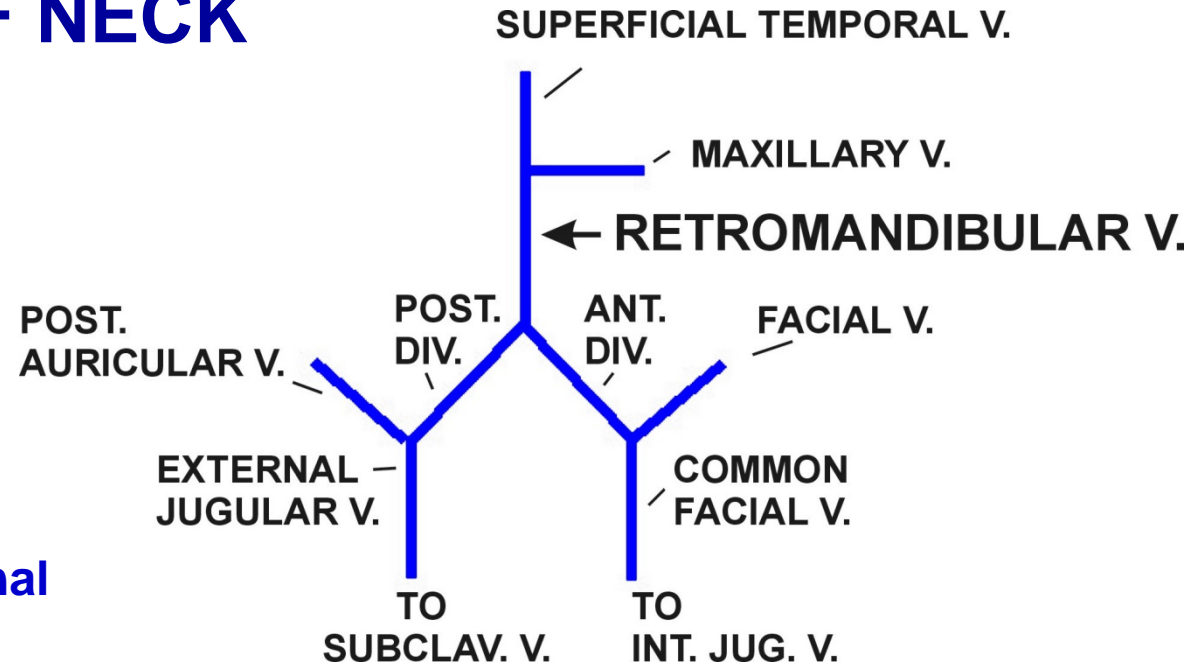
- **Brachial Plexus**, Subclavian Artery pass between Scalenus Ant. and Med.;
- **Phrenic nerve** (to Diaphragm) **courses on Scalenus Anterior**



VEINS OF NECK

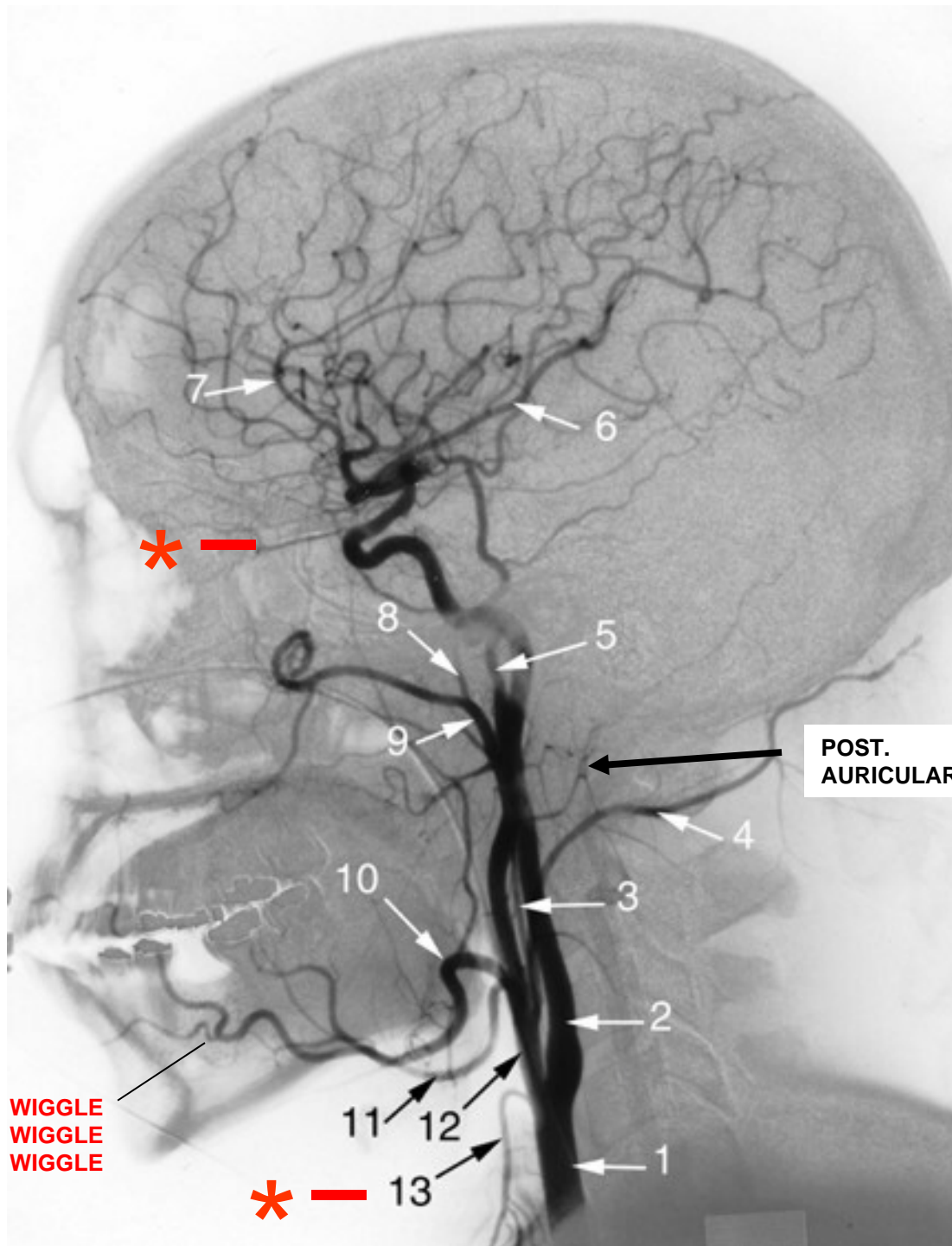


Large External Jugular V.

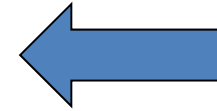


Large Anterior Jugular V.

EXTERNAL JUGULAR V. - ON SURFACE OF STERNOCLEIDOMASTOID; NOT IN CAROTID SHEATH
INTERNAL JUGULAR V. - DEEP TO STERNOCLEIDOMASTOID; IN CAROTID SHEATH



NOSE



KNOW THIS SLIDE

1. COMMON CAROTID
2. INTERNAL CAROTID
3. ASCENDING PHARYNGEAL
4. OCCIPITAL
5. SUPERFICIAL TEMPORAL
6. MIDDLE CEREBRAL
7. ANTERIOR CEREBRAL
8. MIDDLE MENINGEAL
9. MAXILLARY
10. FACIAL
11. LINGUAL
12. EXTERNAL CAROTID

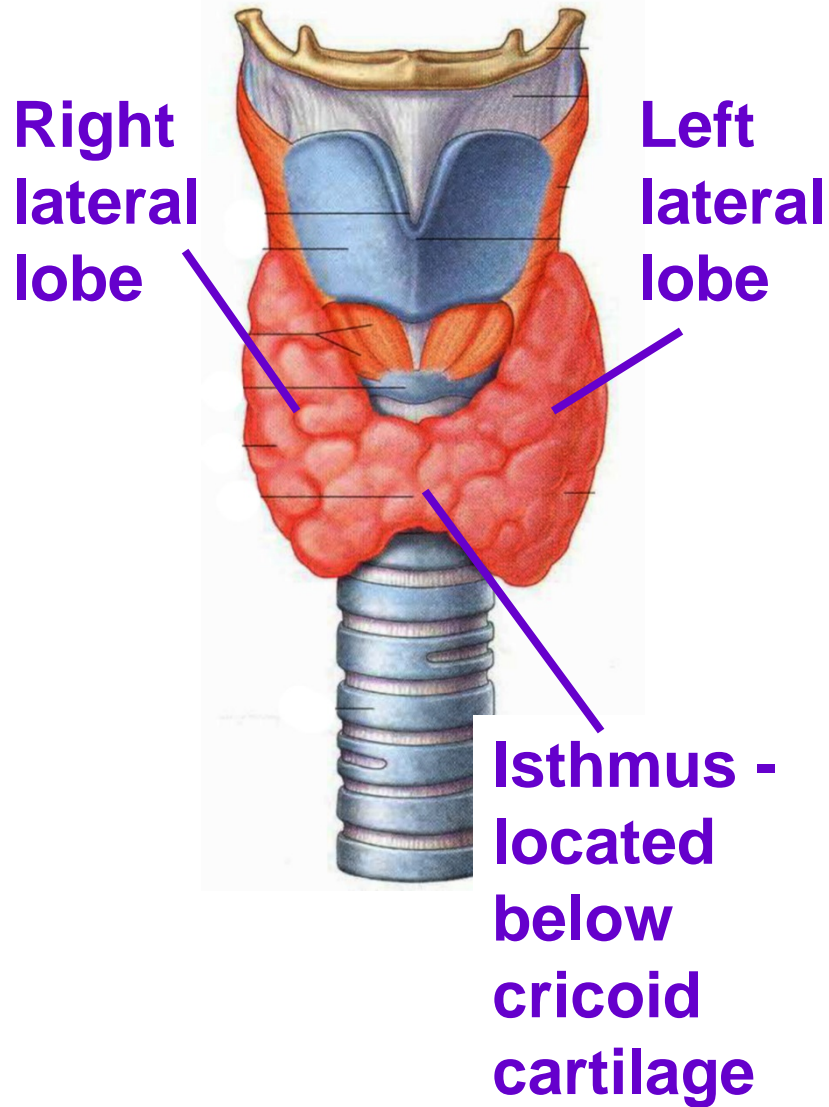
13. SUPERIOR THYROID

*- OPHTHALMIC ARTERY ARISING FROM CAROTID SIPHON ***

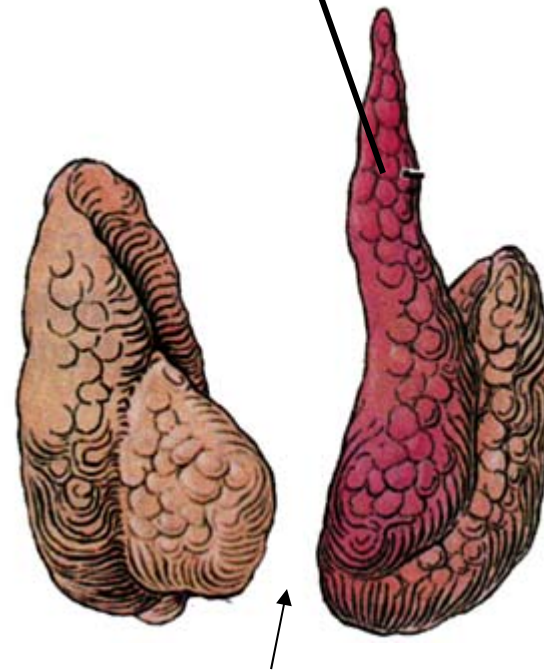
WIGGLE
WIGGLE
WIGGLE

THYROID GLAND

Normal variations common

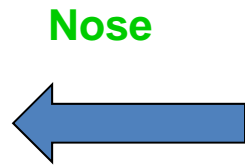


Pyramidal lobe - when present often attached to hyoid bone by fibrous strand

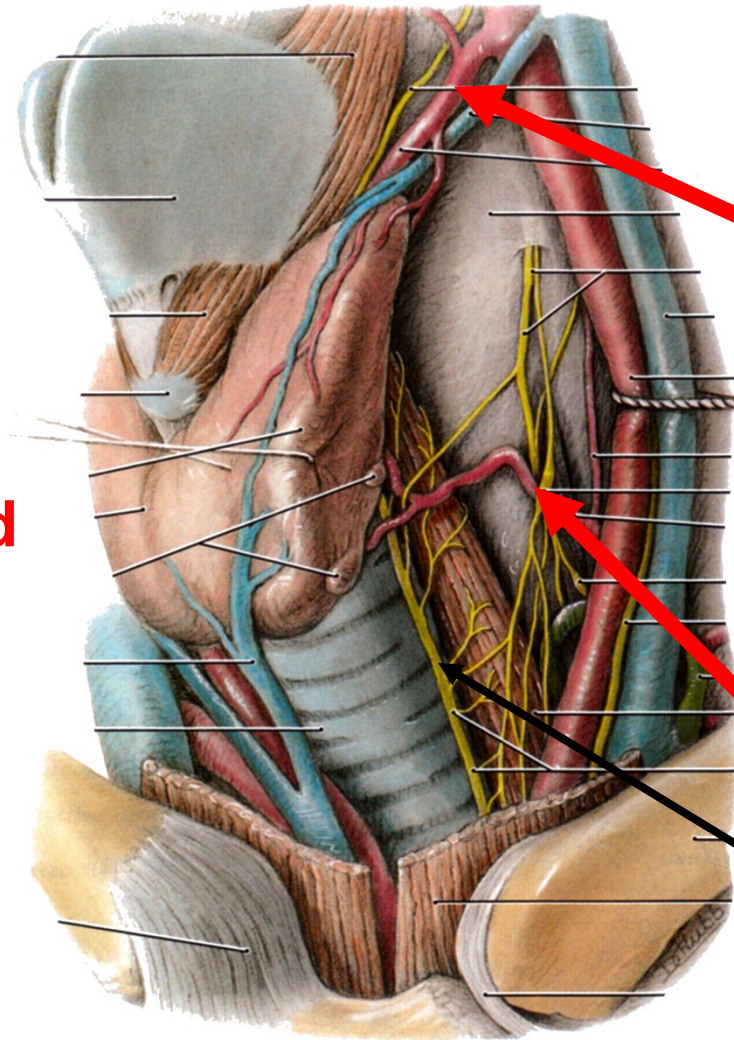


Absence of Isthmus

THYROID GLAND - ARTERIAL SUPPLY



Very vascular-arteries accompanied by nerves



FROM EXT. CAROTID

a) Sup. Thyroid artery (courses with Sup. Laryngeal n.)

FROM THYRO-CERVICAL TRUNK

b) Inf. Thyroid artery (courses with Recurrent Laryngeal n.)

Clinical: In thyroid surgery care taken not to damage Recurrent Laryngeal Nerve; paralyze all muscles of Larynx (except Cricothyroid) on one side; patient has only hoarse voice or whisper.