

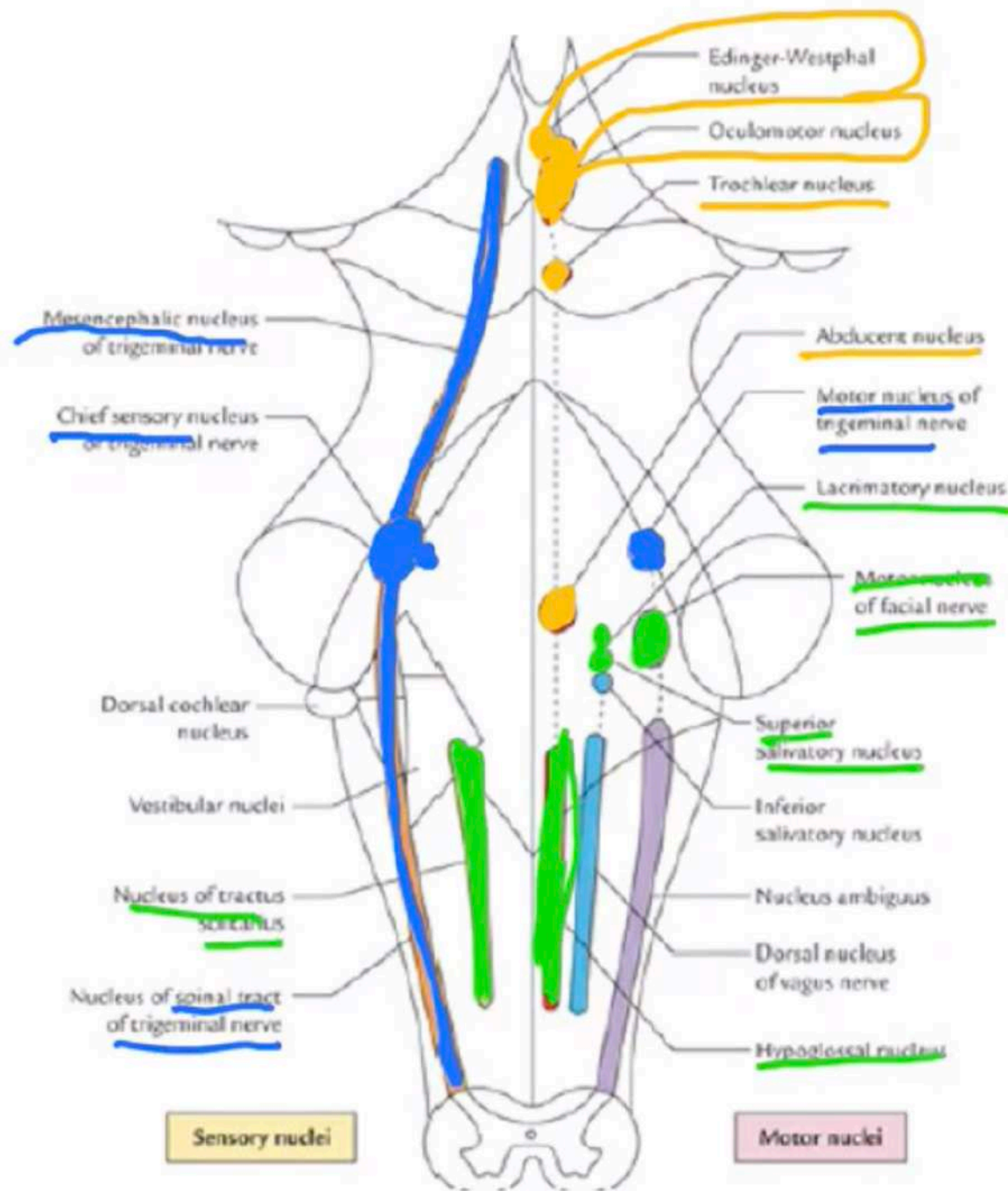
CRANIAL NERVES

PART - 1



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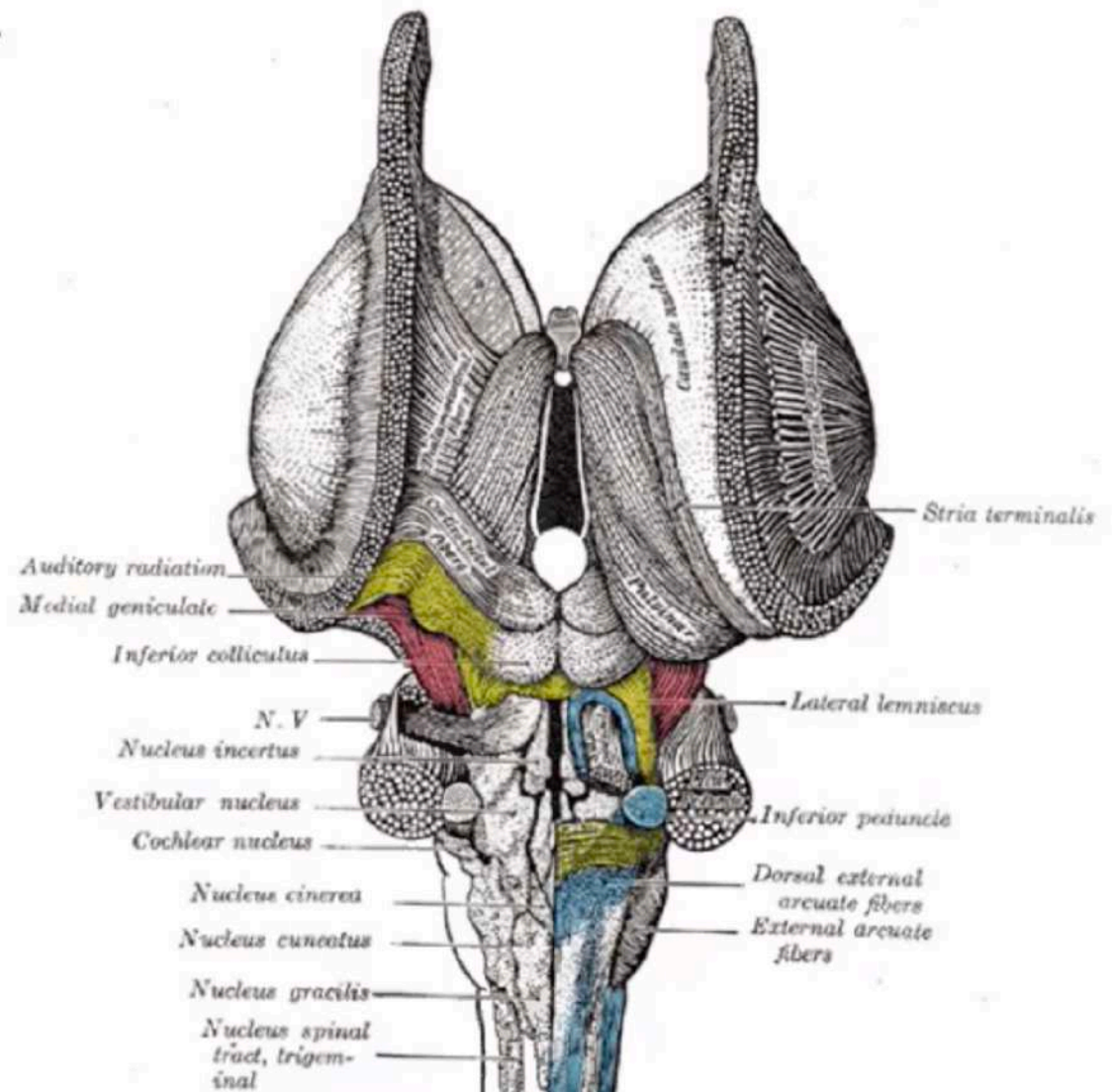
V₁ V₂ V₃
Op MX Mn



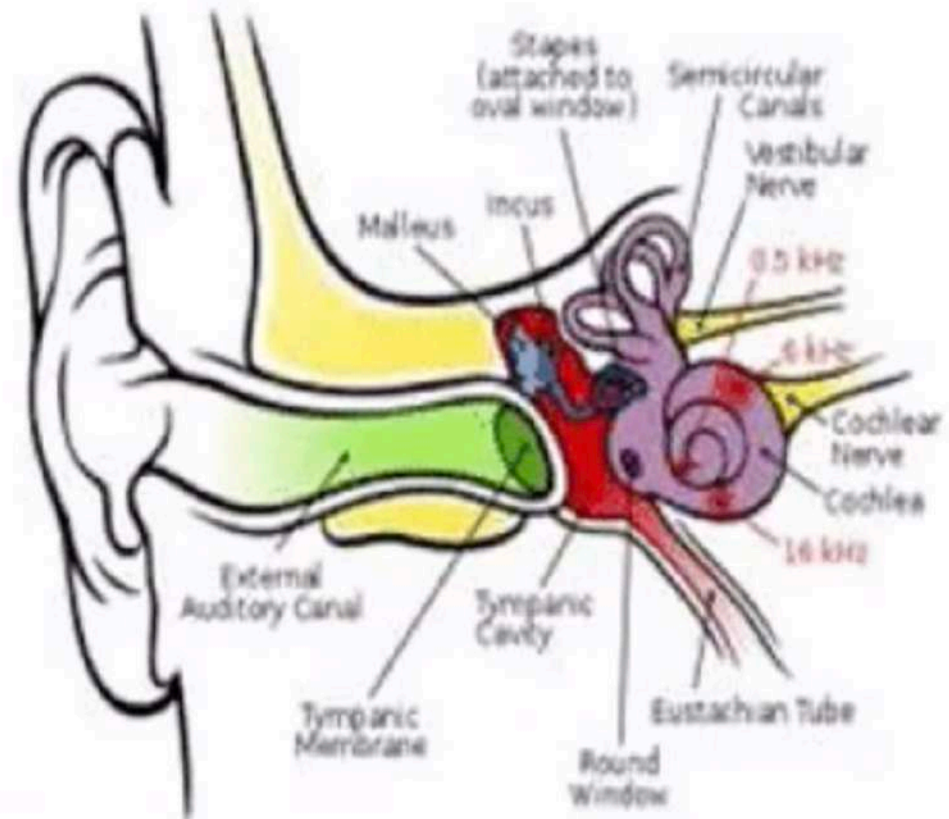
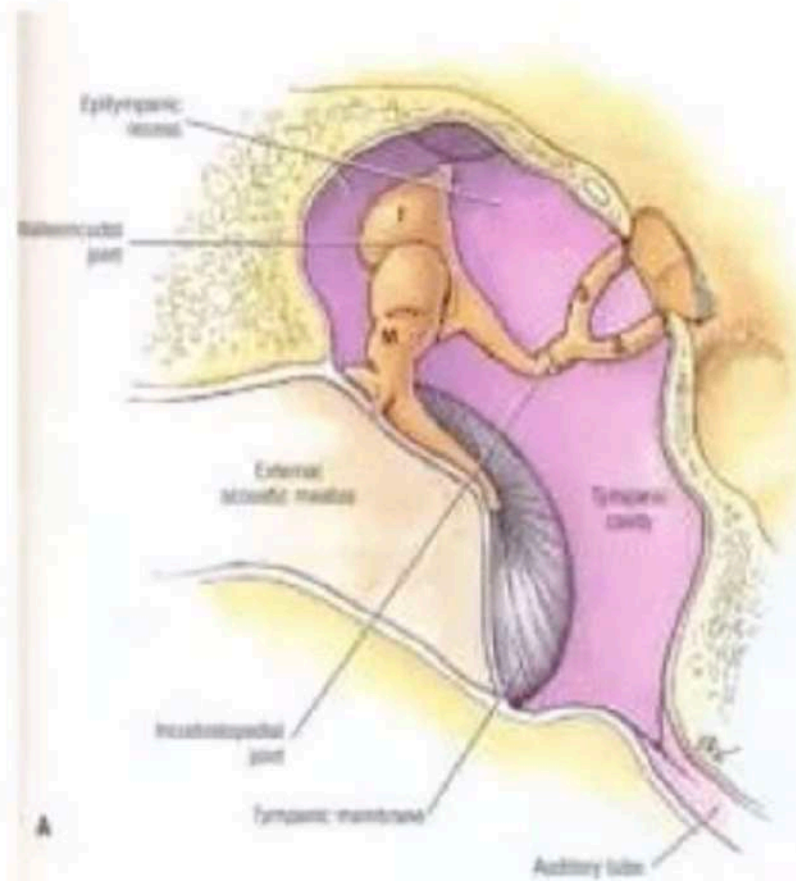
VESTIBULO COCHLEAR NERVE

COCHLEAR NUCLEI

Vestibular ← Balance
Cochlear ← Hearing

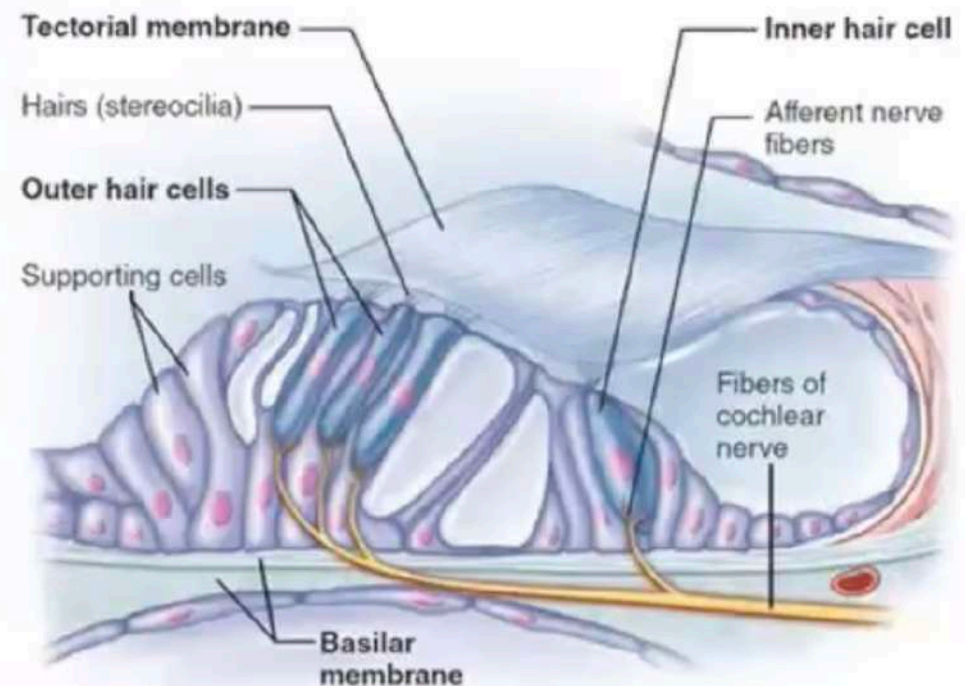
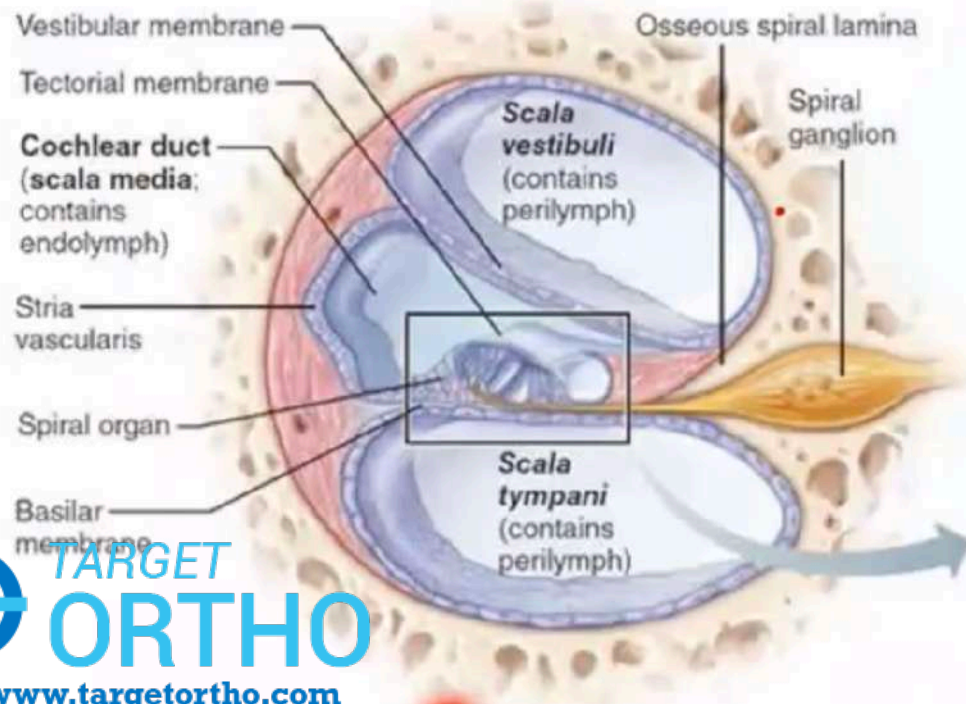
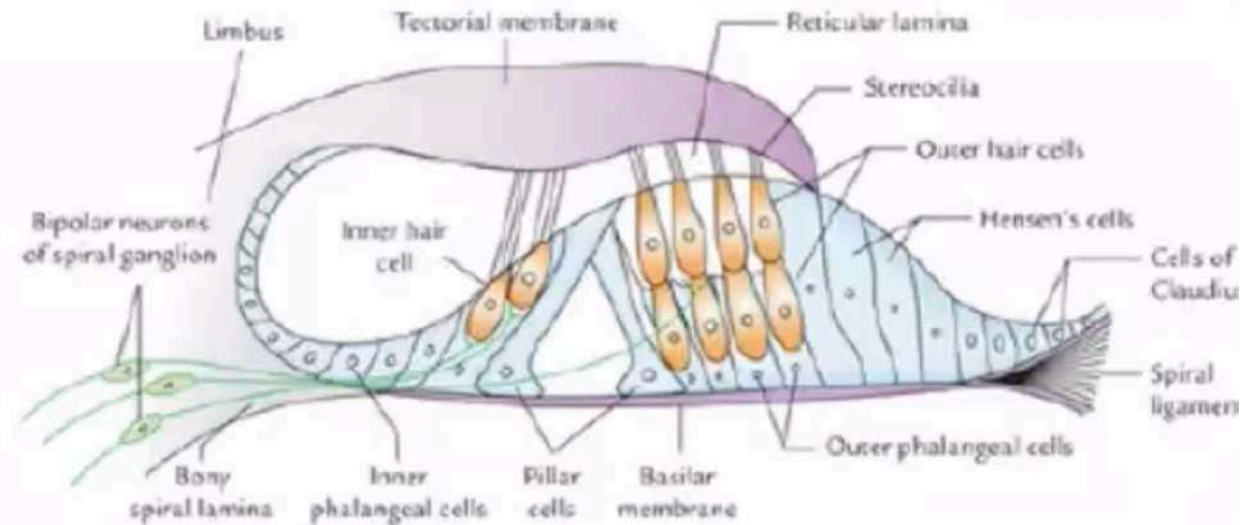


THE HEARING APPARATUS



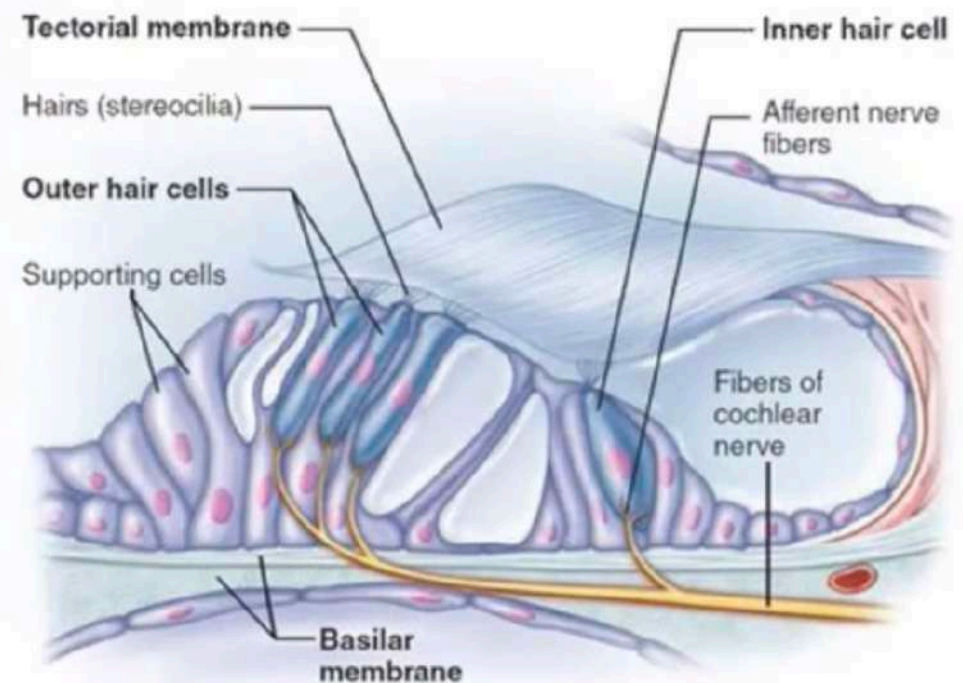
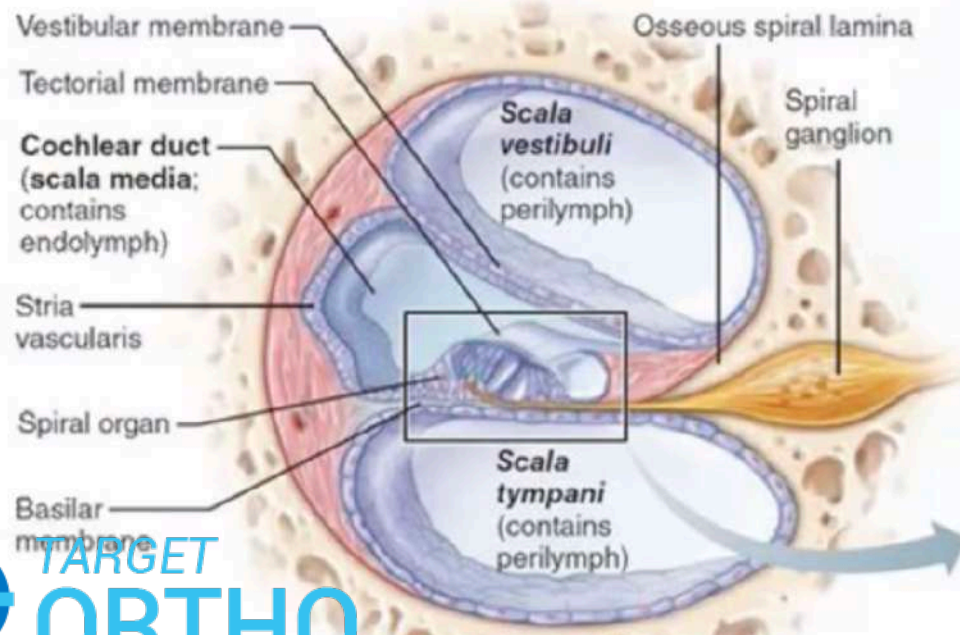
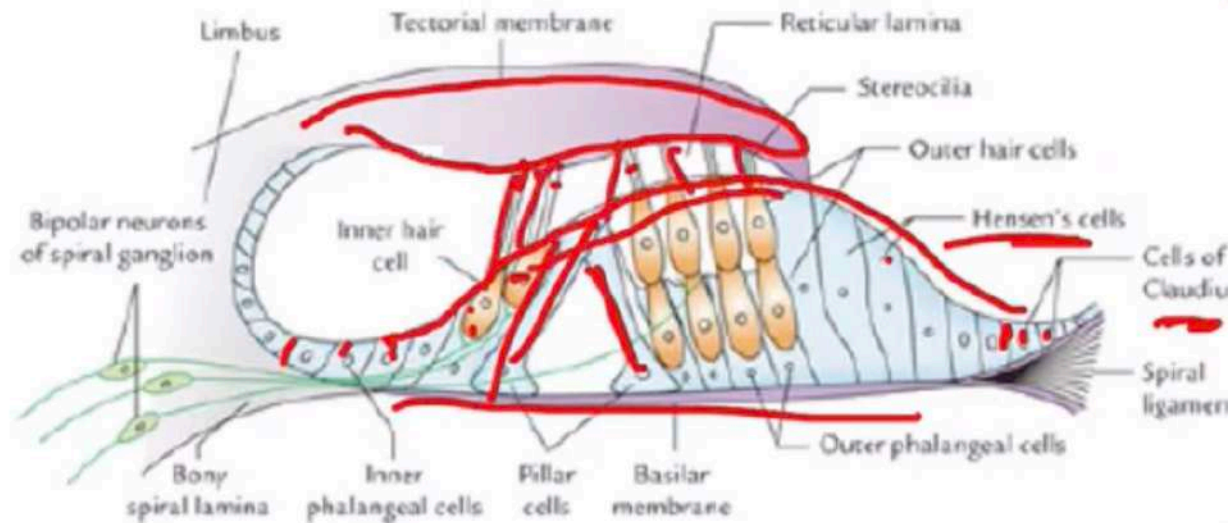
ORGAN OF CORTI

- Rods of Corti
- Hair cells
- Supporting cells- Deiter, Claudius, Hensen's
- Reticular lamina
- Basilar lamina
- Tectorial membrane

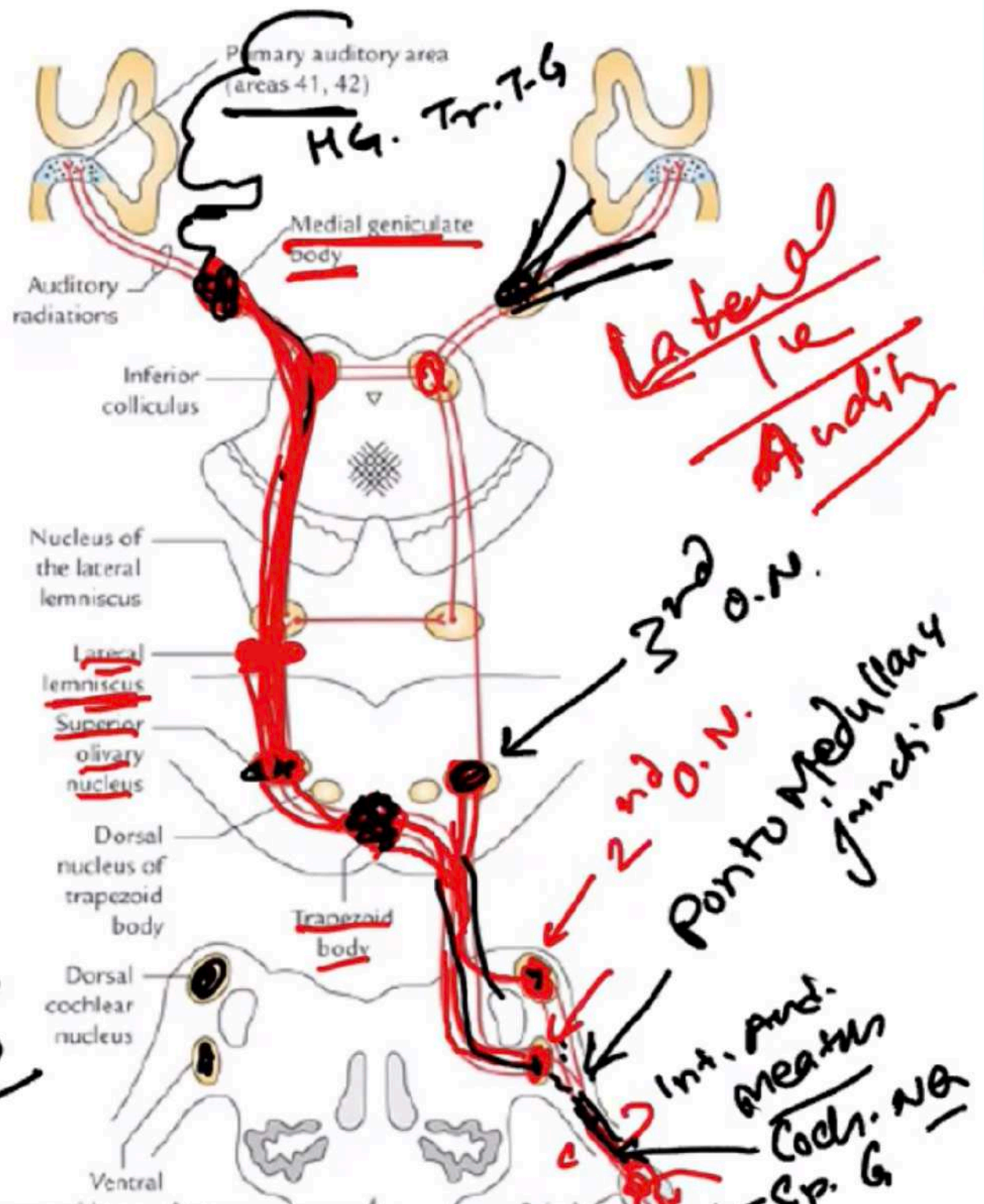
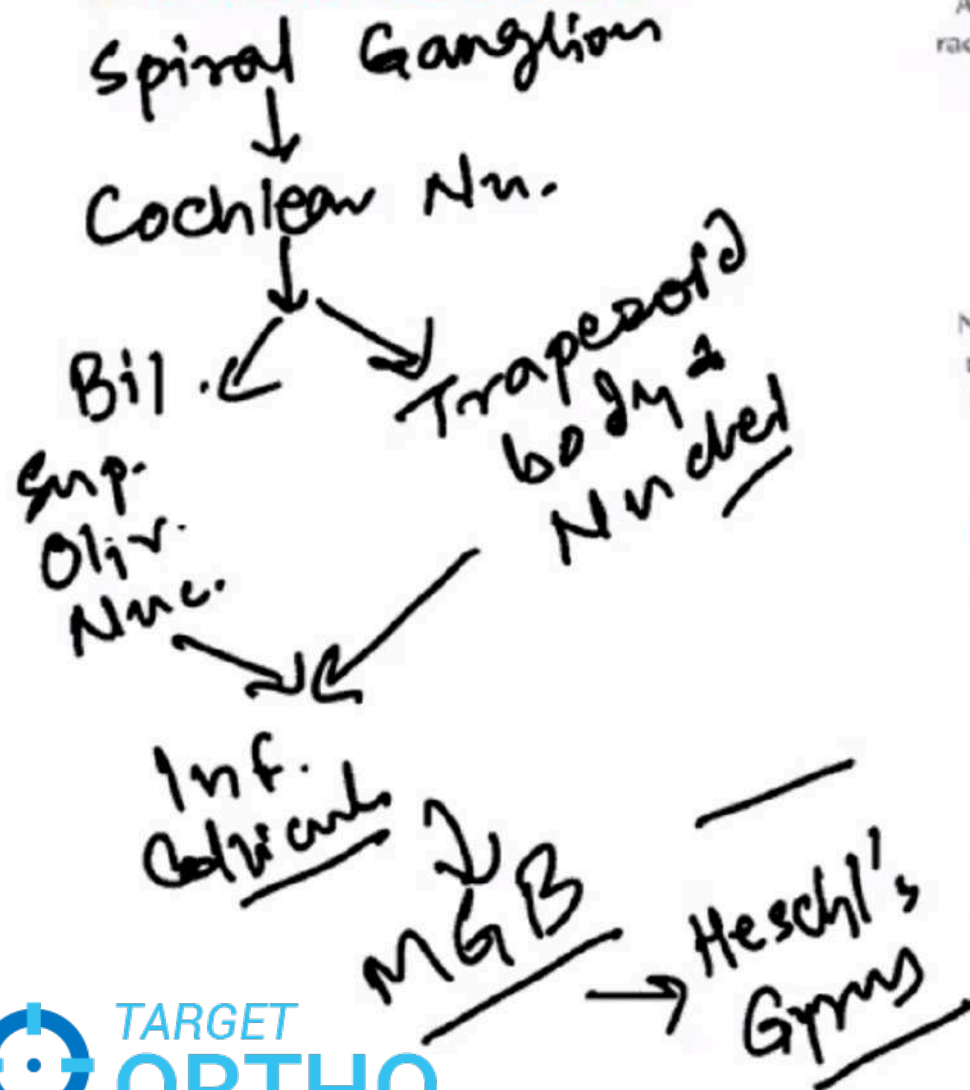


ORGAN OF CORTI

- Rods of Corti
- Hair cells
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AUDITORY PATHWAY



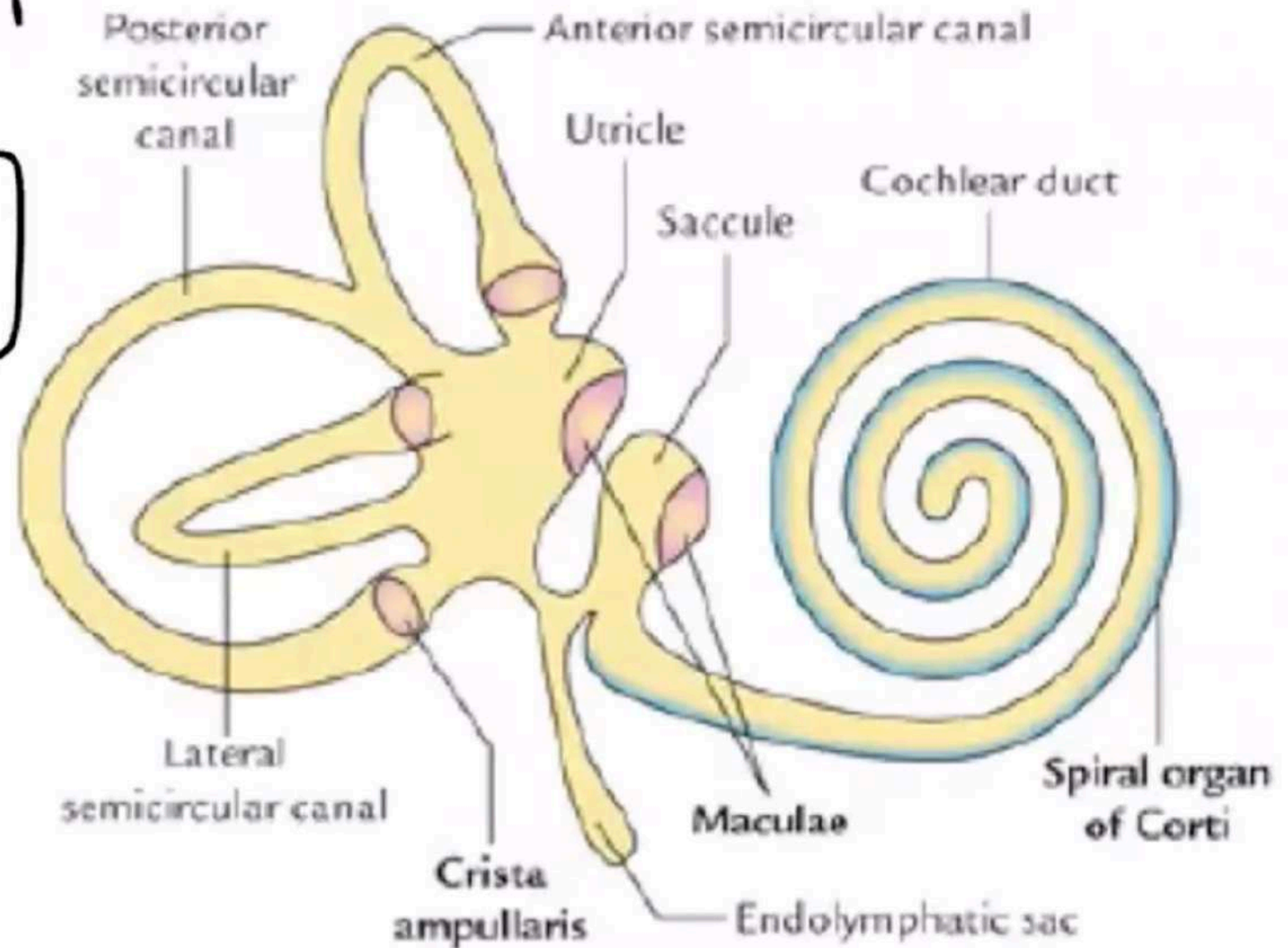
VESTIBULAR SYSTEM

- Static labyrinth

→ Orientation / position

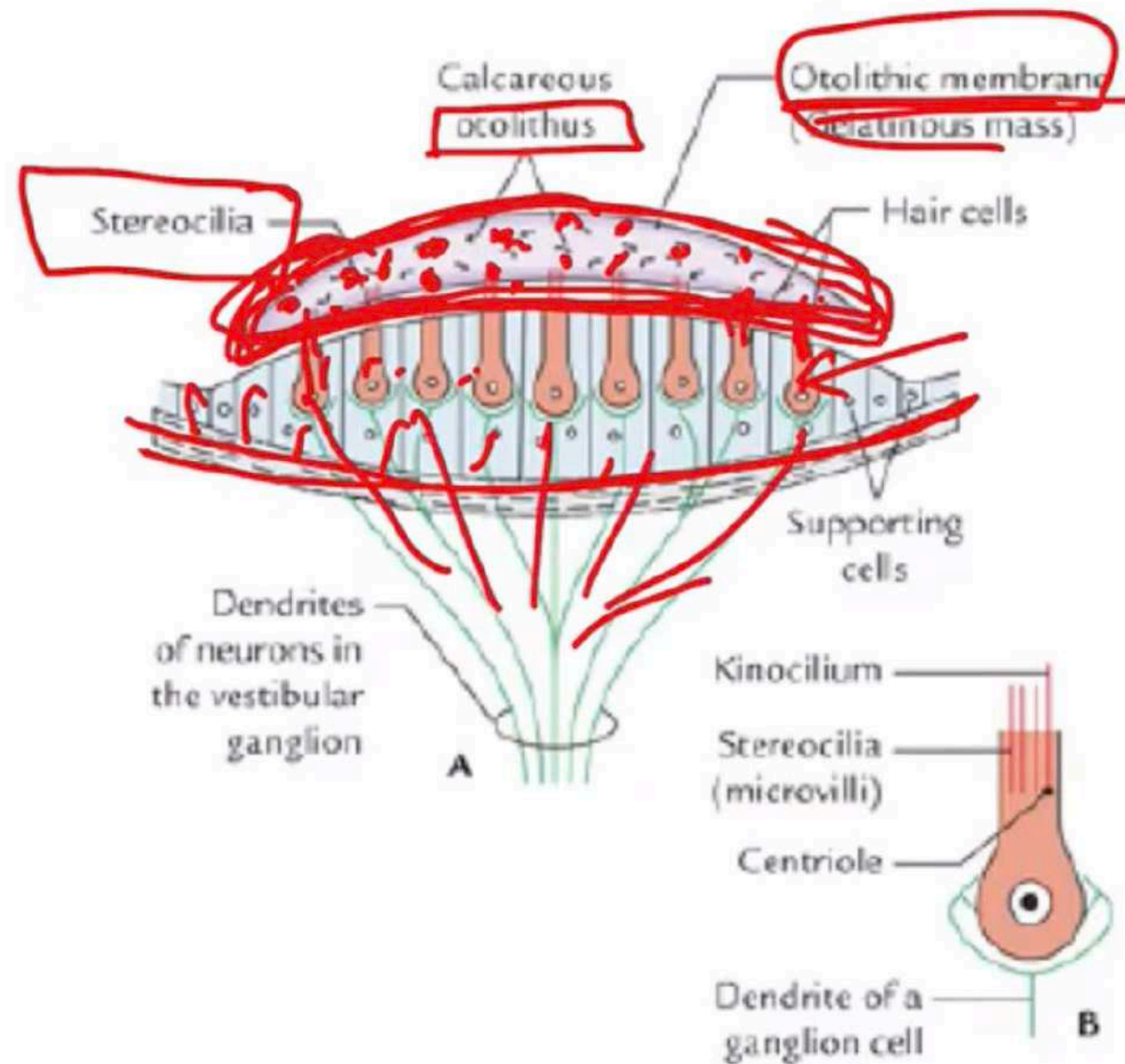
→ Acceleration

→ 3D movement

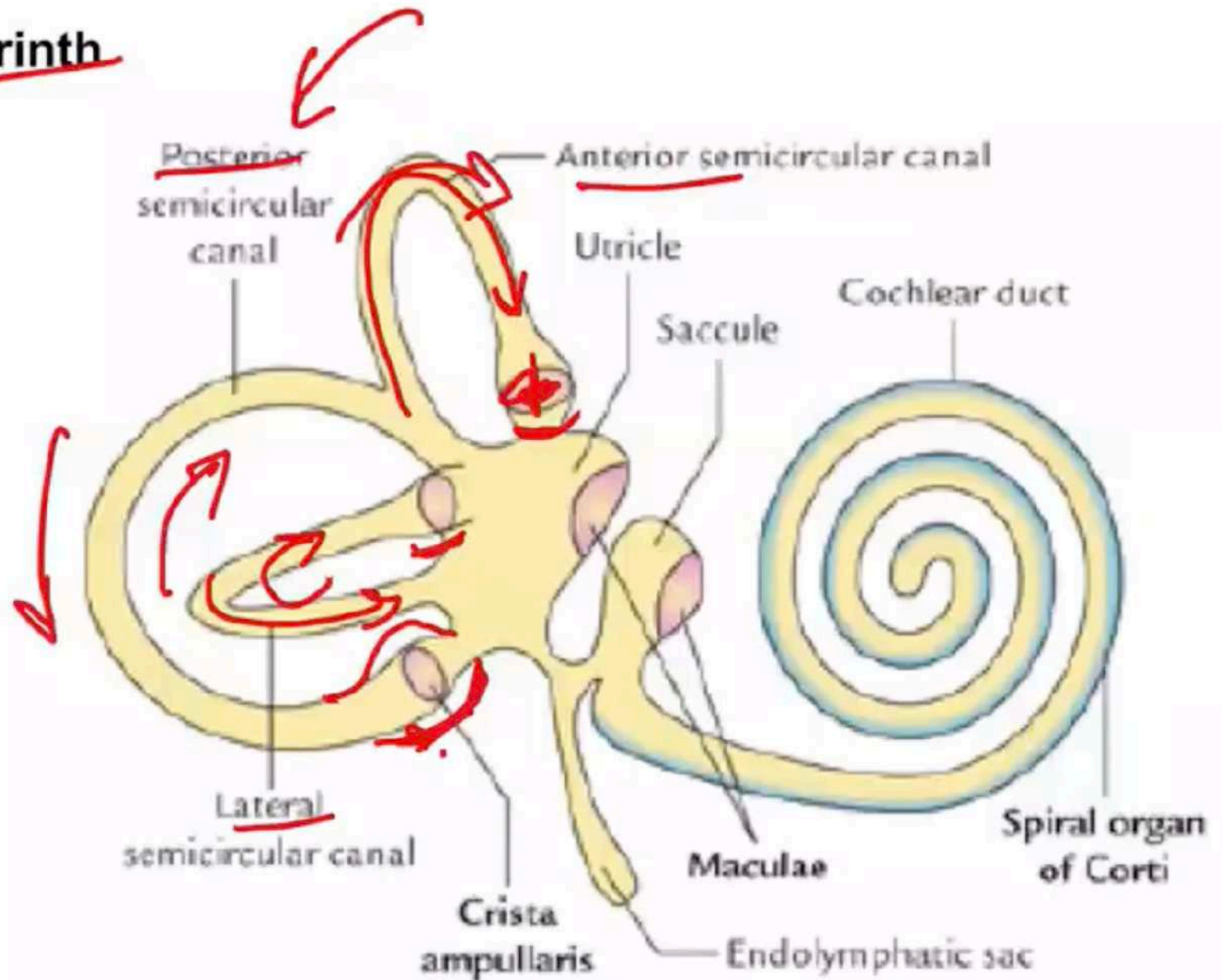


- Macula

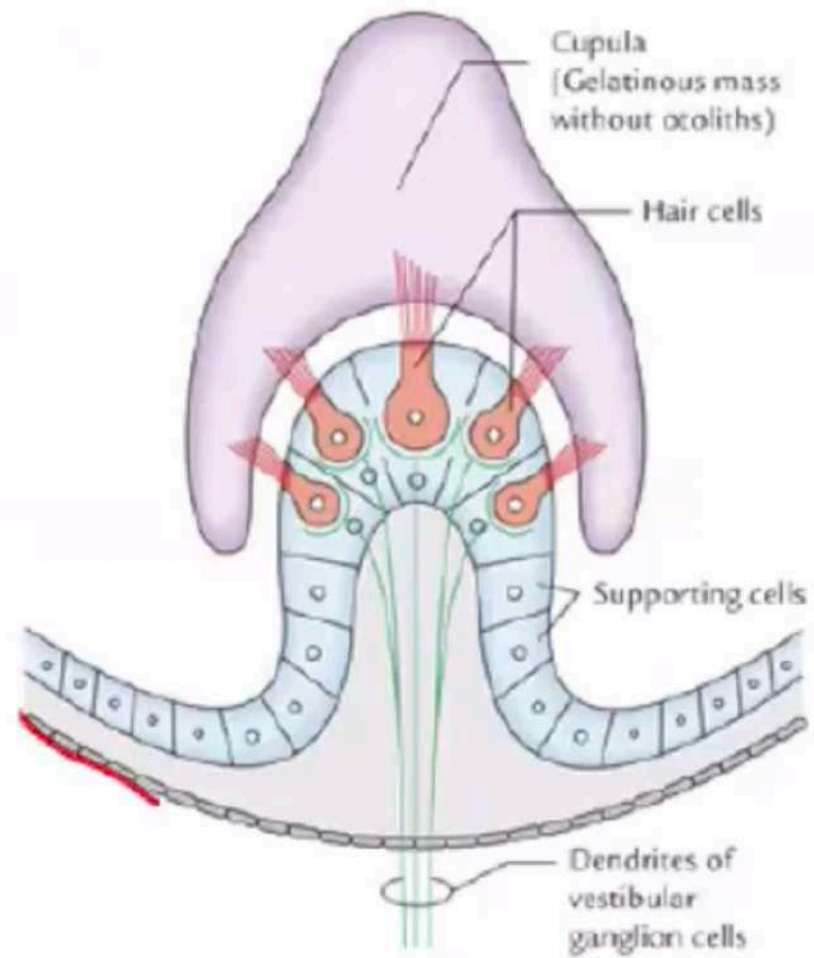
Utricule
la cecule



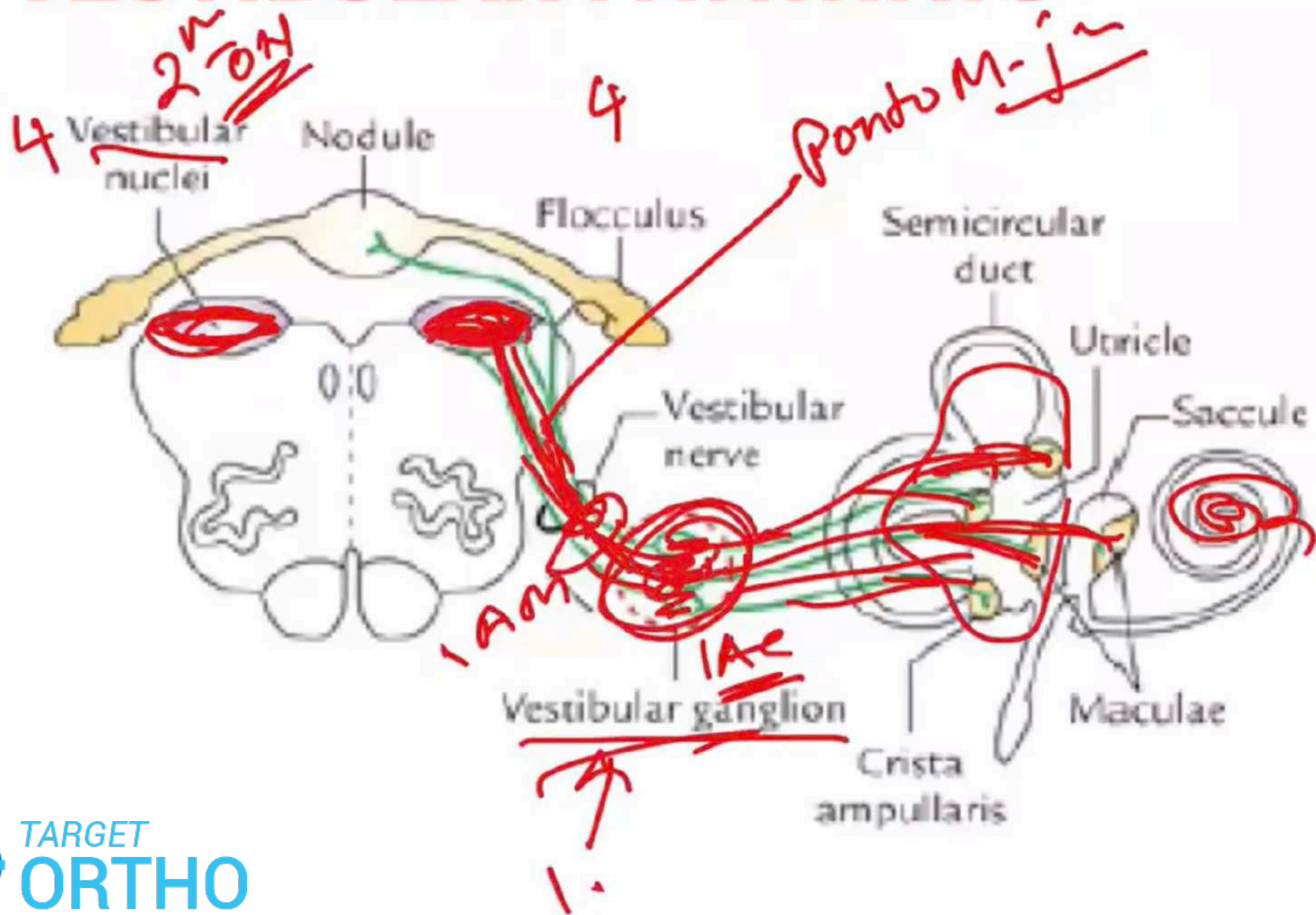
- Kinetic labyrinth



- **Crista ampullaris**



VESTIBULAR PATHWAYS

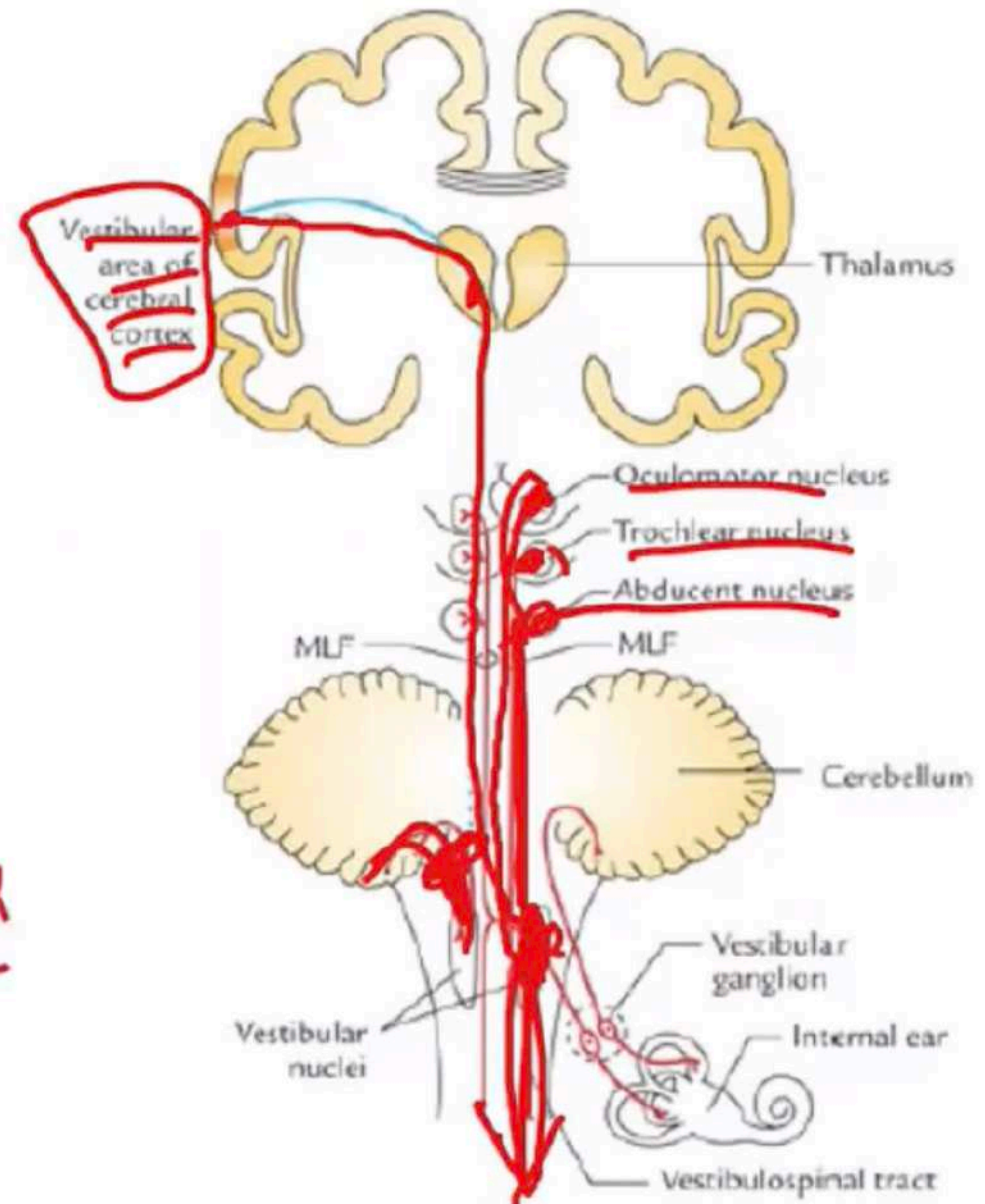


Vestibular Nn.
1) Ocular Motor Nn. (3, 4, 6)

MLF
2) Flocculus & Nodulus
cerebellum

ICP
3) Spinal Cord
Vestibulo sp.
Tract

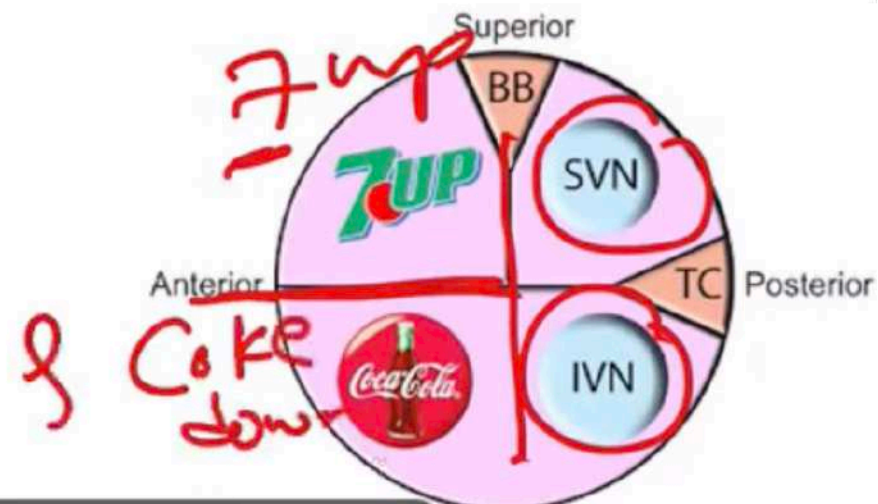
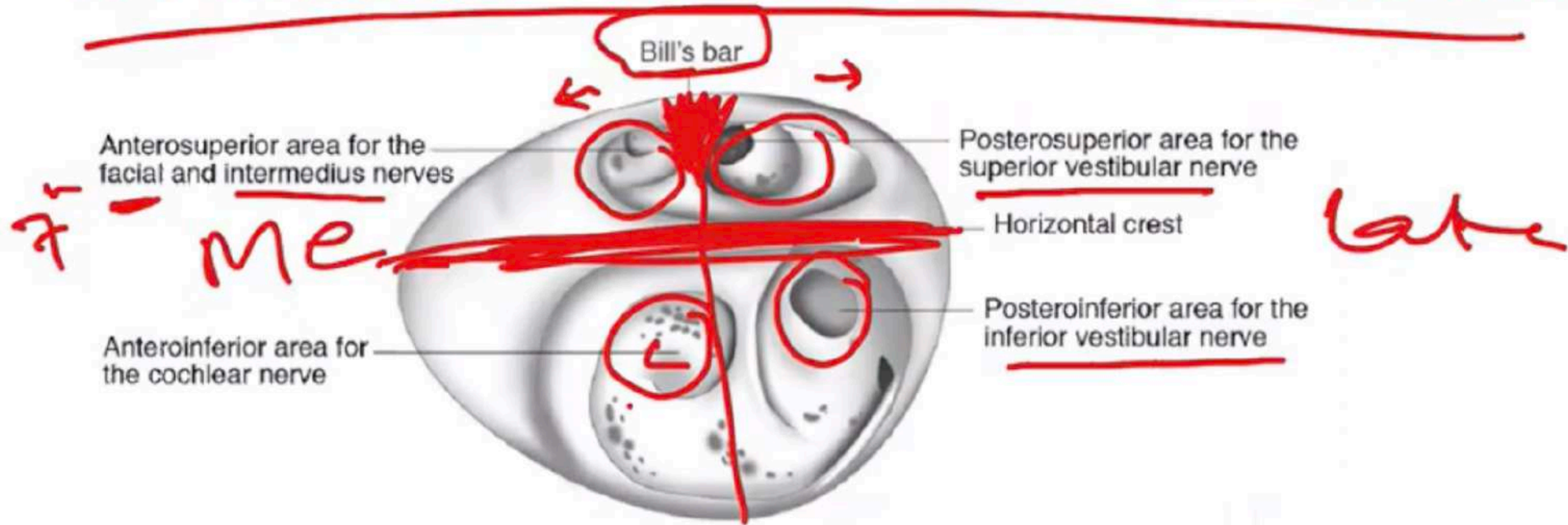
4) Vestibular cortex



BALANCE

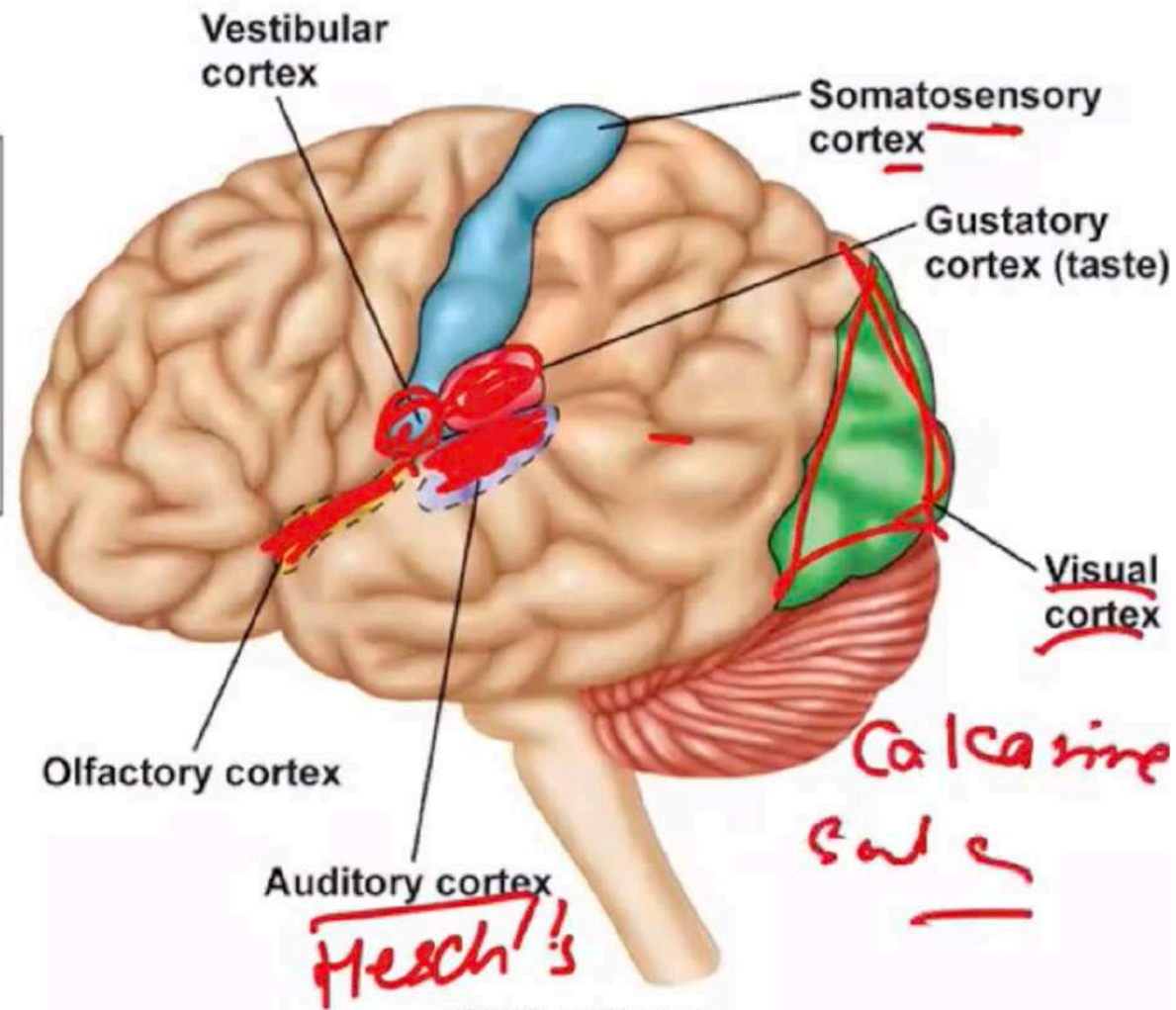
- Depends on
 - Vestibular inputs
 - Proprioceptive inputs
 - Visual inputs
- Manifestations of imbalance
 - Trunkal ataxia
 - Staggering gait
 - Nystagmus
 - Vertigo

INTERNAL AUDITORY MEATUS

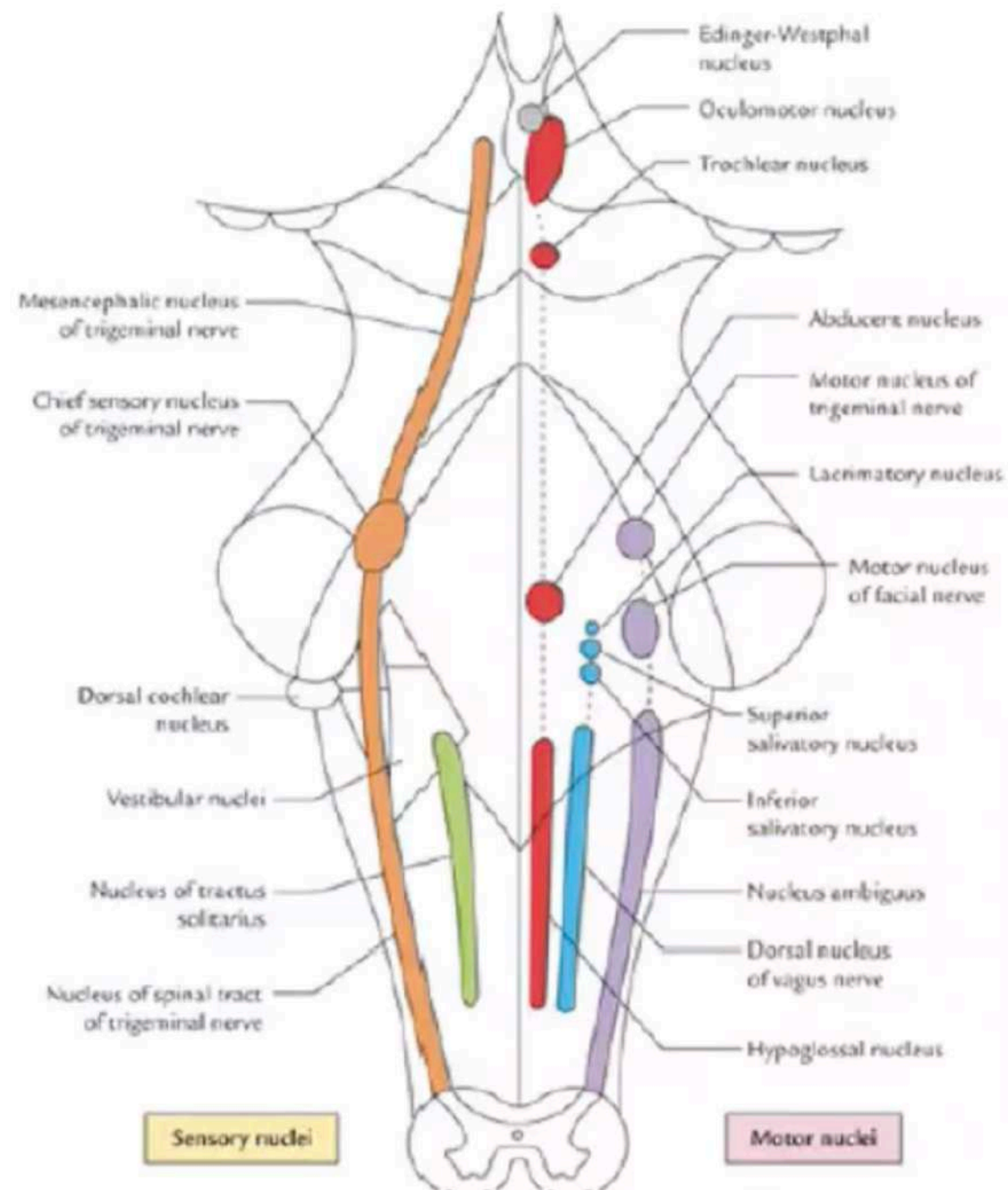


Special senses;

- Primary visual area- occipital lobe.
- Primary auditory area- temporal lobe.
- Primary gustatory area- base of the postcentral gyrus.
- Primary olfactory area- temporal lobe.

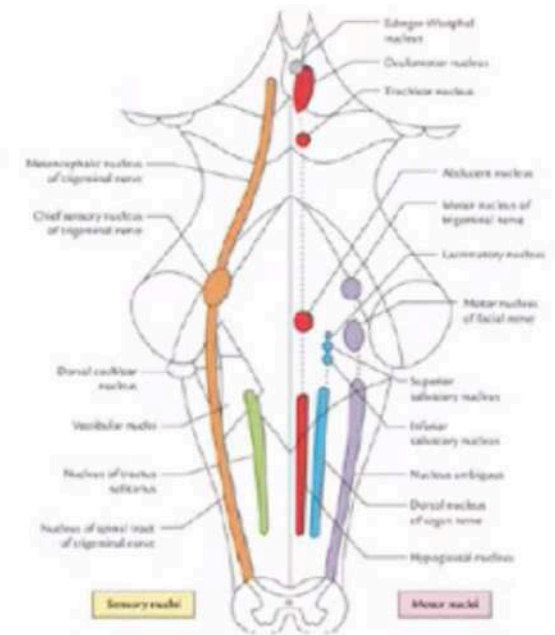
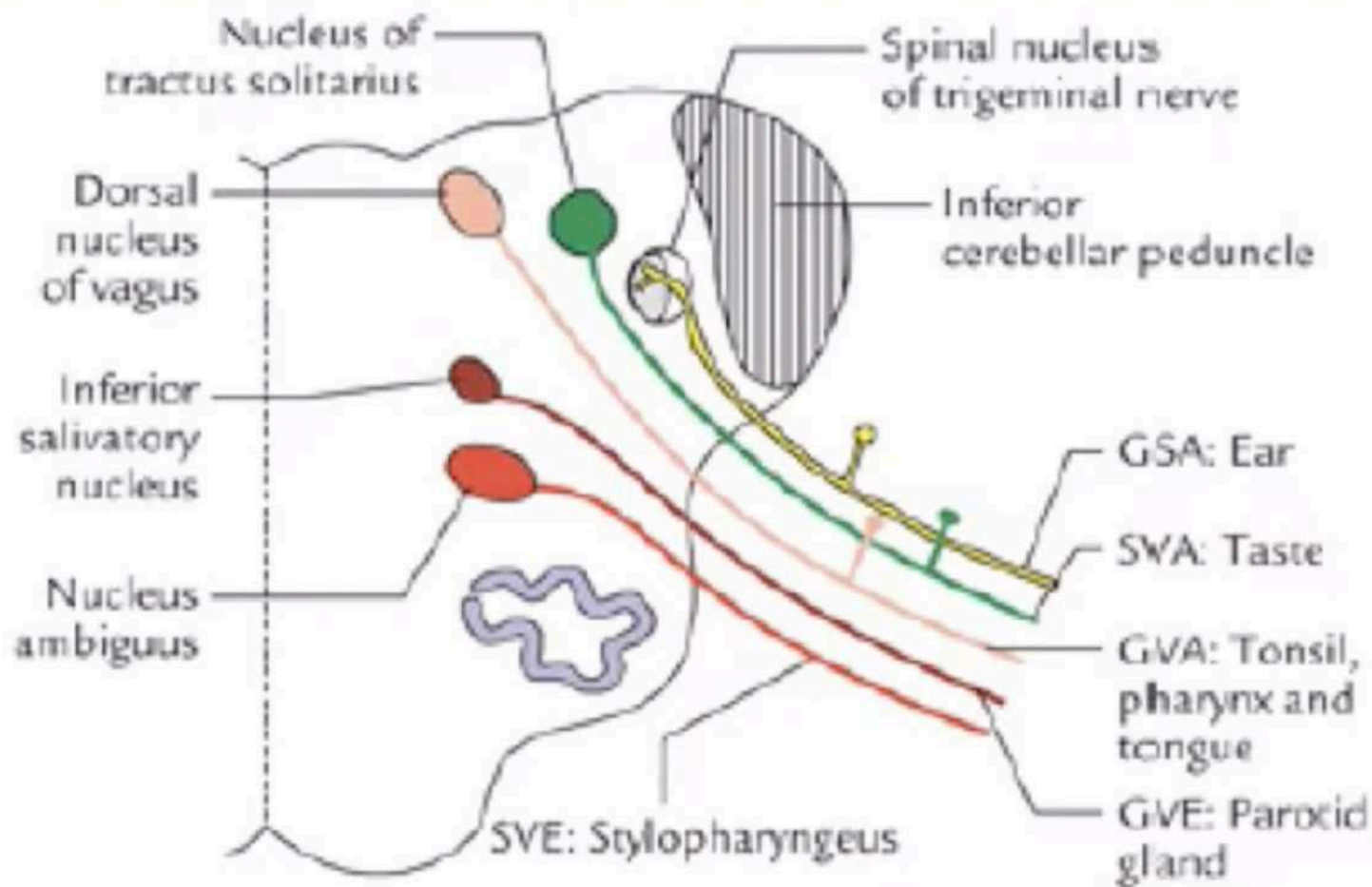


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GLOSSOPHARYNGEAL NERVE

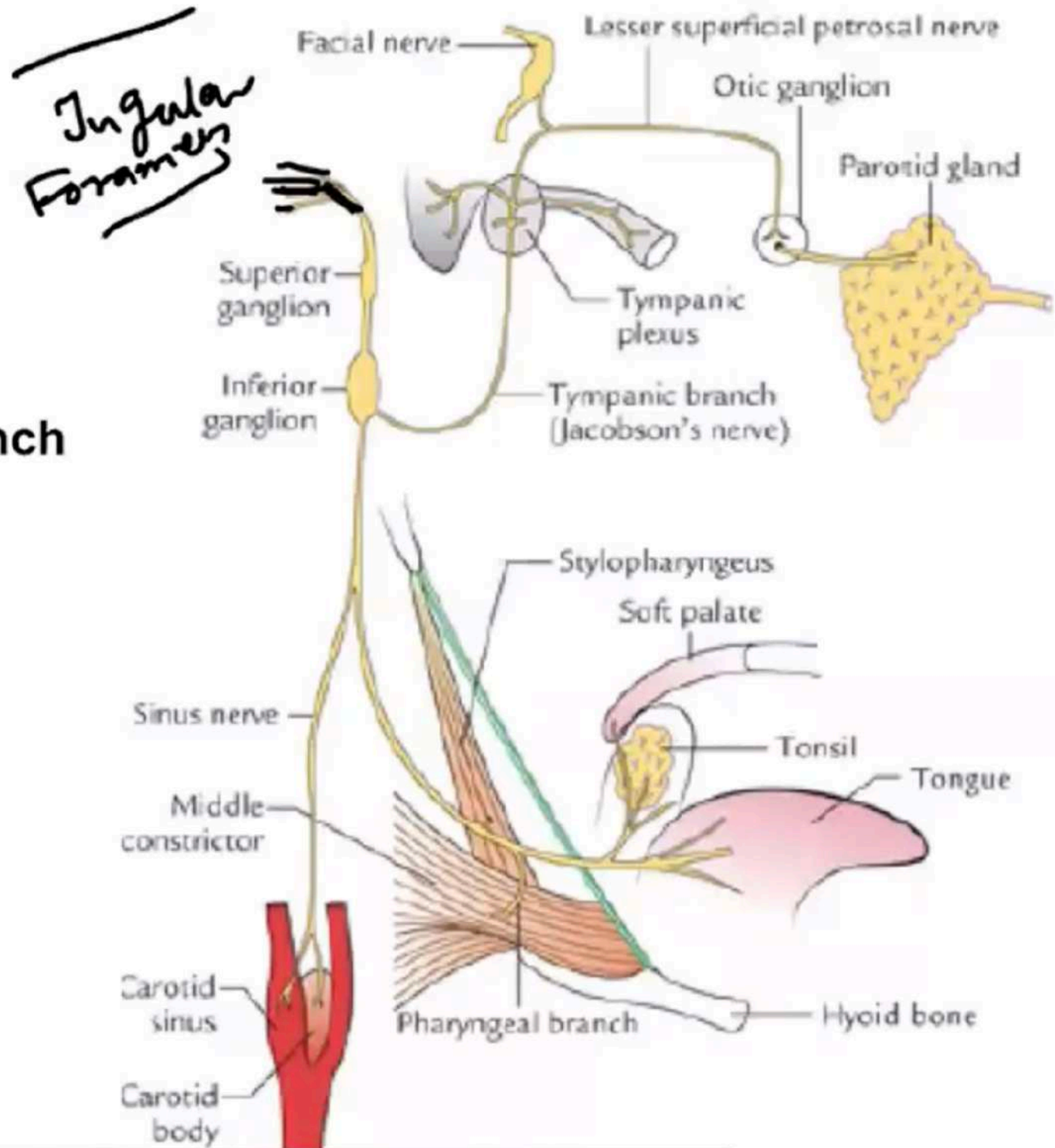
COMPONENTS



- **SVE - nucleus ambiguus**
 - **stylopharyngeus (3rd BA)**
- **GVE - inf sal nucleus**
 - **otic ganglion - parotid gl (via auriculotemporal nerve)**
- **GVA - superior ganglion of GP nerve**
 - **tough, pain, temp**
 - **Post 1/3 of tongue, pharynx, carotid body, sinus**
 - **Central processes —> spinal nucleus of trigeminal N.**
- **SVA - inferior ganglion of GP nerve**
 - **Taste - posterior 1/3 tongue**
 - **Central processes —> nucleus of tractus solitarius**

COURSE

- Tympanic branch
- Carotid branch
- Pharyngeal branch
- Stylopharyngeus branch
- Tonsillar branches
- Lingual branches

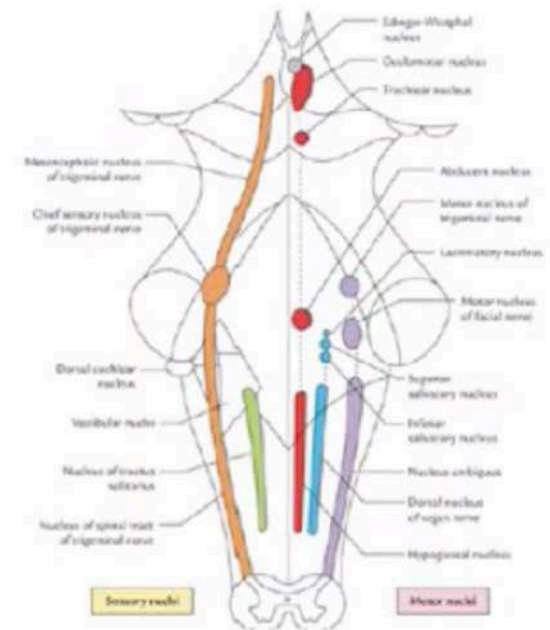
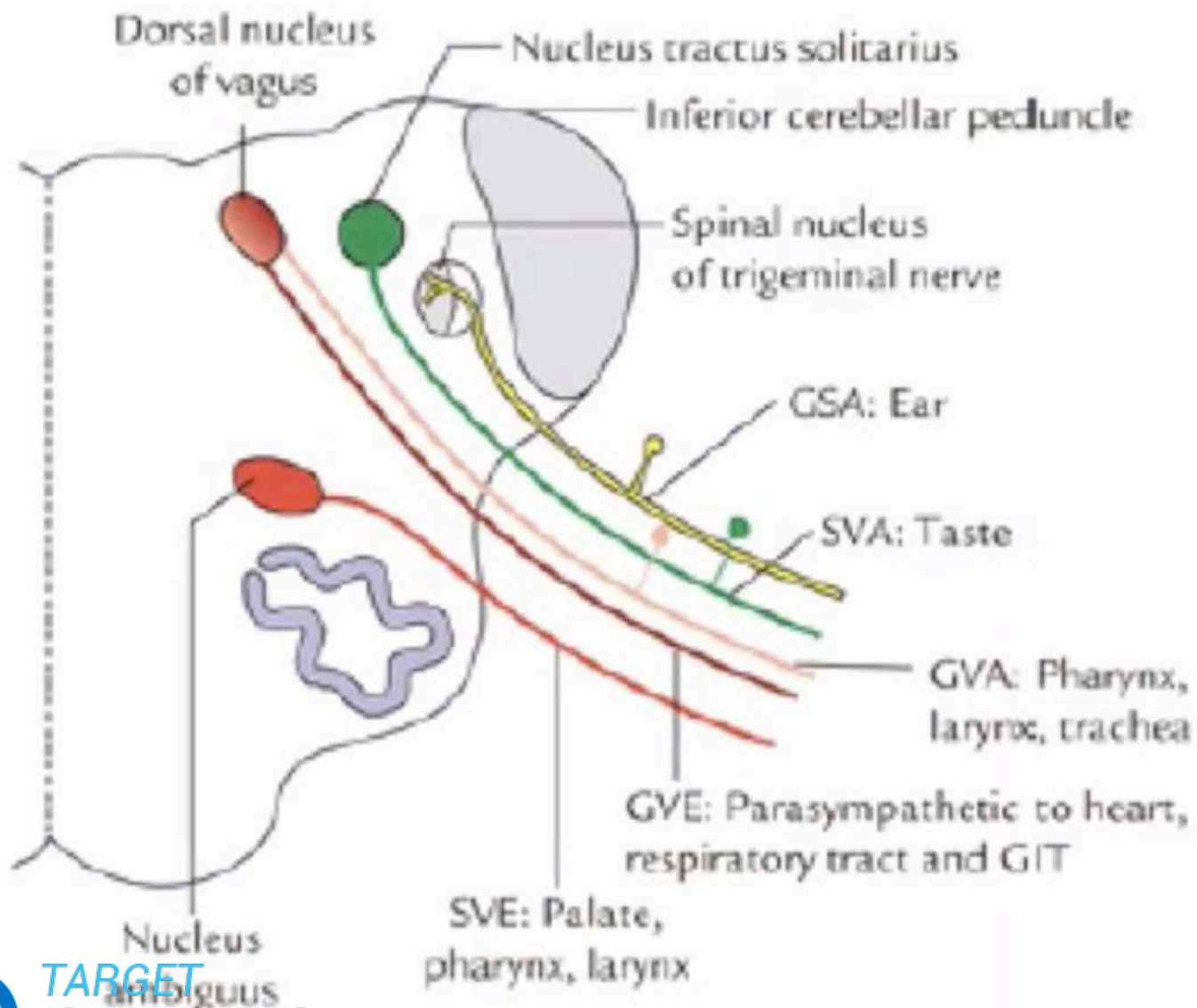


LESIONS OF GP NERVE

- Loss of gag reflex ← Afferent Defect
- Loss of general sensations in pharynx, tonsils, faucis and posterior 1/3 of tongue
- Loss of taste from posterior 1/3 of tongue

VAGUS NERVE

COMPONENTS



- **SVE - nucleus ambiguus**

- Muscles of pharynx and larynx

- **GVE - dorsal nucleus of vagus - pregang parasym fibres**

- Heart, lungs, GIT upto jn of R2/3 & L1/3 transverse colon
- Ganglia along or within the viscera

- **GVA - dorsal nu of vagus & nu of tractus solitarius**

- Sensations from pharynx, larynx, trachea, GIT, thoracic and abdominal viscera

- **SVA - nu of tractus solitarius**

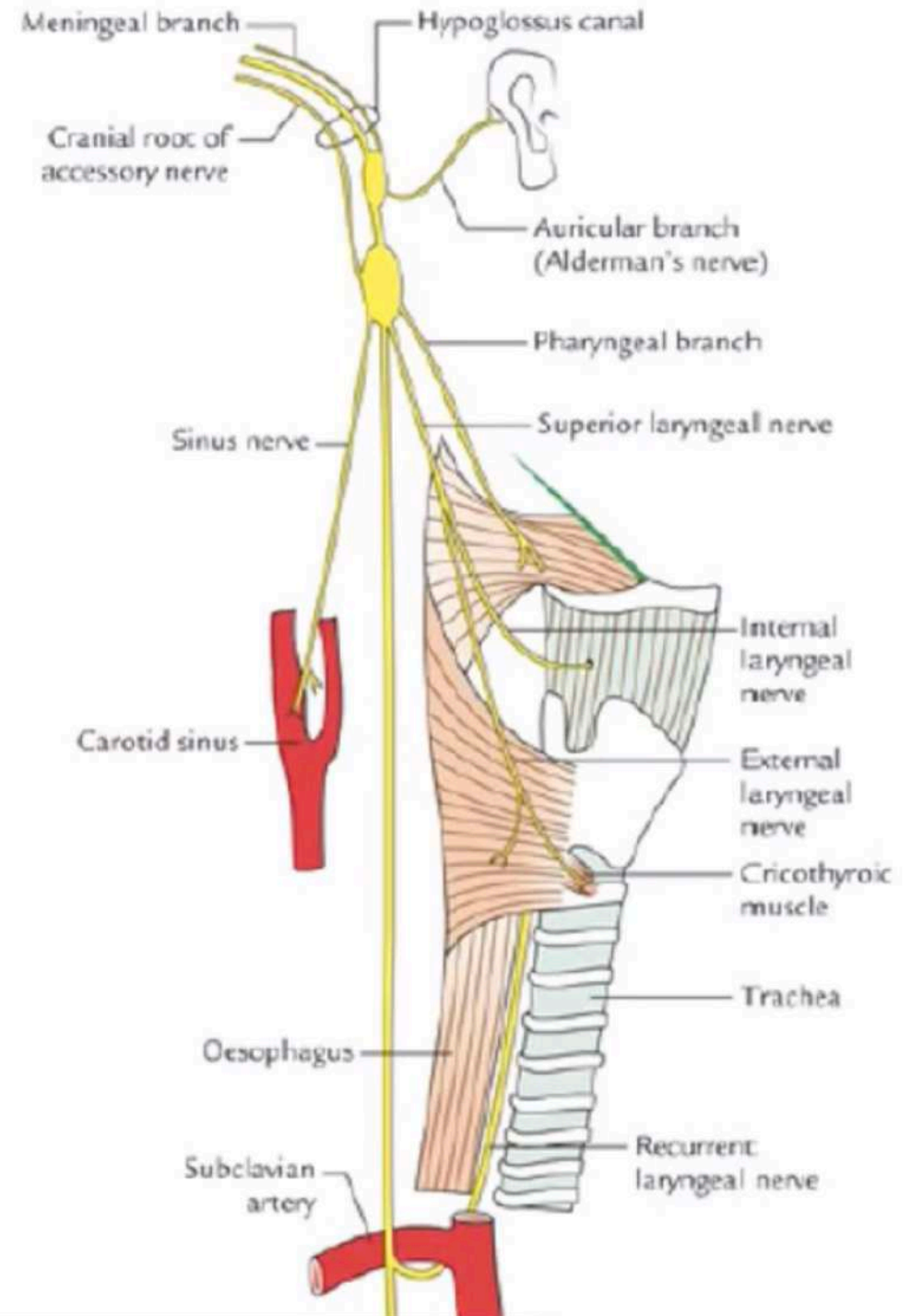
- Taste from posterior most tongue, epiglottis

- **CSA - spinal nucleus of trigeminal nerve**

- Sensations from external ear

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- Meningeal branch
- Sinus nerve
- Auricular branch



LESIONS OF VAGUS NERVE

- **Ipsilateral paralysis of the soft palate - sagging of palatal arch**
- **Uvula deviates to the opposite healthy side**
- **Loss of gag reflex**
- **Unilateral loss of cough reflex**
- **Hoarseness of voice**

ACCESSORY NERVE

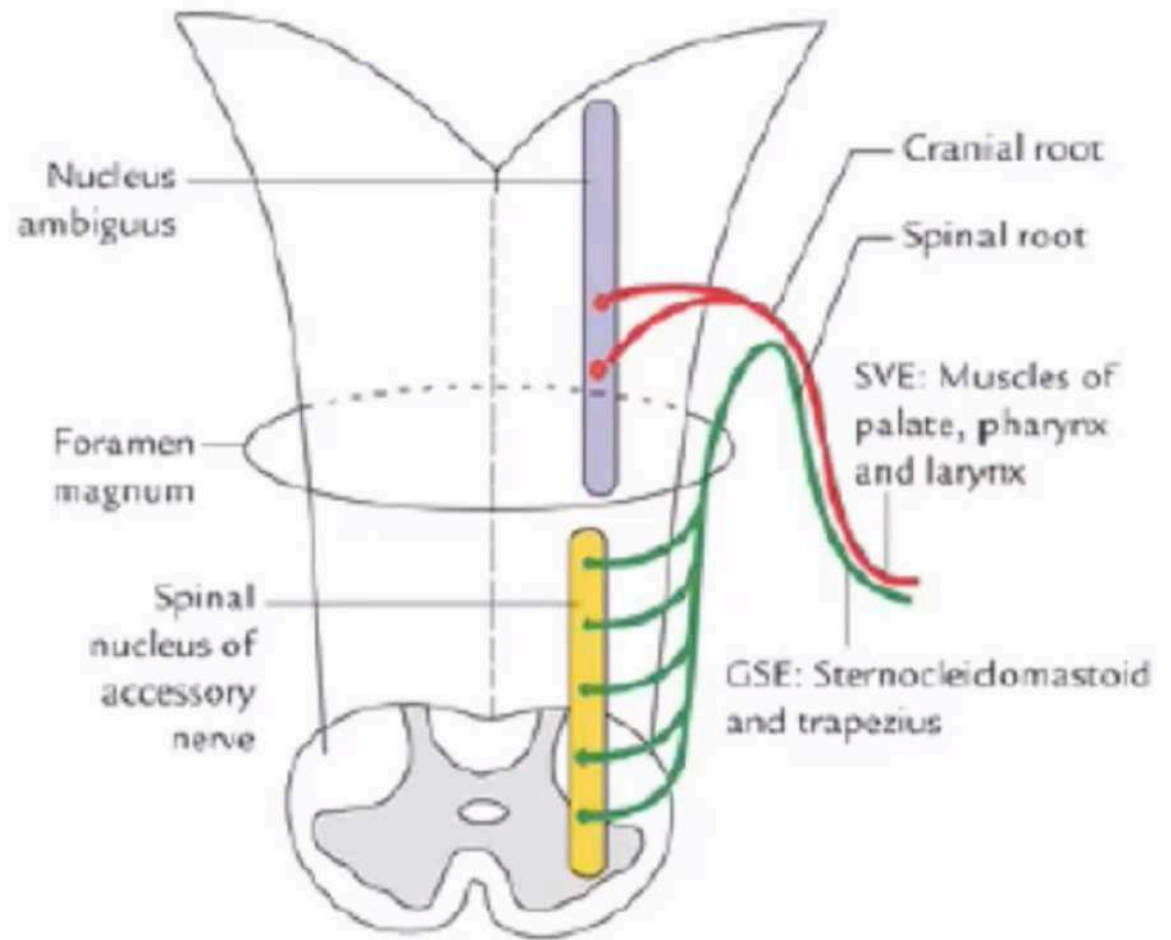
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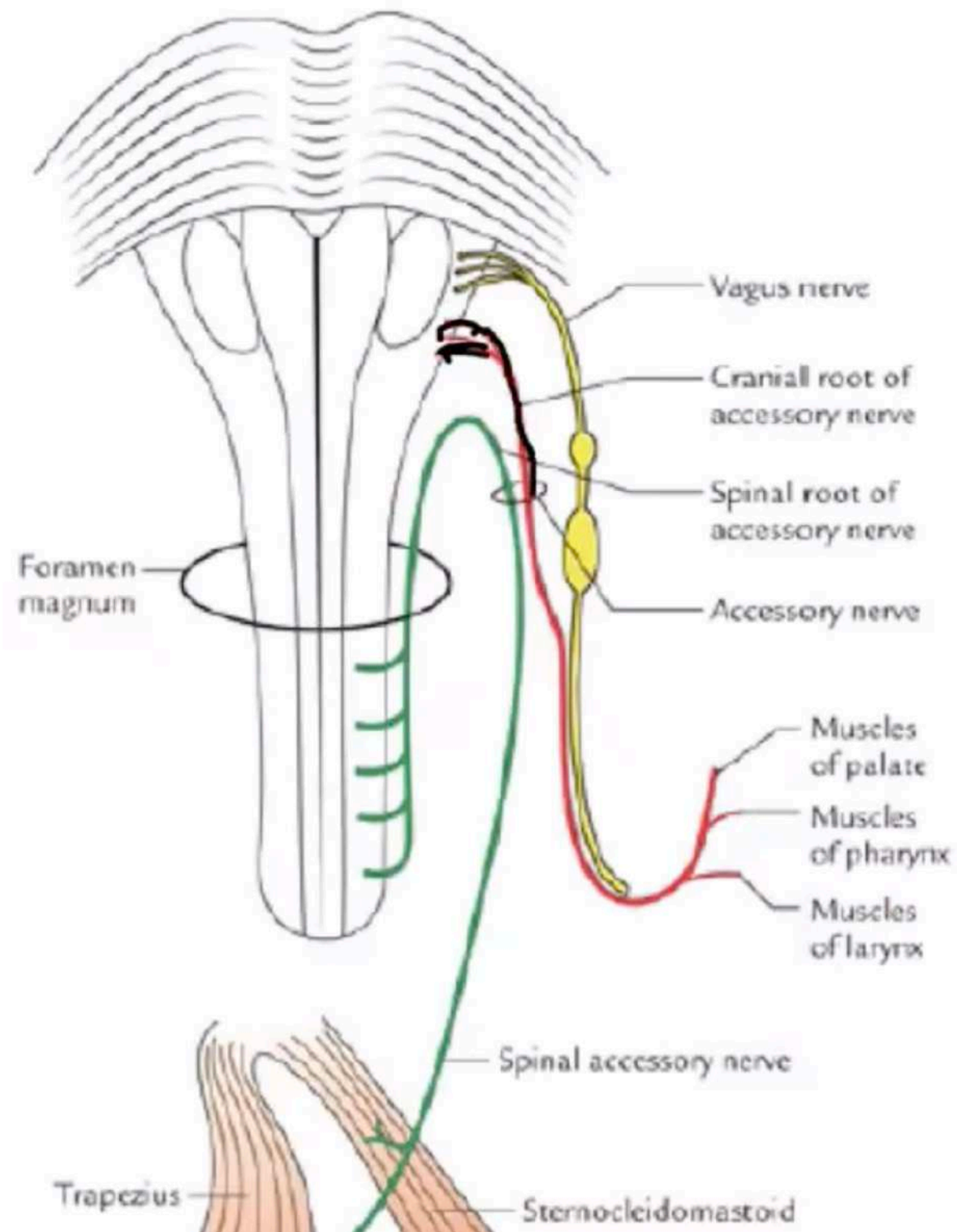
ACCESSORY NERVE

COMPONENTS

- **SVE - nucleus ambiguus**
 - Cranial root, via vagus nerve
 - All muscles of palate except tensor palati
 - All muscles of larynx except stylopharyngeus
 - All muscles of larynx
- **GSE - sp root of acc n.**
 - Upto C5 segments
 - Trapezius & sternocl.



COURSE



JUGULAR FORAMEN

