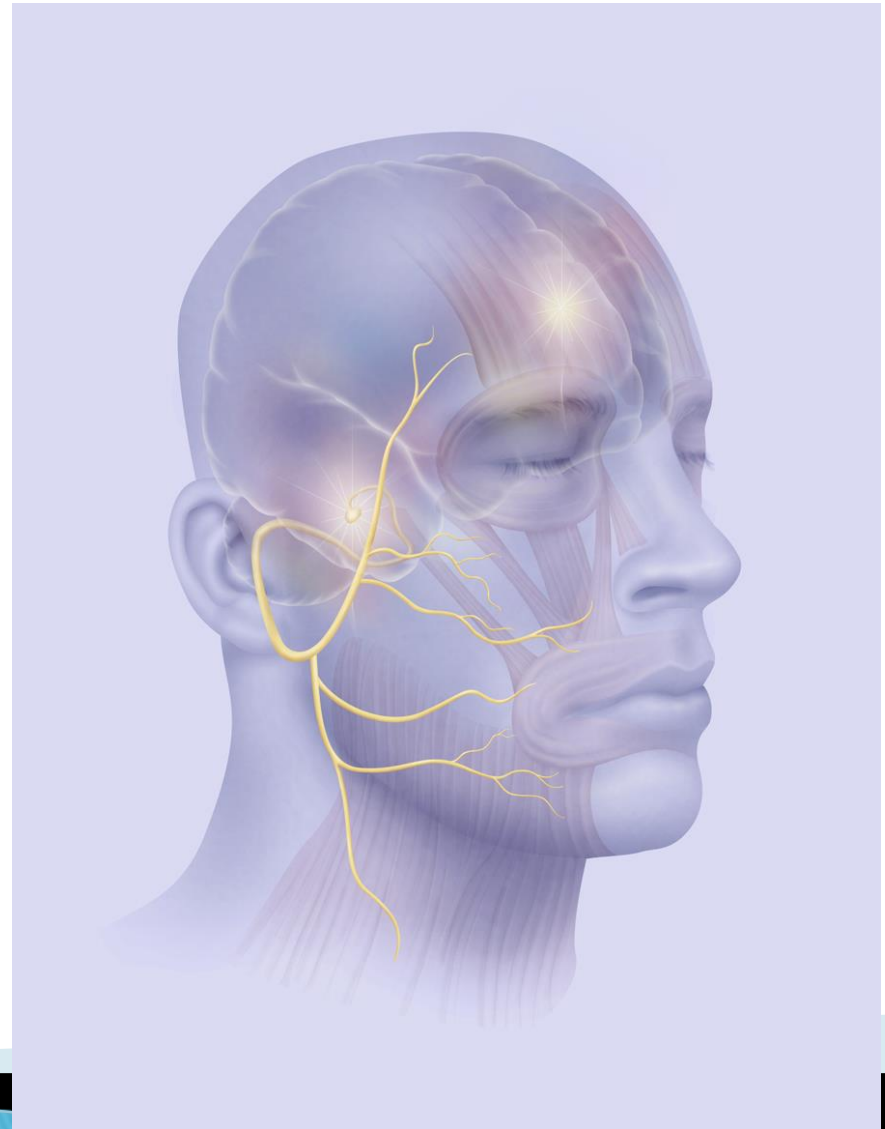
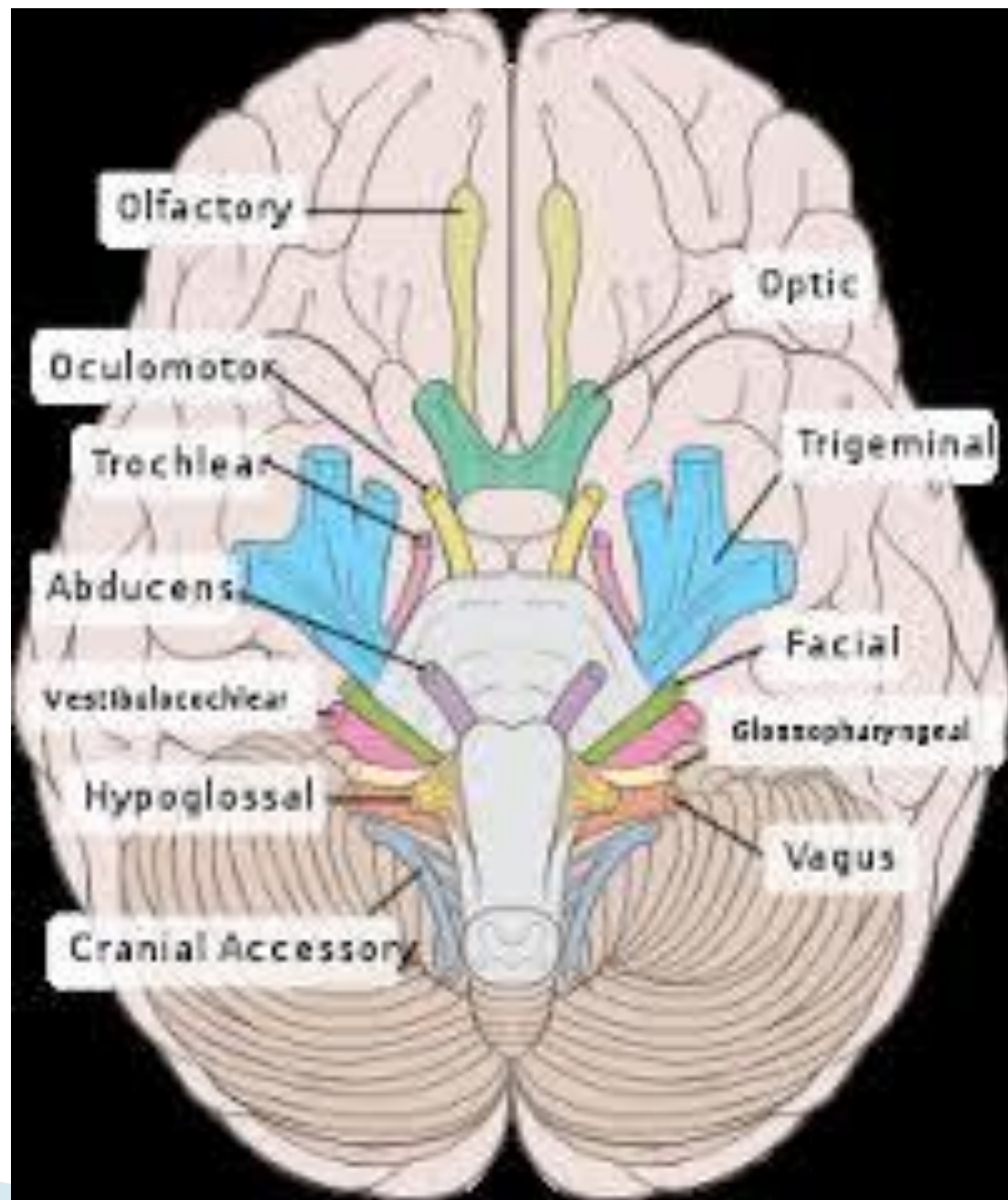
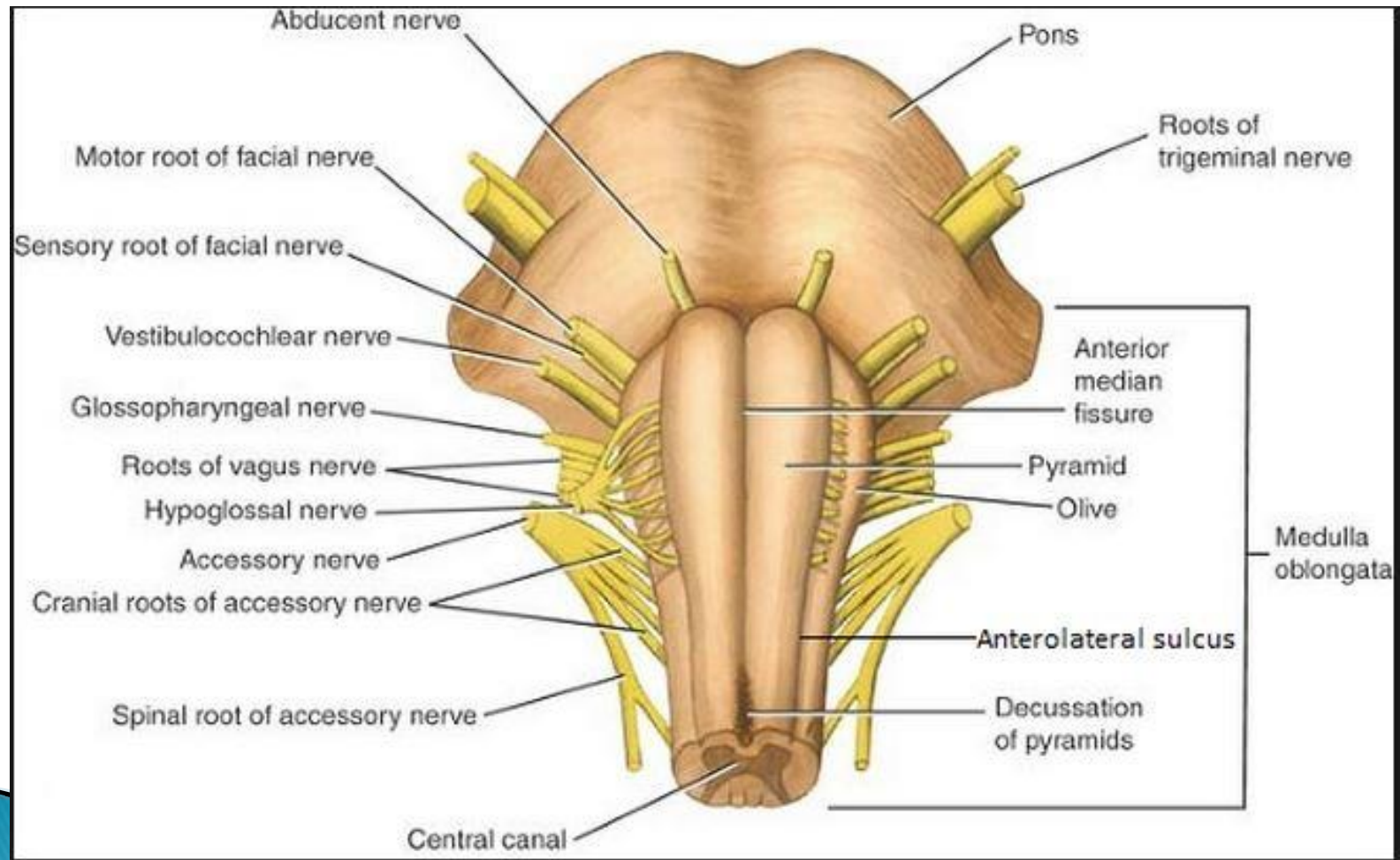


FACIAL NERVE



ORIGIN



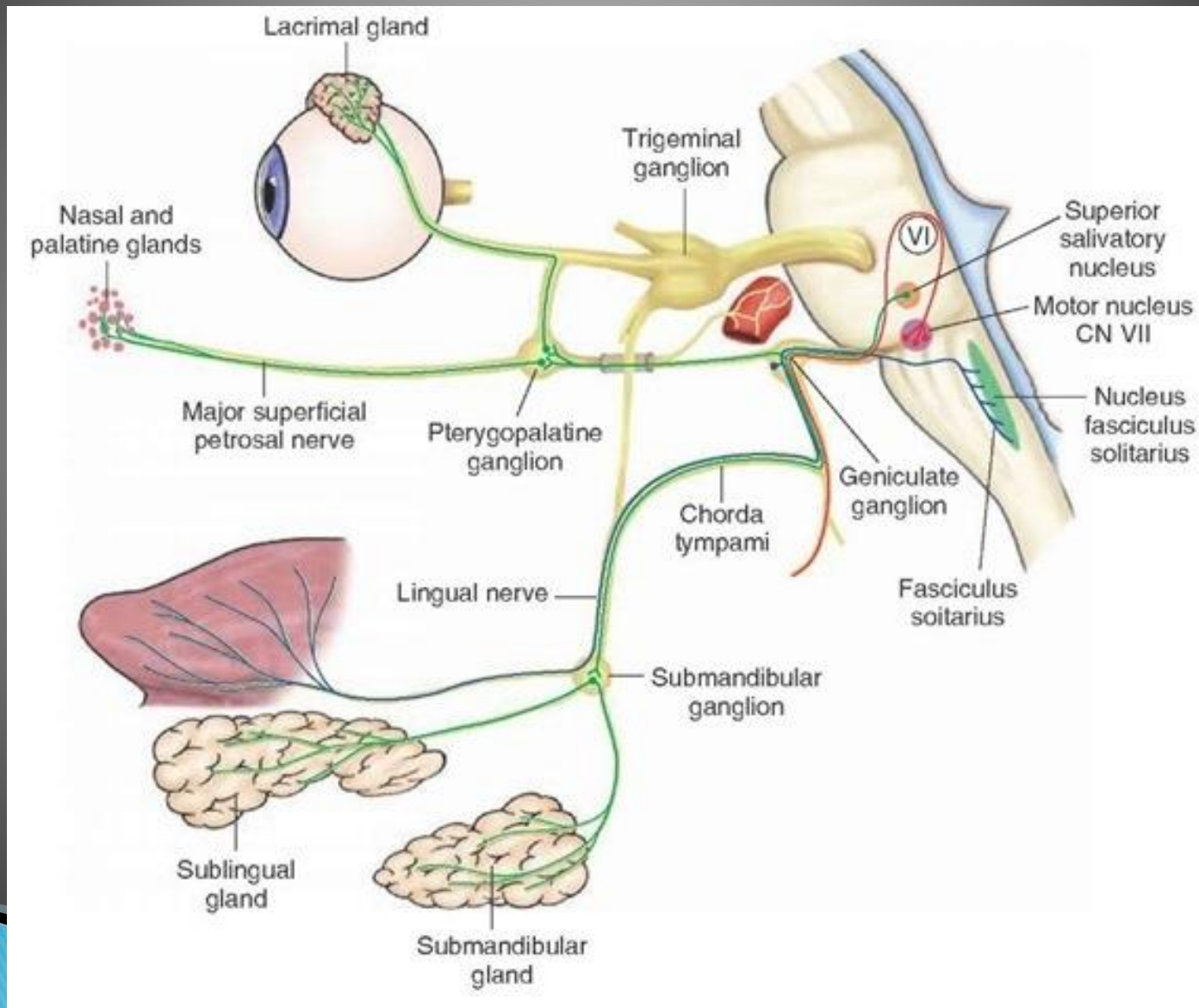


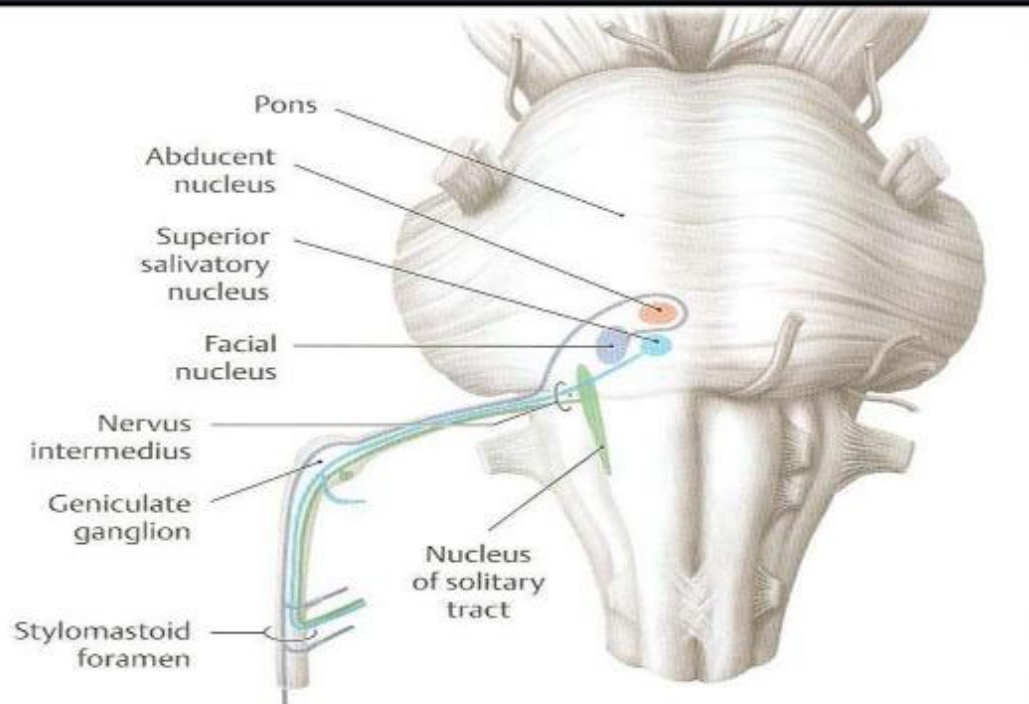
FACIAL NERVE

- ▶ 7000 MOTOR AXONS
- ▶ SENSORY ROOT-3000 AXONS

FUNCTIONAL COMPONENT	NUCLEI	DISTRIBUTION	FUNCTION
GVE	Superior salivatory nucleus (lies in the pons lateral to the main motor nucleus of VII)	Submandibular and sublingual salivary glands.	Preganglionic Secretomotor
SVE	Motor nucleus of facial nerve (lies in lower part of pons)	Muscles of facial expression, stylohyoid, posterior belly of digastric, platysma and stapedius.	Facial expression
SVA	Nucleus of tractus solitarius (lies in medulla)	Taste buds in the anterior 2/3 ^d of tongue except vallate papillae.	Taste sensations
GSA	Spinal nucleus of Vth nerve	Part of skin of external ear.	Exteroceptive sensation

FUNCTIONAL COMPONENTS





Facial nerve origin

COURSE

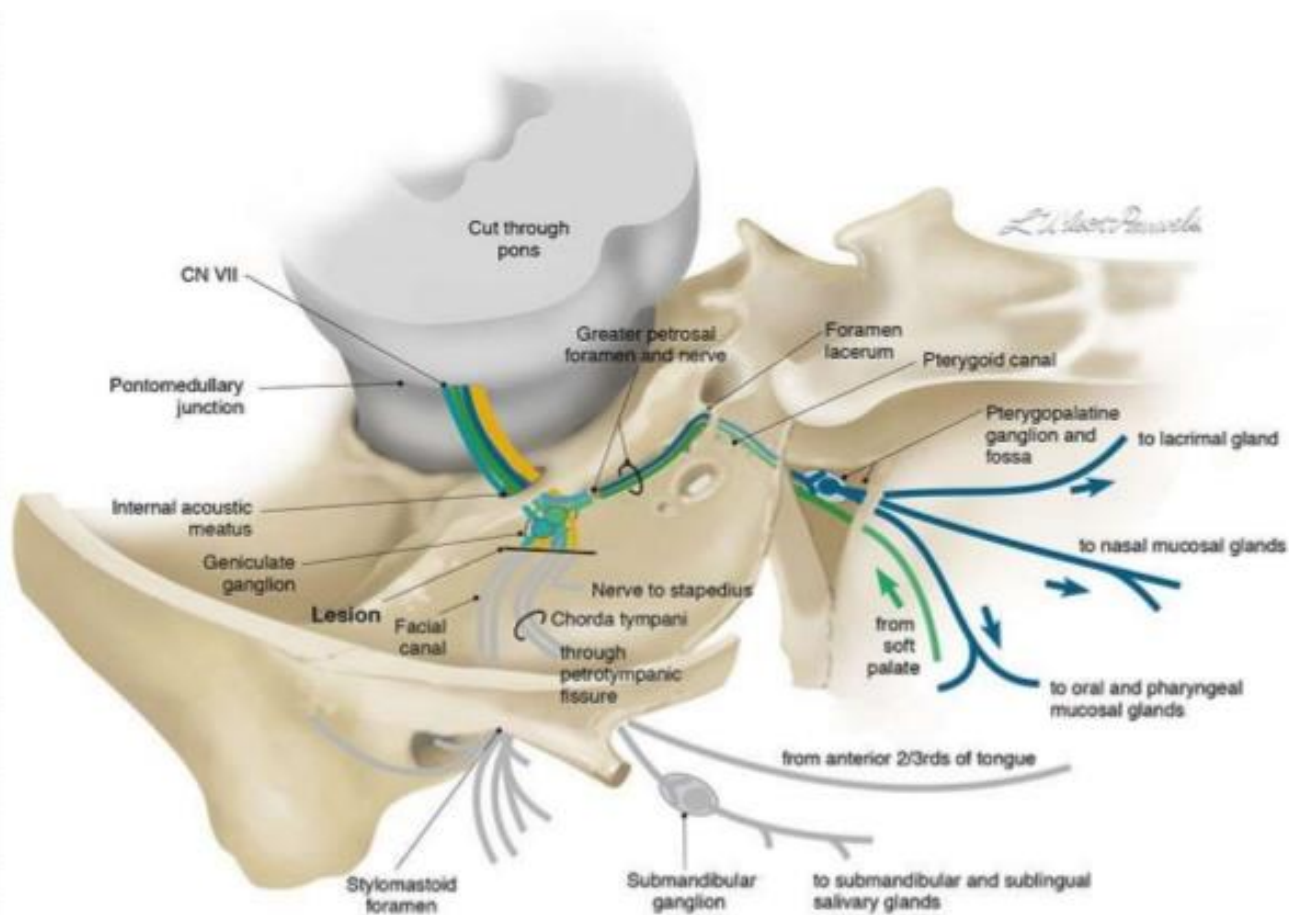
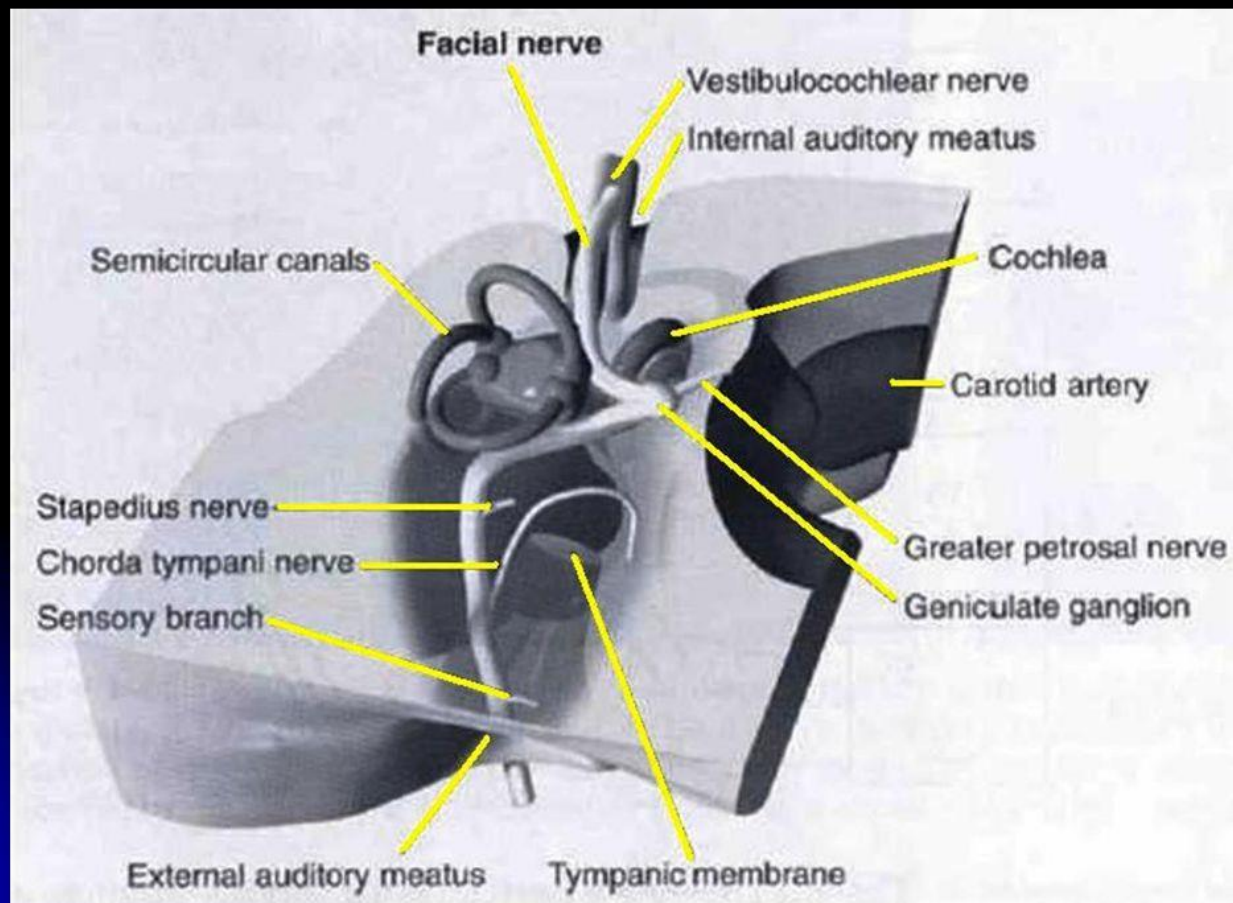


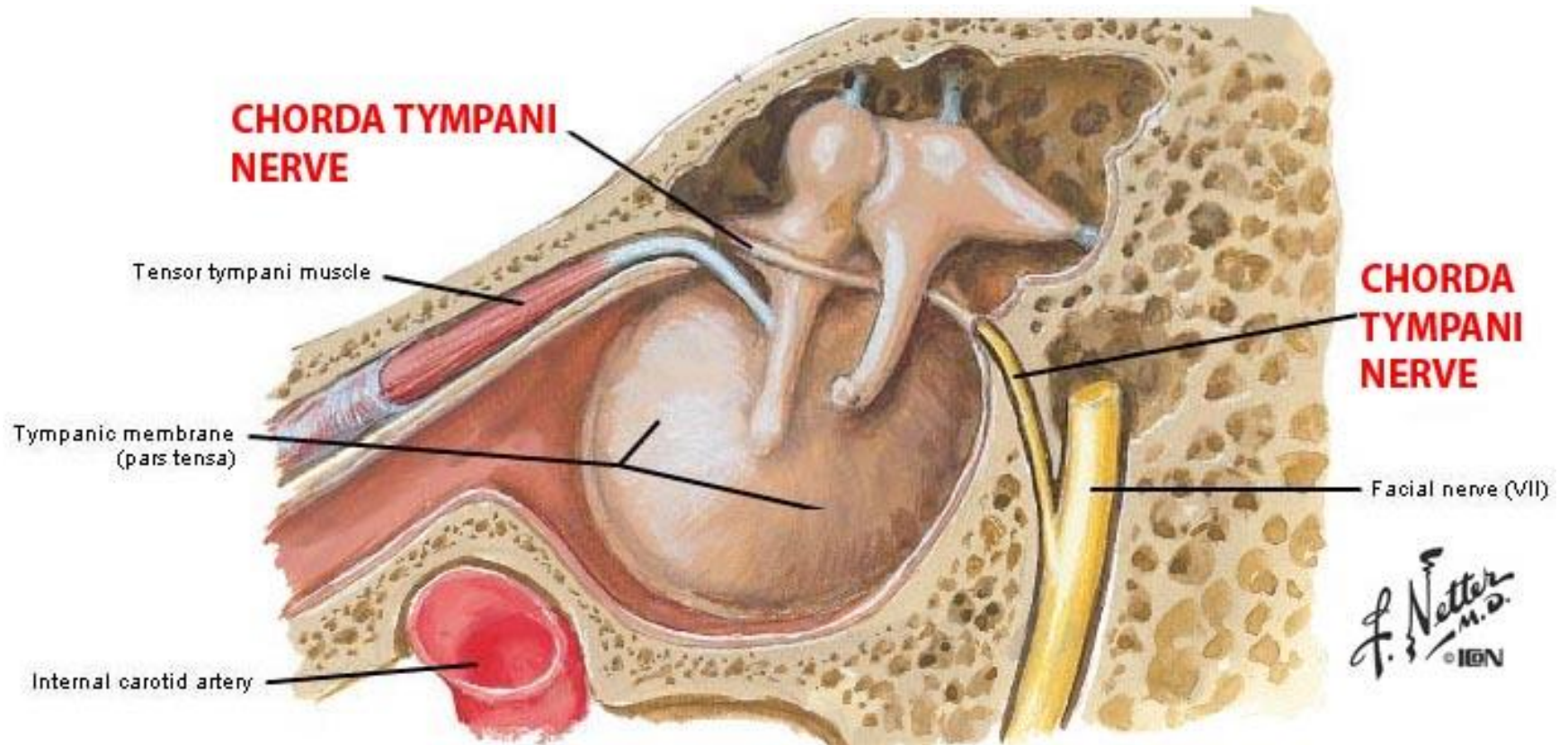
Figure VII-11 Facial nerve lesion distal to the geniculate ganglion.

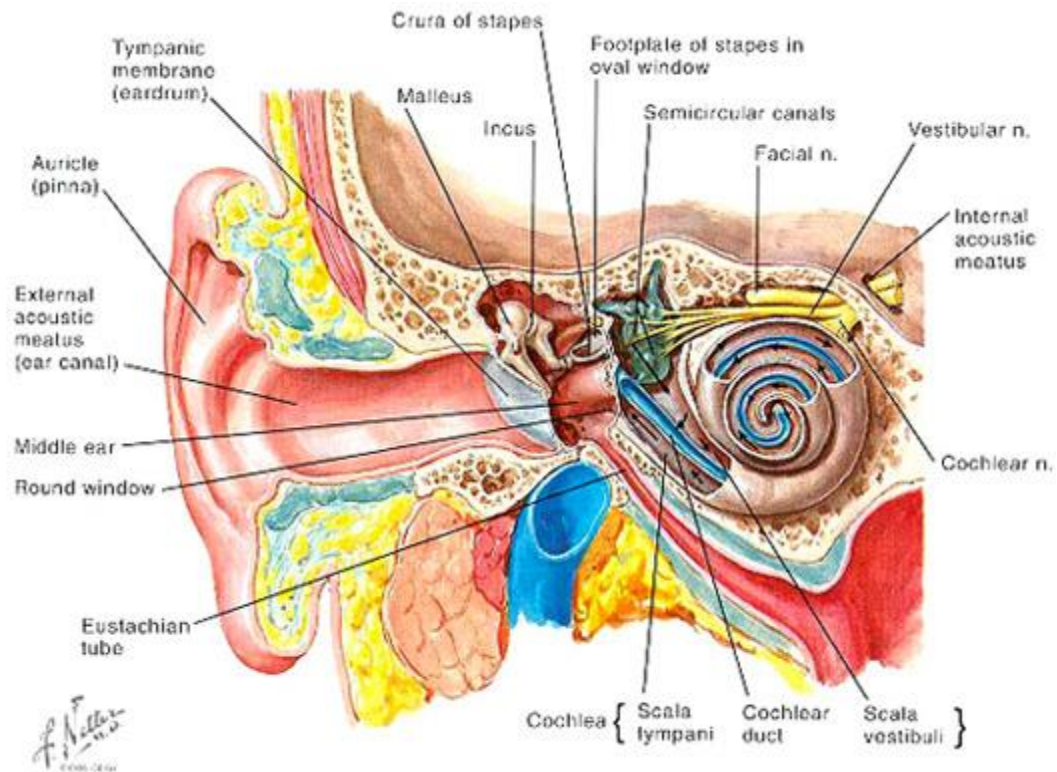
From Cranial Nerves 3rd Ed. ©2010 Wilson-Pauwels, Stewart, Akesson, Spacey, PMPH-USA

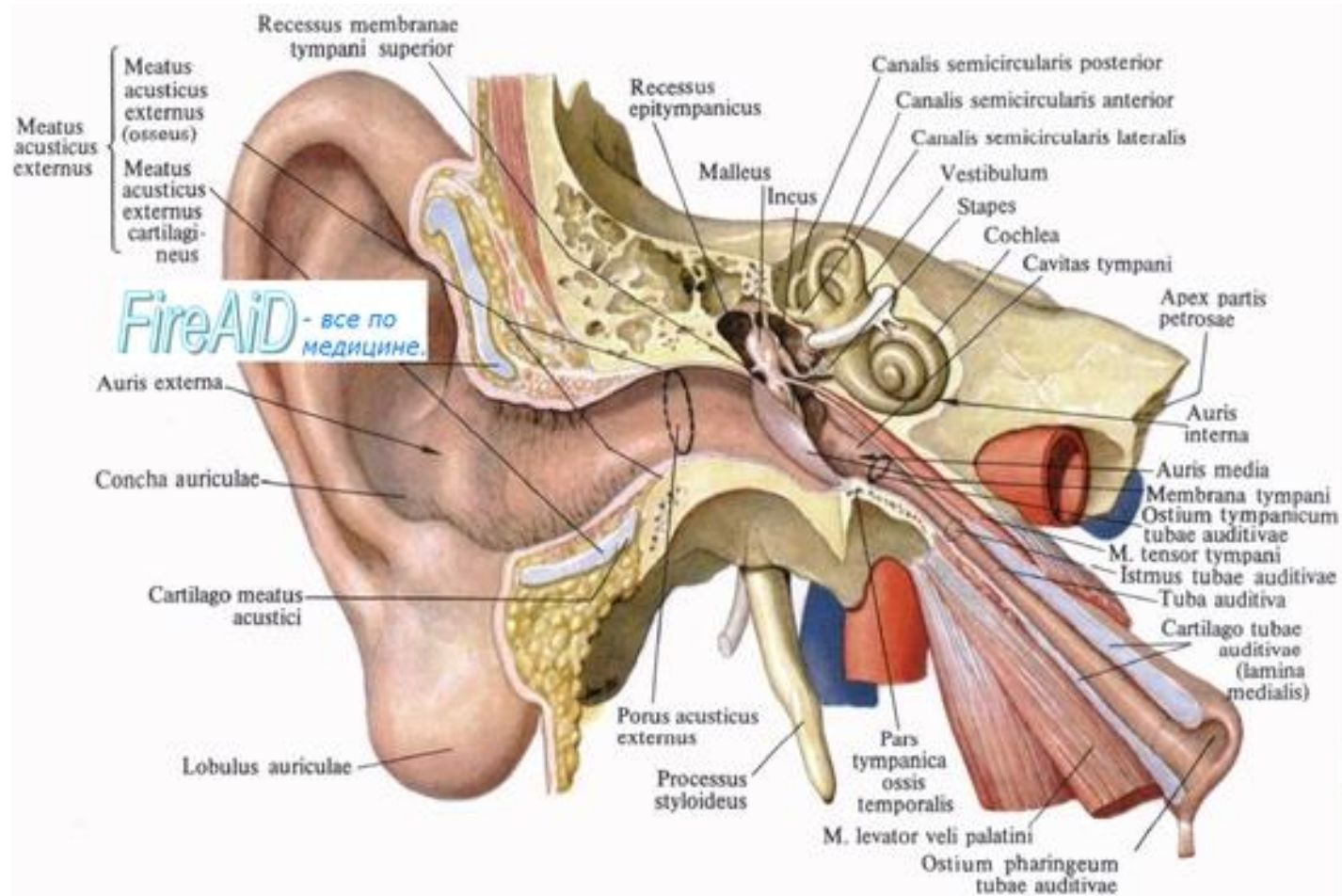


Gabriel Fallopius (1523-62)

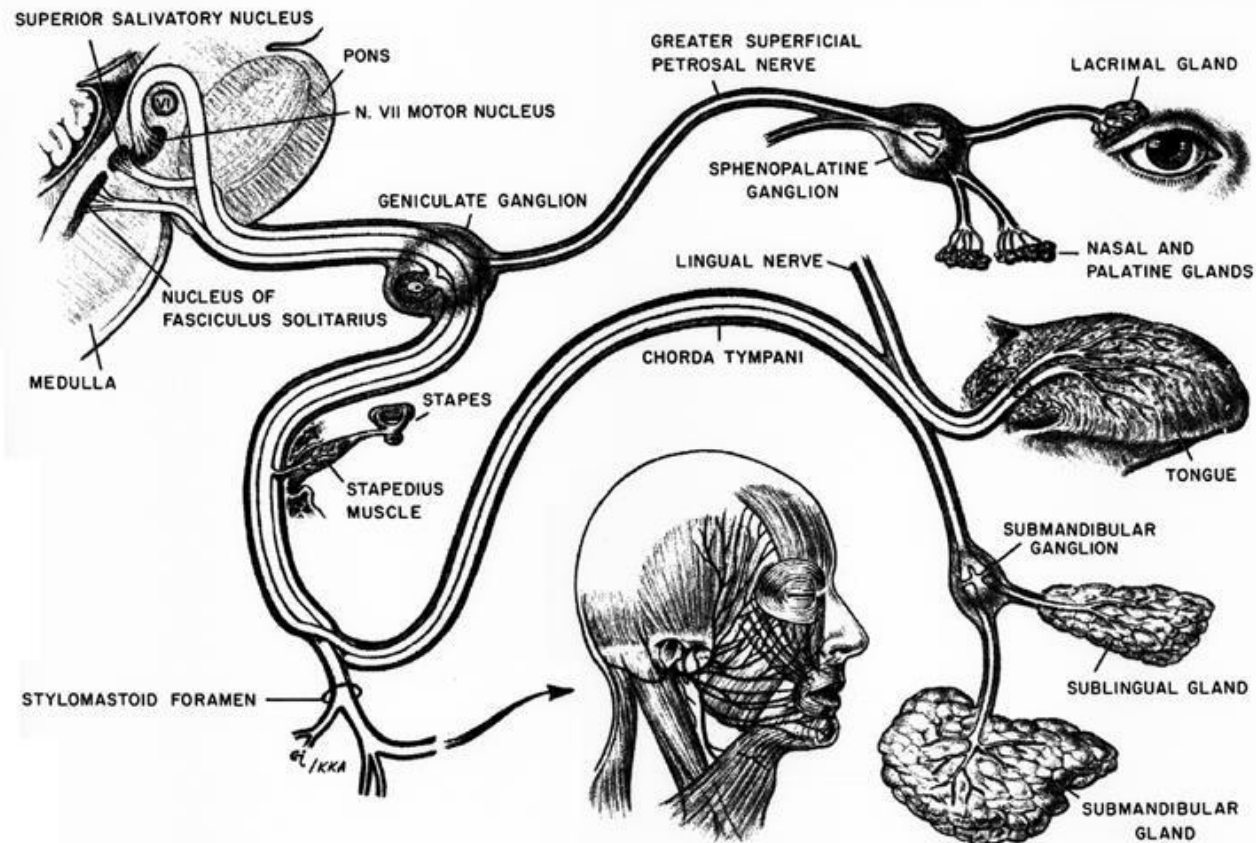




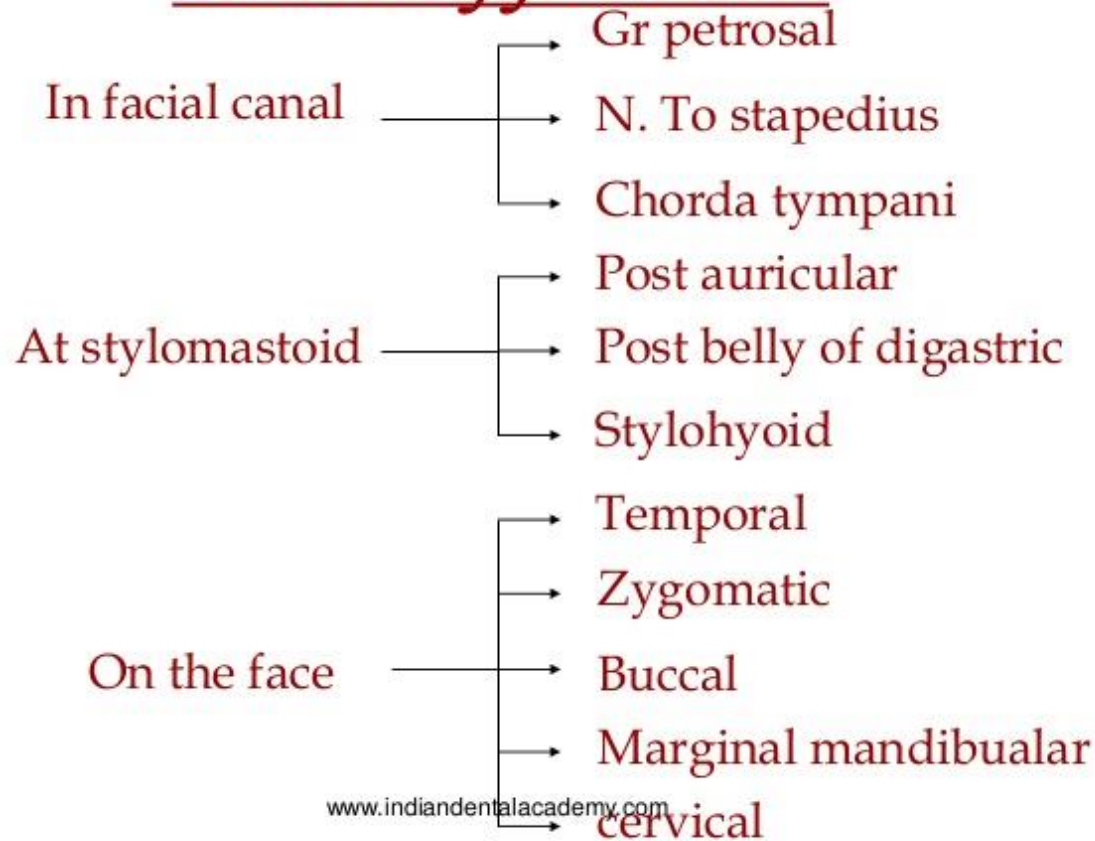




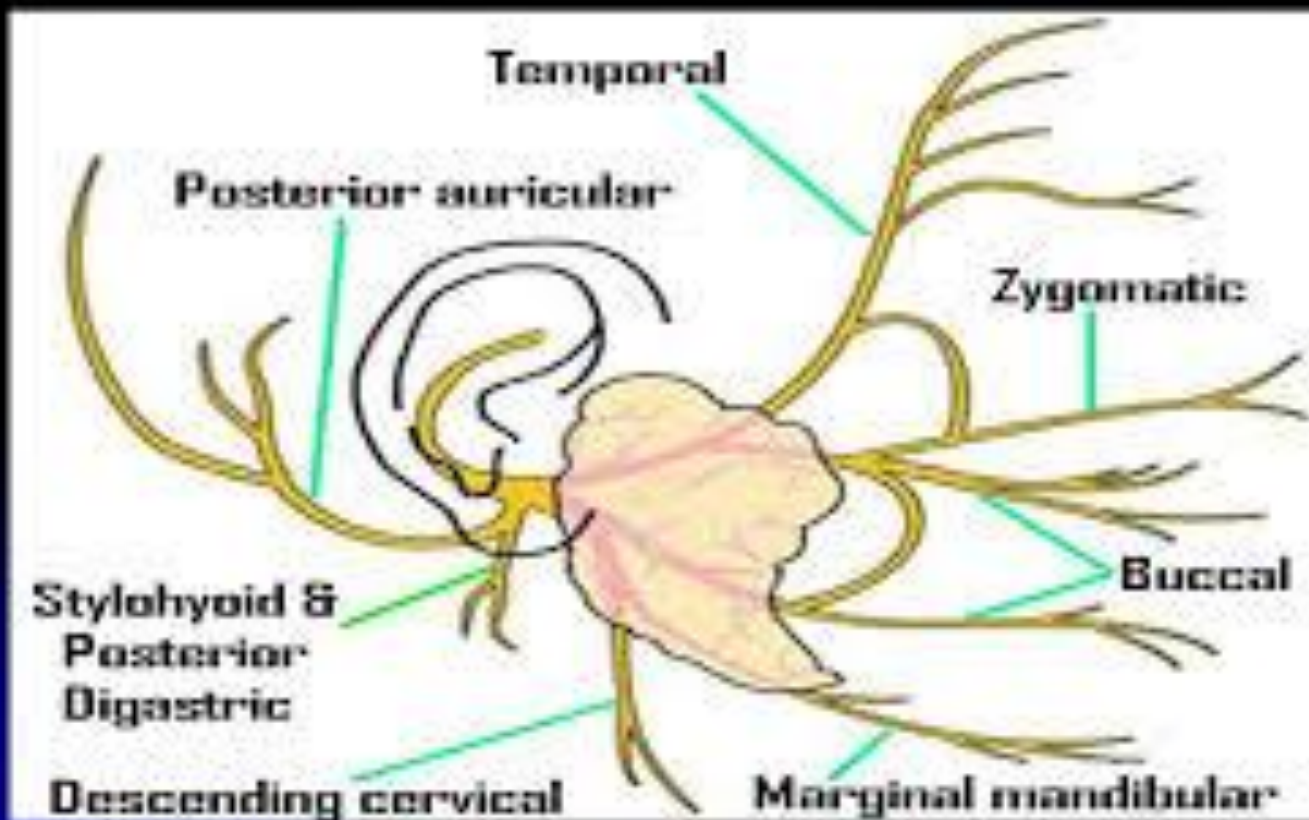
BRANCHES



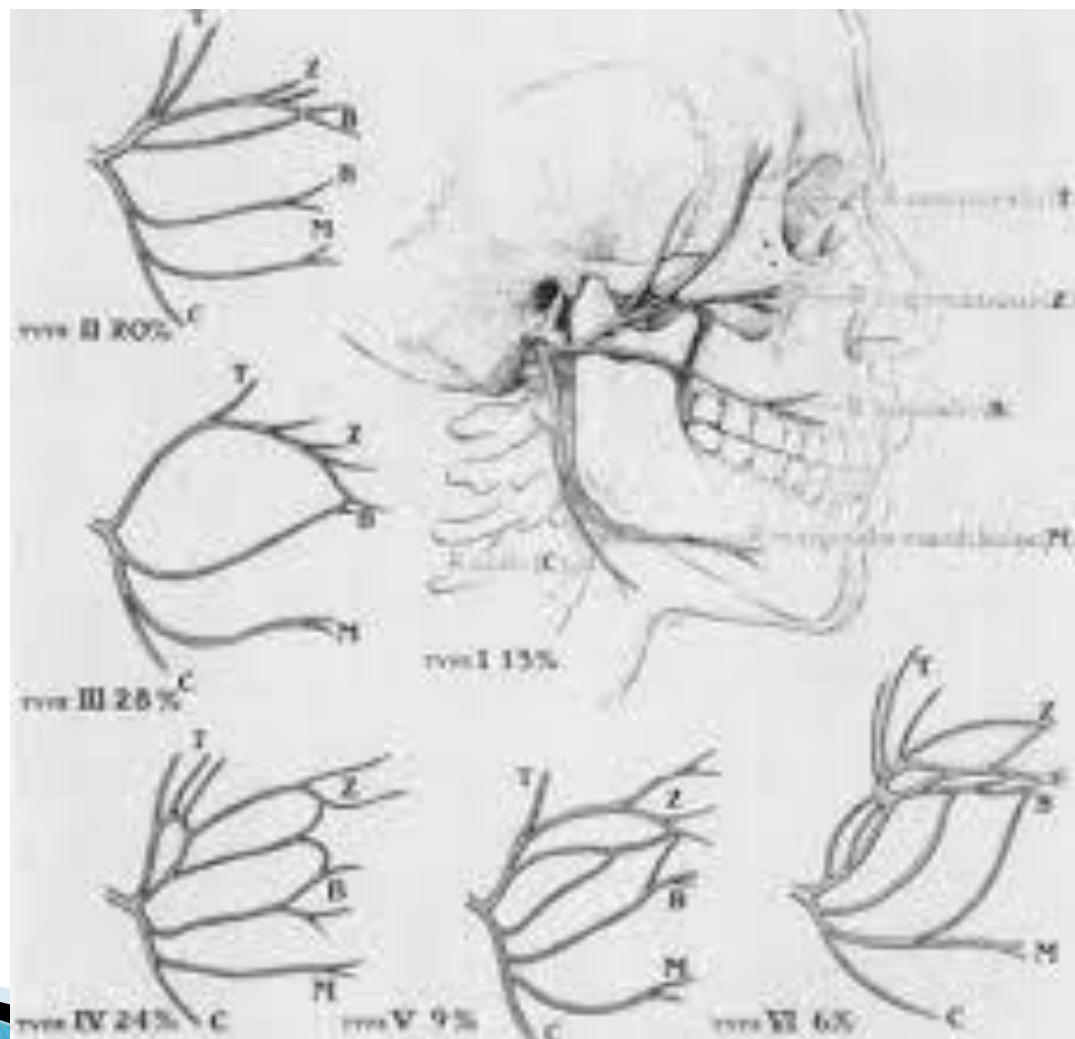
Branches of facial nerve

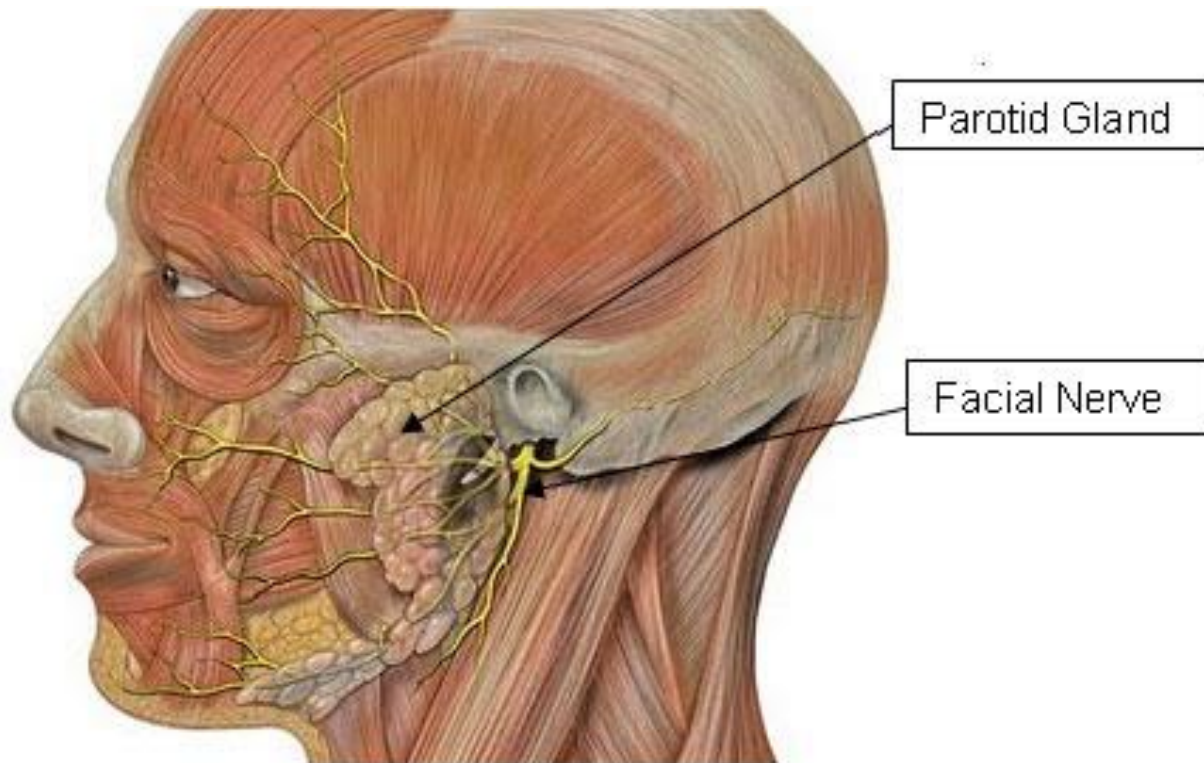


Extra-cranial branches



- ▶ Lower buccal, mandibular–orbicularis oris, buccinator
- ▶ upper buccal–ZMz, LBS, ZMn
- ▶ Temporal–occipitofrontalis, orbicularis oculi, corrugator
- ▶ zygomatic– orbicularis oculi
- ▶ Marginal mandibular– ms of lower lip, chin
- ▶ Cervical branch– platysma

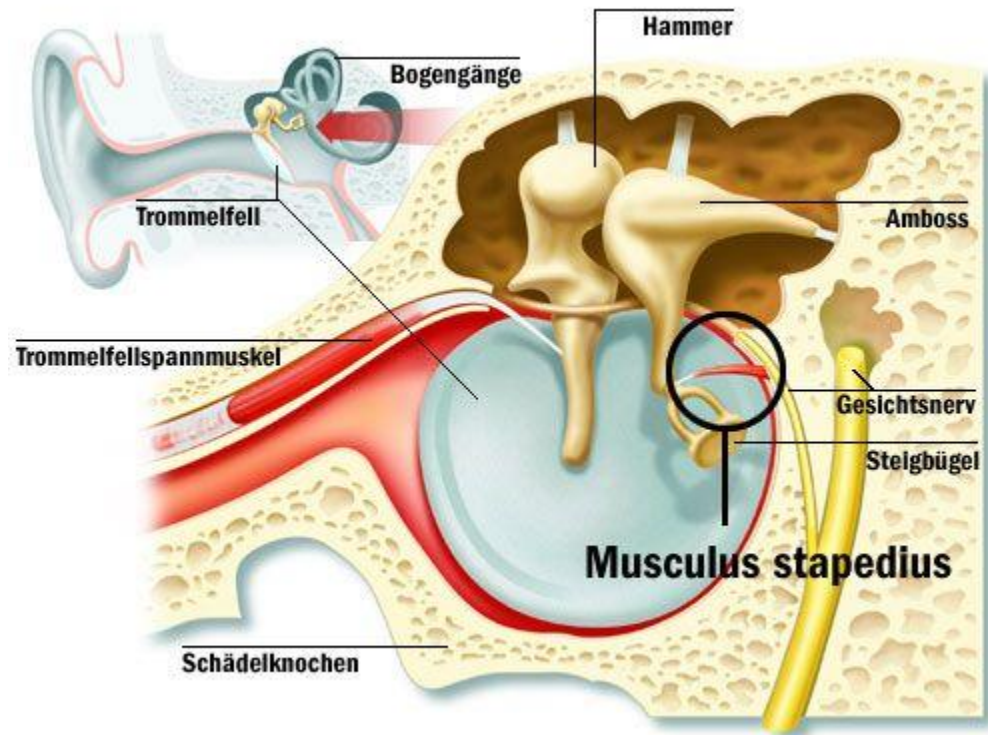


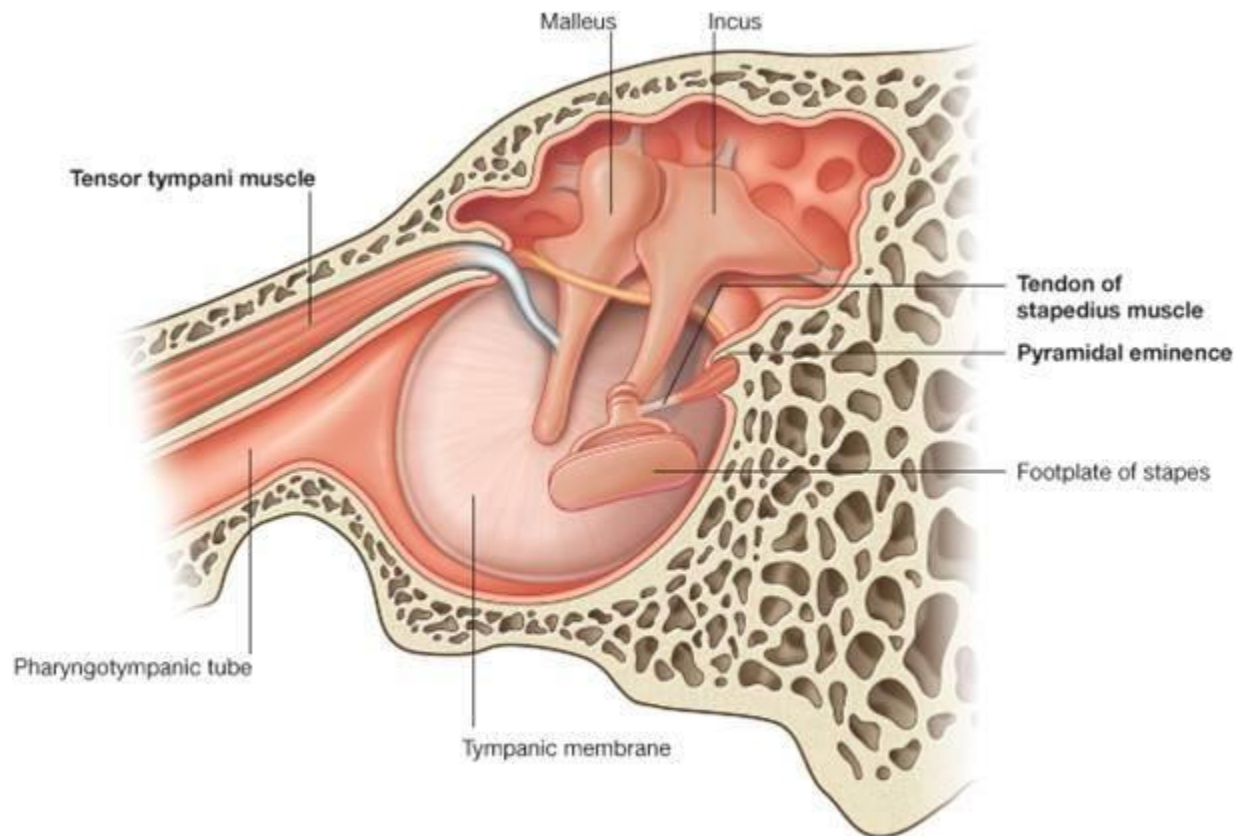


Relationship of the Parotid Gland and facial nerve

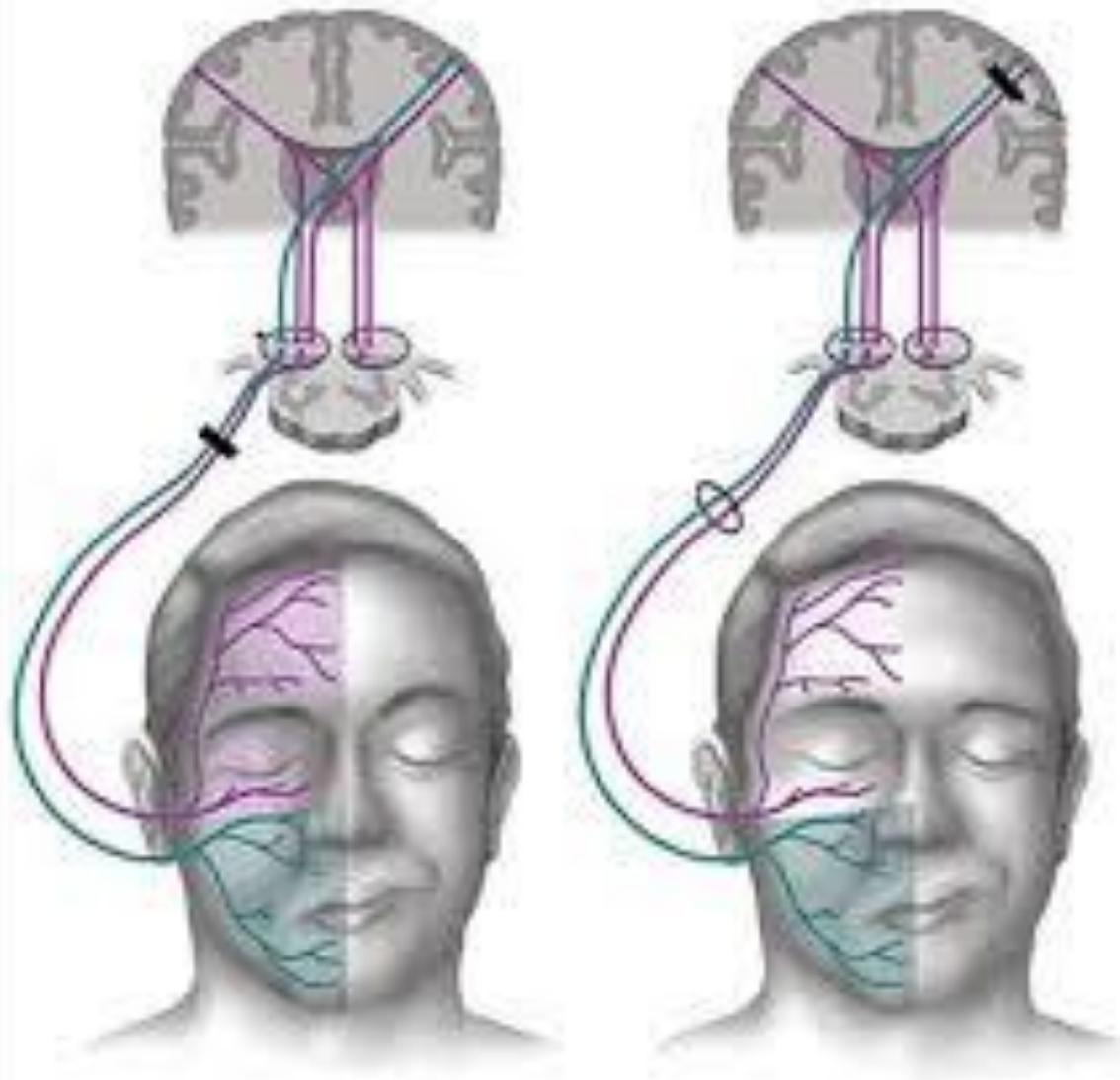
SEGMENTS OF FACIAL NERVE

- ▶ **Supranuclear**– Fibres in cerebral cortex to brain stem
- ▶ **Brain stem**–motor nucleus of facial nerve
- ▶ **Intra–cranial**– 12 mm brain stem to entry into IAC
- ▶ **Meatal**– 10 mm within internal auditory canal
- ▶ **Labyrinthine** 4 mm–IAC to Geniculate ganglion
- ▶ **Tympanic** 11 mm–Geniculate gan to pyramid
- ▶ **Mastoid** 13mm– Pyramid to stylomastoid foramen
- ▶ **Extra temporal** 15 mm– SM foramen to pes anserinus

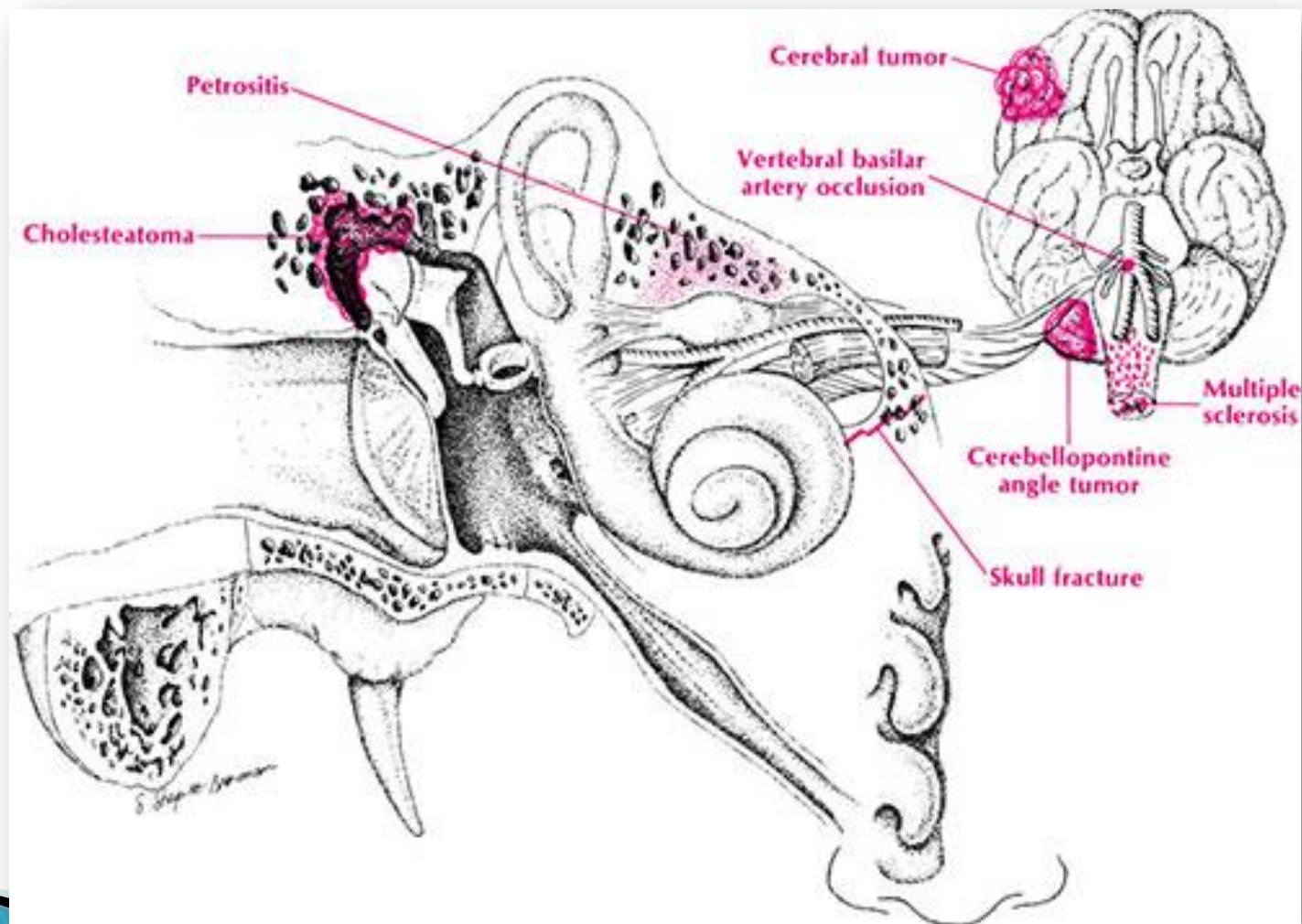




Supranuclear connection

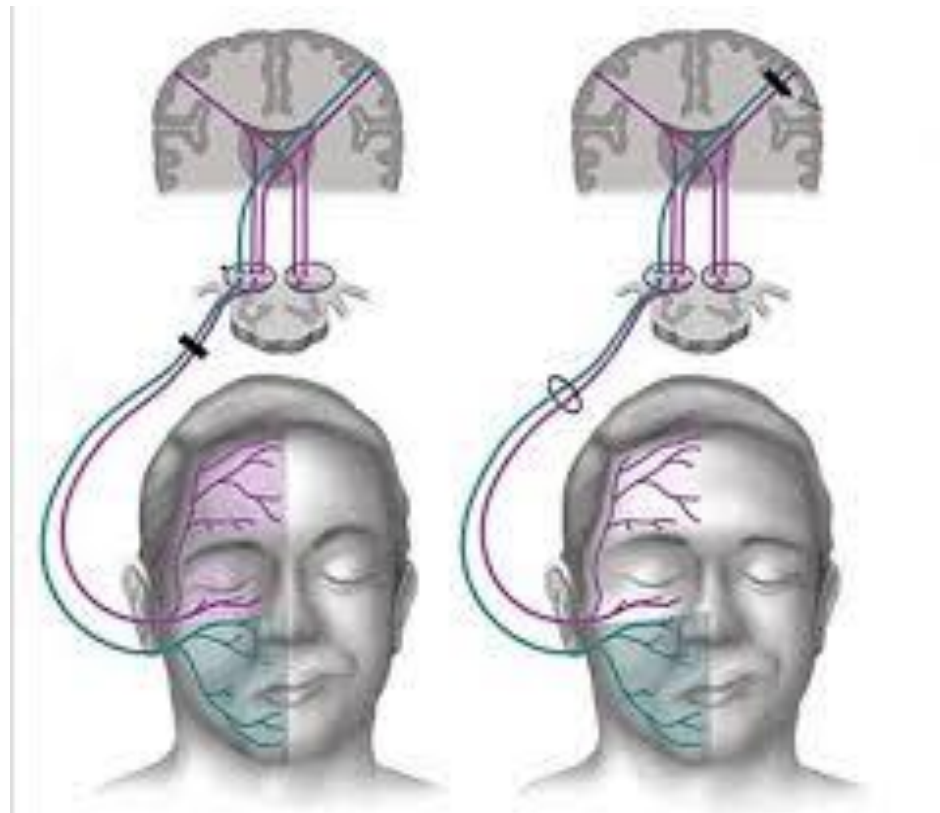


Sites of lesion



PALSY

- ▶ Supranuclear
- ▶ Nuclear
- ▶ infranuclear



NUCLEAR

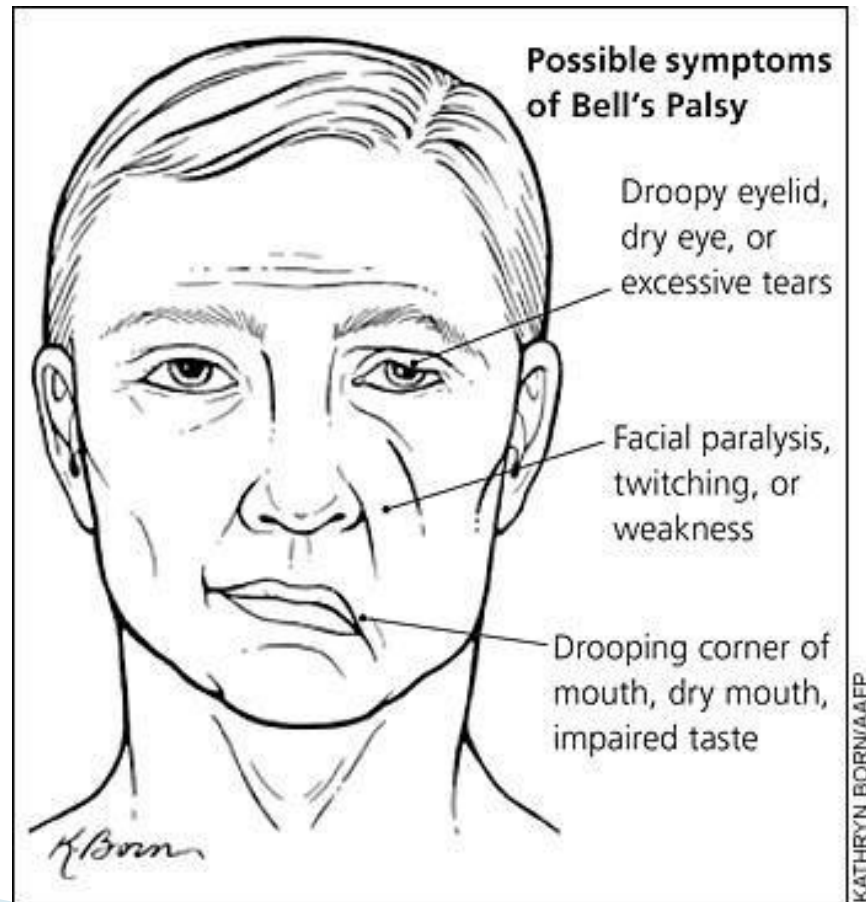
- ▶ Unilateral vascular lesion in ventro–medial part of pons may involve the motor nucleus of facial nerve along with abducent nerve nucleus and corticospinal fibres of pyramidal fibres before decussation.
 - ▶ LMN paralysis
 - ▶ Loss of all facial muscles on affected side with strabismus
 - ▶ Along with this if contralateral hemiplegia–
Millard Gublar Syndrome
- 

INFRANUCLEAR

- ▶ Lesion at internal acoustic meatus– Bell's palsy and deafness due to involvement of 8th nv
 - ▶ At genu–reduced lacrimation and SM secretion
 - ▶ Reduced tactile sensation of ant 2/3rd of tongue
 - ▶ Hyperacusis–due to involvement of nv to stapedius
- 

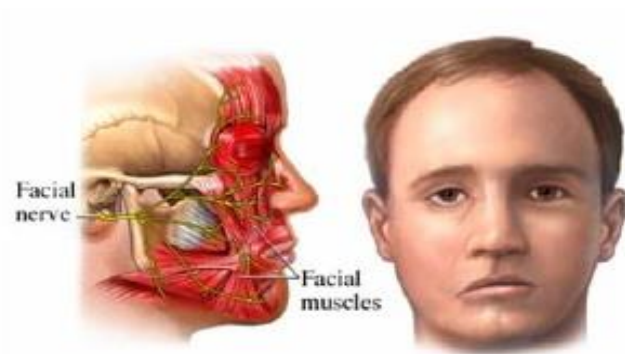
Below stylo-mastoid foramina

Bells palsy



Cause of the Bell's palsy

Inflammation that causes pressure on the Facial Nerve, which effect the Facial Muscles.



Traumatic Facial Paralysis

- Traumatic rupture
 - Stretch injury
 - Nerve compression (by hematoma or bone fragments)
 - Trauma-induced swelling
 - Thermal injury (from a drill during otosurgery)
- 

