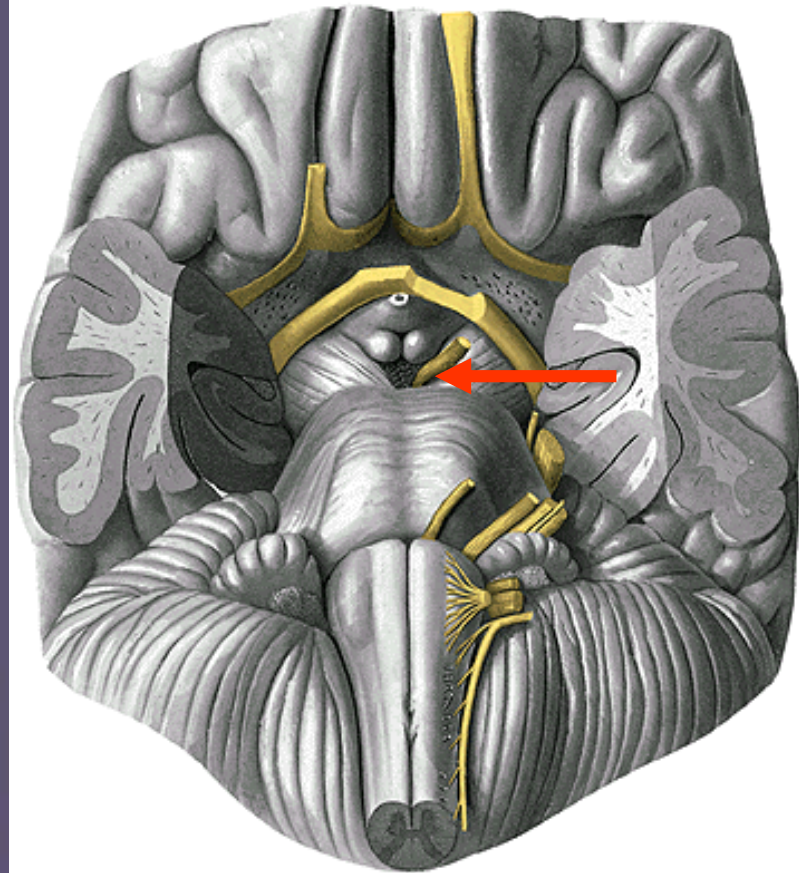
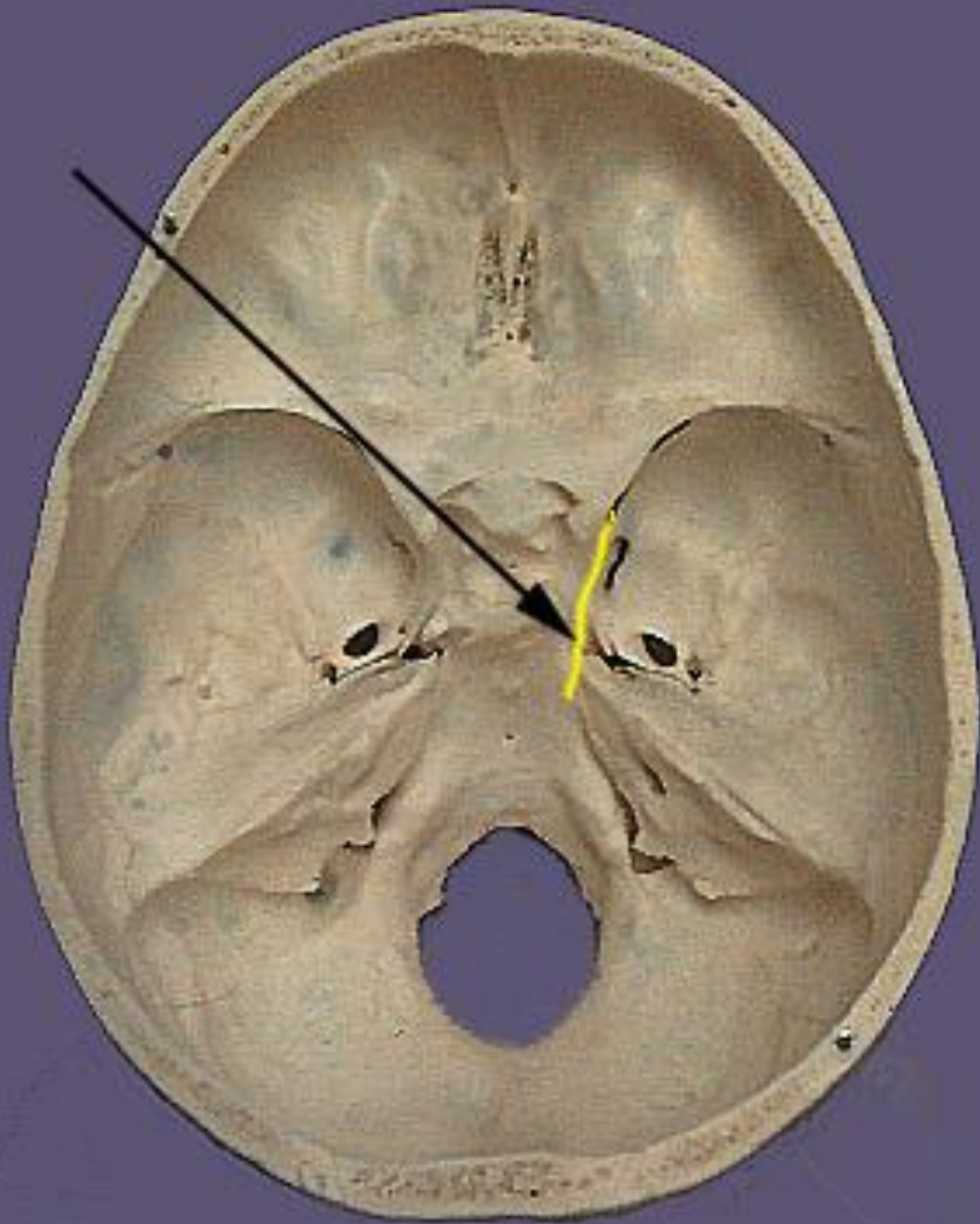
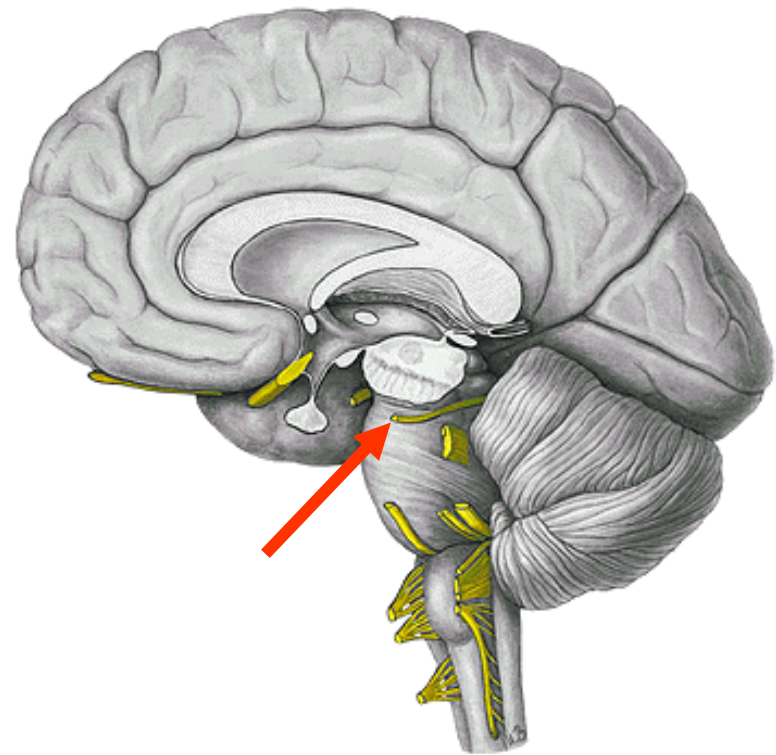
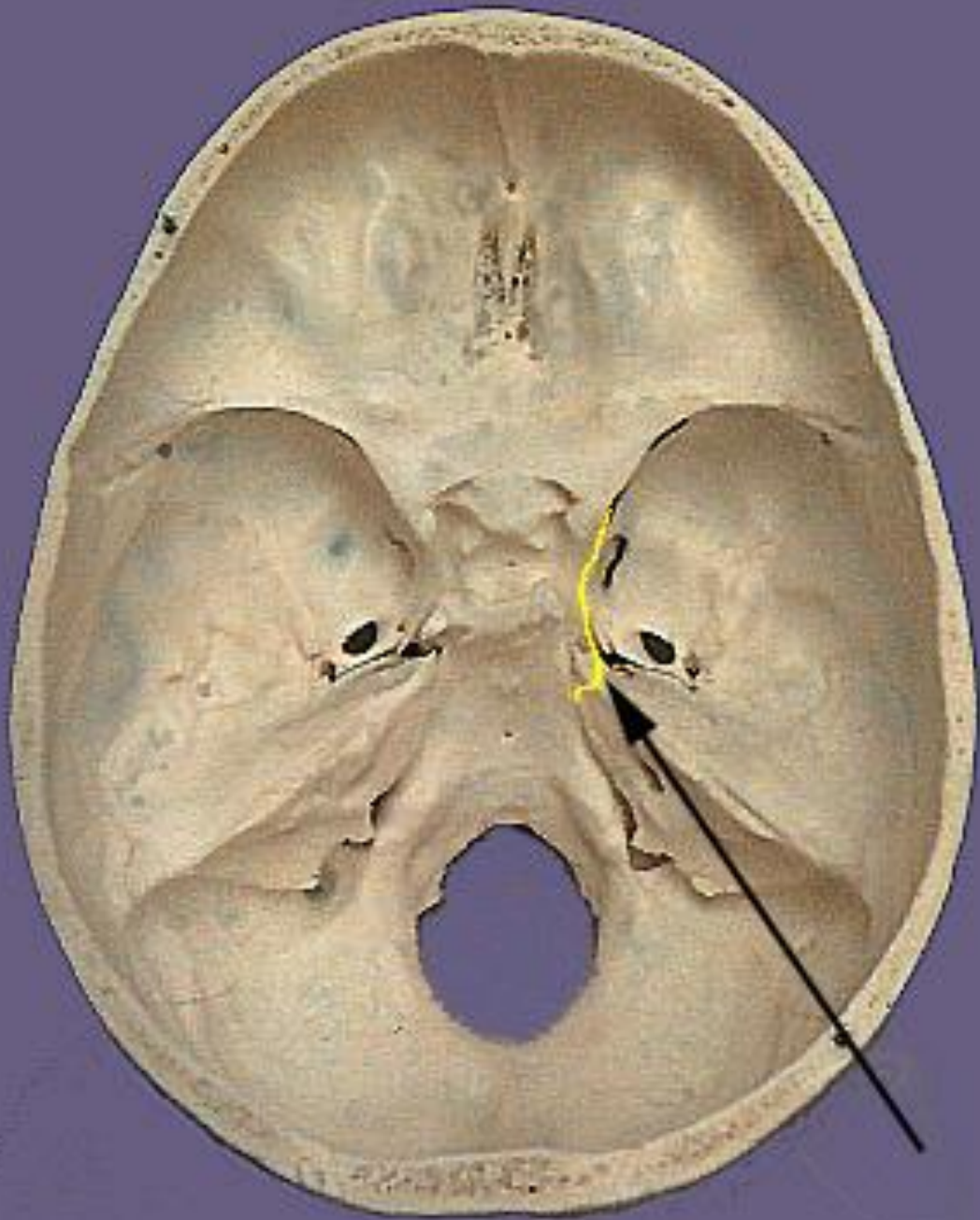


Basic knowledge: cranial nerves

- Appearance of nerve from brainstem and course through baseskull
- Nuclei of cranial nerve in brainstem segment
- Functional zones of nerve nuclei and types of nerve fibers
- Main branches and structural innervation

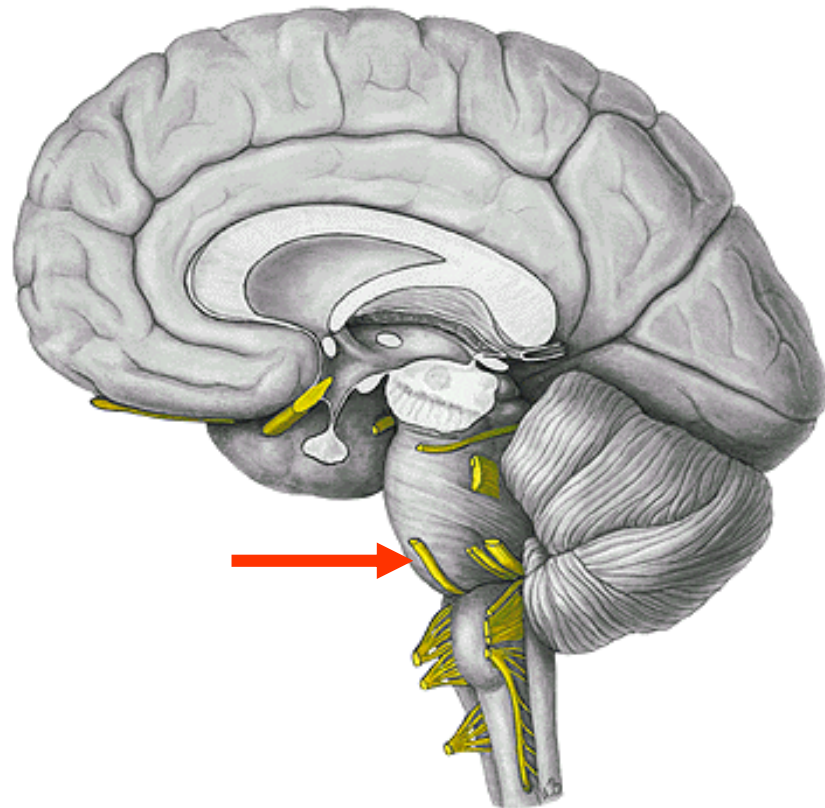
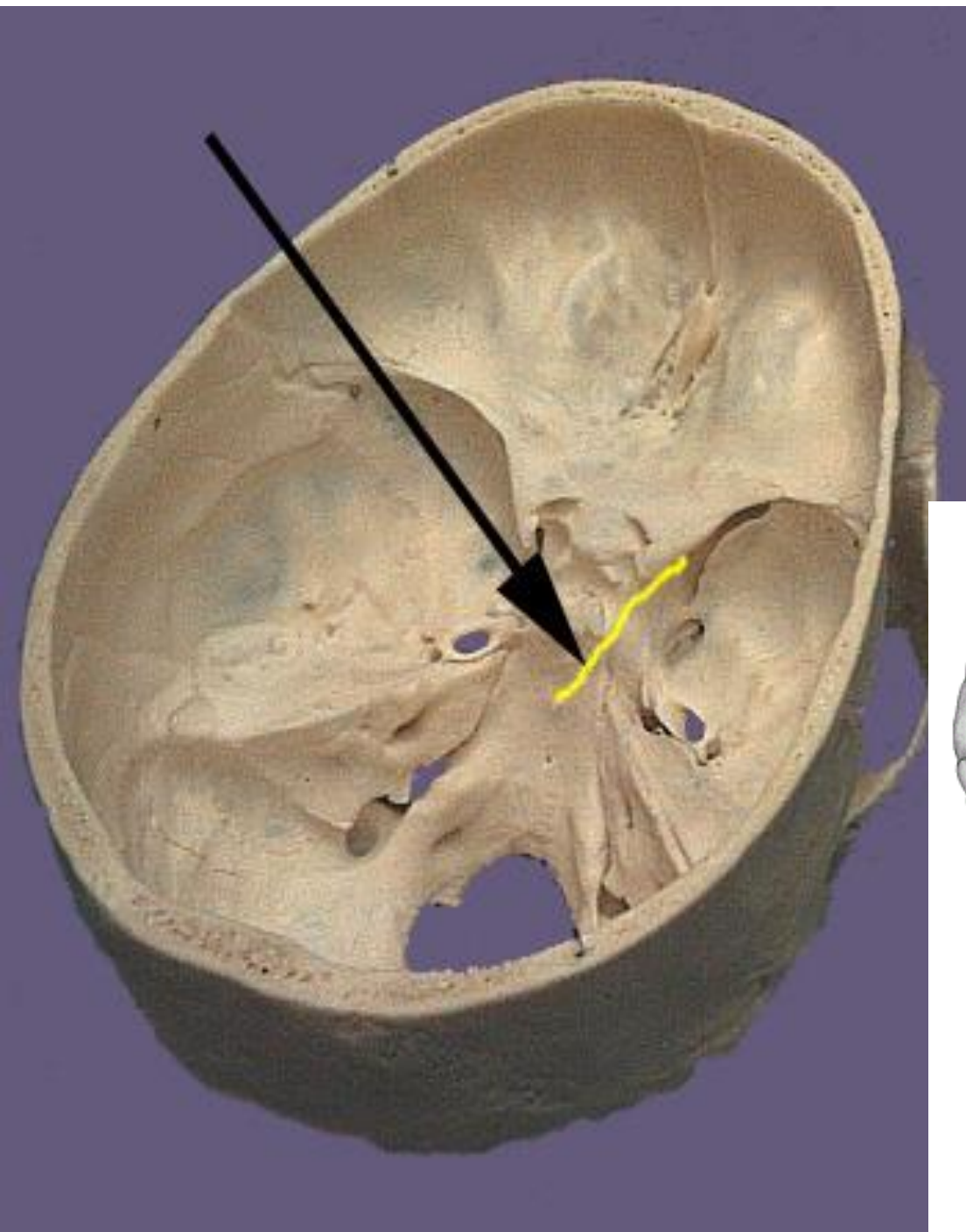


CN III



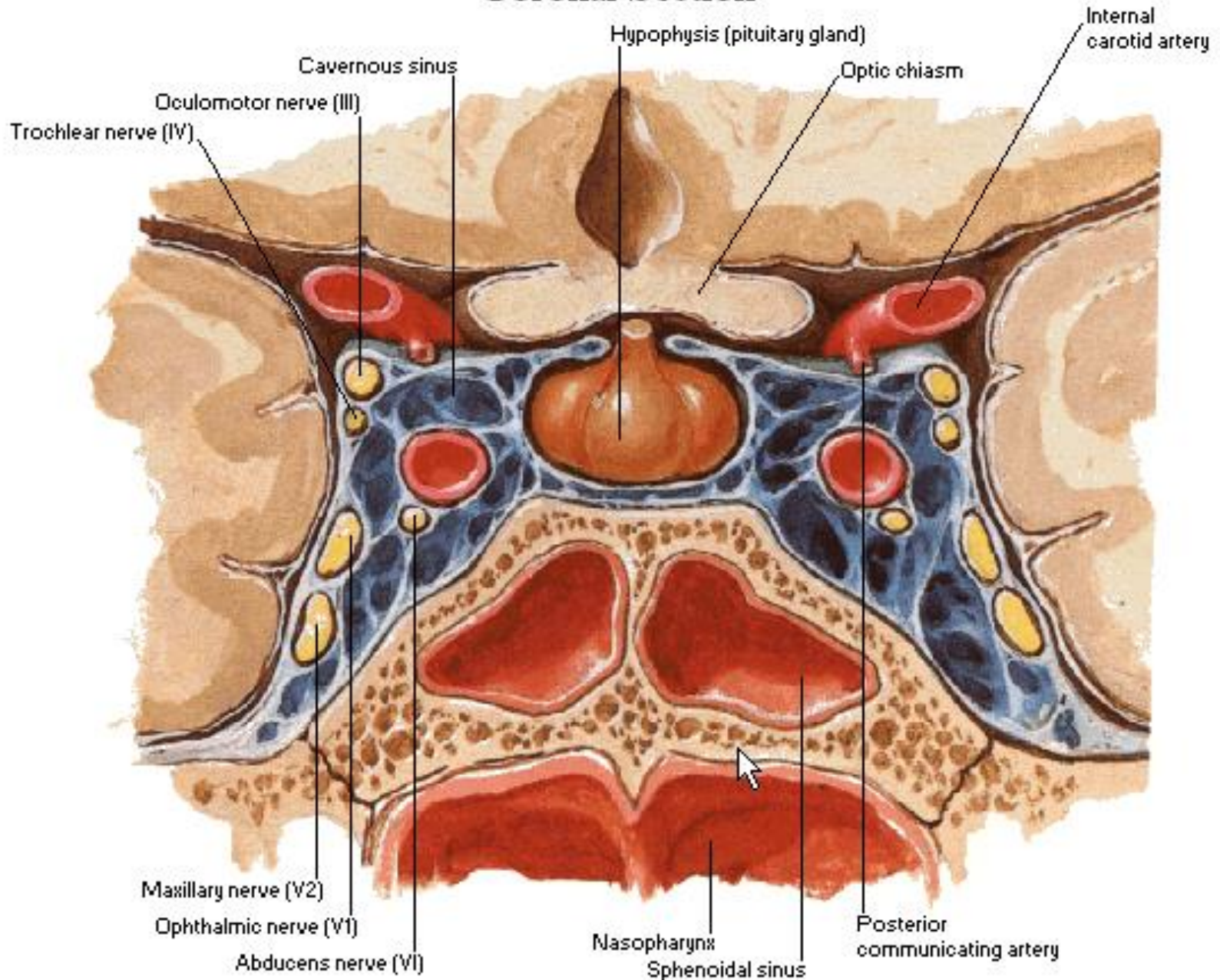
CN IV

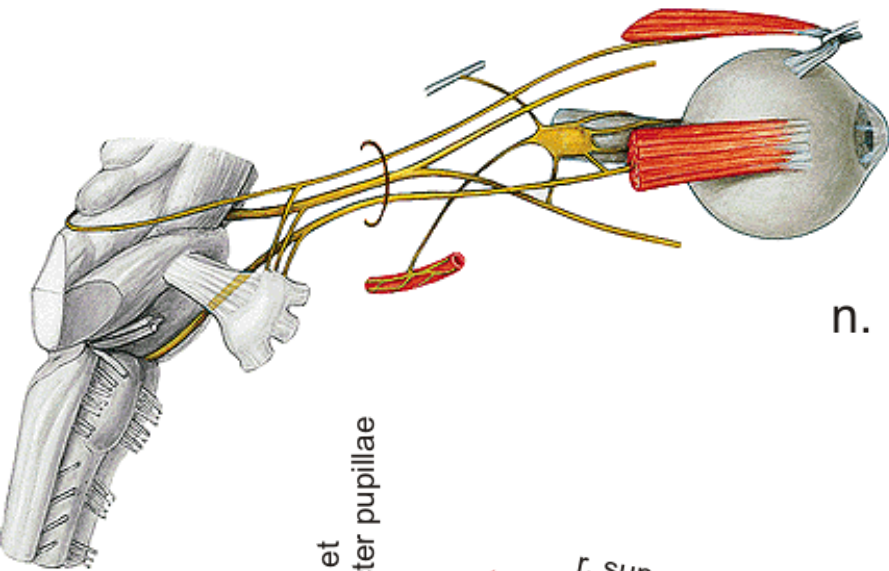
CN VI



Cavernous Sinus

Coronal Section





n. III. et IV.

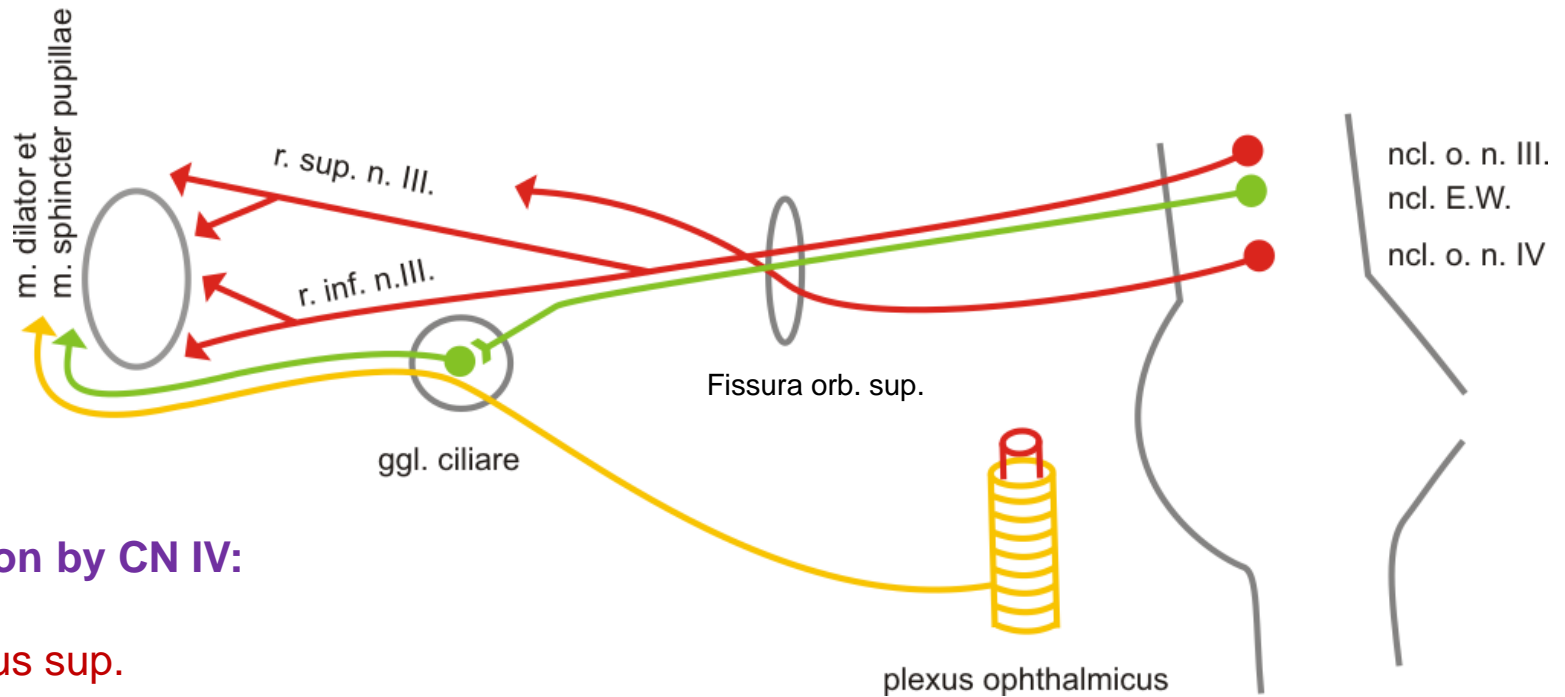
Innervation by CN III:

mm. recti orbitales except
m. rectus lat.

m. levator palpebrae sup.

m. obliquus inf.

m. dilator (symp.) et sphincter pupillae
(parasymp.)



Innervation by CN IV:

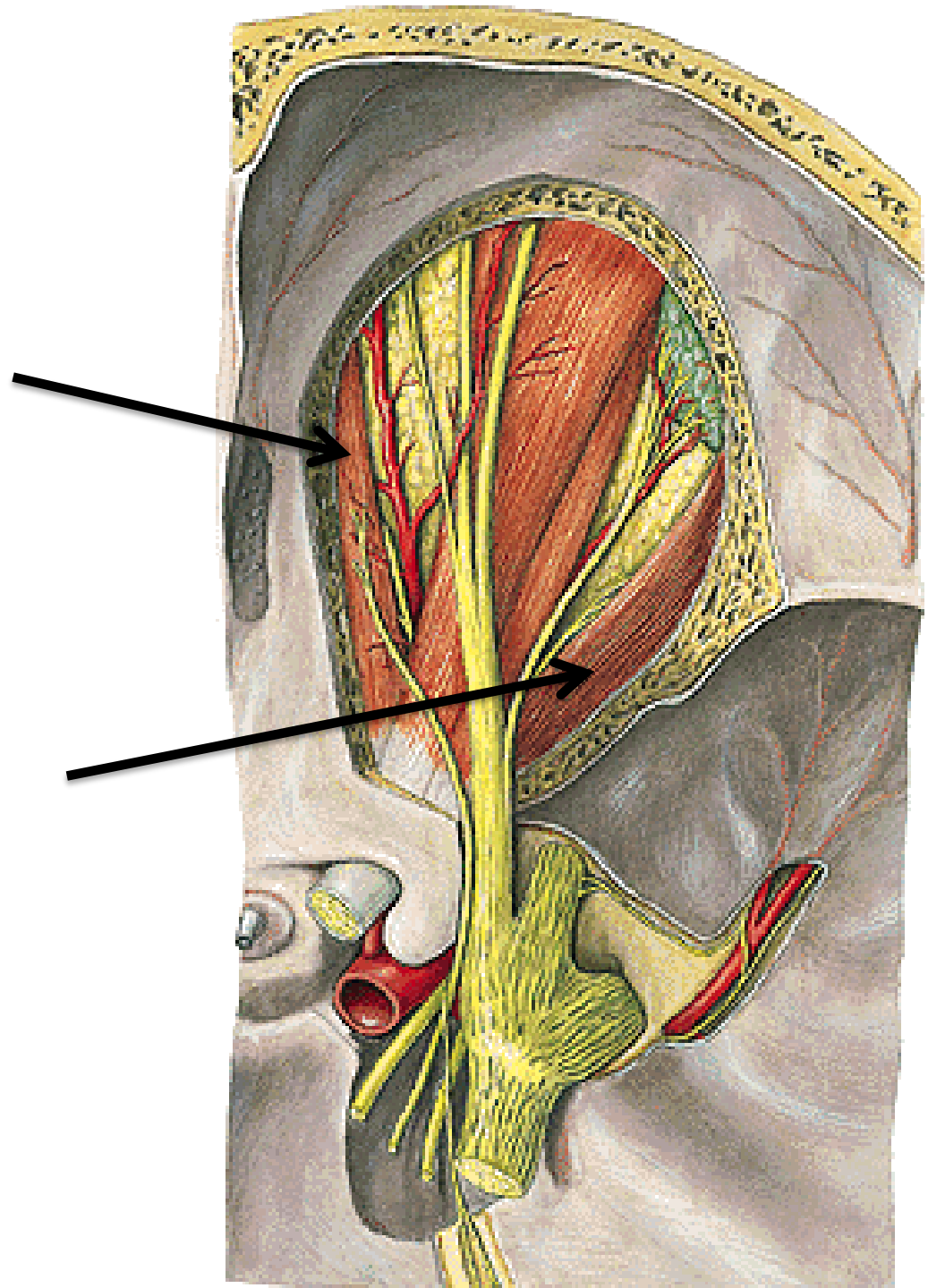
m. obliquus sup.

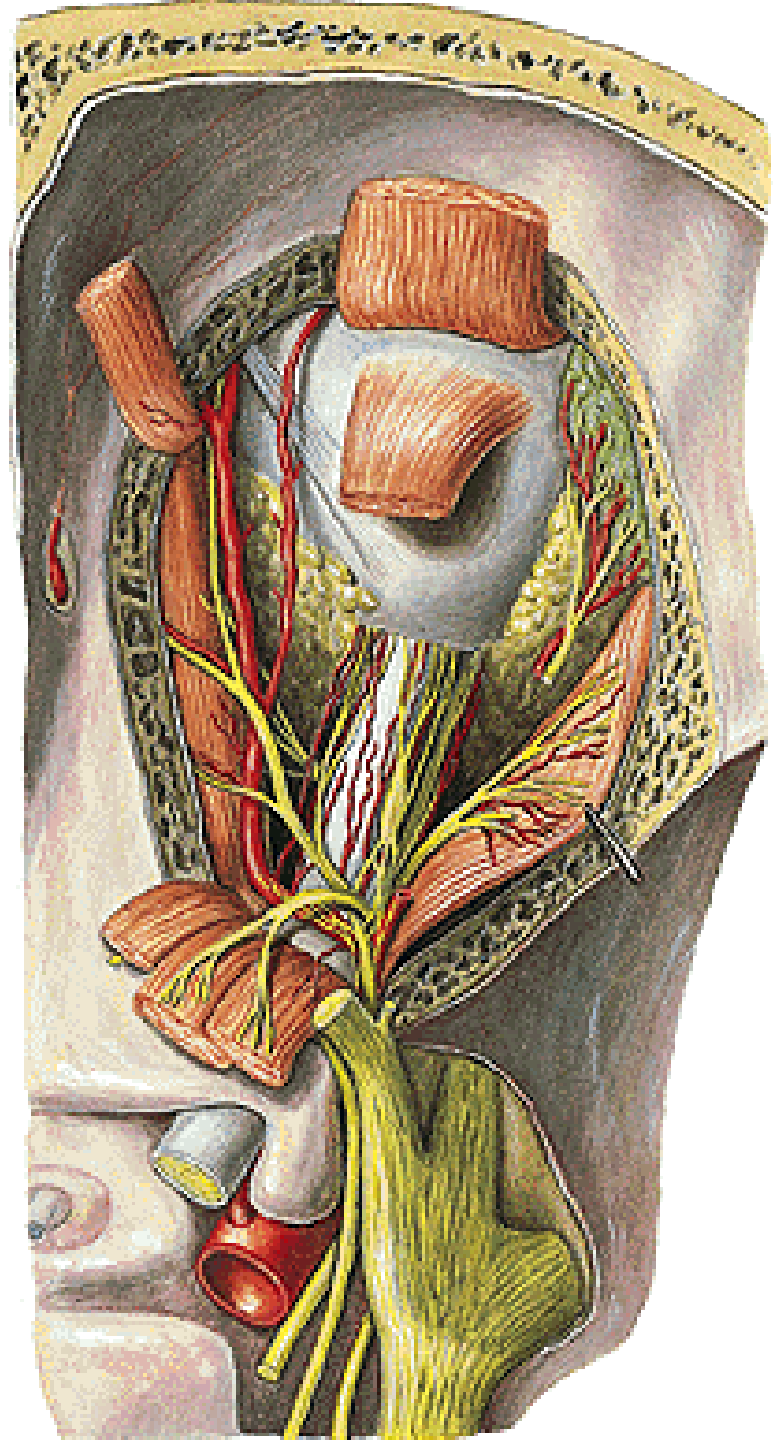
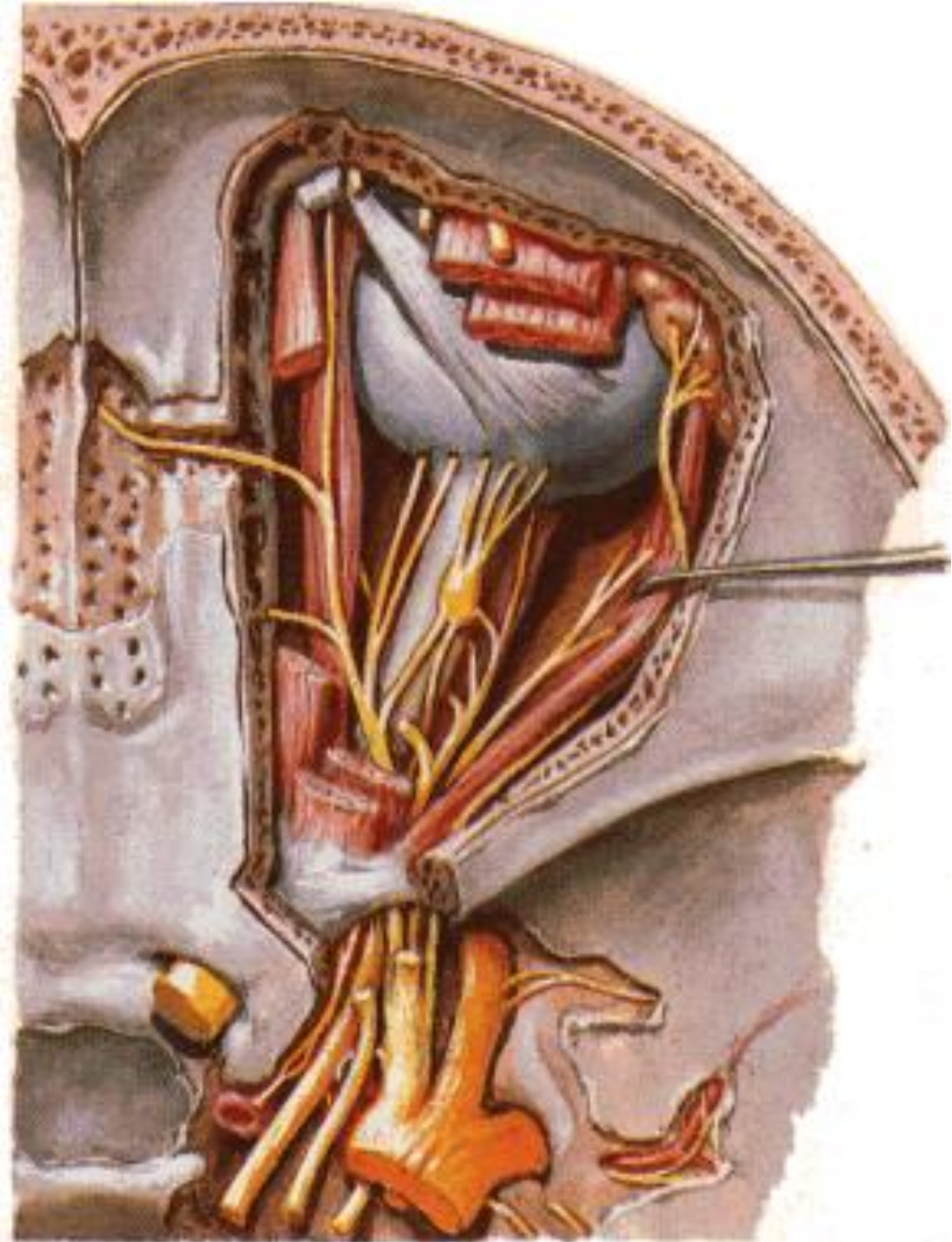
Innervation by CN VI:

m. rectus lat.

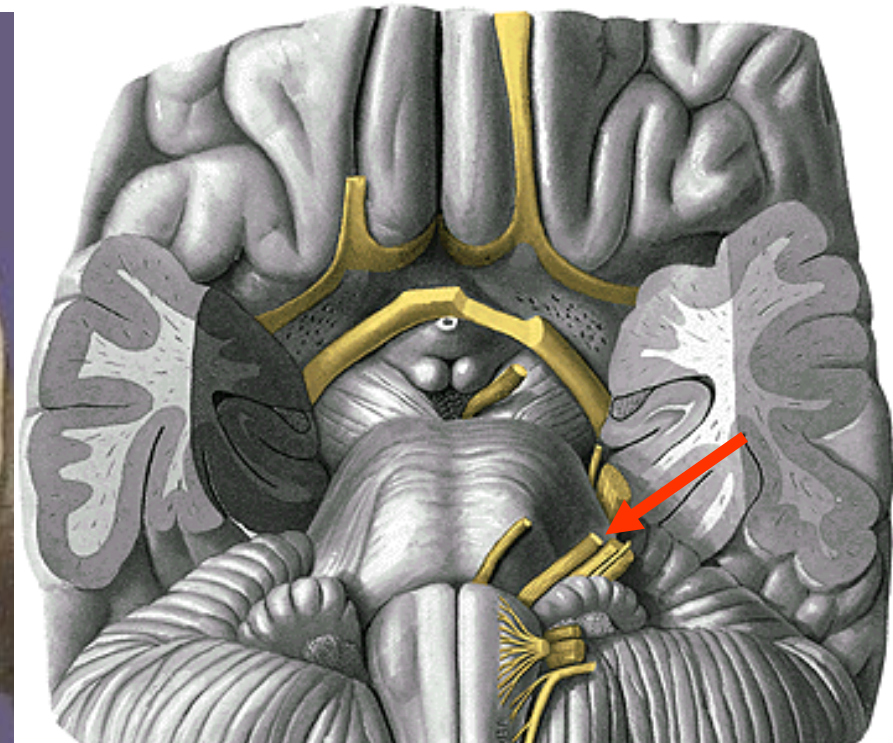
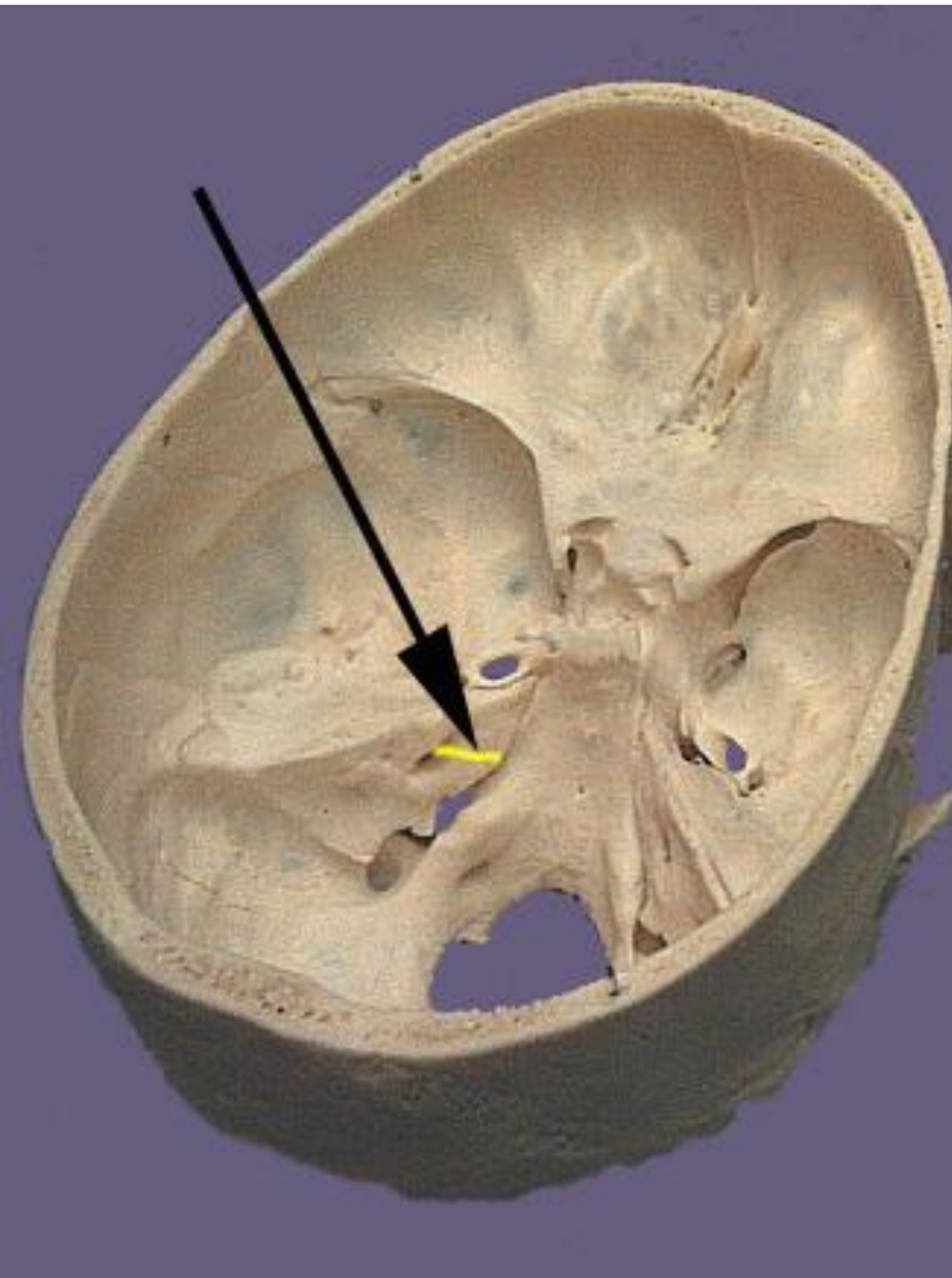
Innervation by CN IV
m. obliquus sup.

Innervation by CN VI
m. rectus lat.





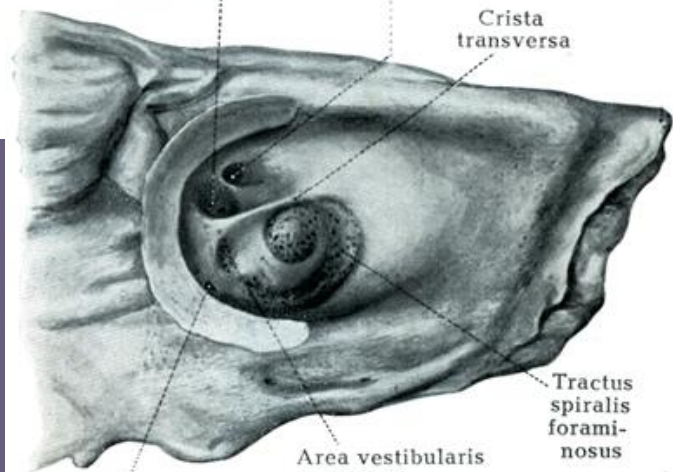
CN VII



Area vestibularis
utriculoampullaris

Introitus canalis
n. facialis

Crista
transversa

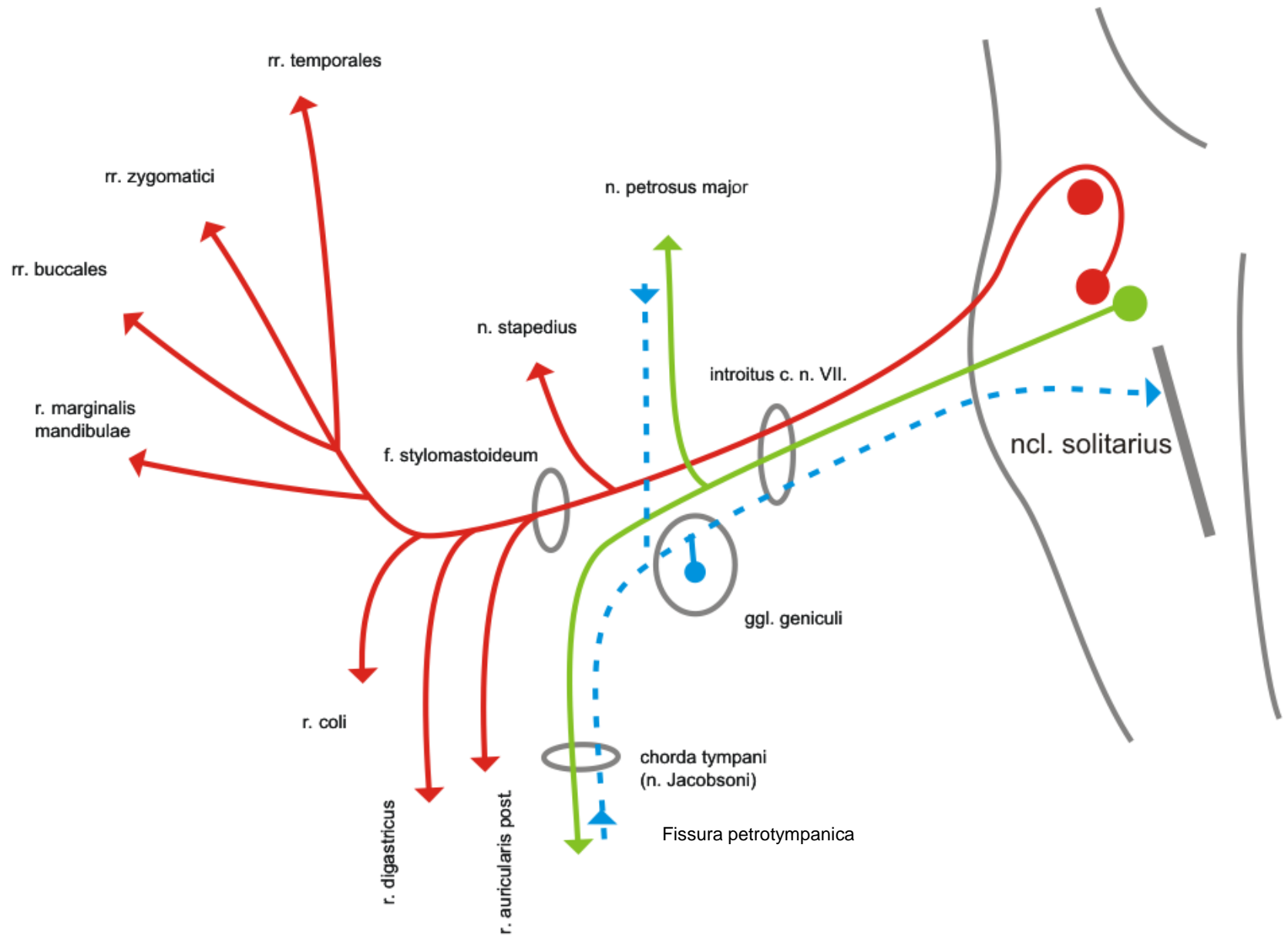


Tractus
spiralis
forami-
nosus

Area vestibularis
saccularis

Foramen singulare

CN VII



Innervation by n. VII:

Mimic muscles

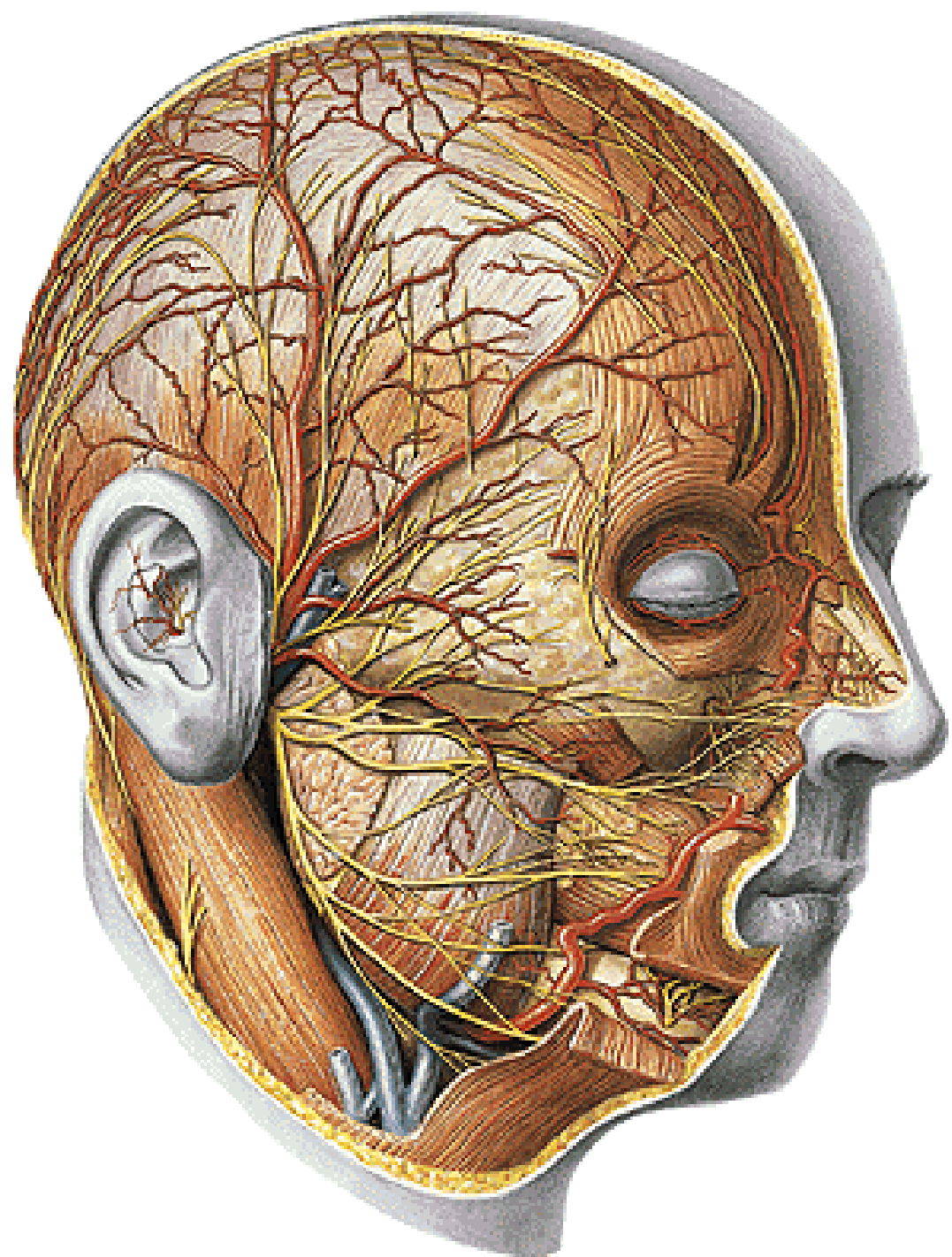
gl. lacrimalis

gl. submandibularis

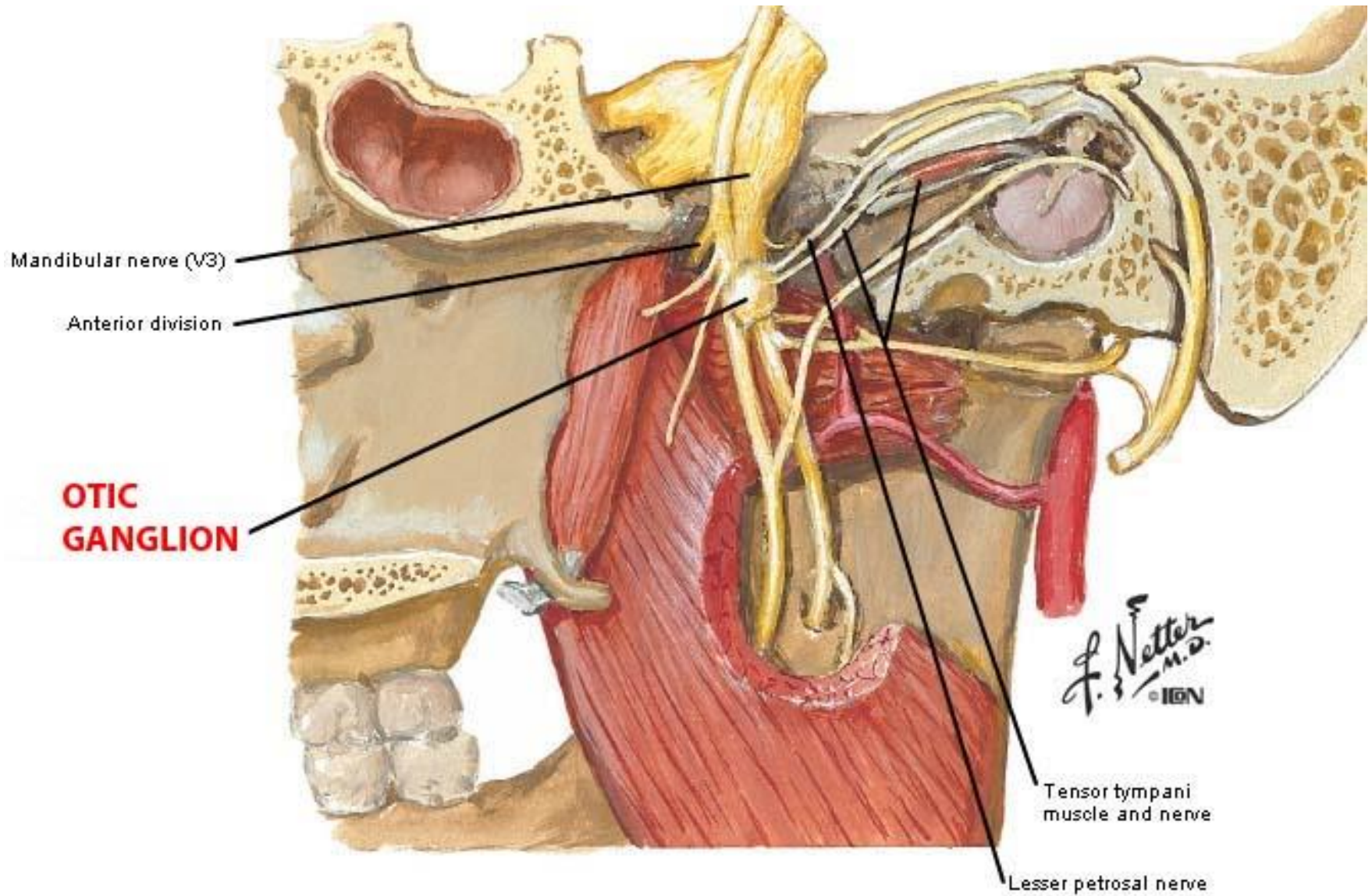
gl. sublingualis

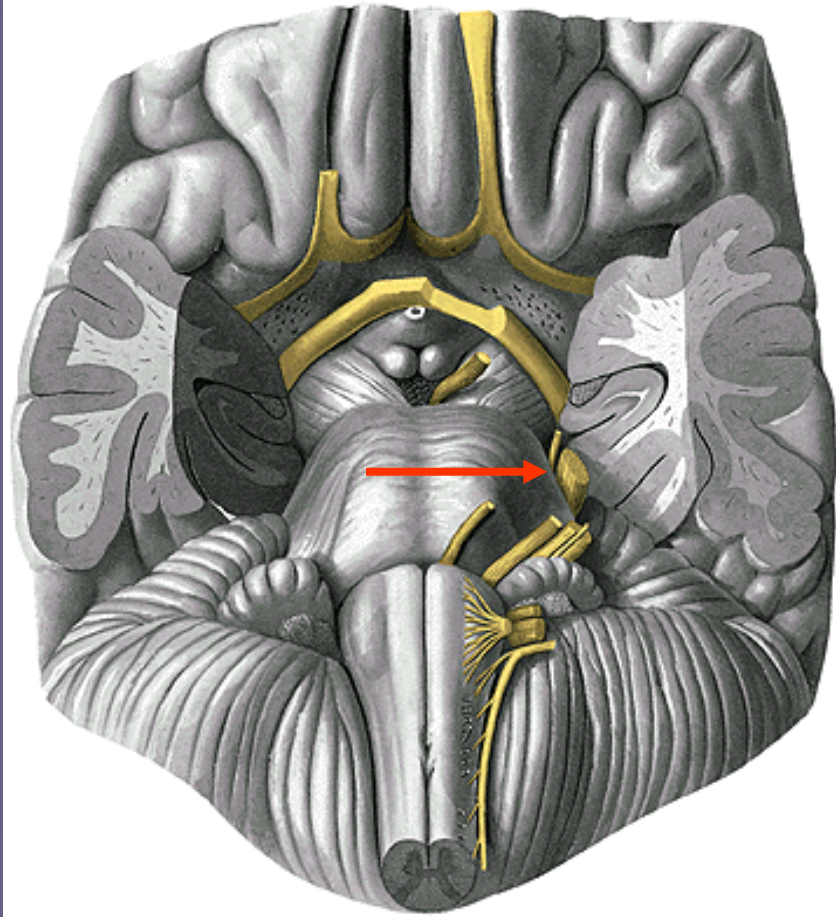
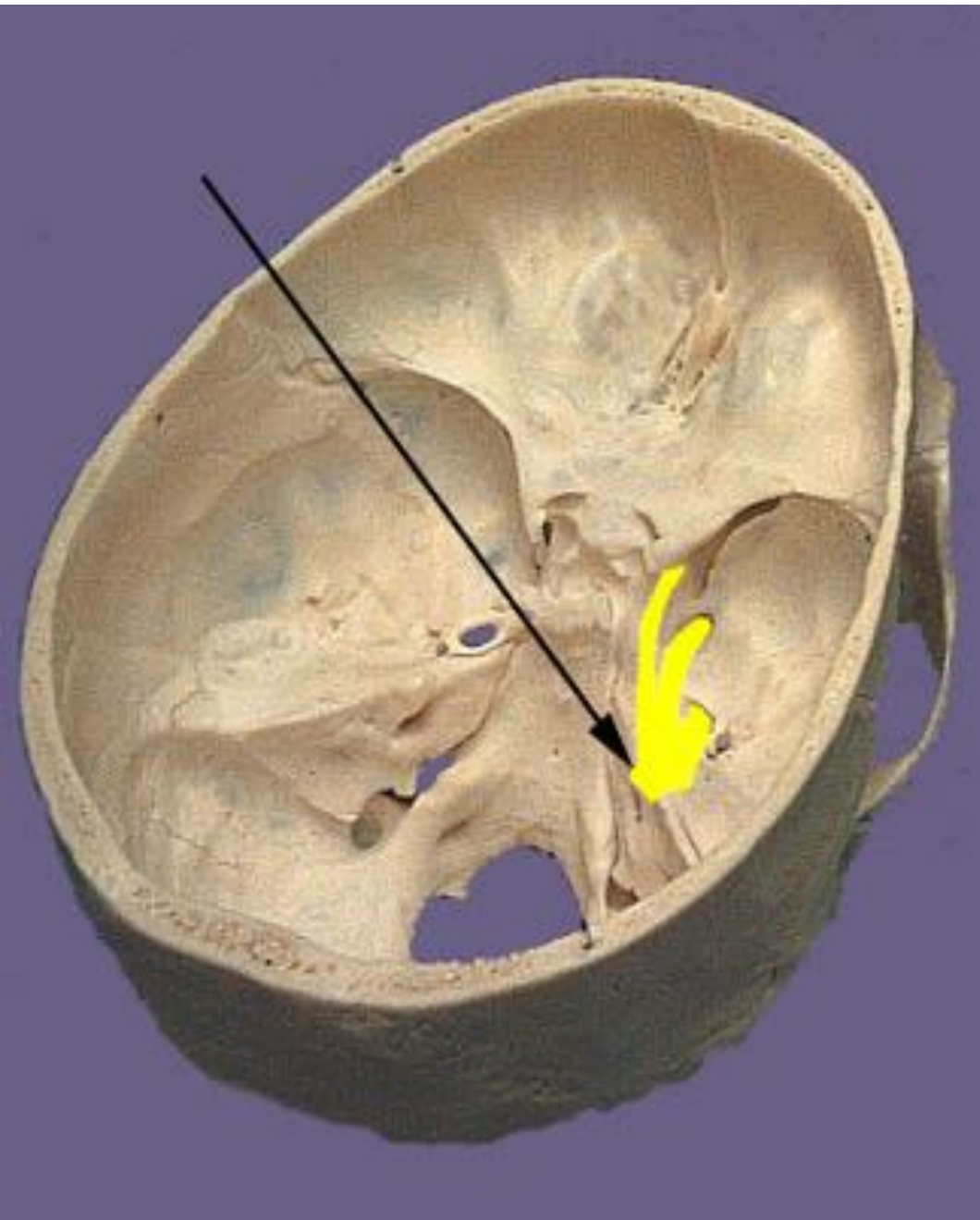
small salivatory gl. in mucosa of
soft and hard palatum

Taste buds in anterior 2/3 of tongue
and in mucosa of soft and hard
palate

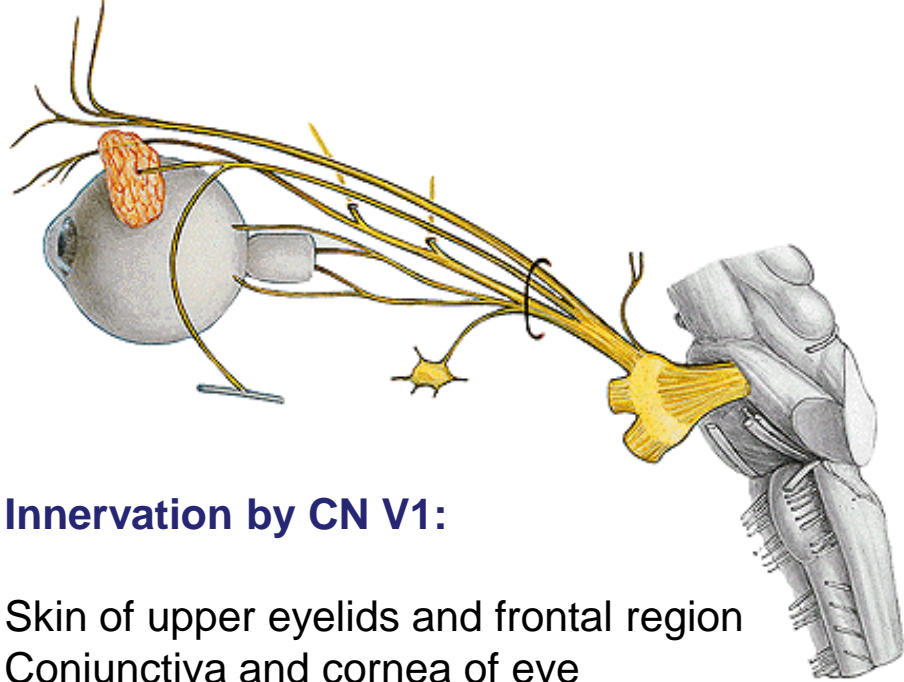


Chorda tympani

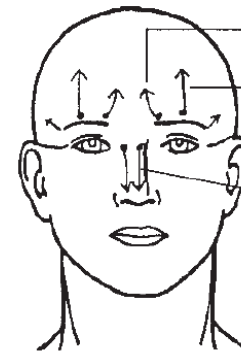
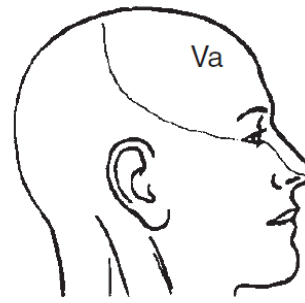




CN V



Cutaneous distribution

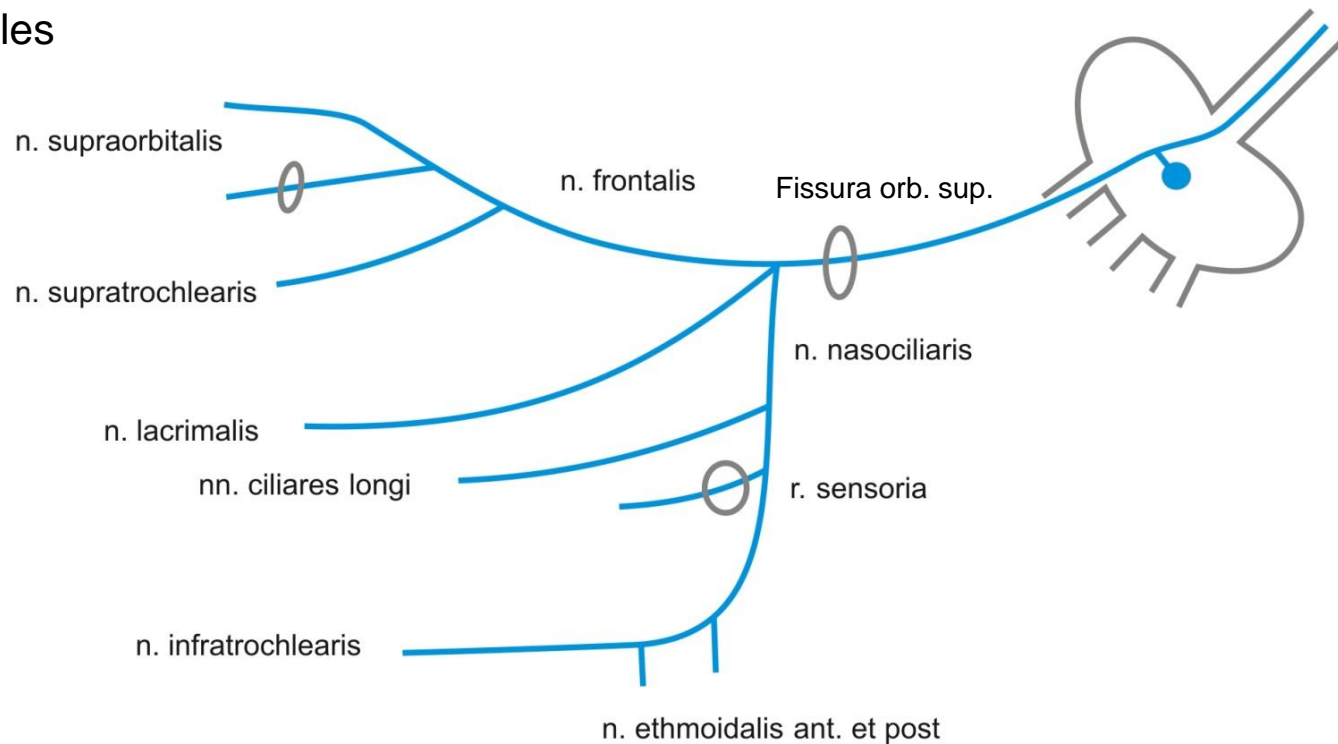


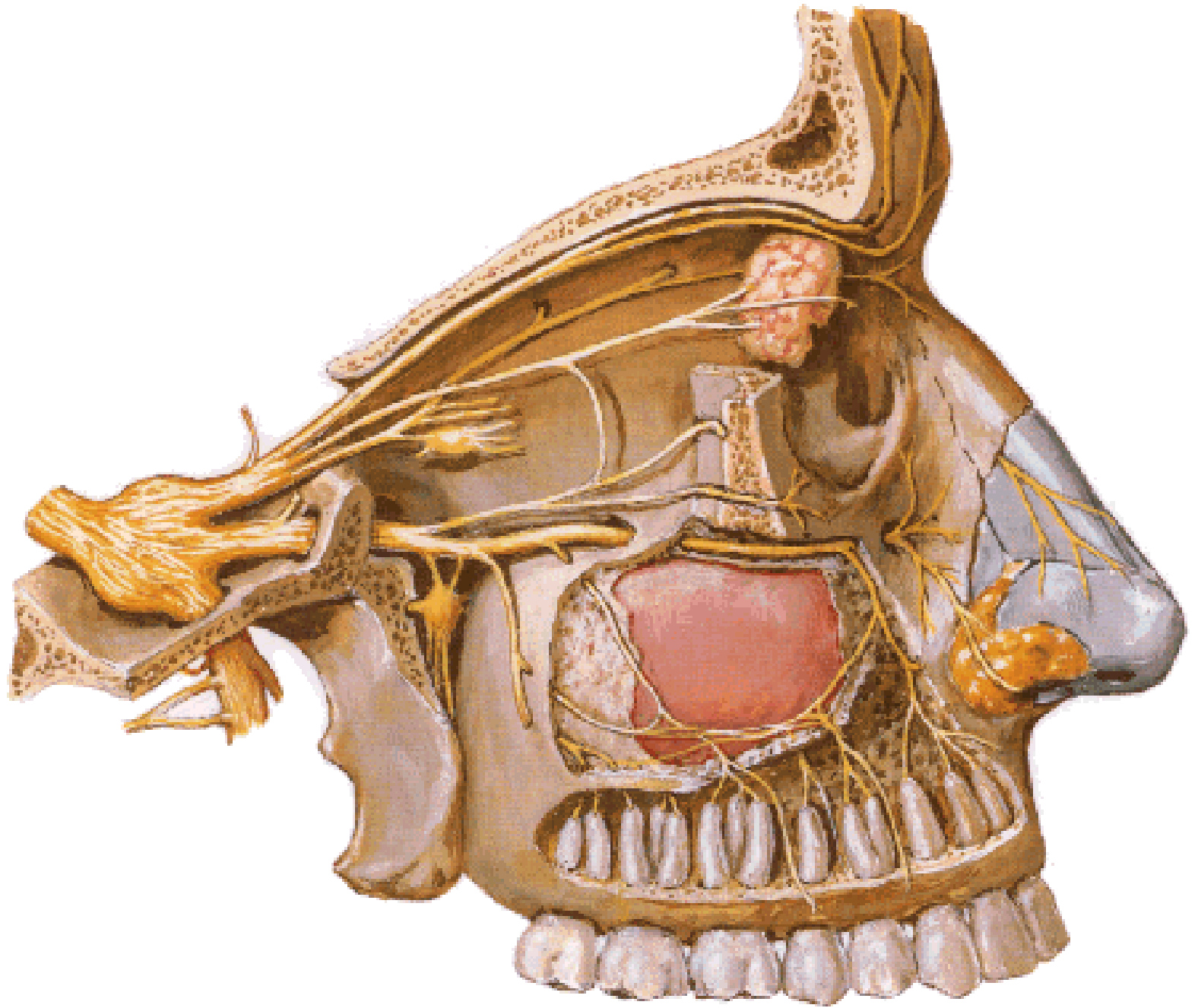
Sinus (broken circle)
 Supratrochlear
 (from frontal)
 Supraorbital
 (from frontal)
 External nasal
 (from nasociliary)

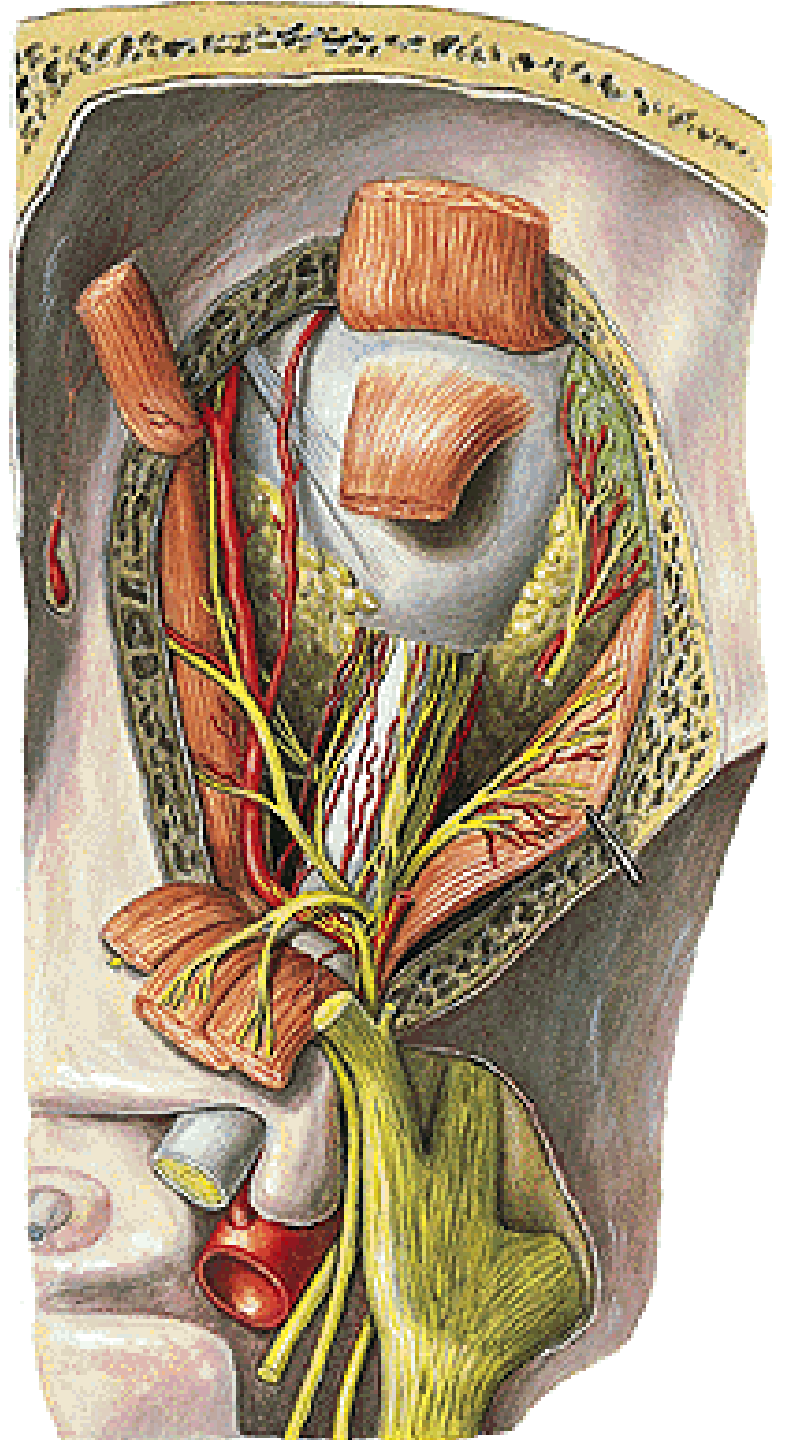
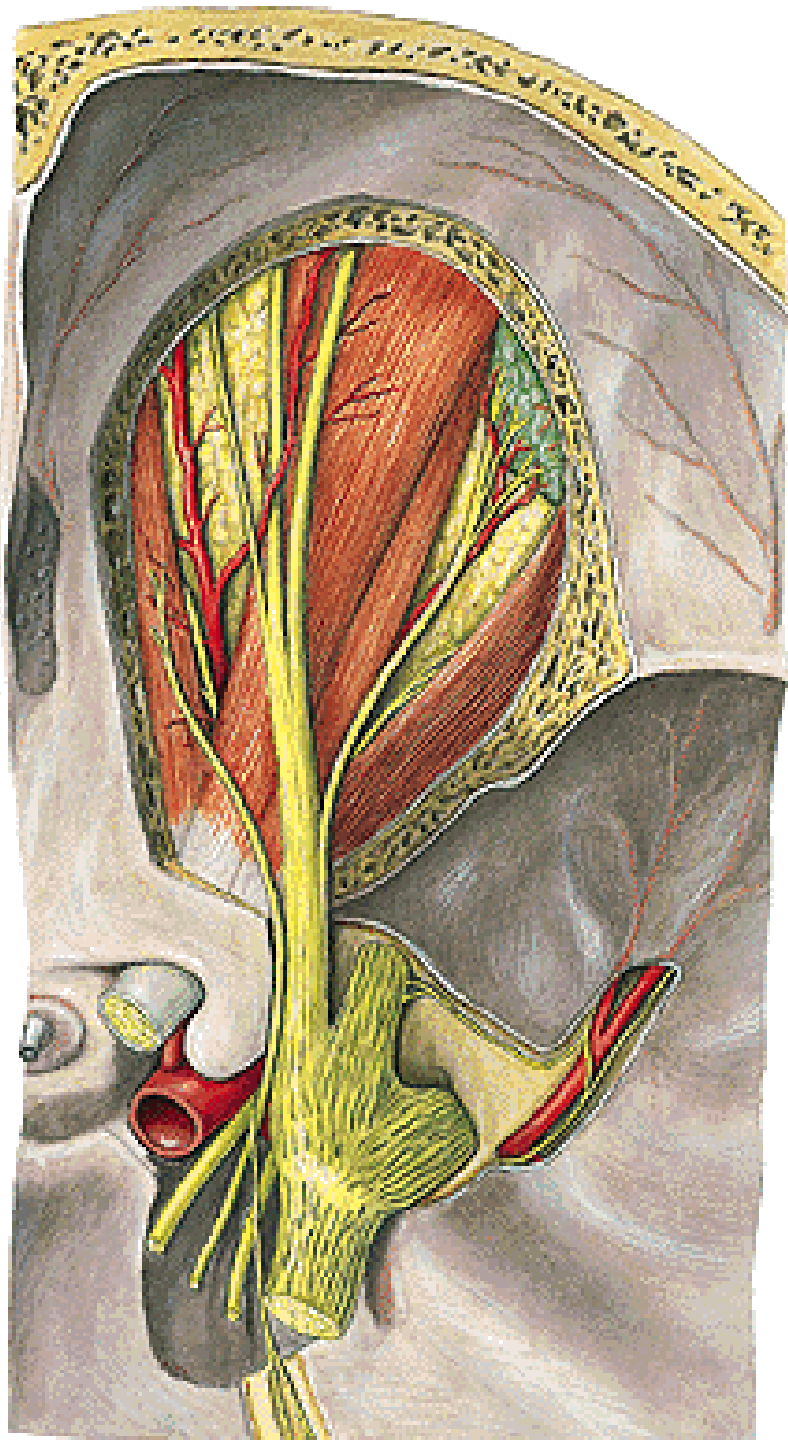
CN V1 - ophthalmic nerve

Innervation by CN V1:

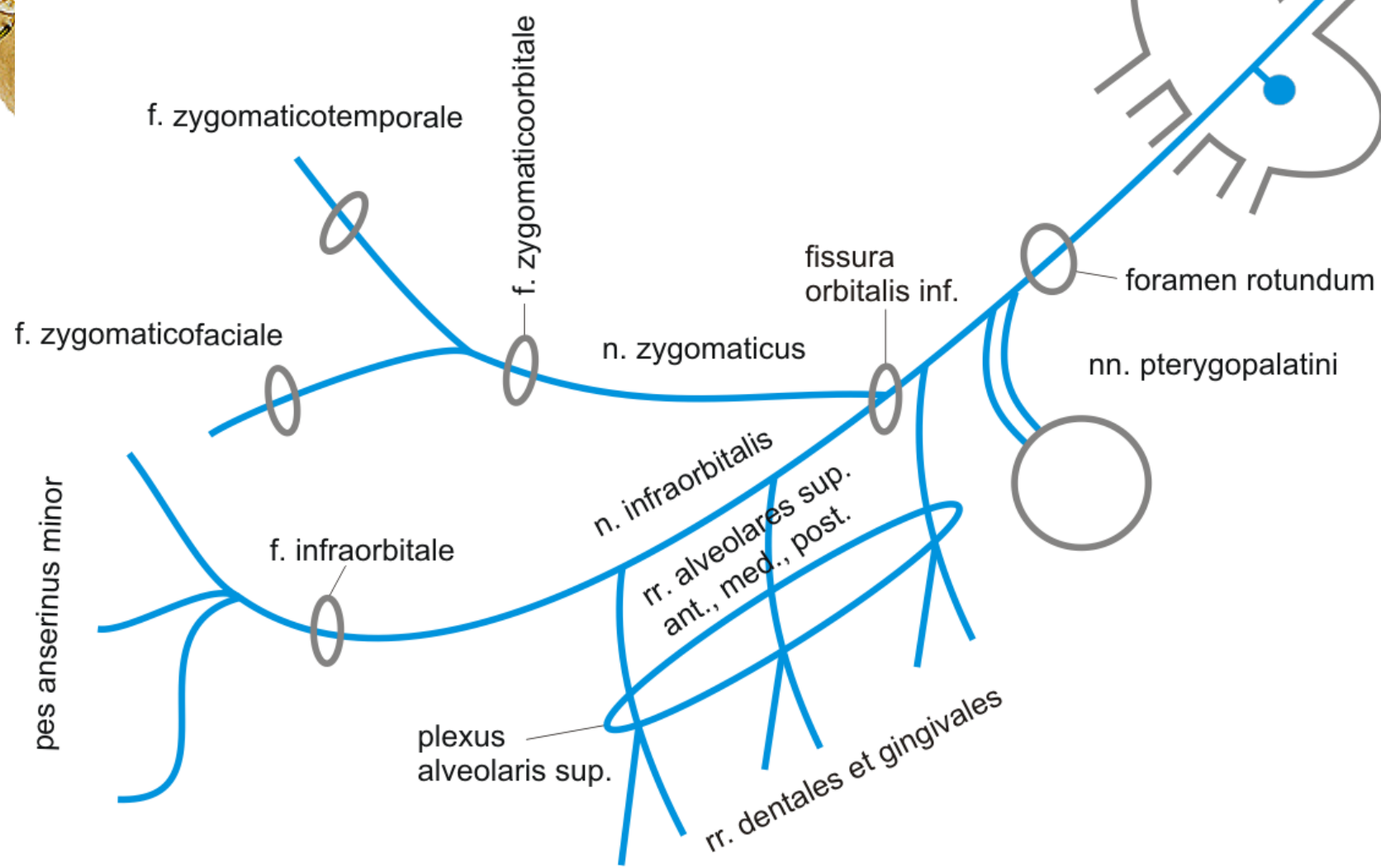
Skin of upper eyelids and frontal region
 Conjunctiva and cornea of eye
 Mucosa of cellulae ethmoidales

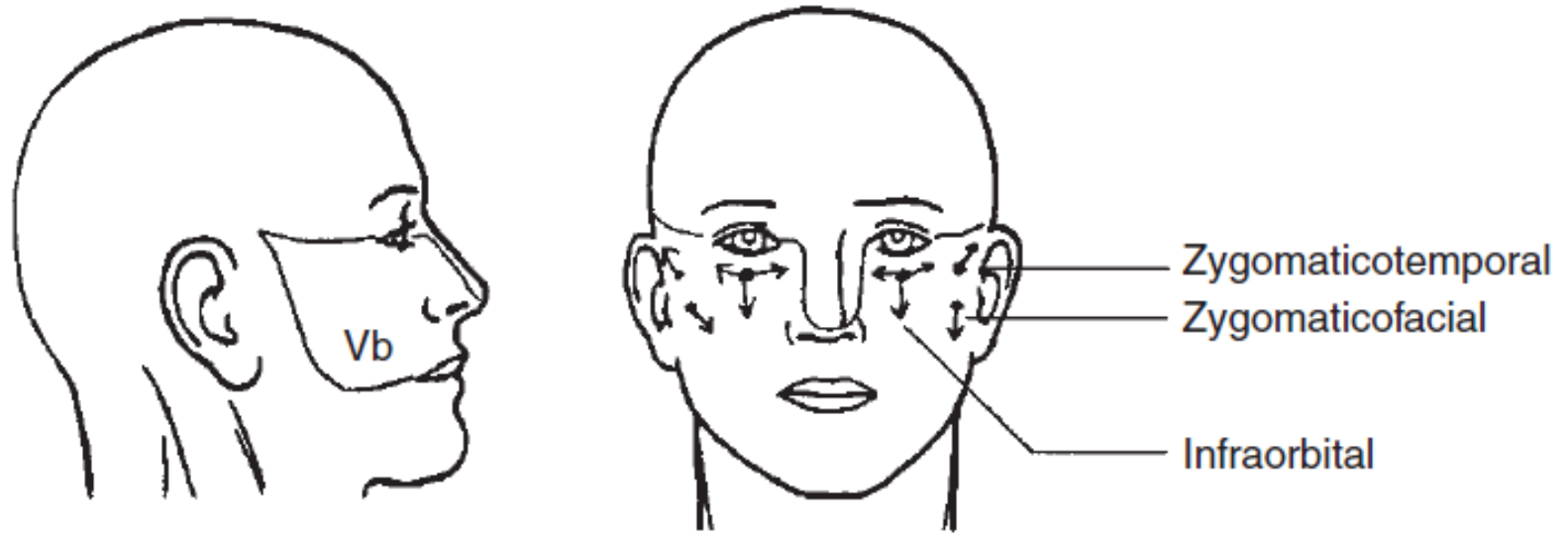






CN V2 – maxillary nerve





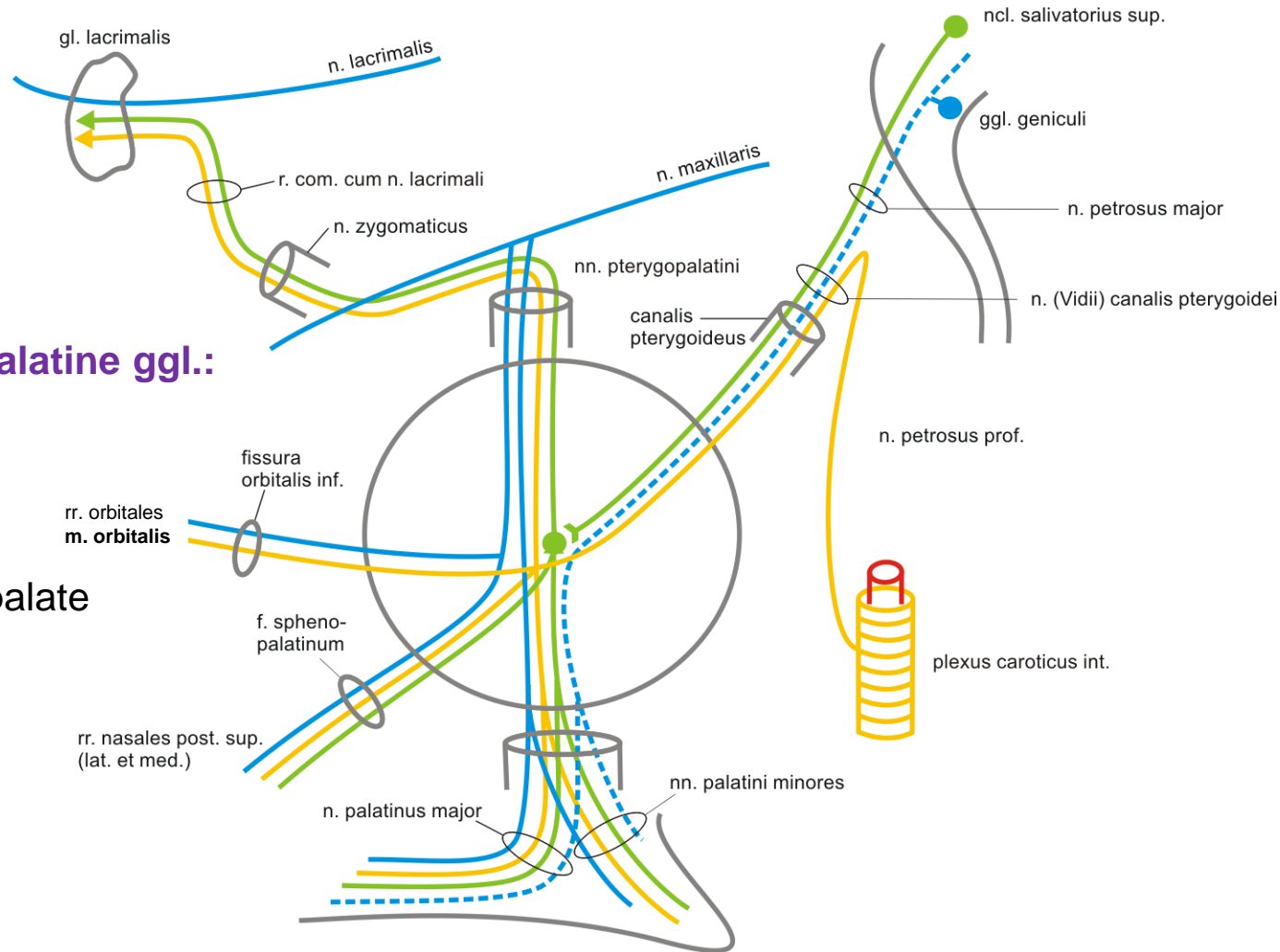
Somatosensory innervation by CN V2:

Skin of lower eyelids, nasal wings, cheek, gingiva and teeth of maxilla

Pterygopalatine ggl.

Innervation by pterygopalatine ggl.:

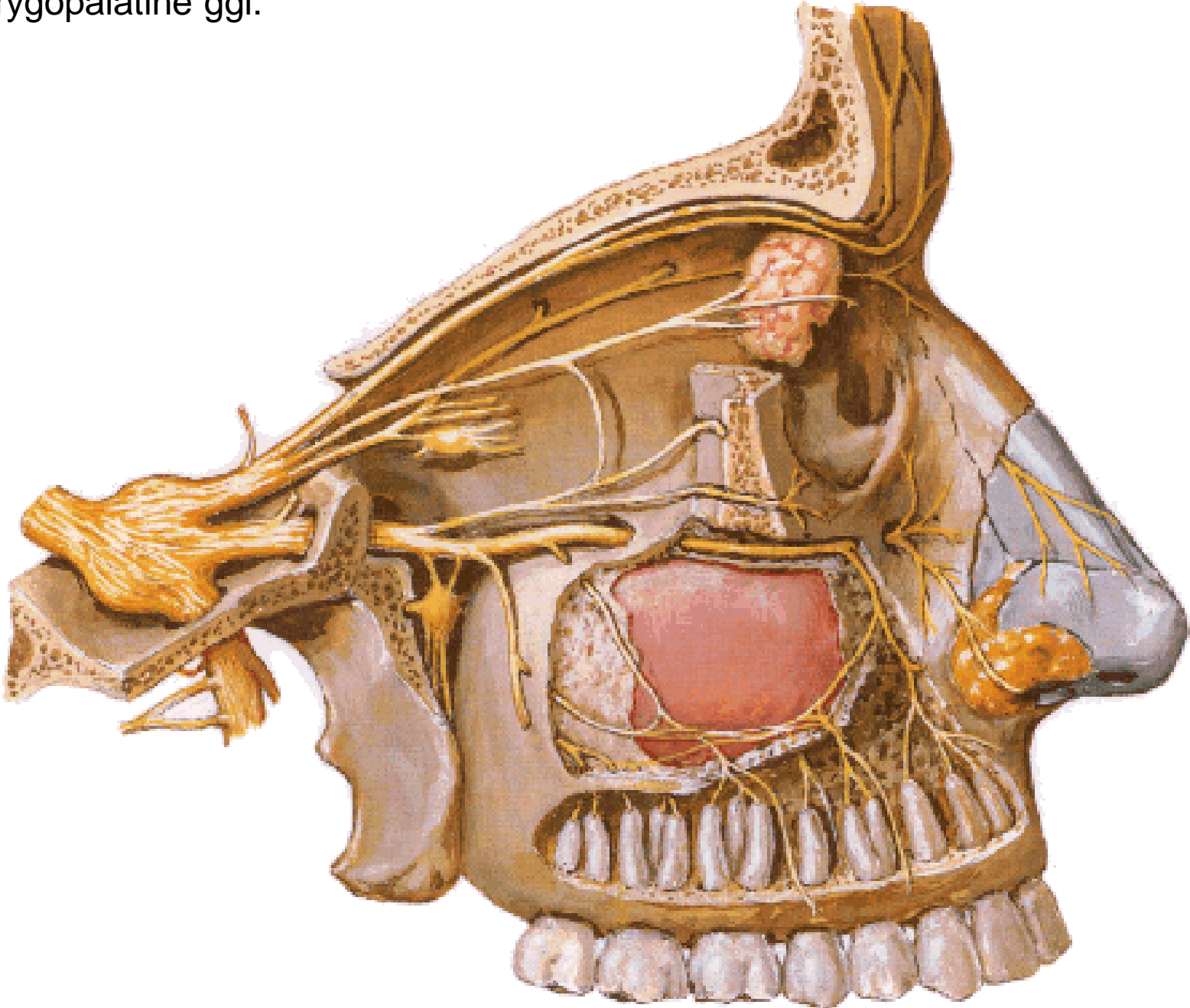
gl. lacrimalis
 m. orbitalis
 mucosa of nasal cavity
 mucosa of soft and hard palate



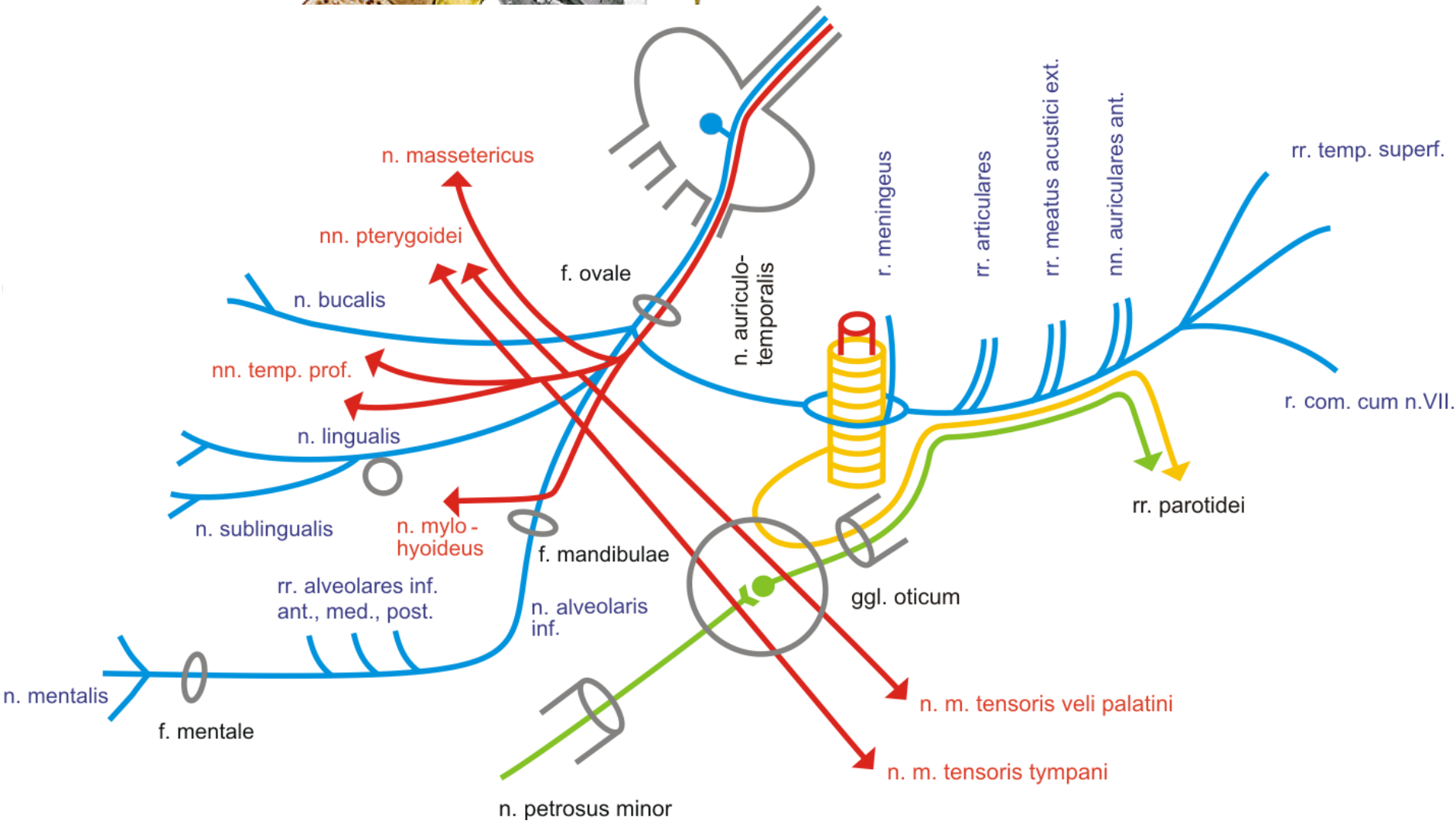
Typy nervových vláken

- | | | | |
|---|------------------|---|---------------|
|  | senzorická |  | sympatická |
|  | somatosenzorická |  | parasymptická |

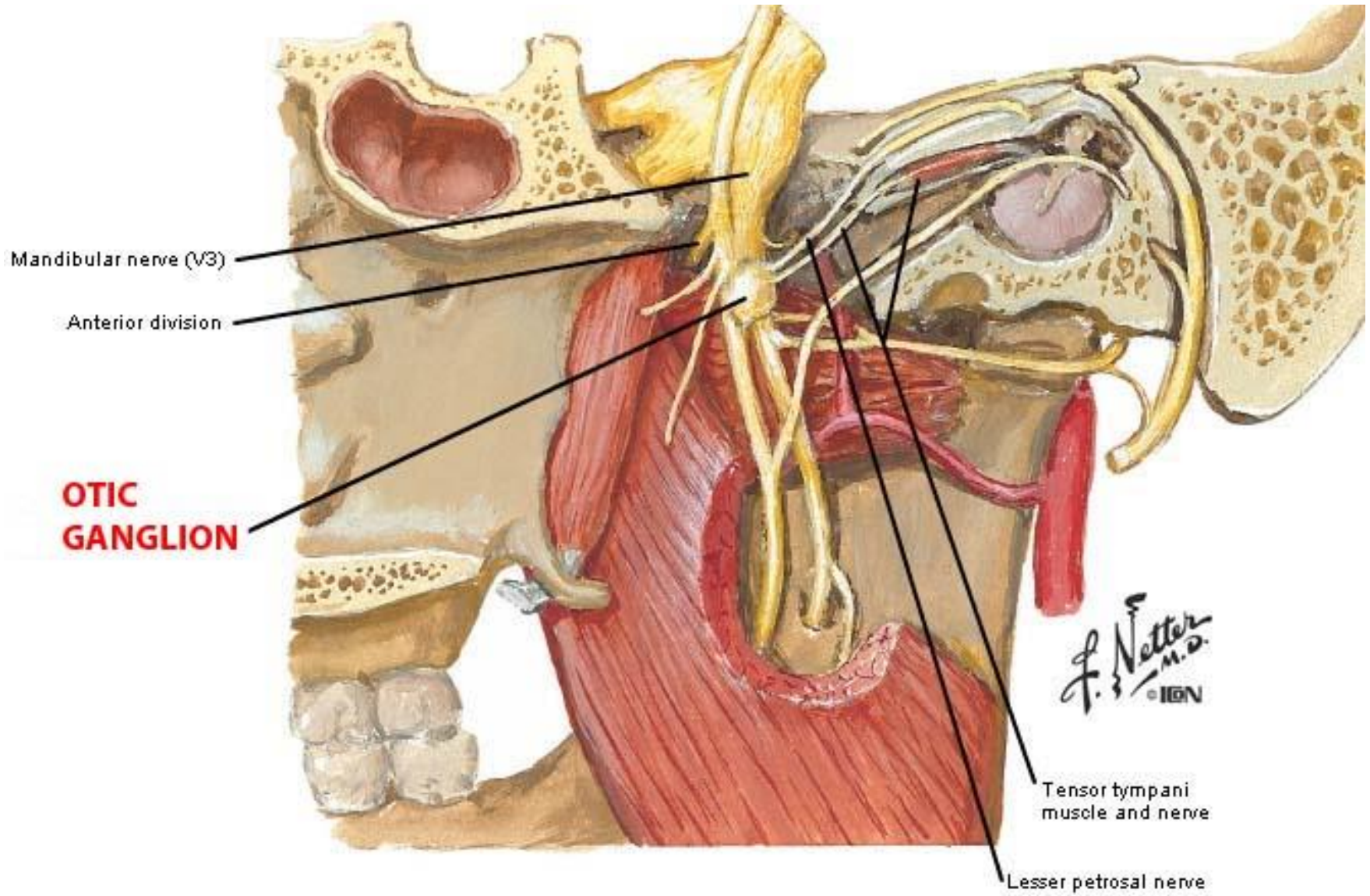
Pterygopalatine ggl.



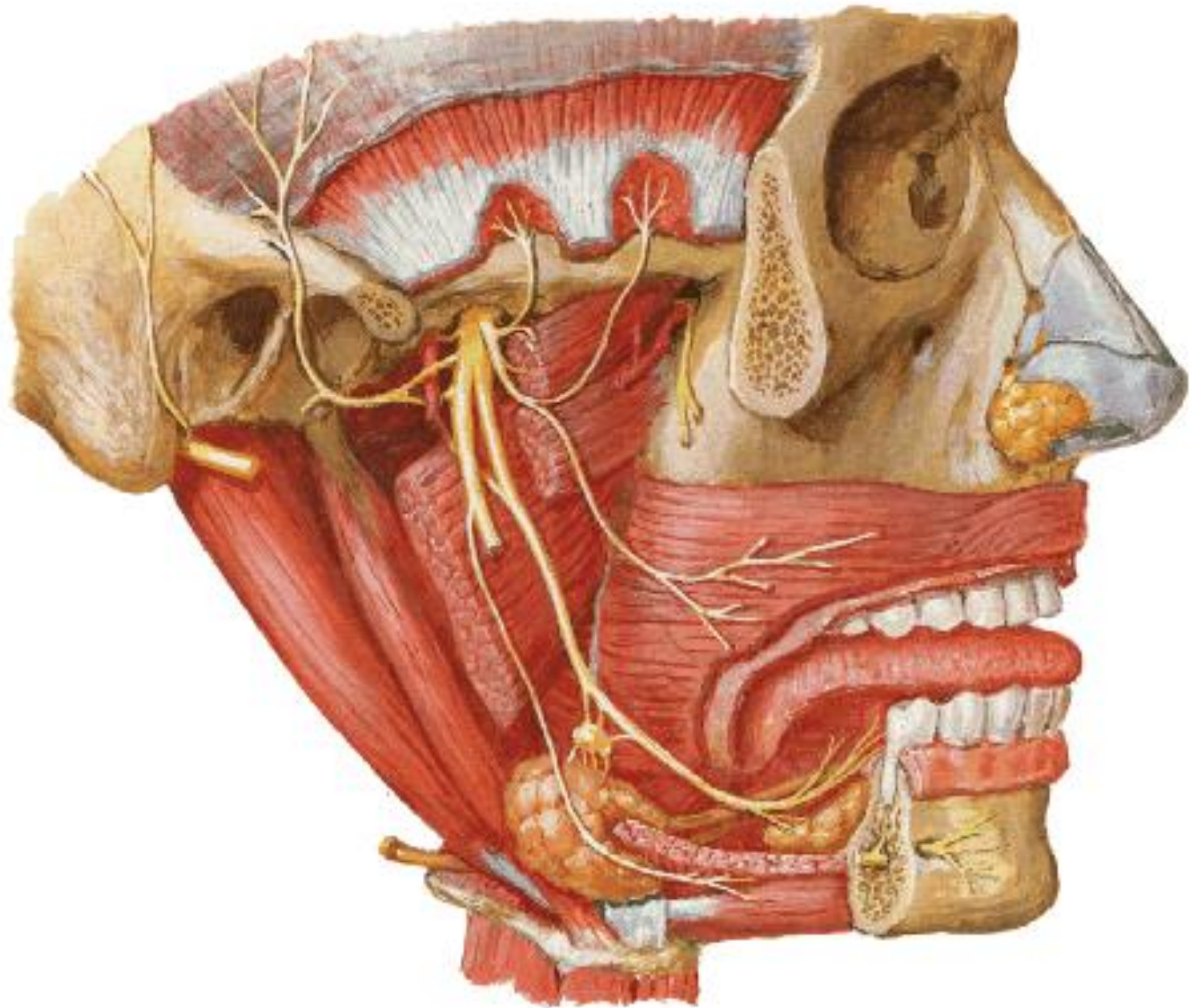
CN V3 – mandibular nerve

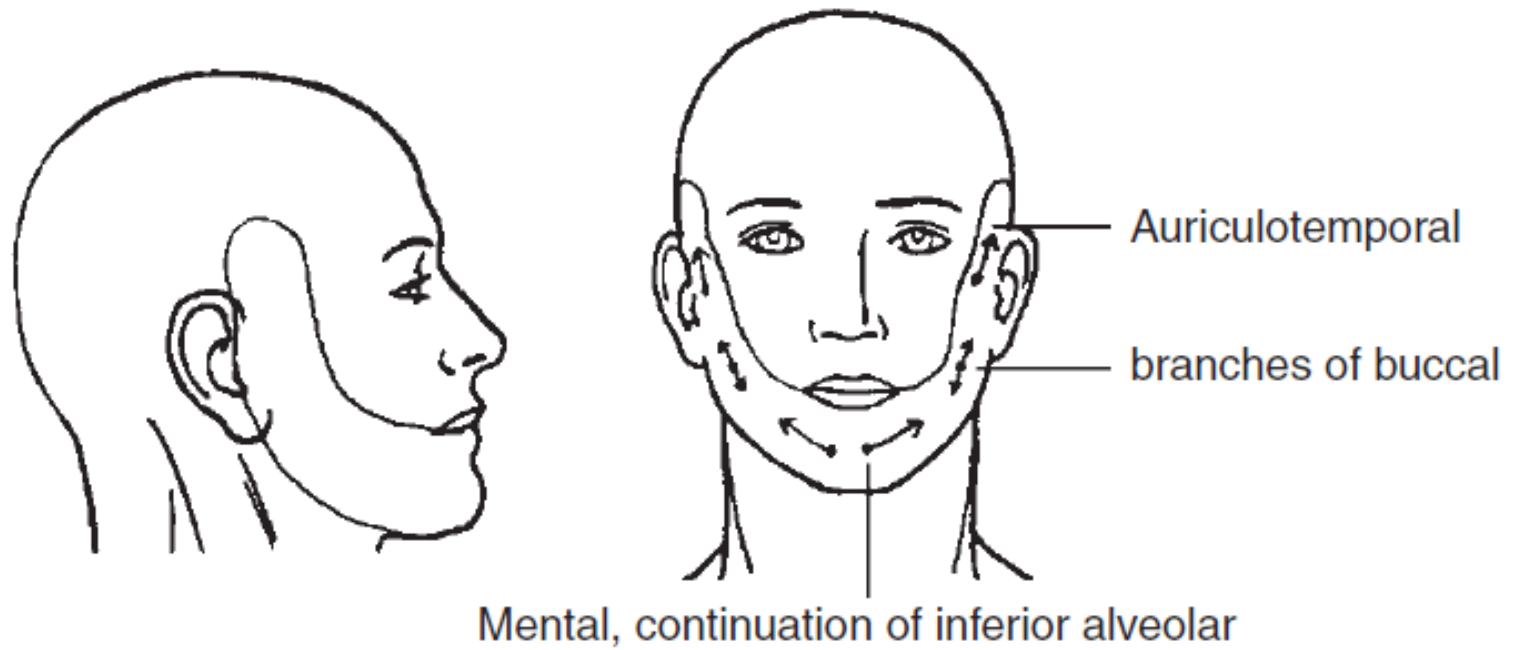


CN V3 – mandibular nerve



CN V3 – mandibular nerve



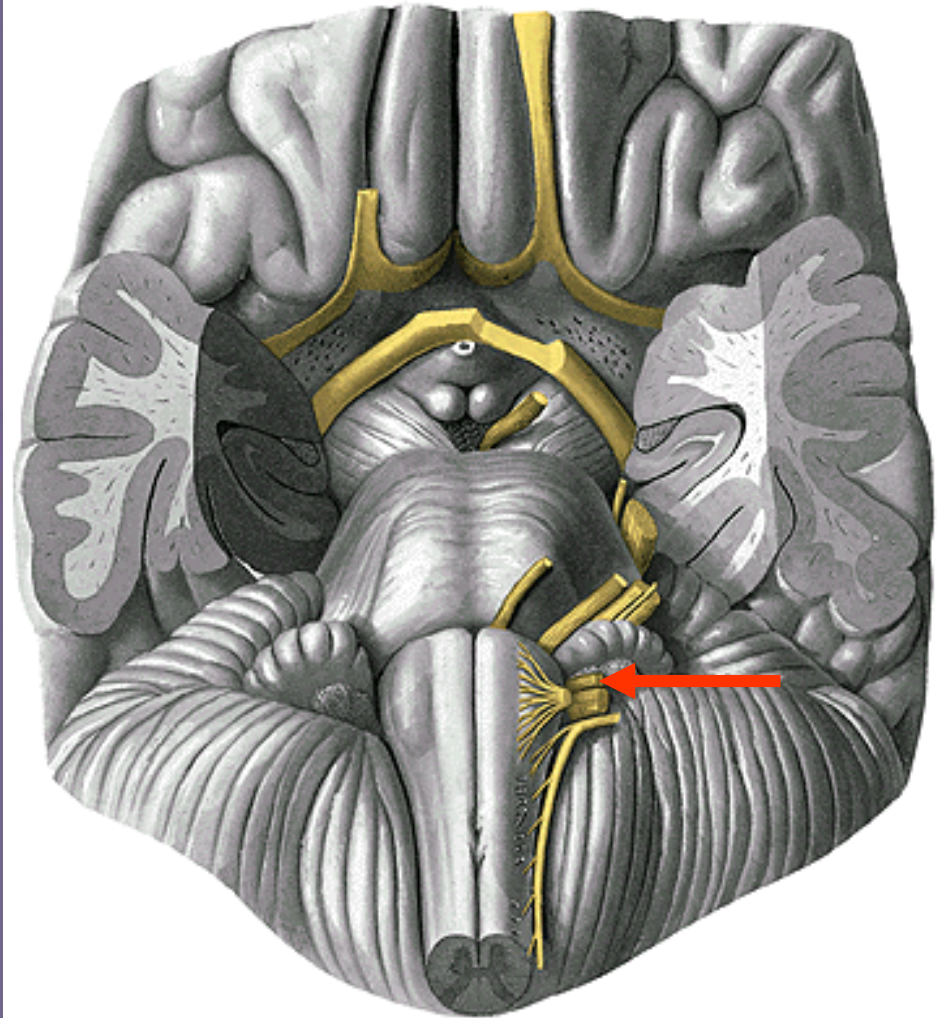
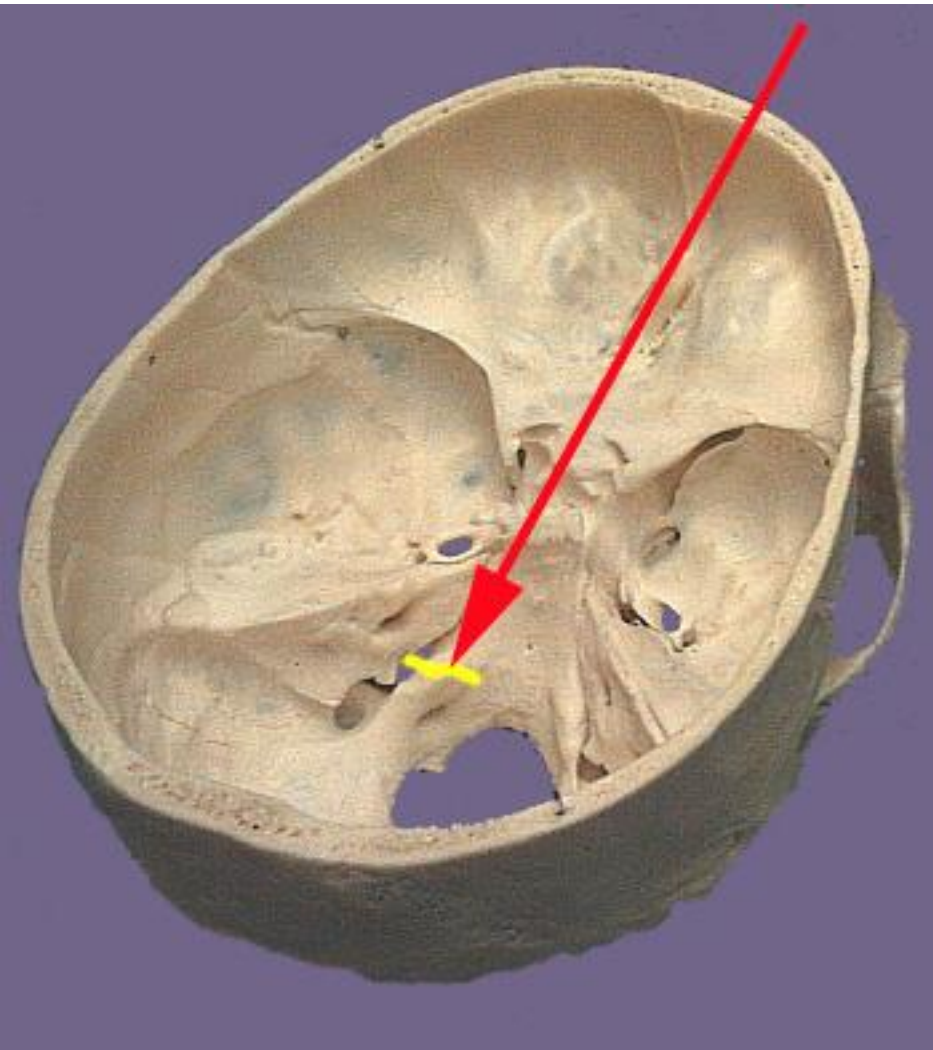


Somatosensory innervation by CN V3:

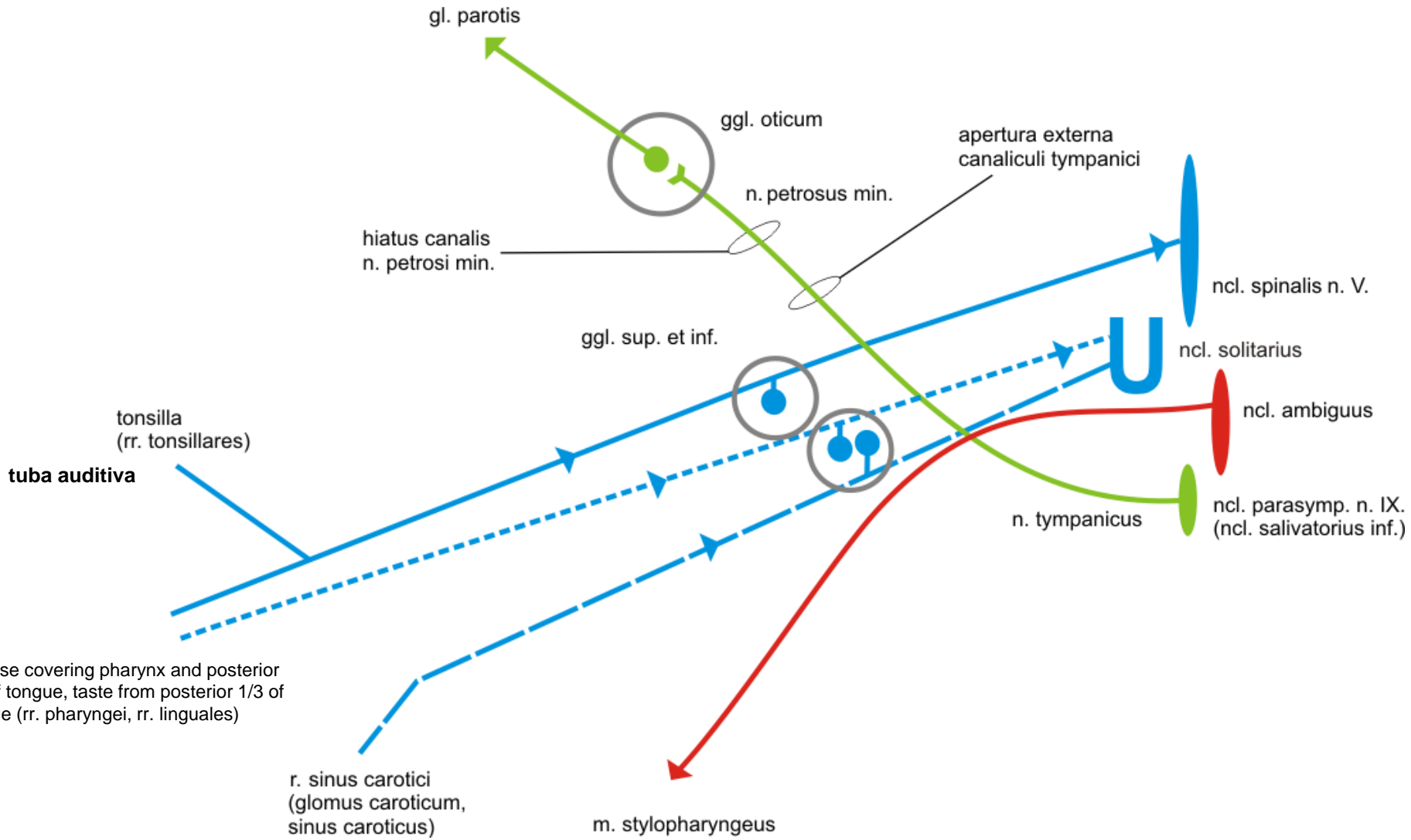
Skin of mandibula

Gingiva and teeth of mandibula

CN IX



CN IX



Innervation by CN IX:

Somatosensory

Pharyngeal mucosa
Tonsilla palatina, tuba auditiva
Mucosa of posterior 1/3 of tongue

Sensory (taste)

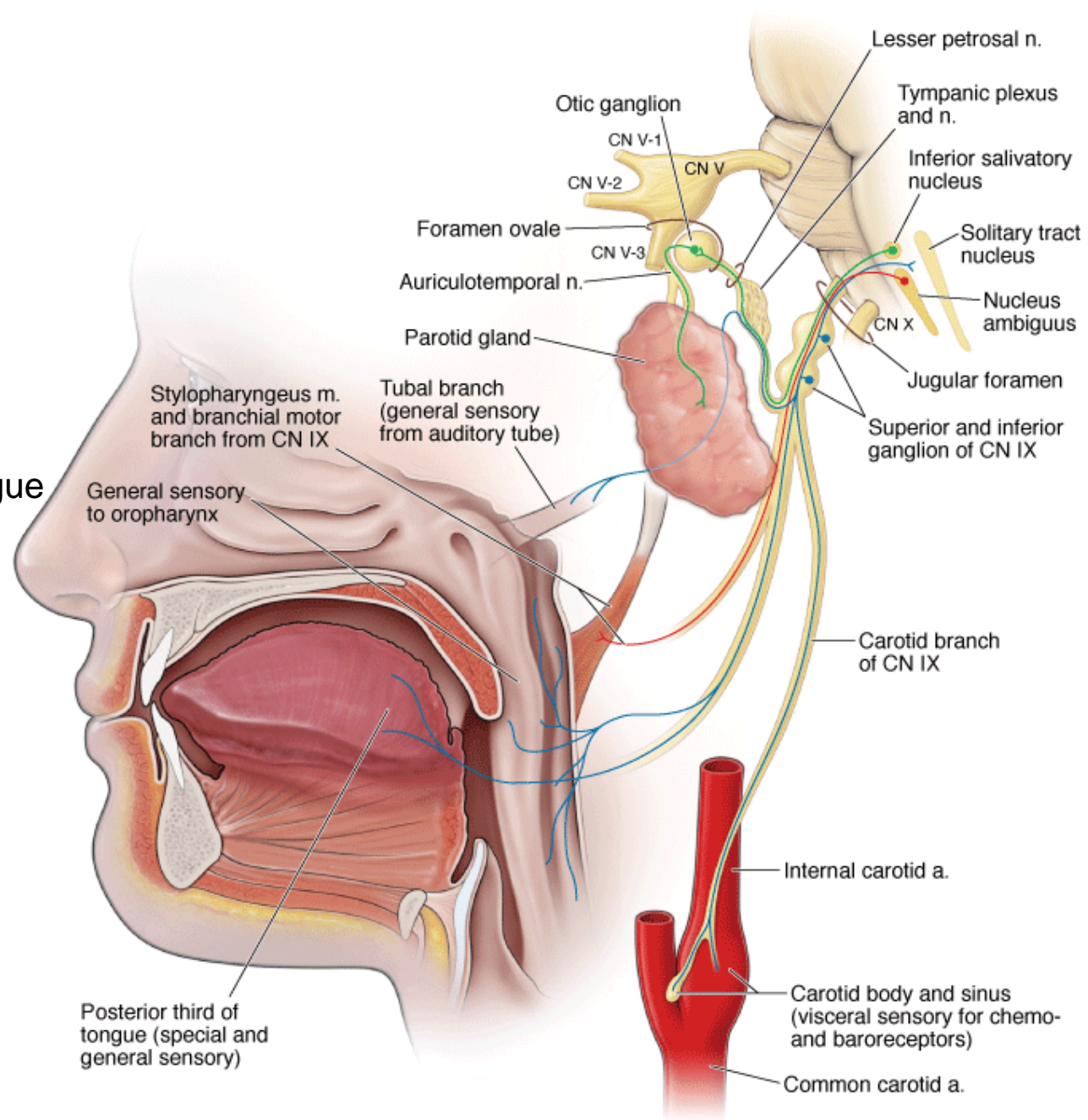
Taste buds of posterior
1/3 of tongue

Viscerosensory

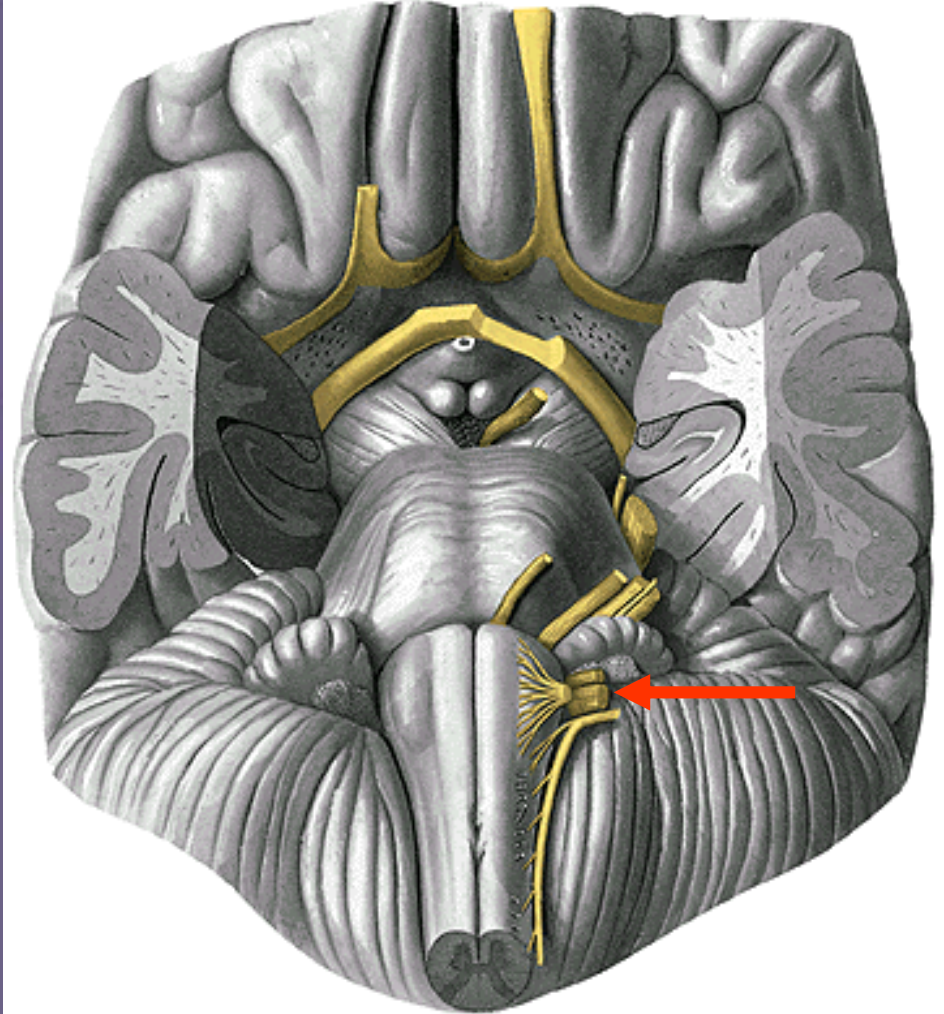
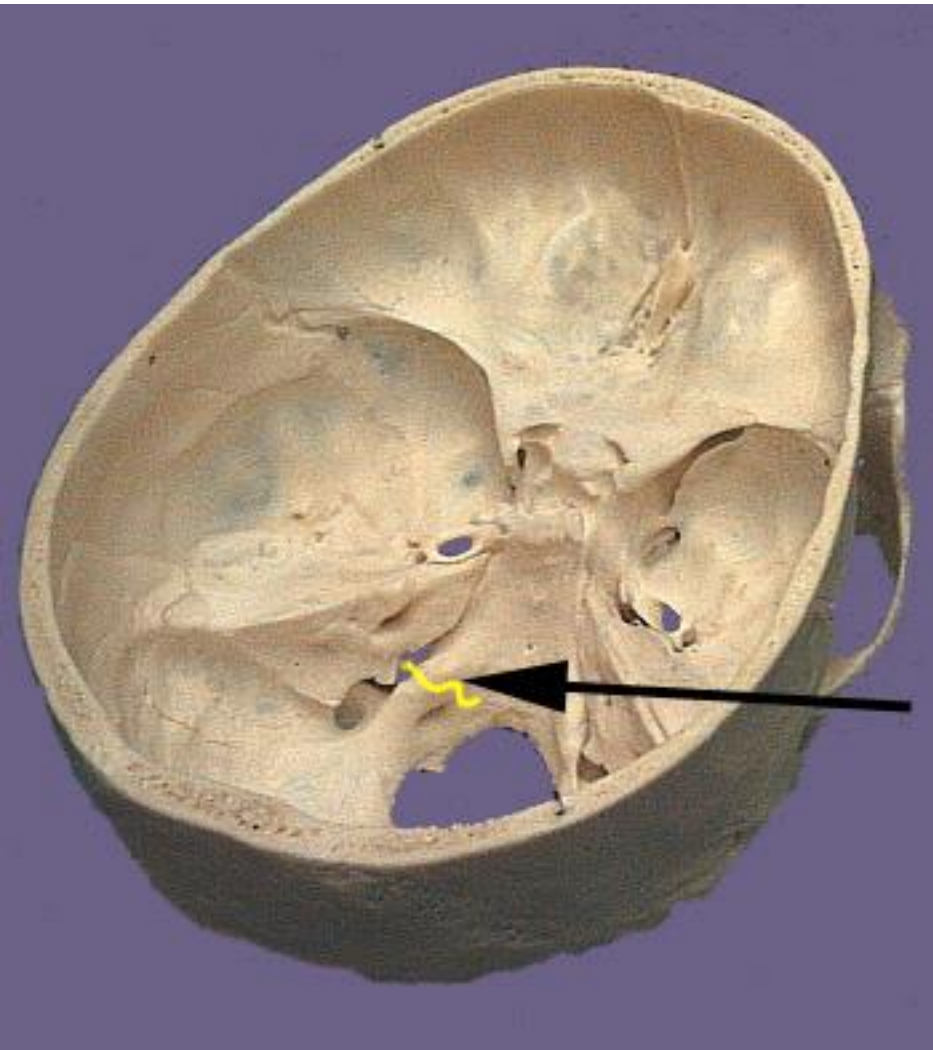
Glomus caroticum
Sinus caroticus

Motor
m. stylopharyngeus

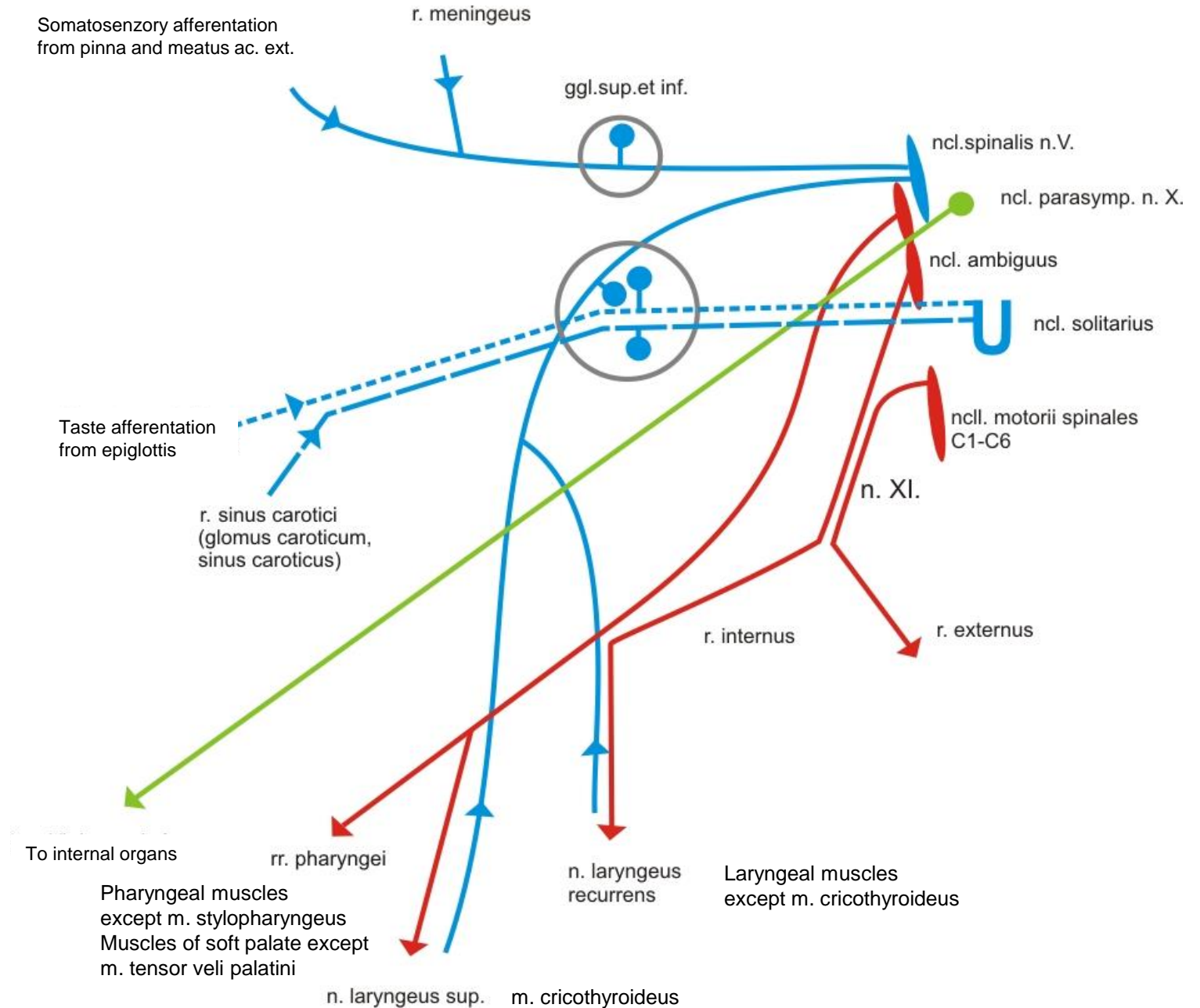
Parasympathetic
gl. parotis



CN X



CN X



Vagus nerve branches

r. **m**eningeus

rr **a**uriculares

rr. **p**haryngei

rr. **l**aryngei sup.

rr. **c**ardiaci cervicales sup.

n. laryngeus **r**ecurrens n. lar. inf.

rr. **c**ardiaci cervicales inf.

rr. **c**ardiaci thoracici

rr. **b**ronchiales

rr. tracheales,

rr. **o**esophagei, plexus oesophageus,

plexus pulmonalis

truncus vagalis ant., post. -----rr. **g**astrici ant. post.,

rr. **c**oeliaci

rr. **h**epatici

rr. **r**enales

Innervation by CN X:

Somatosensory

Pinna and meatus acusticus ext.
Meninges, mucosa of larynx

Sensory (taste)

Taste buds of epiglottis

Viscerosensory

Glomus caroticum
Sinus caroticus

Branchiomotor

Pharyngeal muscles except m. stylopharyngeus

Muscles of soft palate except m. tensor veli palatini

Laryngeal muscles

m. cricothyroideus – n. laryngeus sup., r. externus

Rest laryngeal muscles – n. laryngeus recurrens (source r. internus n. XI.)

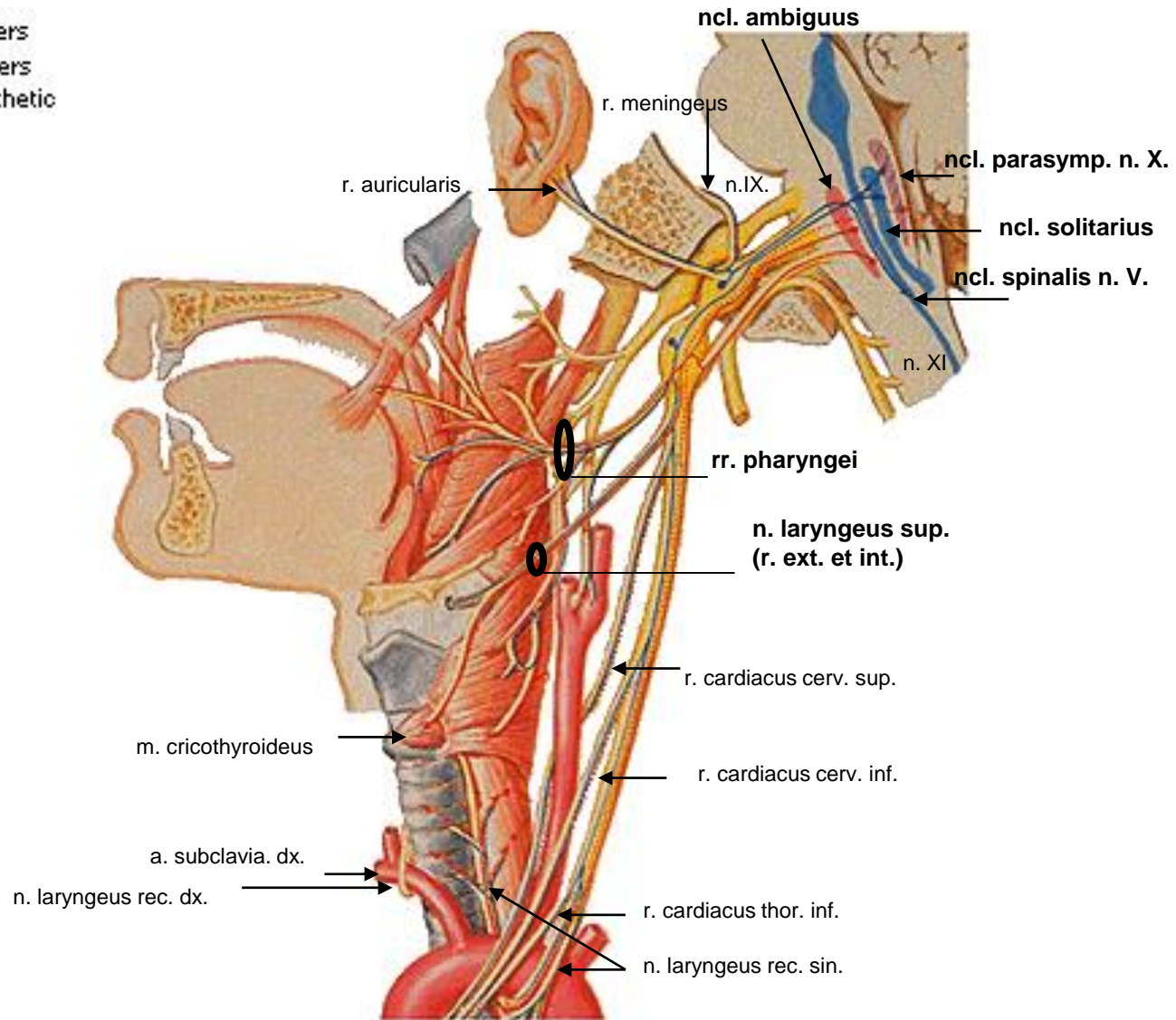
Visceromotor

Internal organs

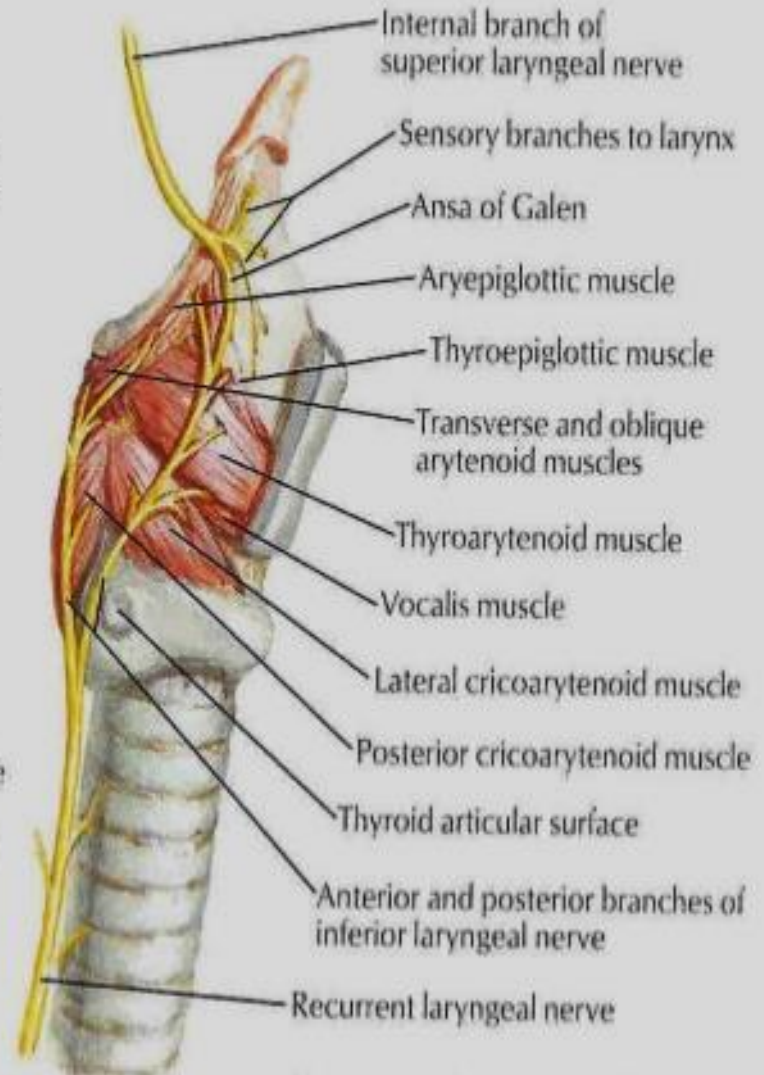
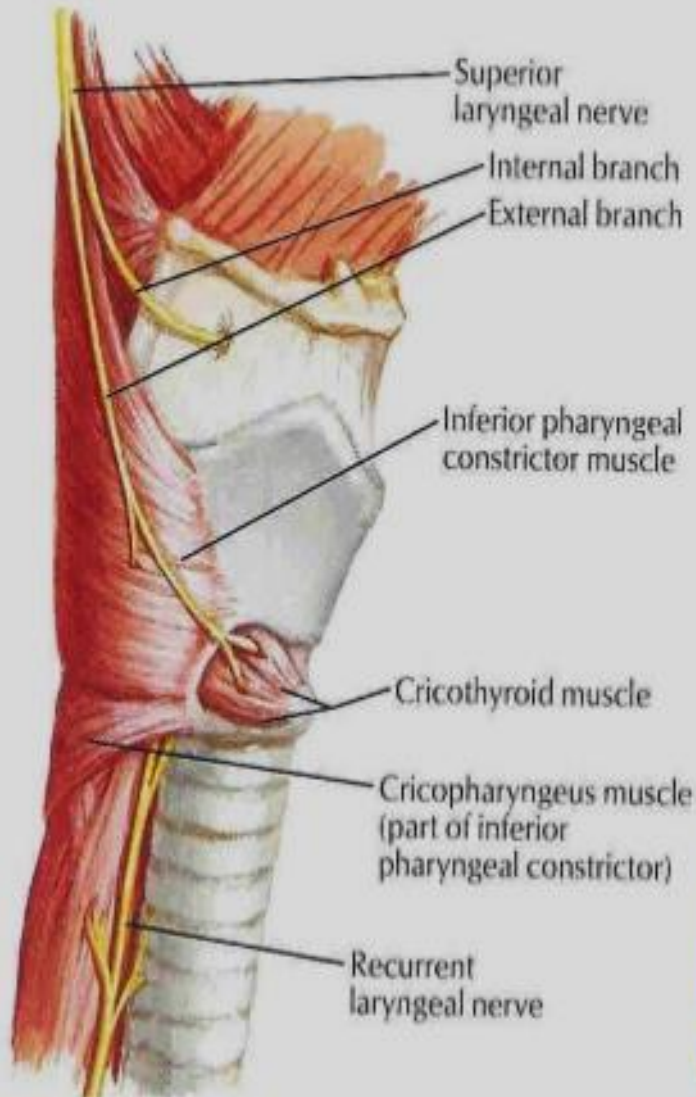
Vagus Nerve

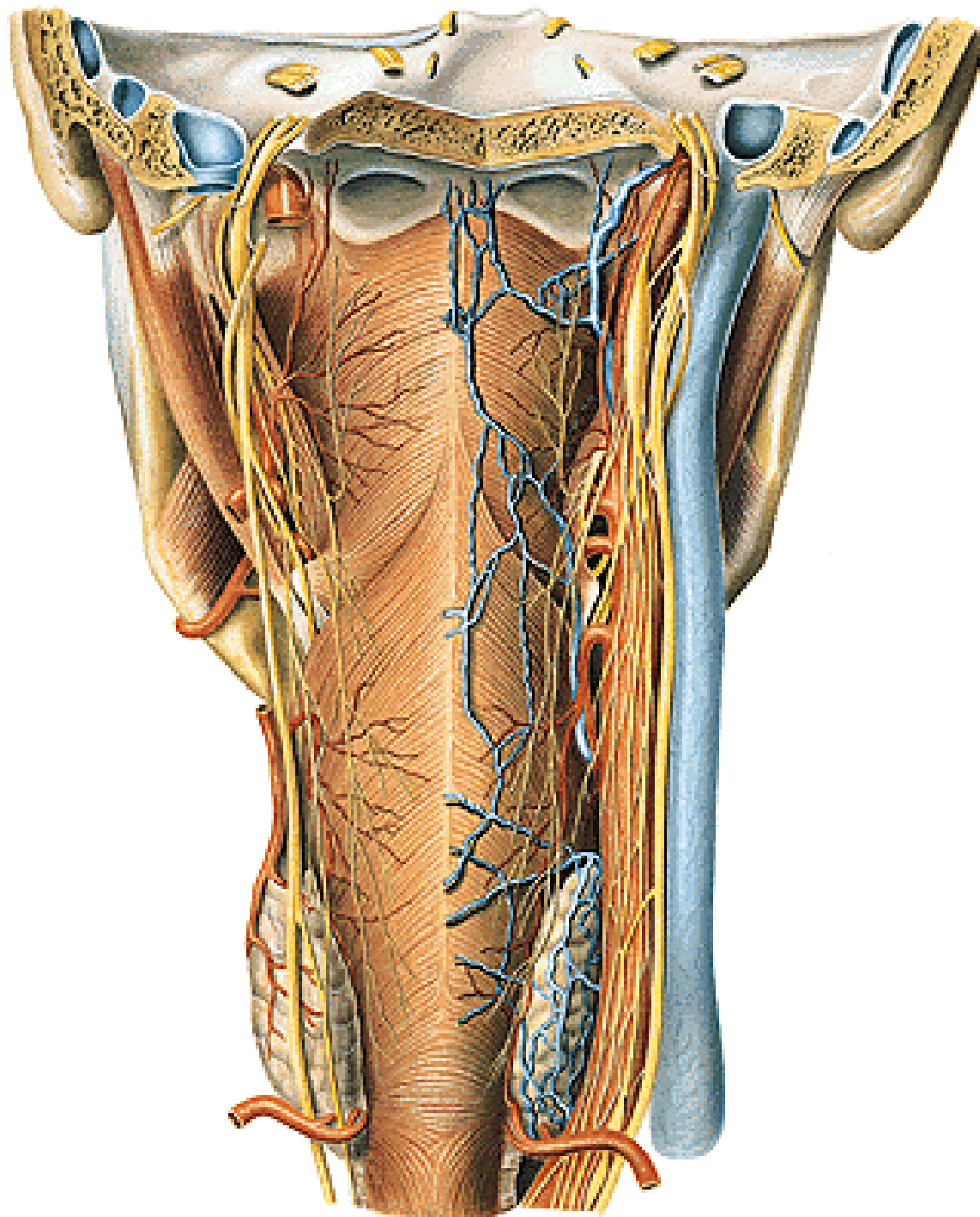
Schema - Enlargement of Proximal Portions

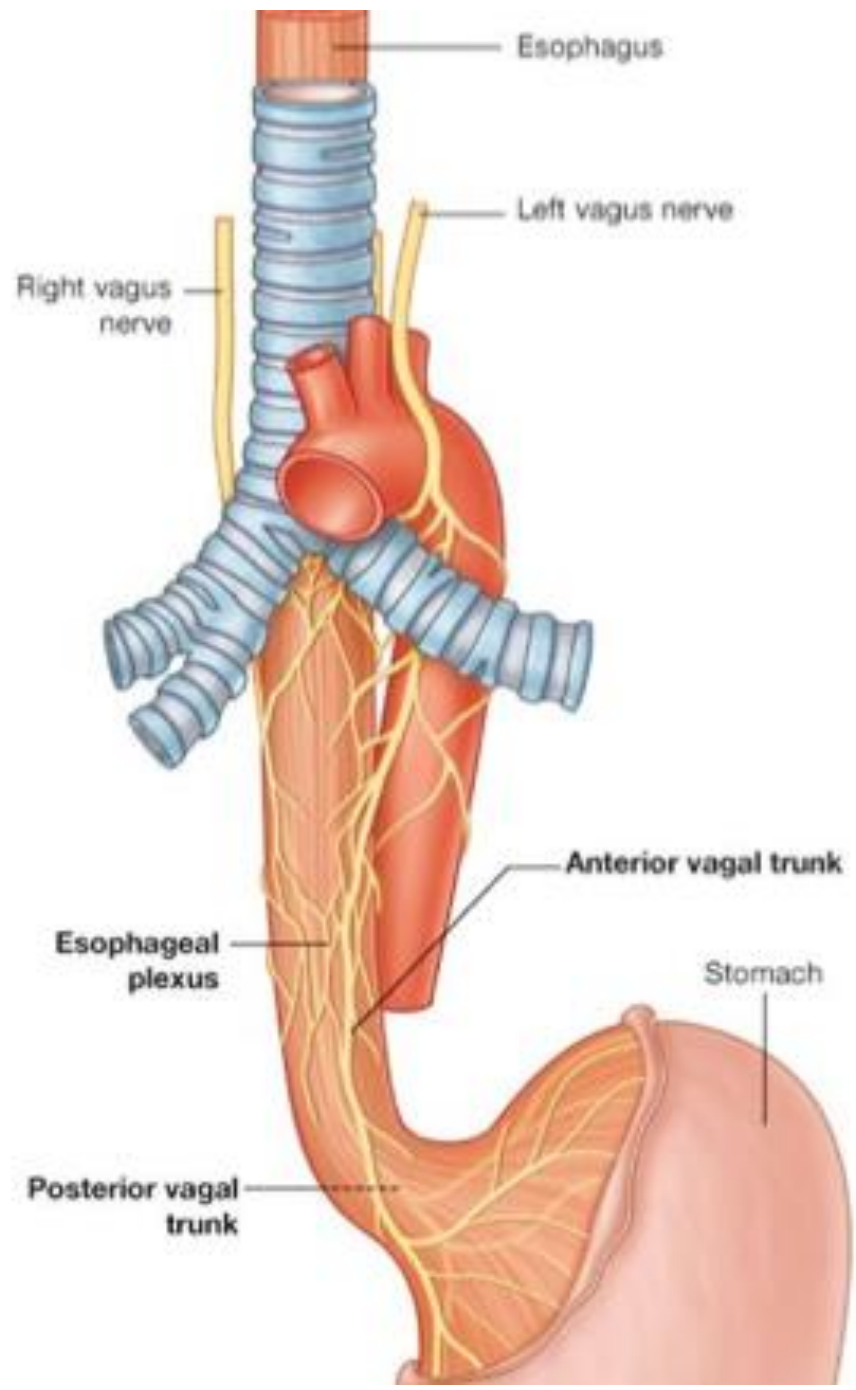
- Efferent fibers
- Afferent fibers
- ⋯ Parasympathetic fibers

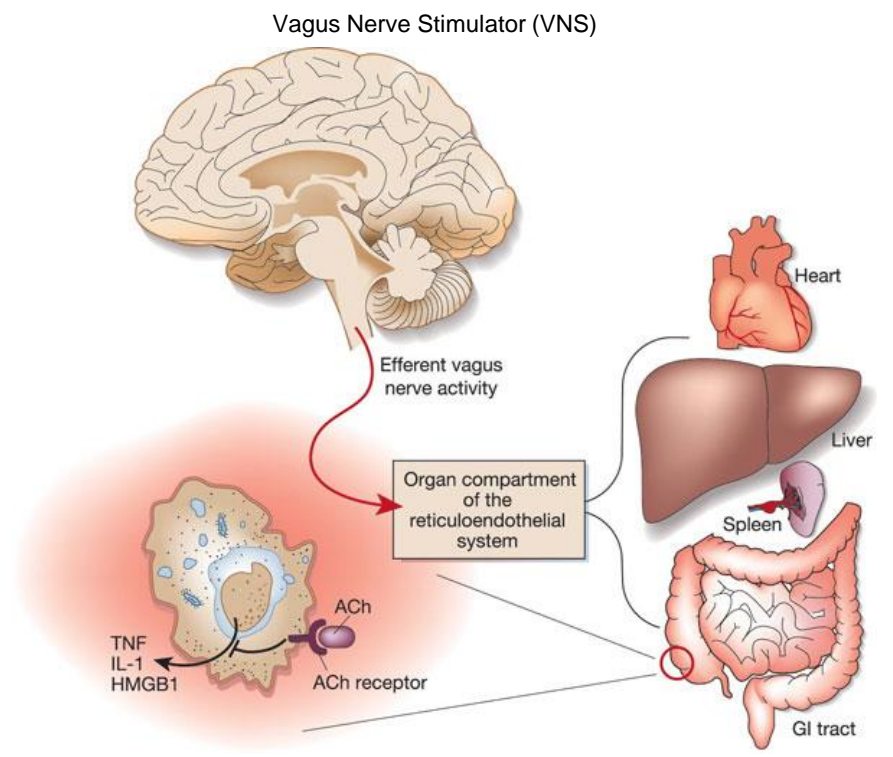
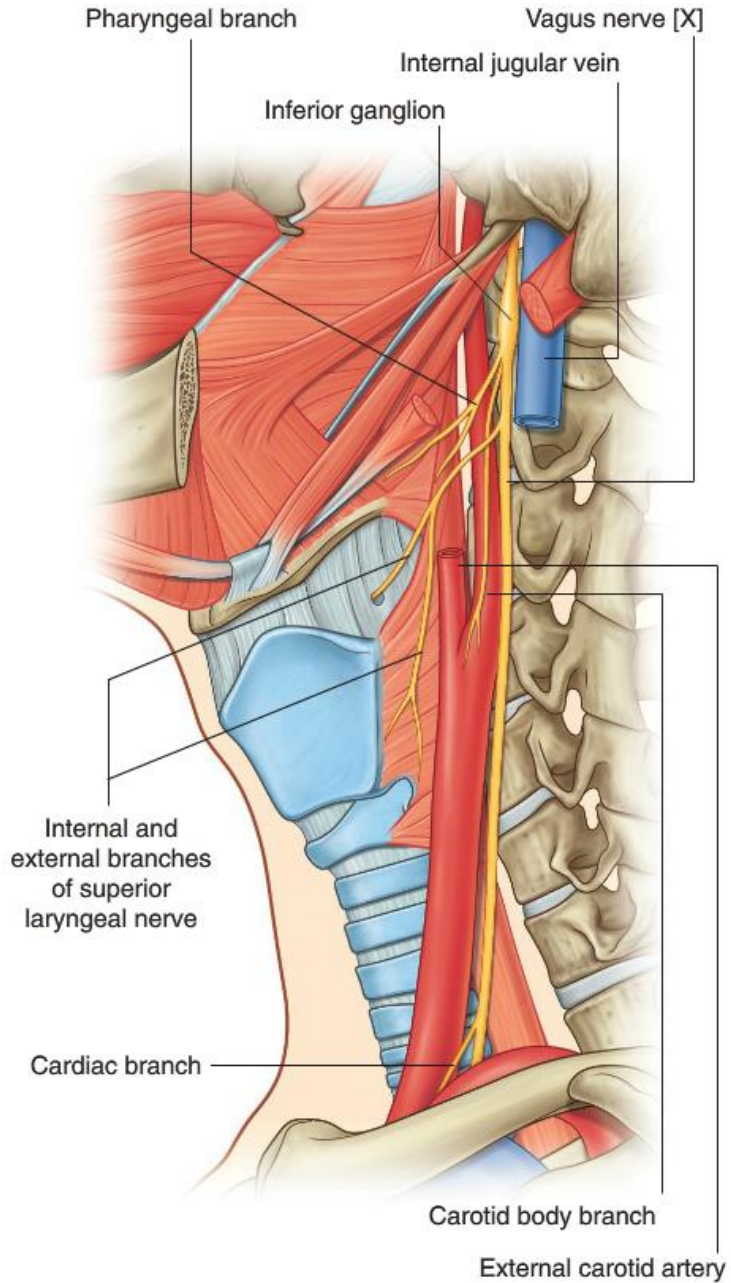


NERVE SUPPLY OF LARYNX

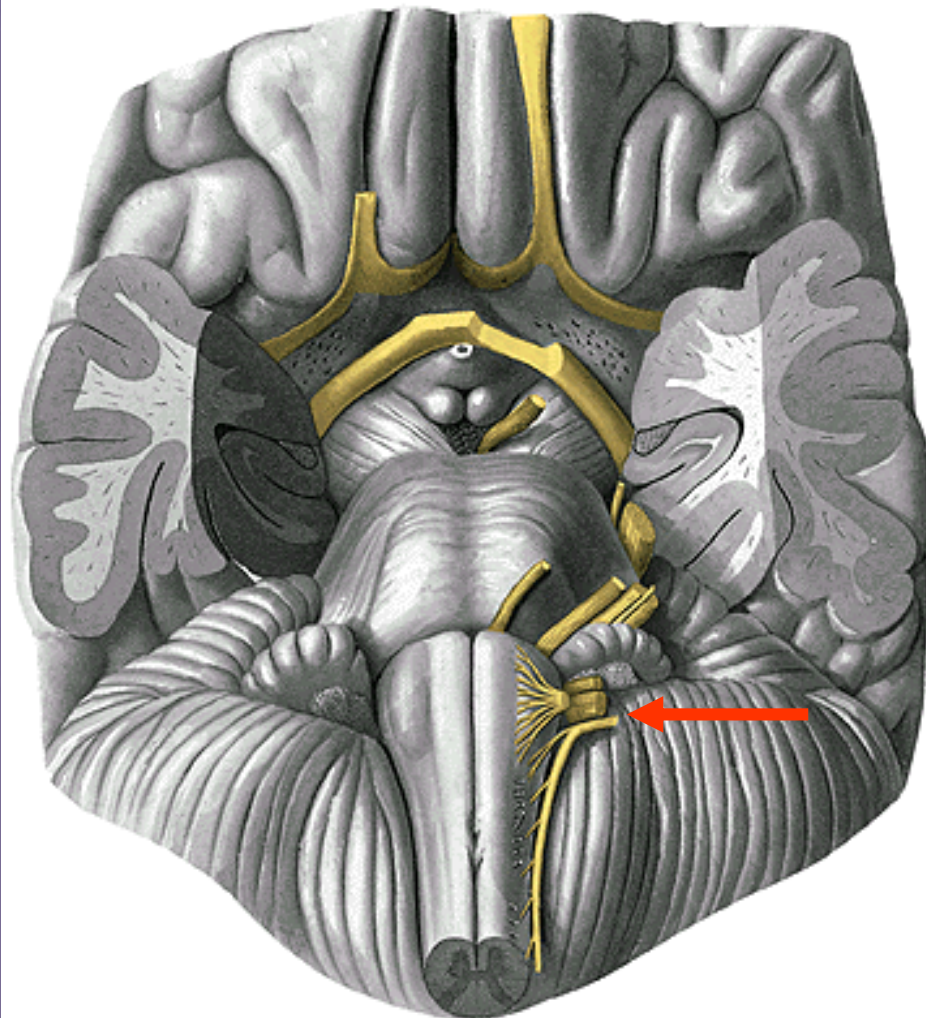
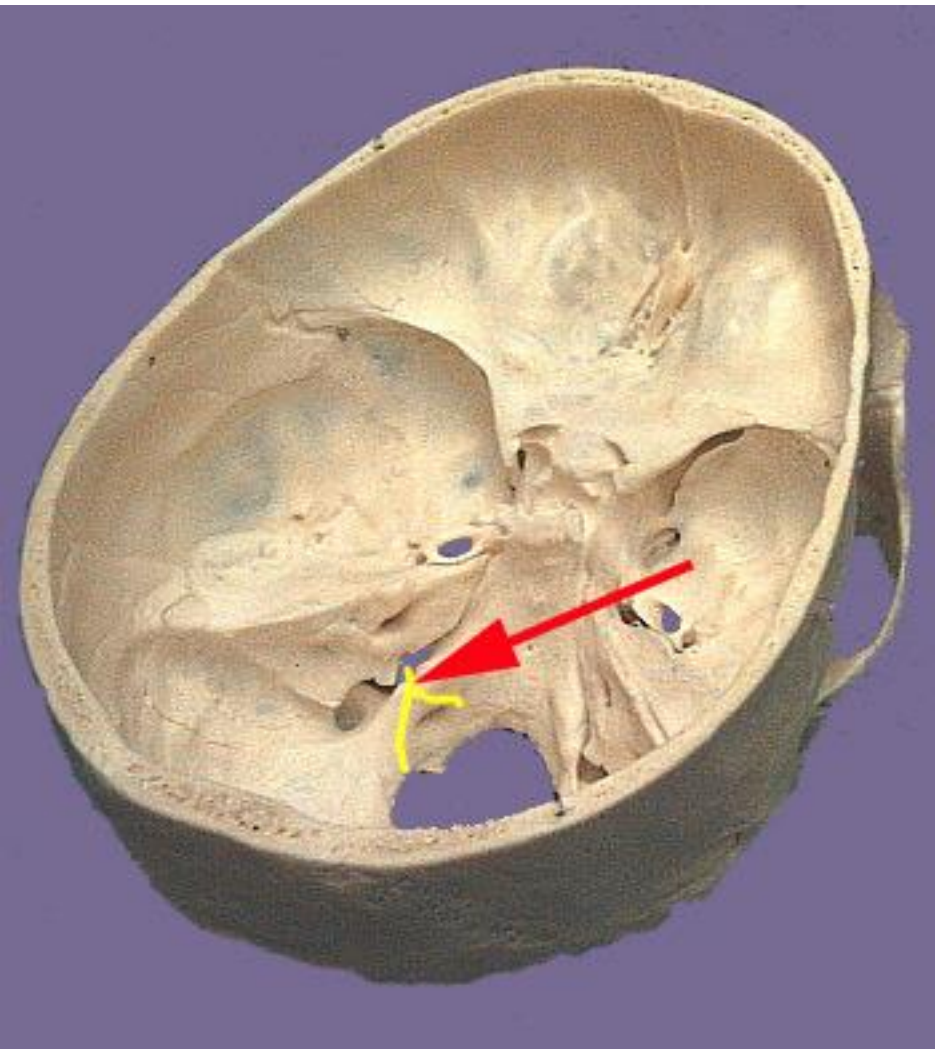




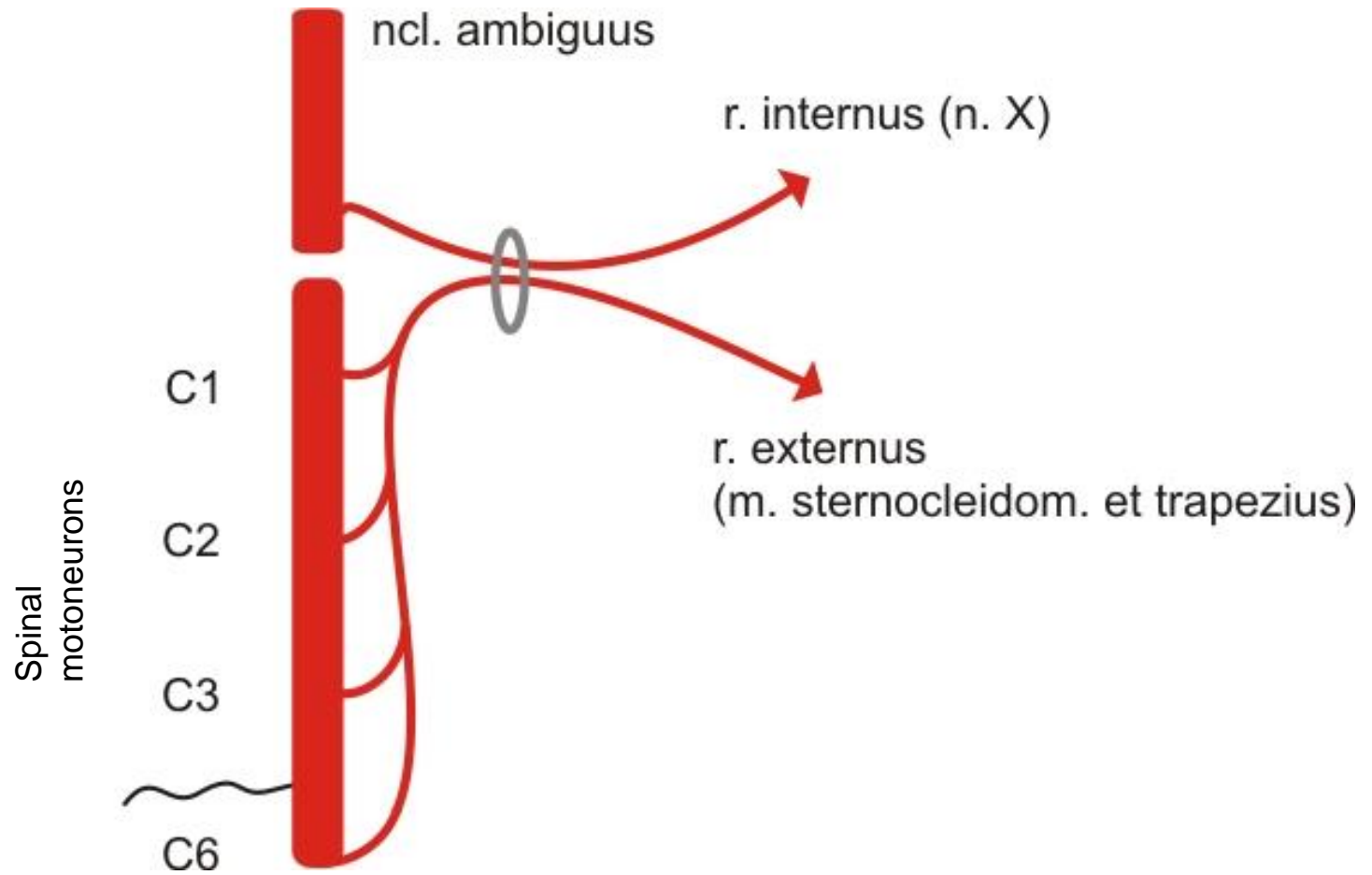




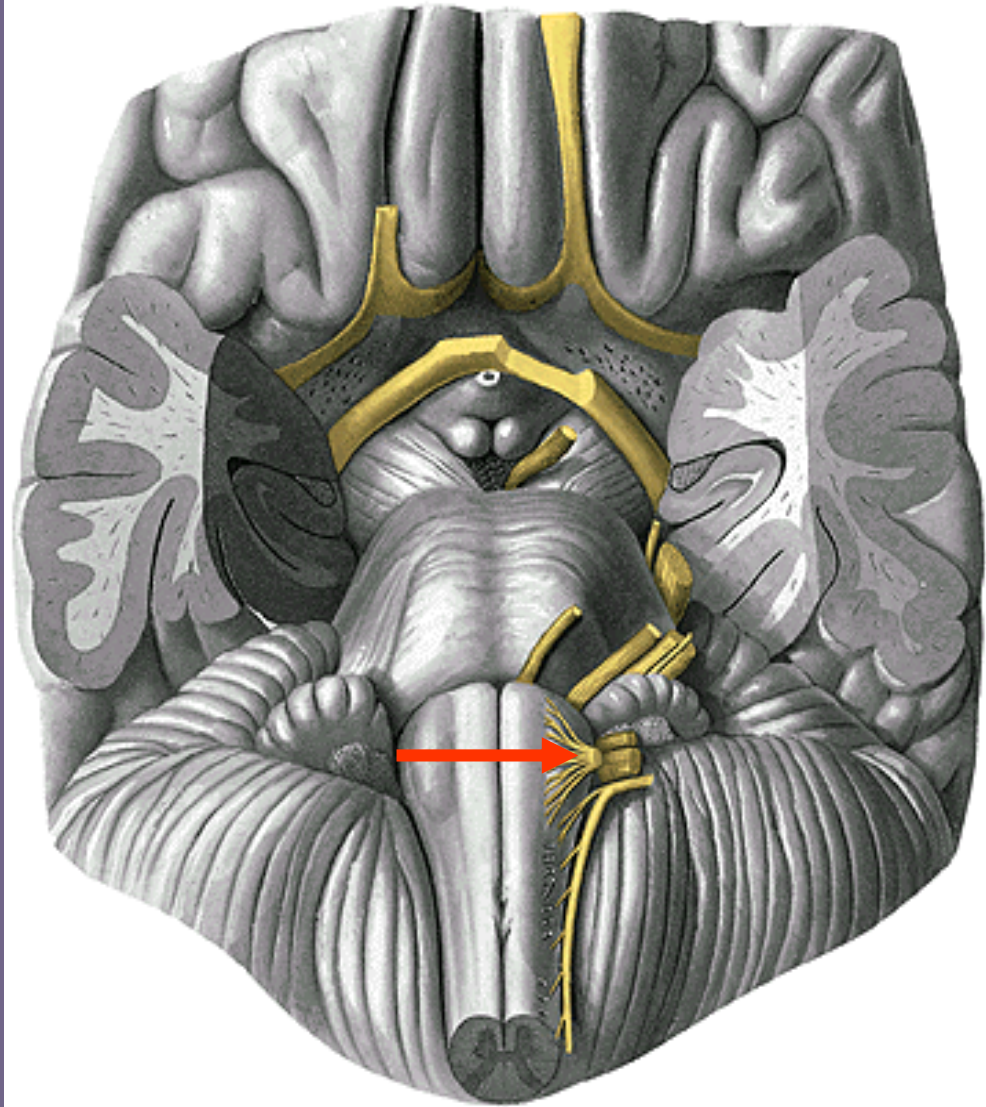
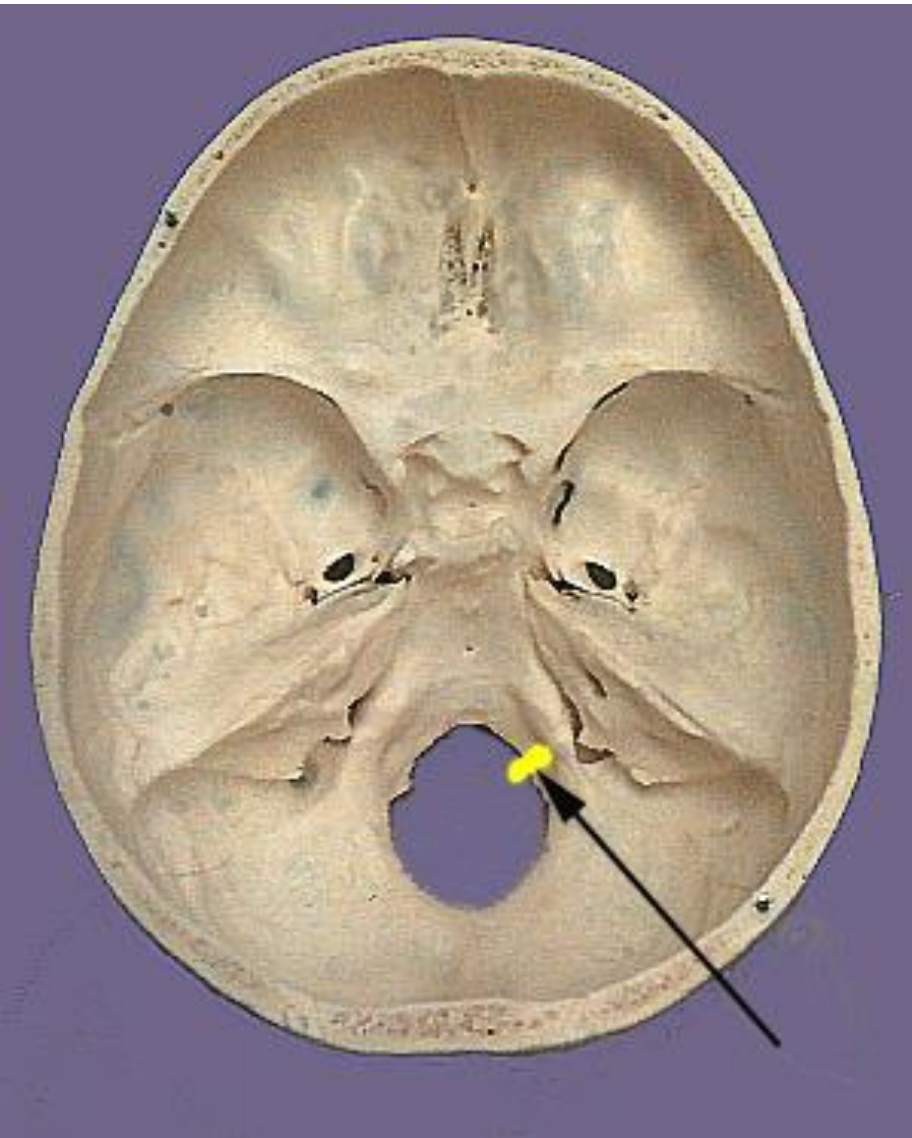
CN XI



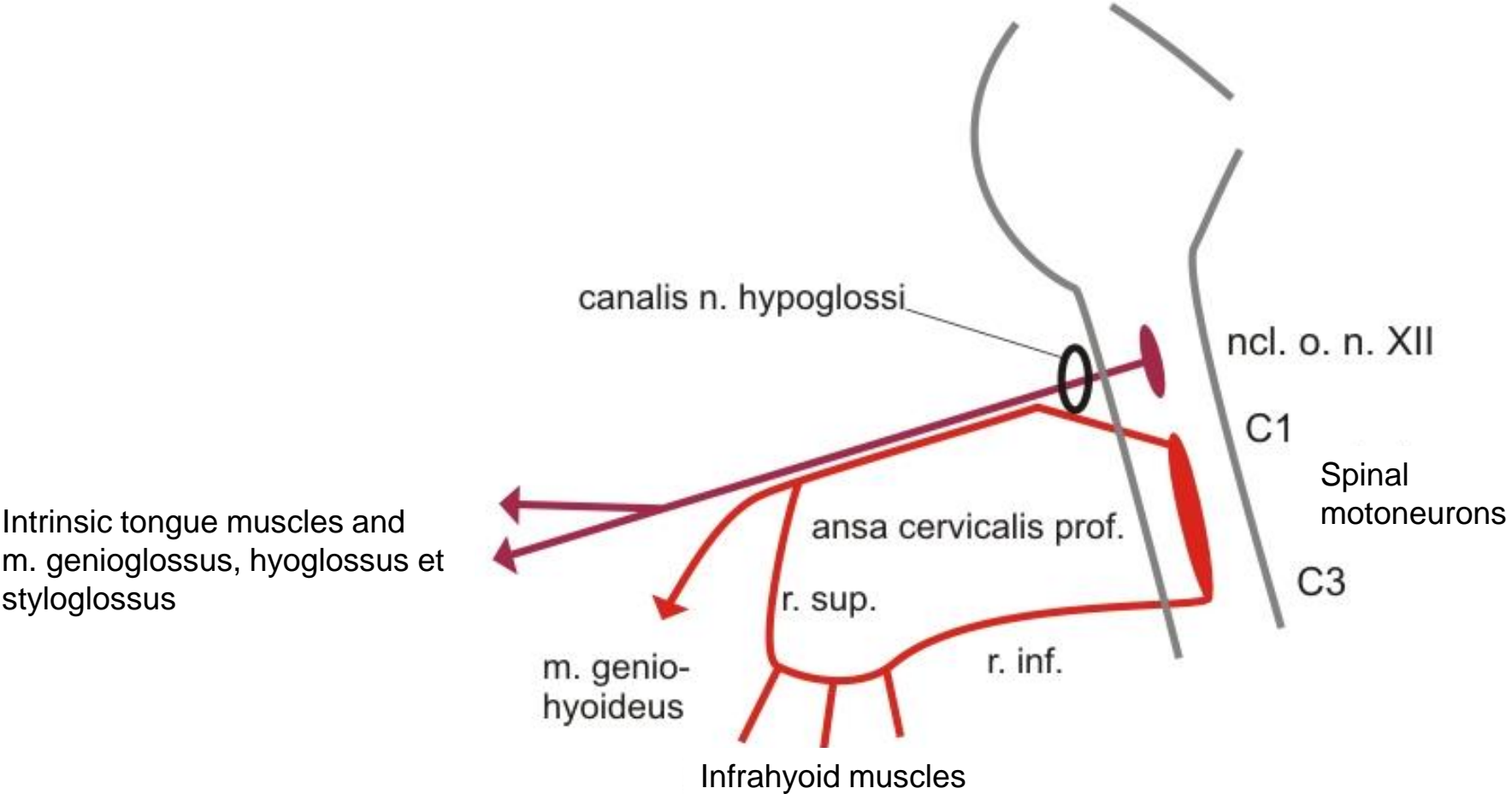
CN XI

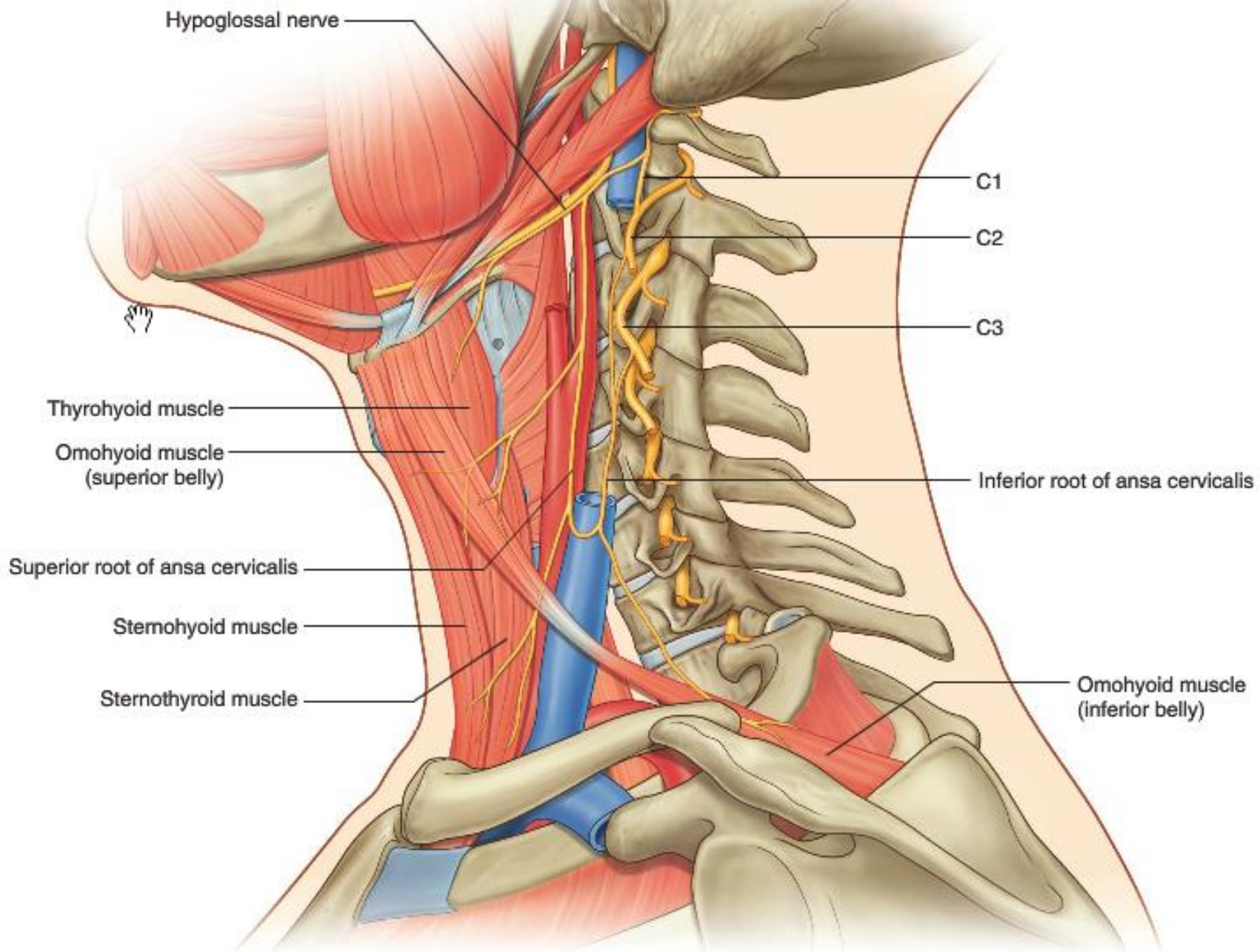


CN XII



CN XII





Lesion of the hypoglossal nerve – tongue turns to side of unlesioned nerve

