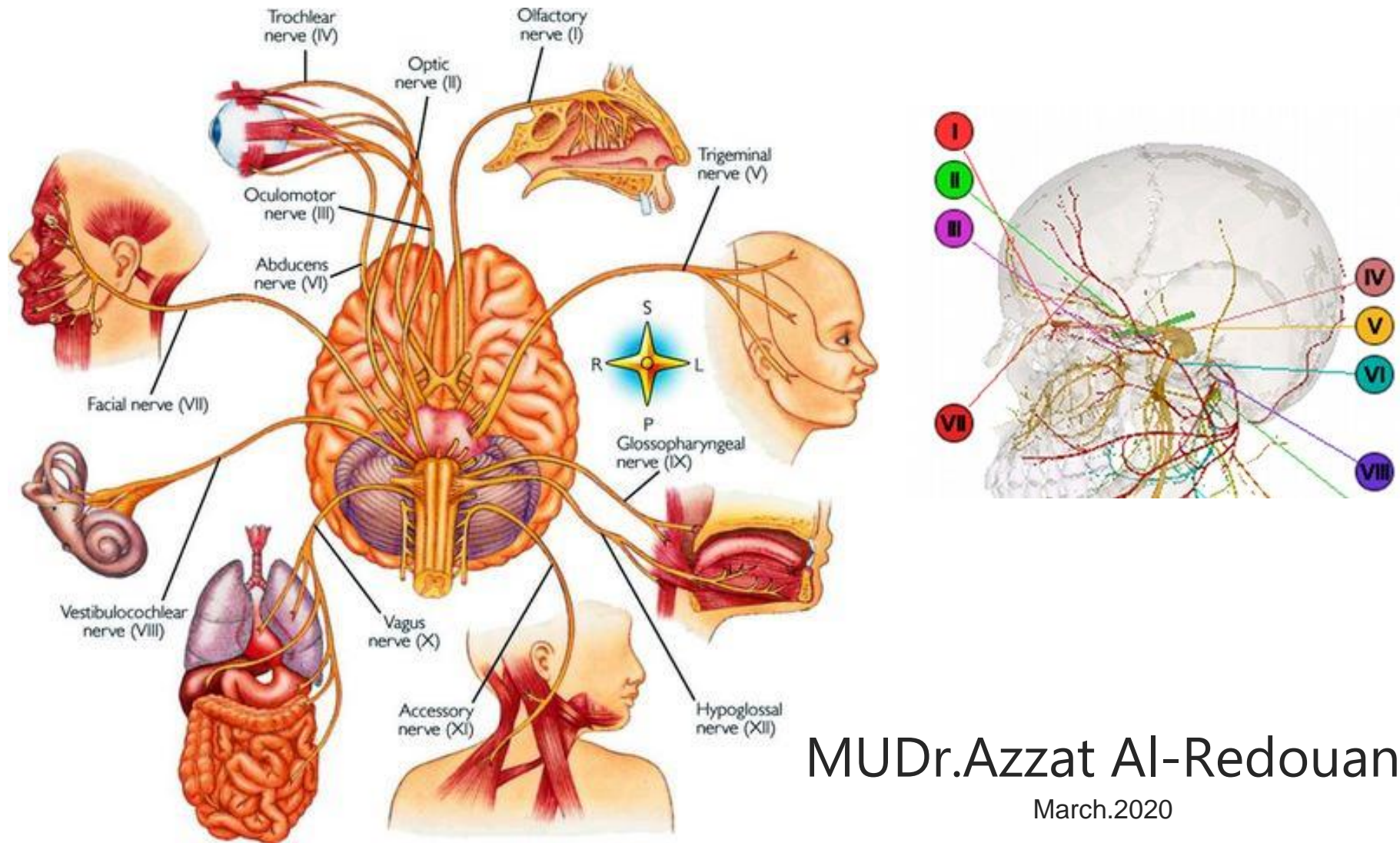
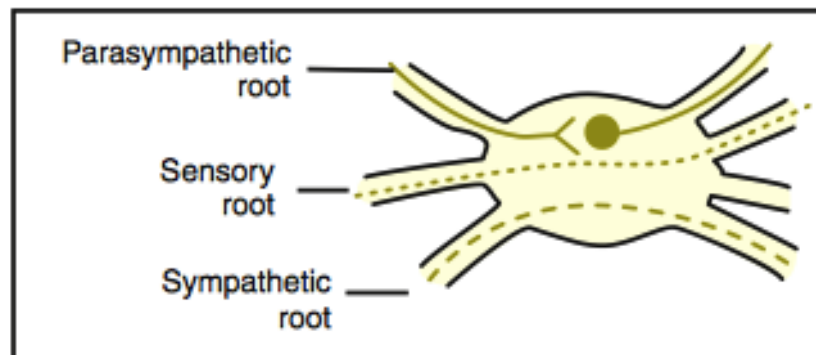
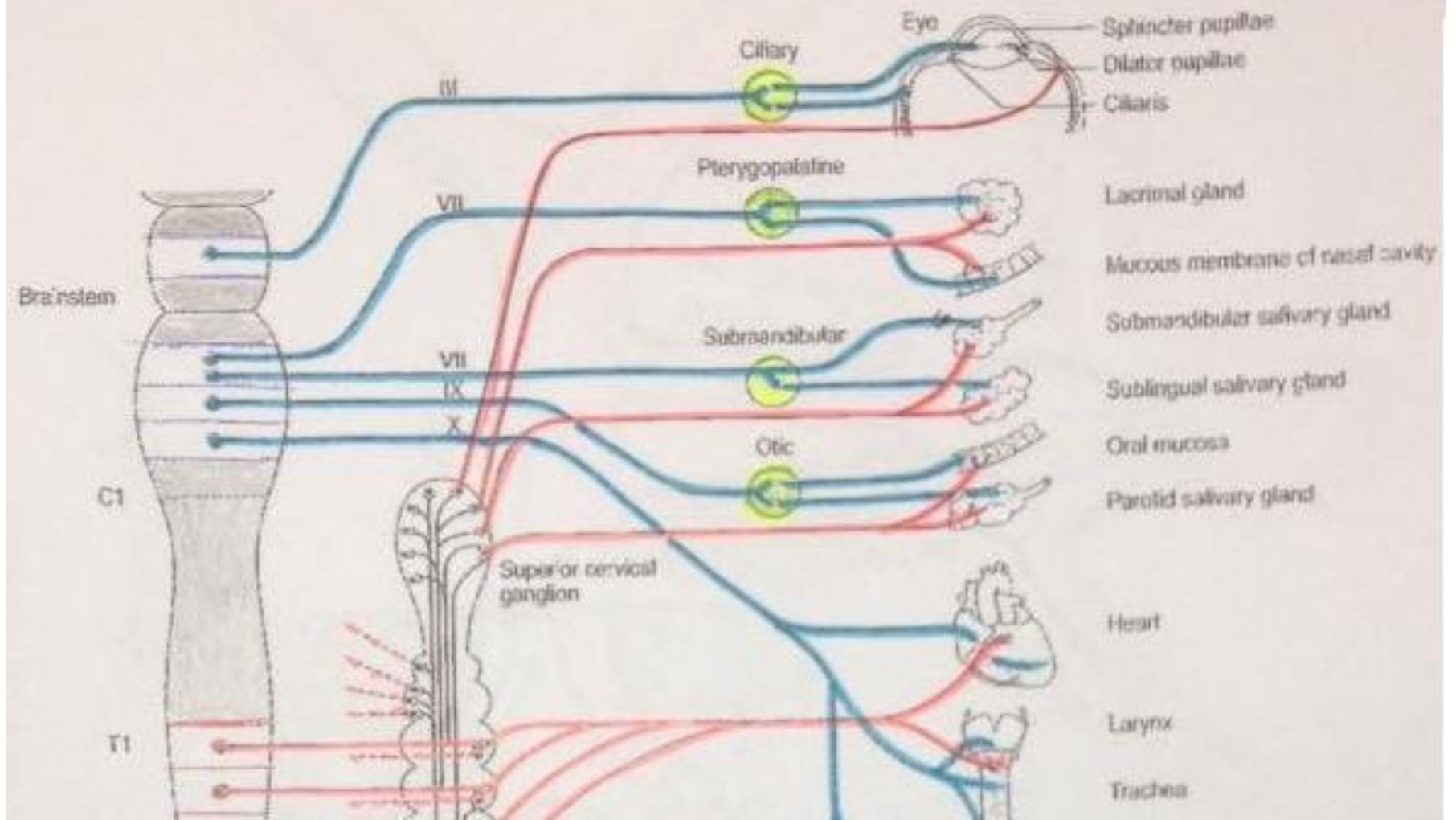


# PNS- CRANIAL NERVES

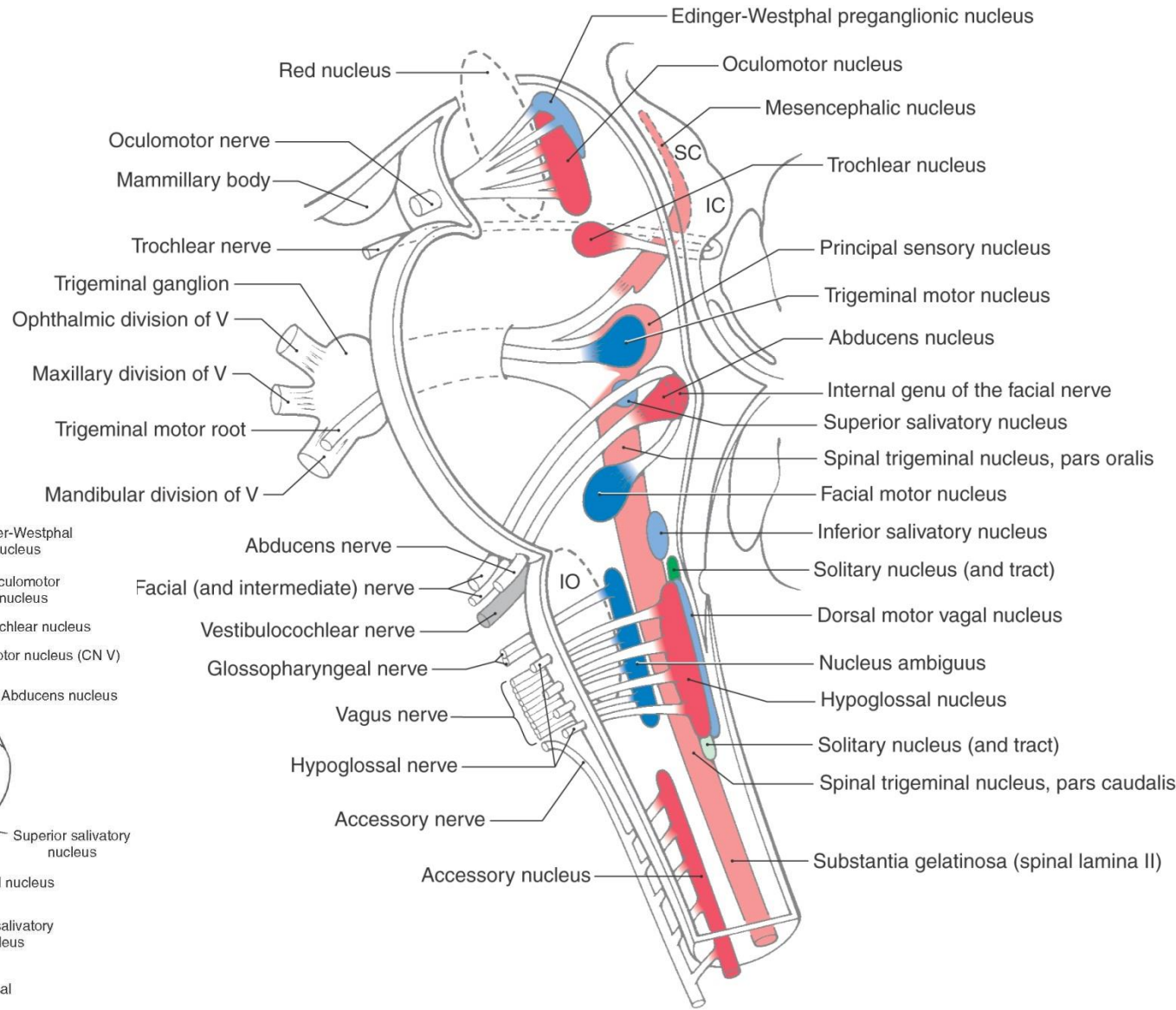
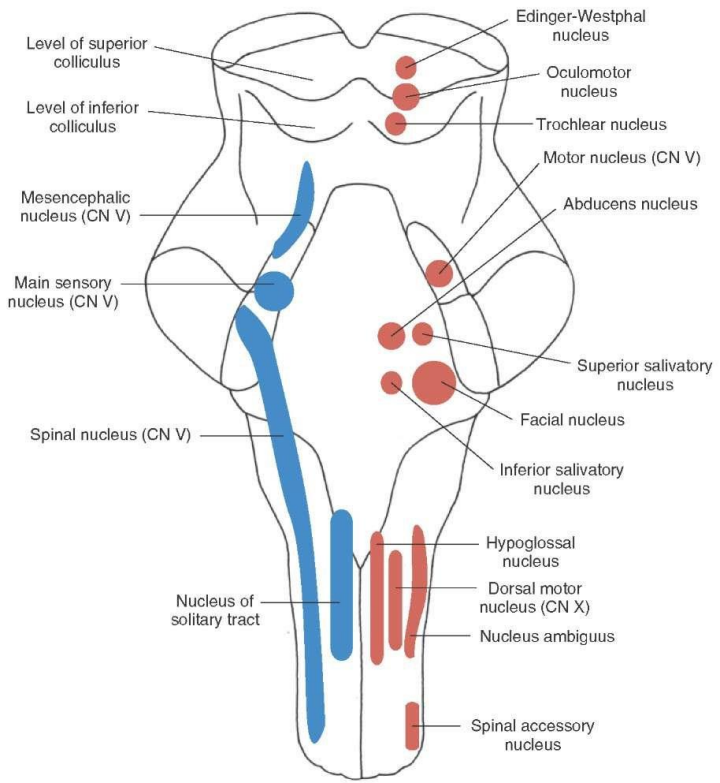


MUDr.Azzat Al-Redouan

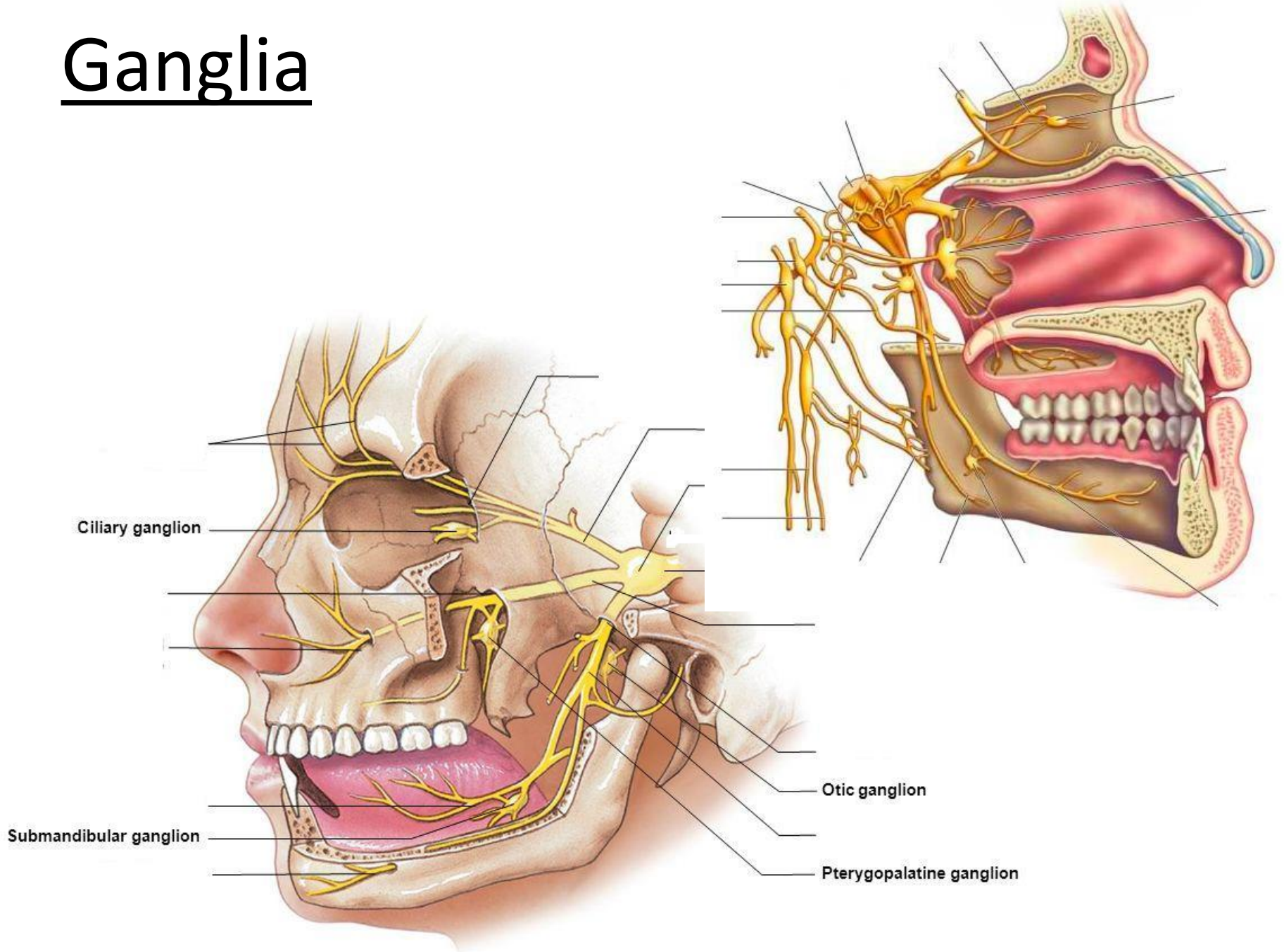
March.2020



# Rhomboid Fossa



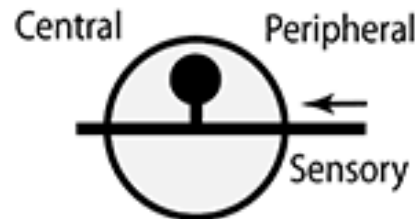
# Ganglia



# Ganglia

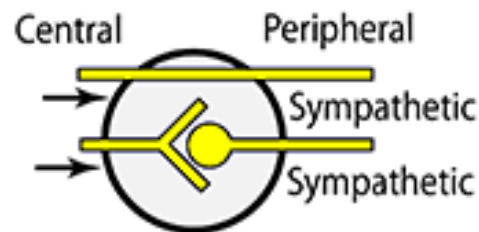
## GANGLIA

### 3 TYPES OF GANGLIA



**SENSORY GANGLION** has cell bodies only and NO synapses. Examples:

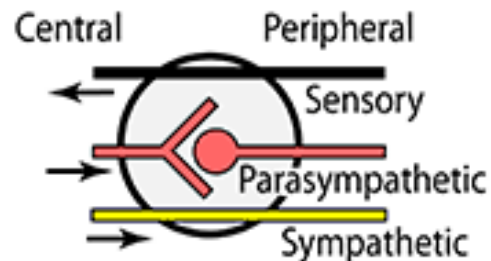
- Posterior (dorsal) root
- Trigeminal
- Glossopharyngeal
- Geniculate
- Vagal



**SYMPATHETIC GANGLION** has either a synapse or a fibre passing through it to synapse later.

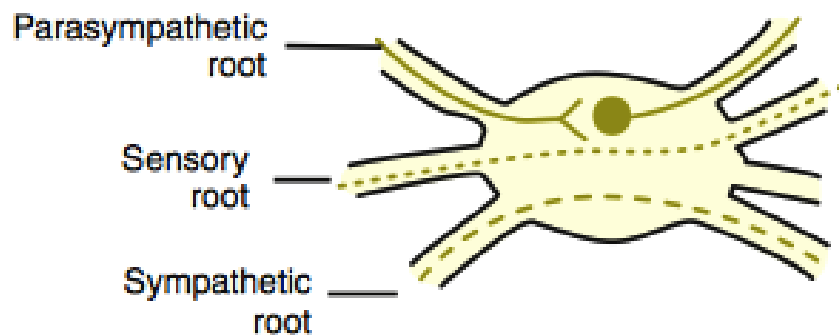
Examples:

- Sympathetic chain
- Sympathetic peripheral ganglia (coeliac, renal, superior mesenteric)

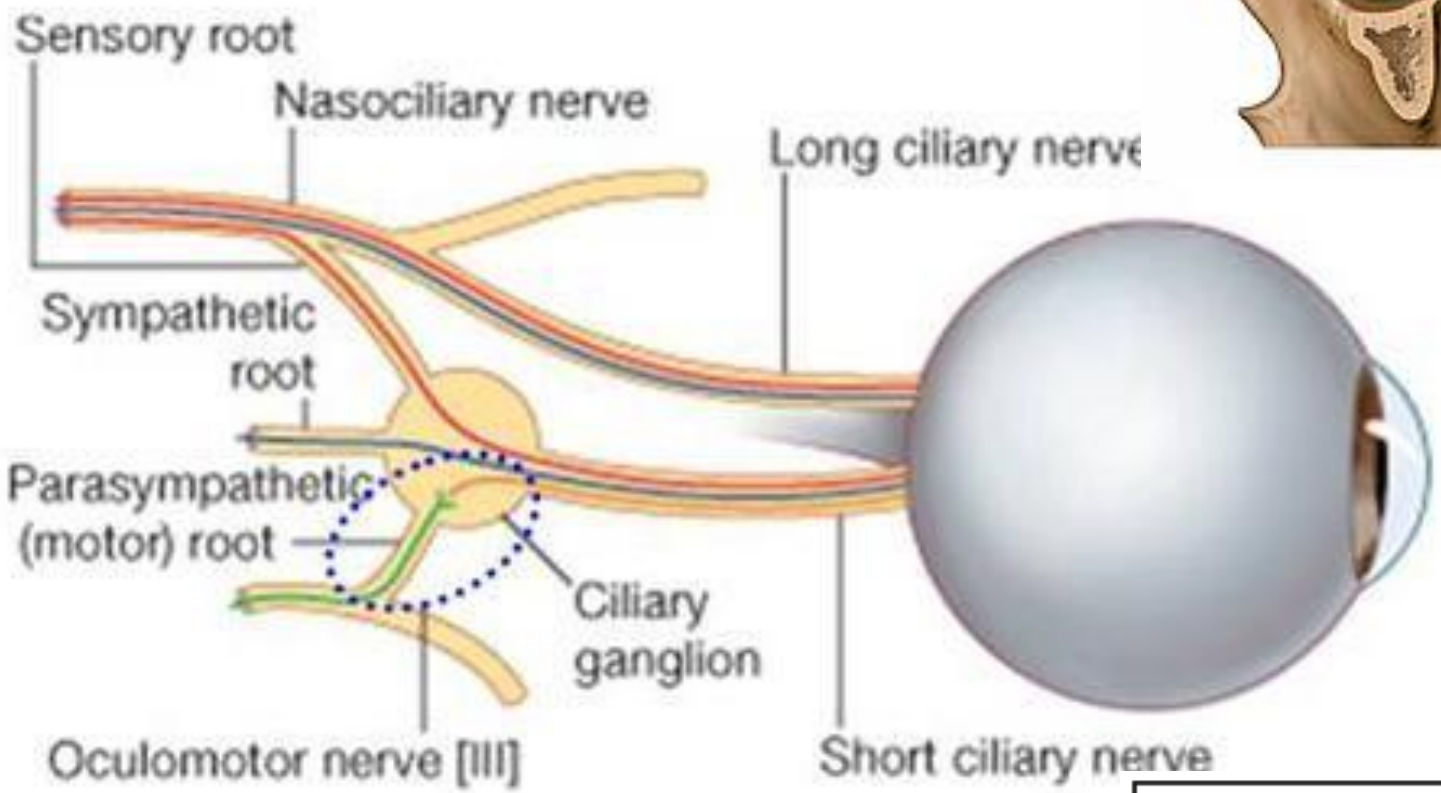
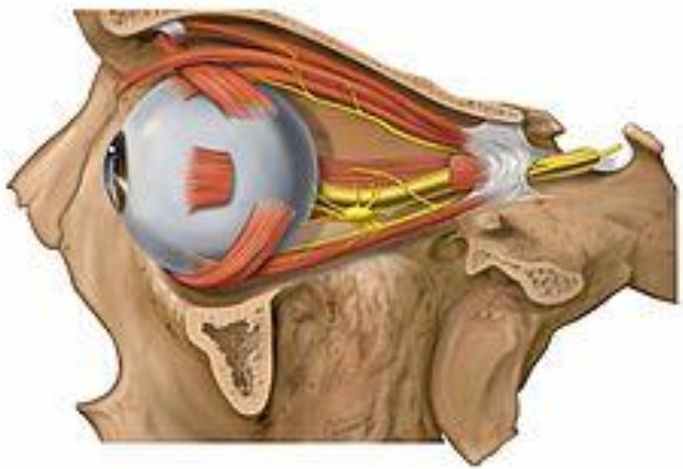


**PARASYMPATHETIC GANGLION** has parasympathetic nerves synapsing and both a somatic sensory and a sympathetic nerve passing through it. Examples:

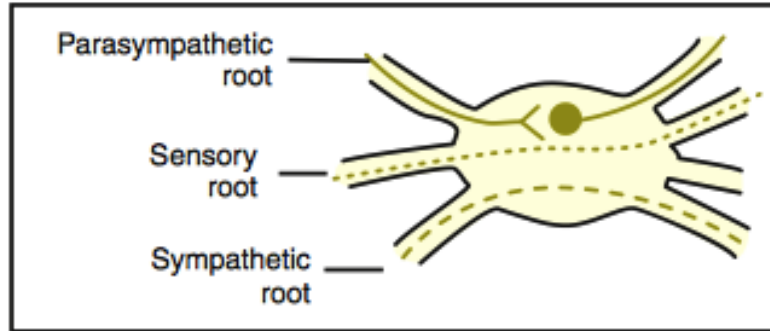
- Ciliary
- Pterygopalatine
- Submandibular
- Otic

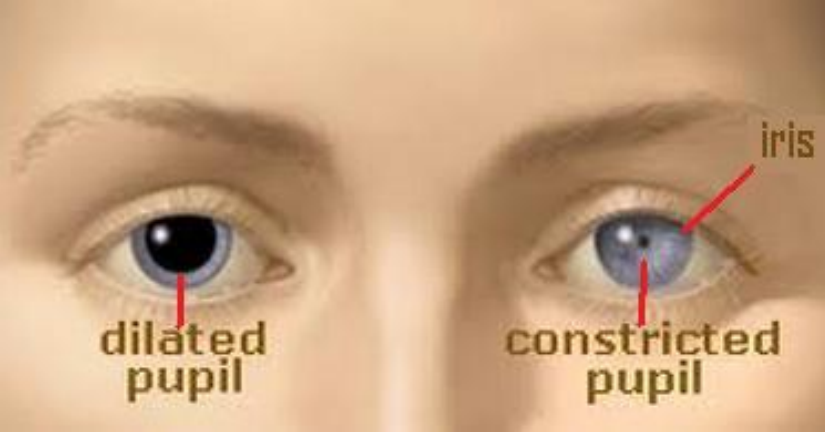


# Ciliary Ganglion

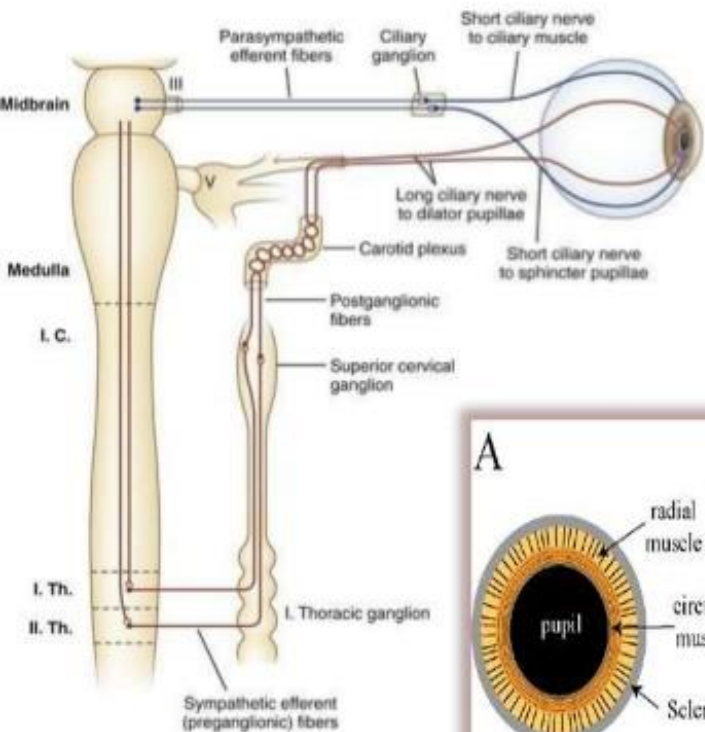


- Sensory fibers
- Sympathetic fibers
- Parasympathetic preganglionic fibers
- Parasympathetic postganglionic fibers

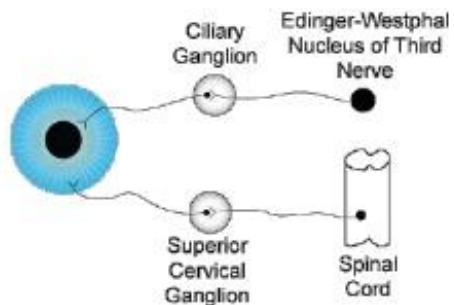




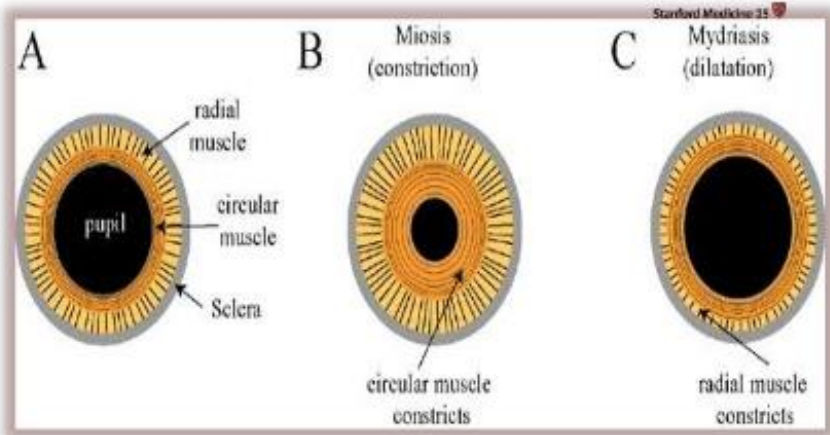
# Nerve Pathway & Muscles



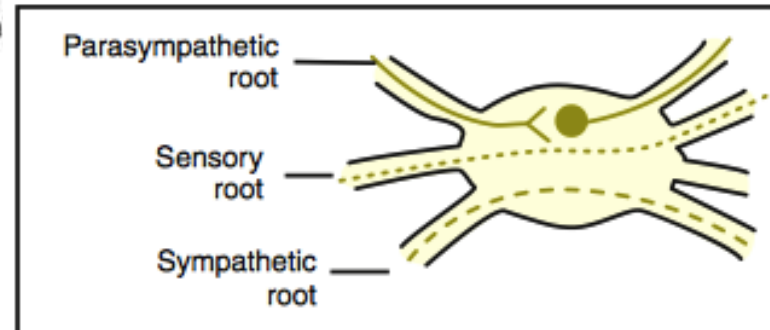
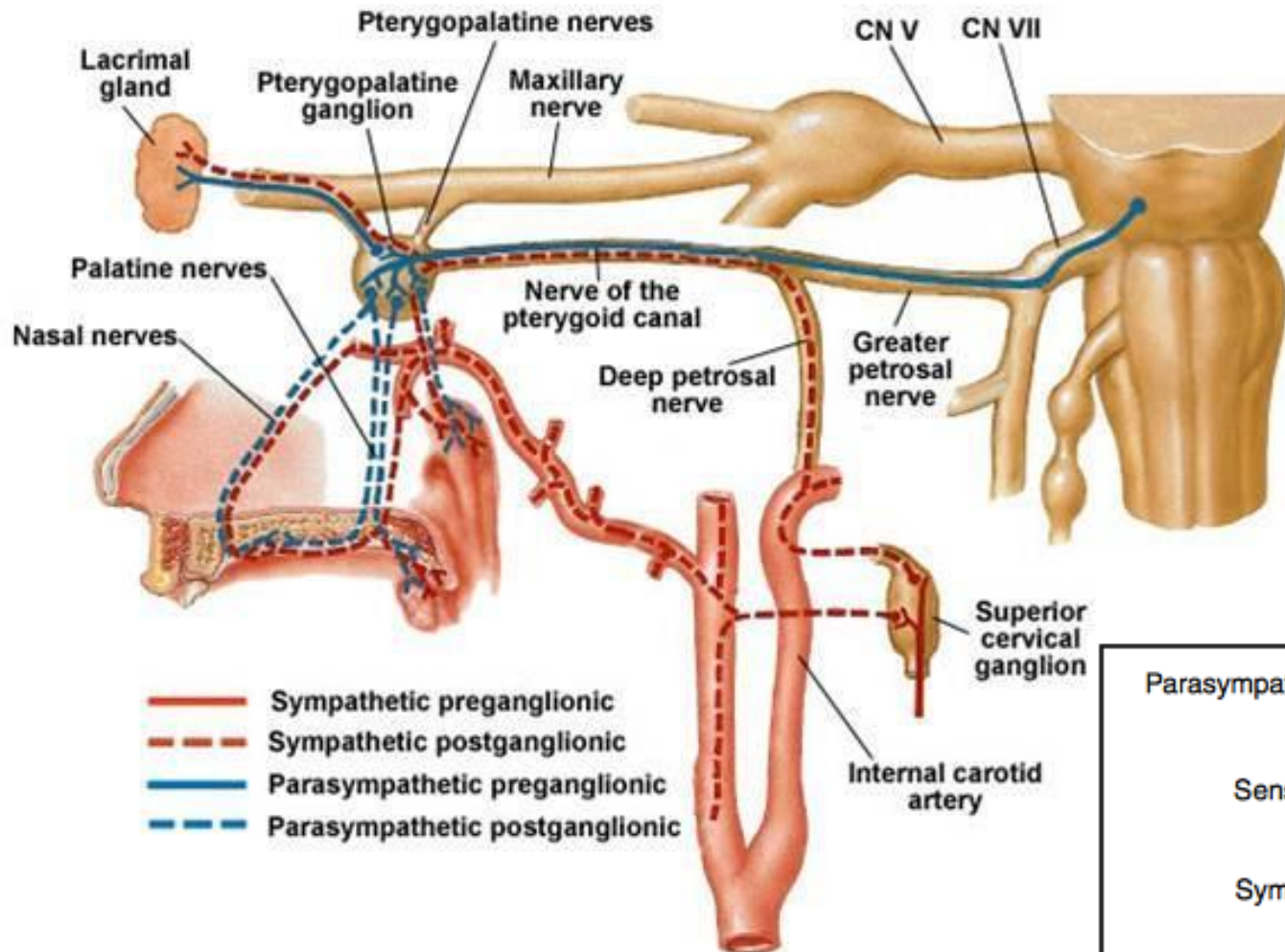
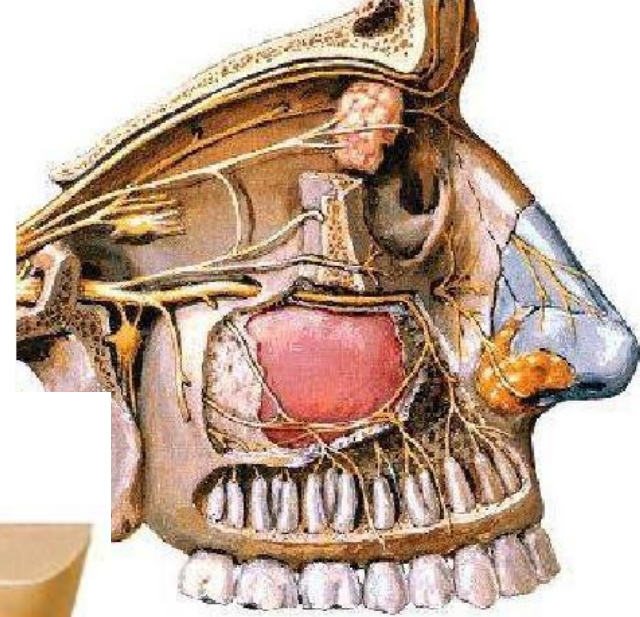
Constriction (Parasympathetic)



Dilation (Sympathetic)

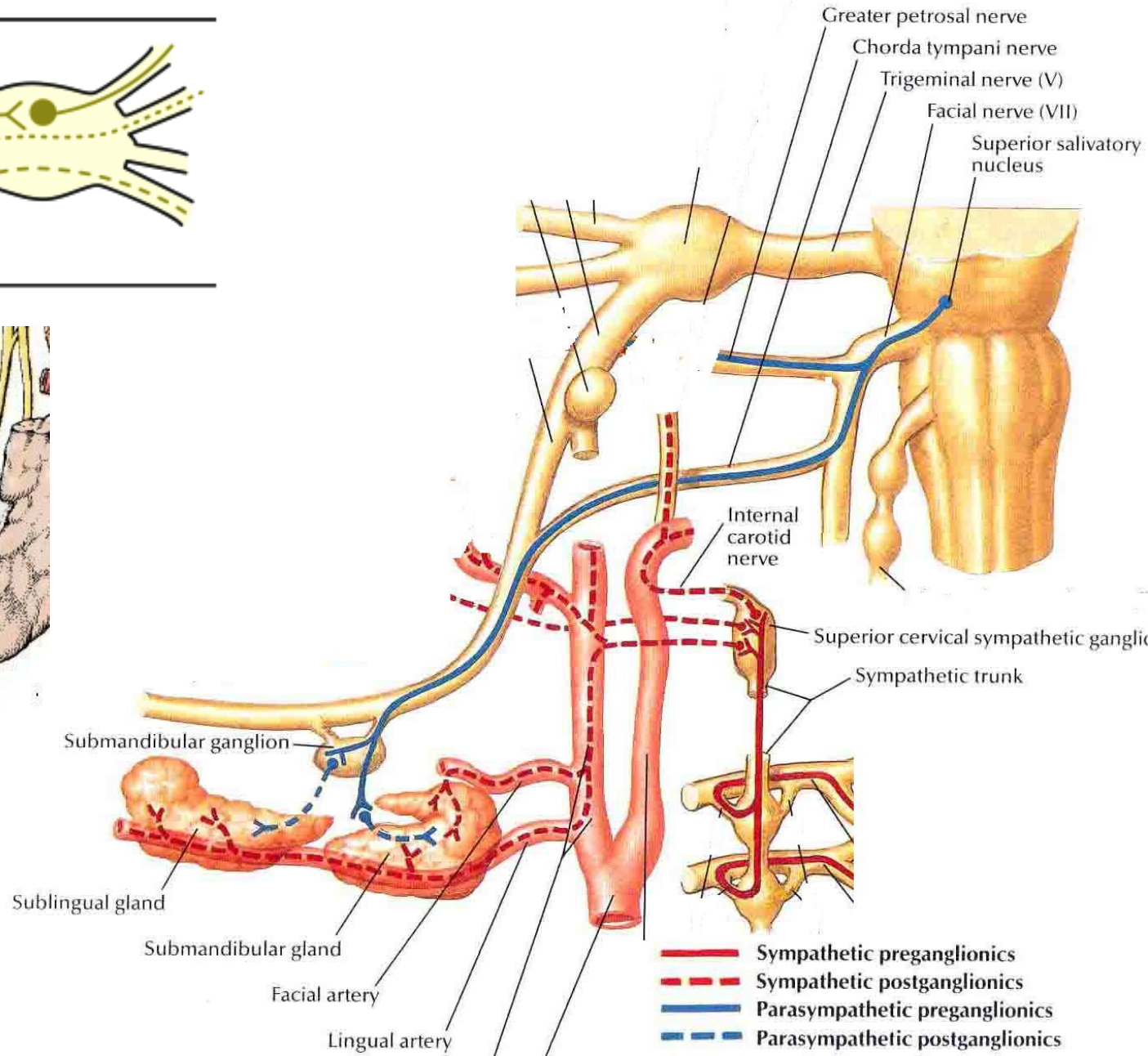
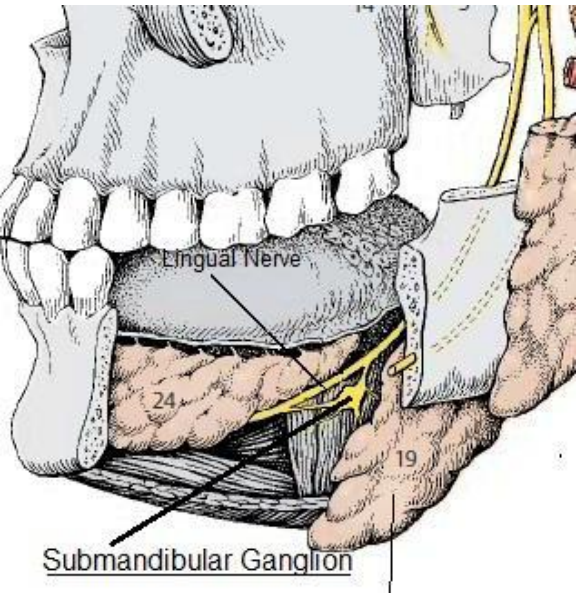
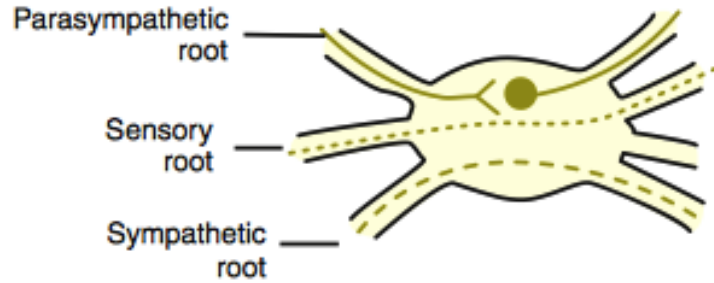


# Pterygopalatine Ganglion

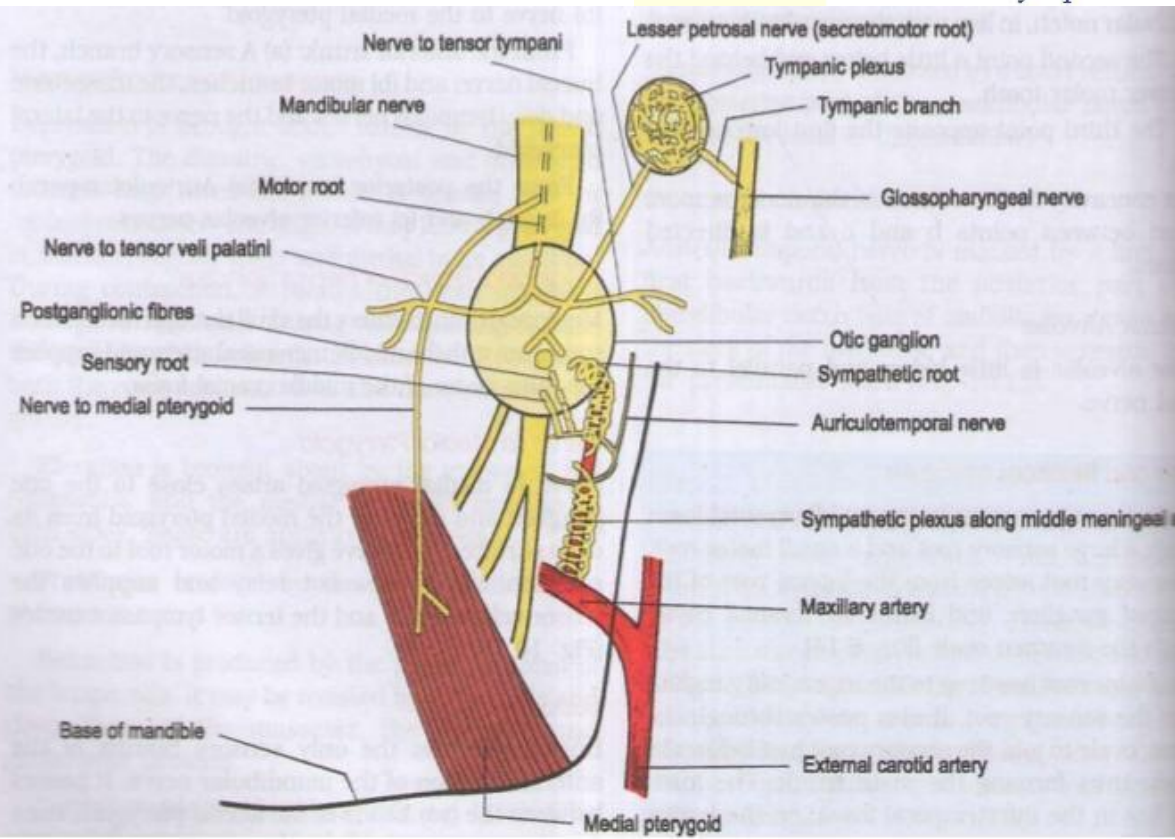
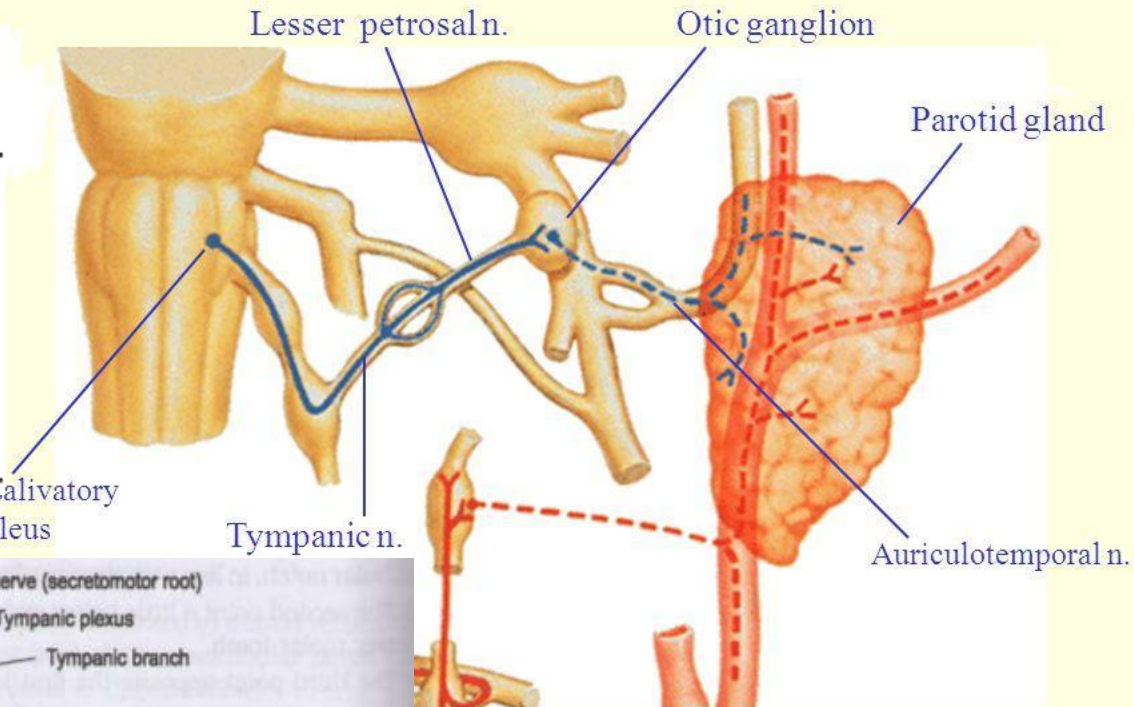
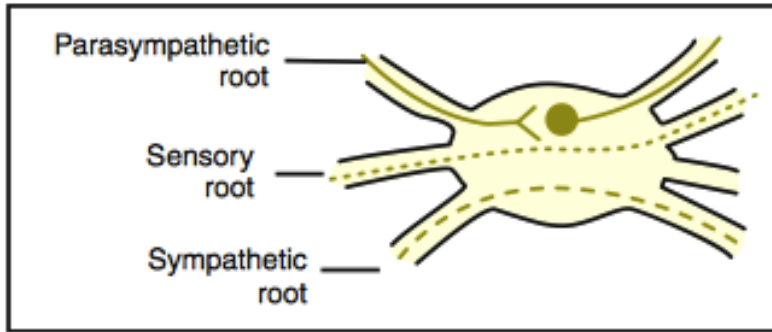




# Submandibular Ganglion

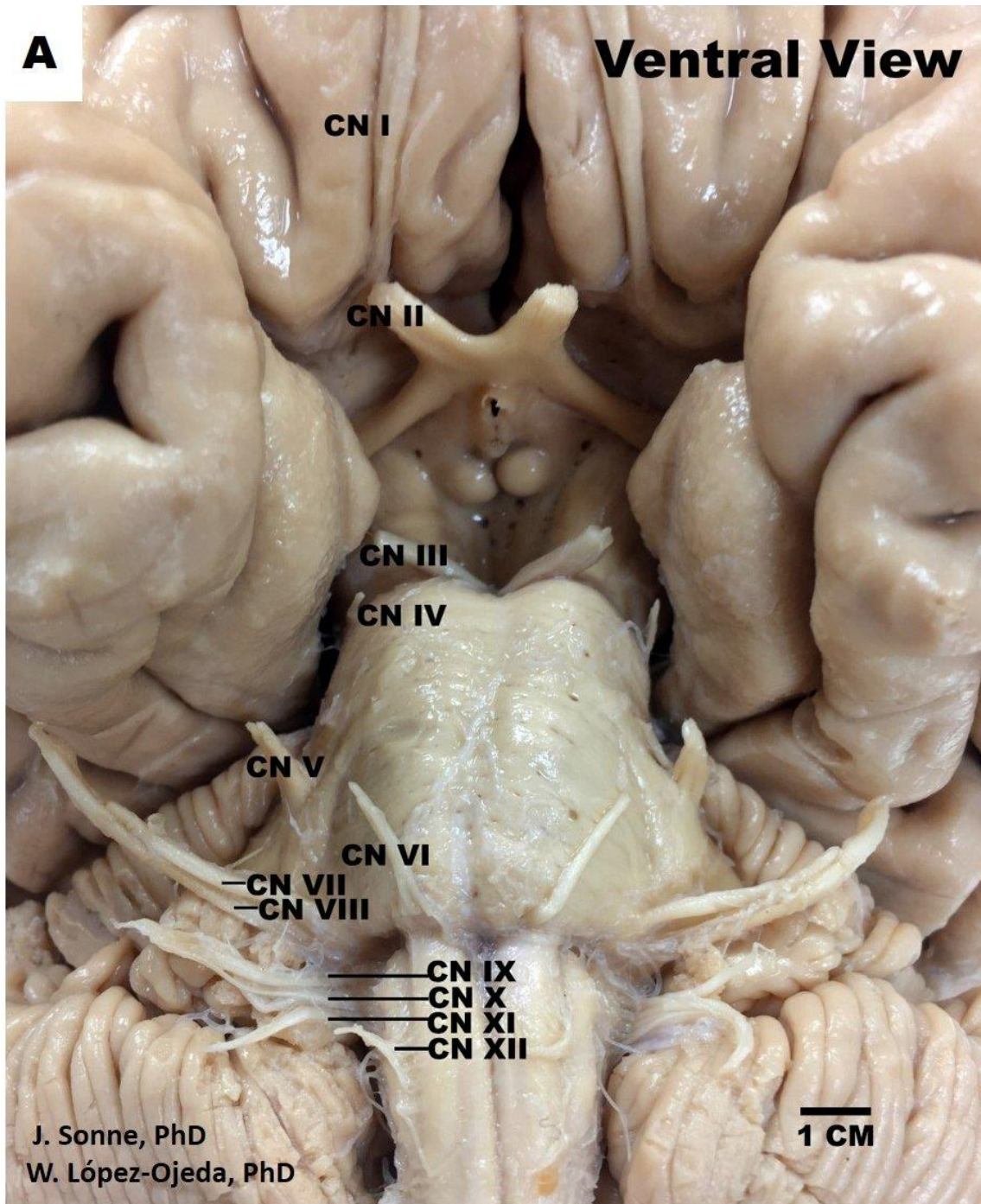


# Otic Ganglion



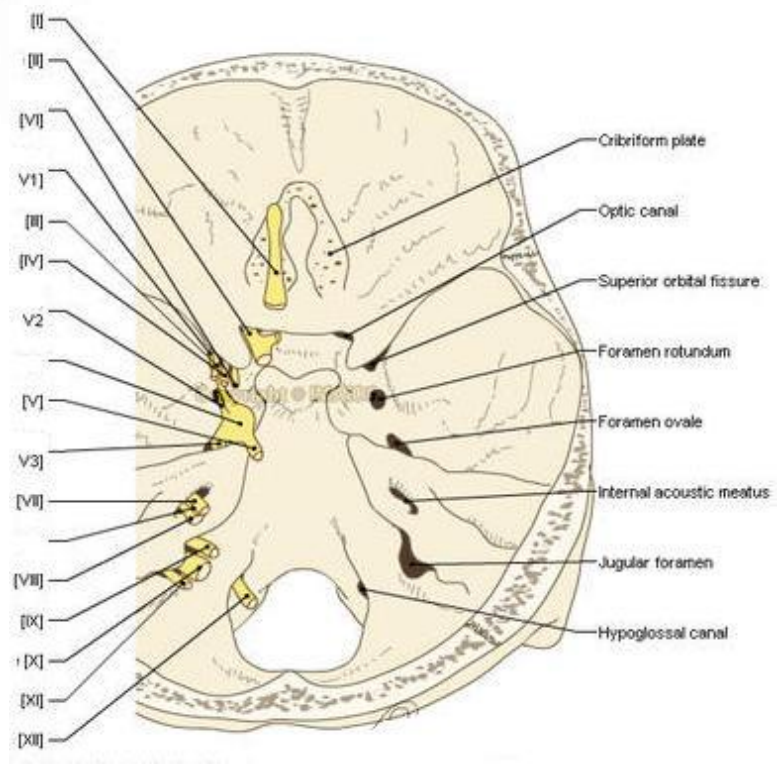
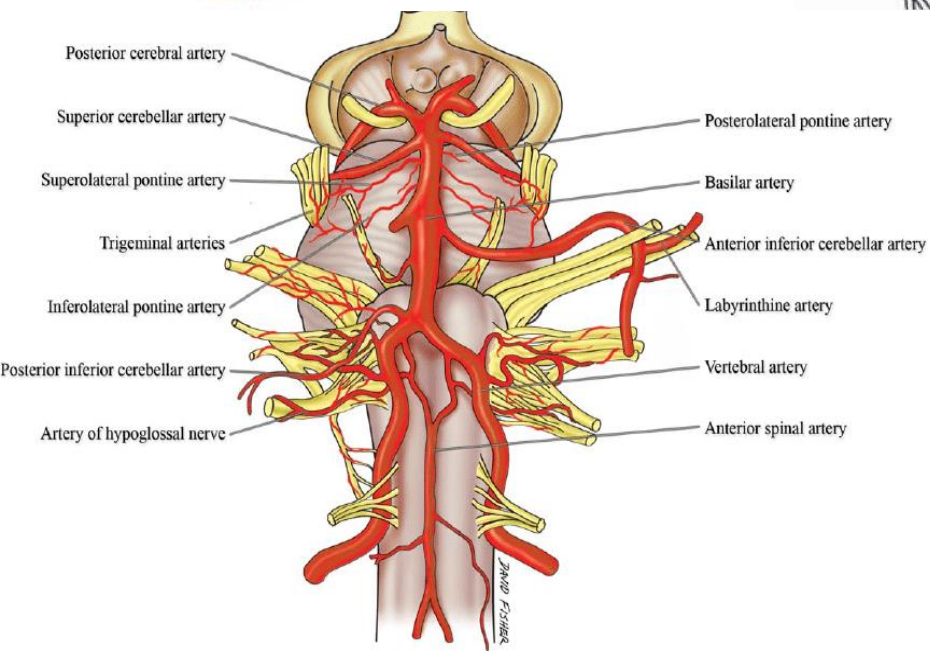
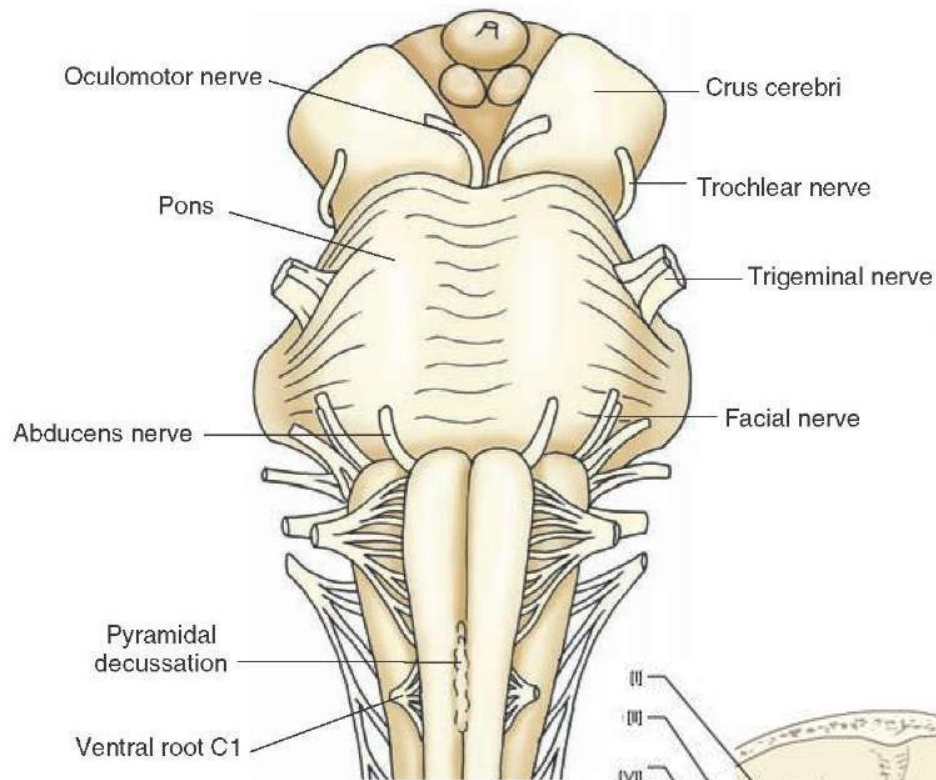
**A**

**Ventral View**

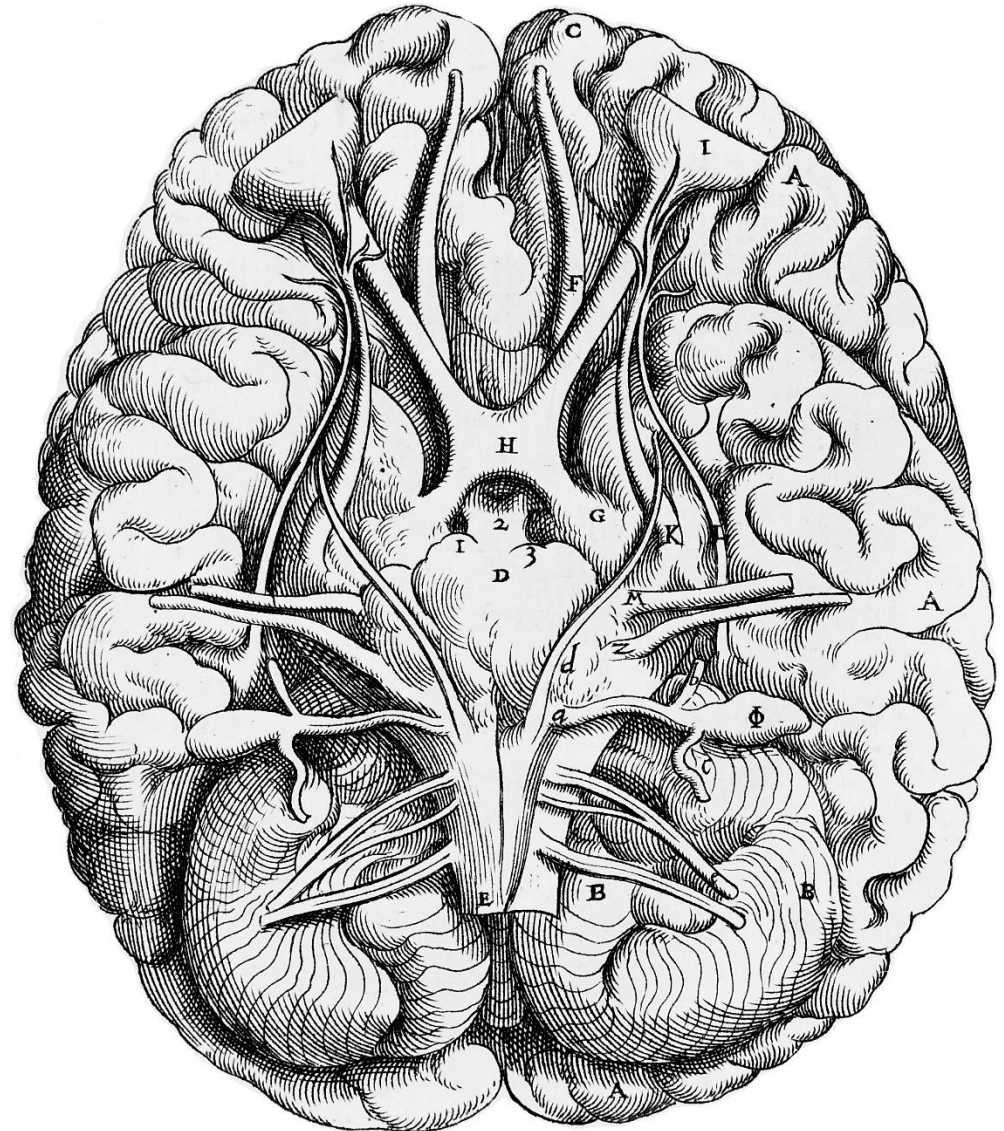


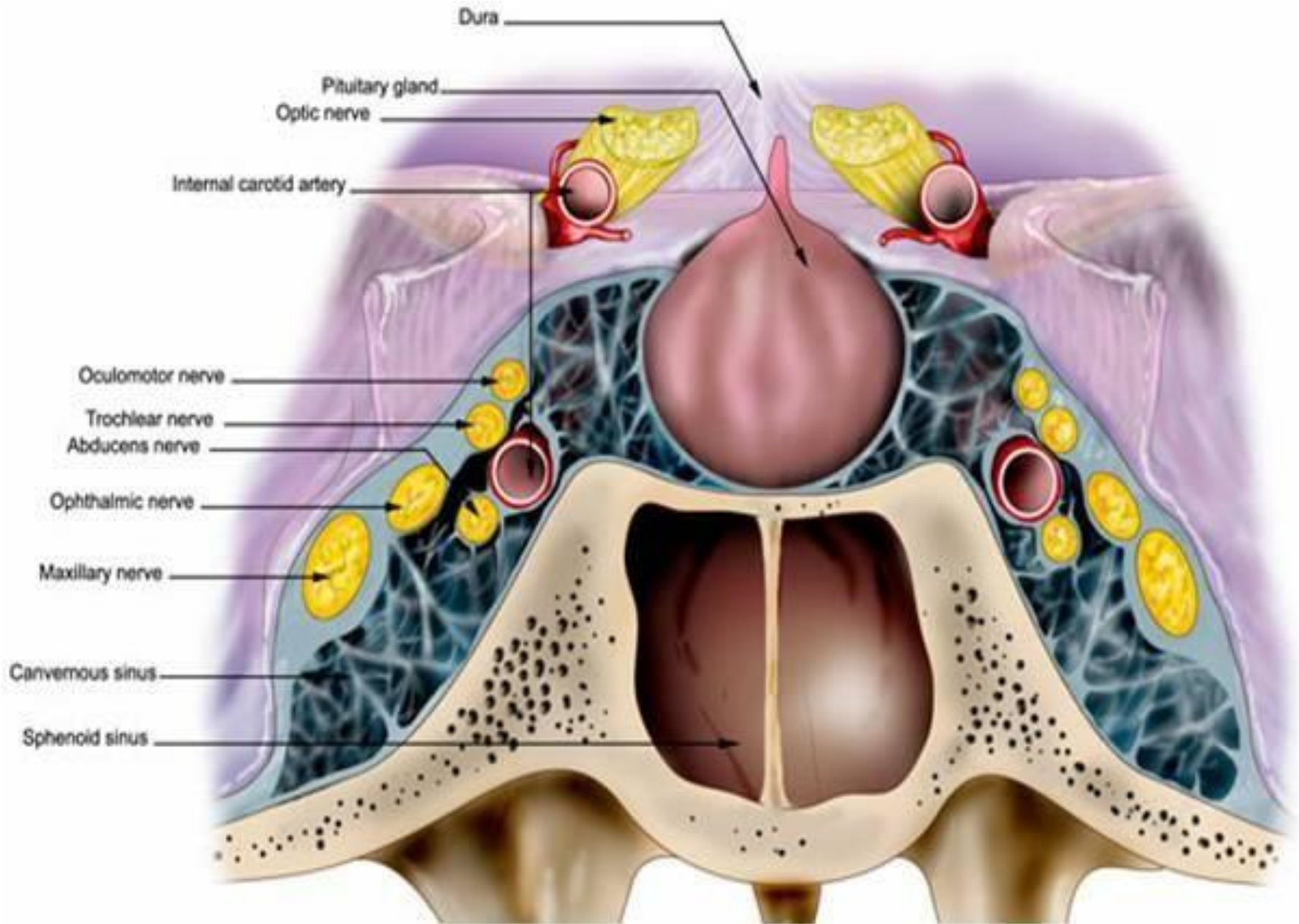
J. Sonne, PhD  
W. López-Ojeda, PhD

1 CM



**Brain stem  
Tumor  
Compressing  
cranial  
nerves**





# Ventral View

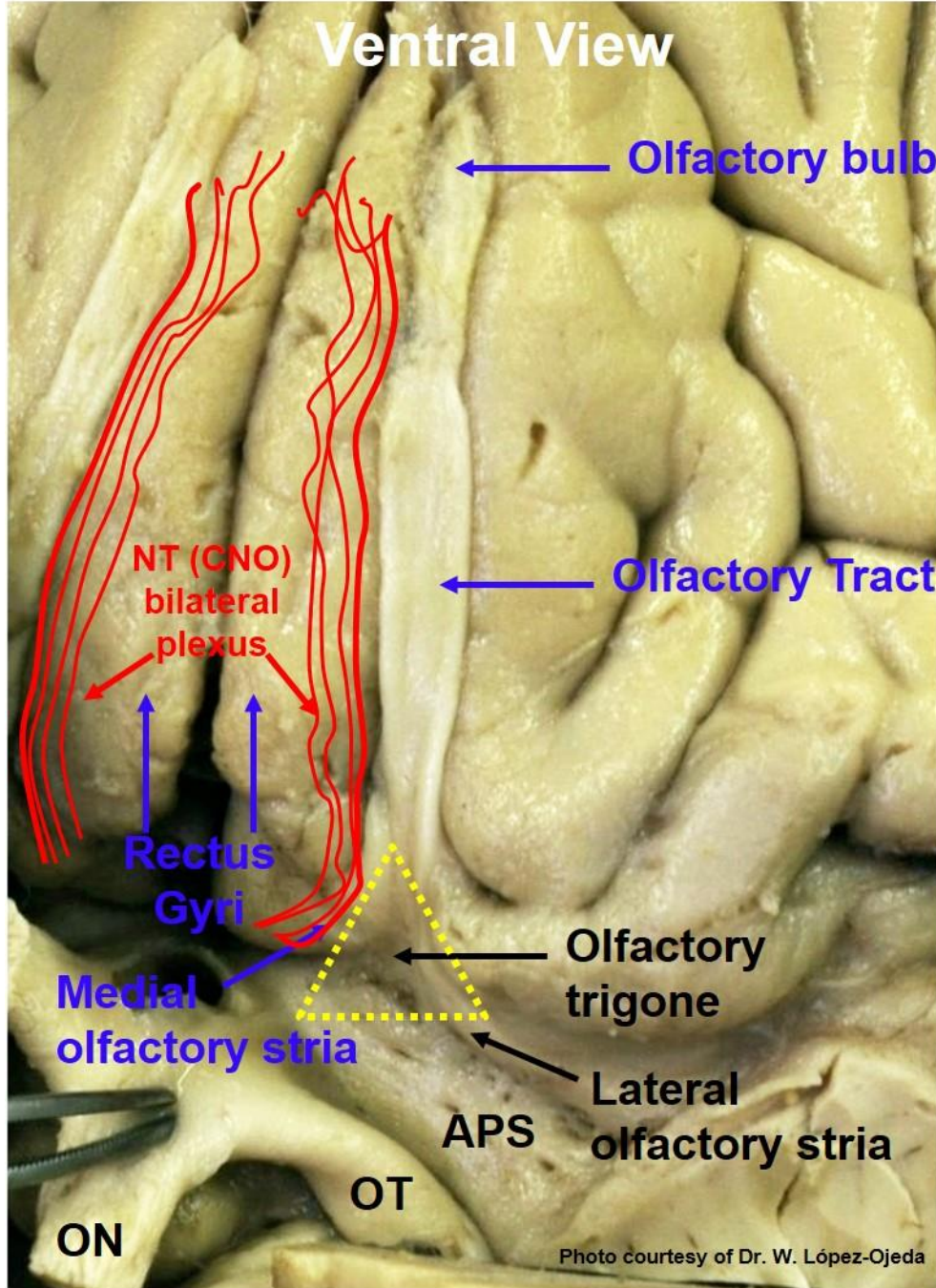
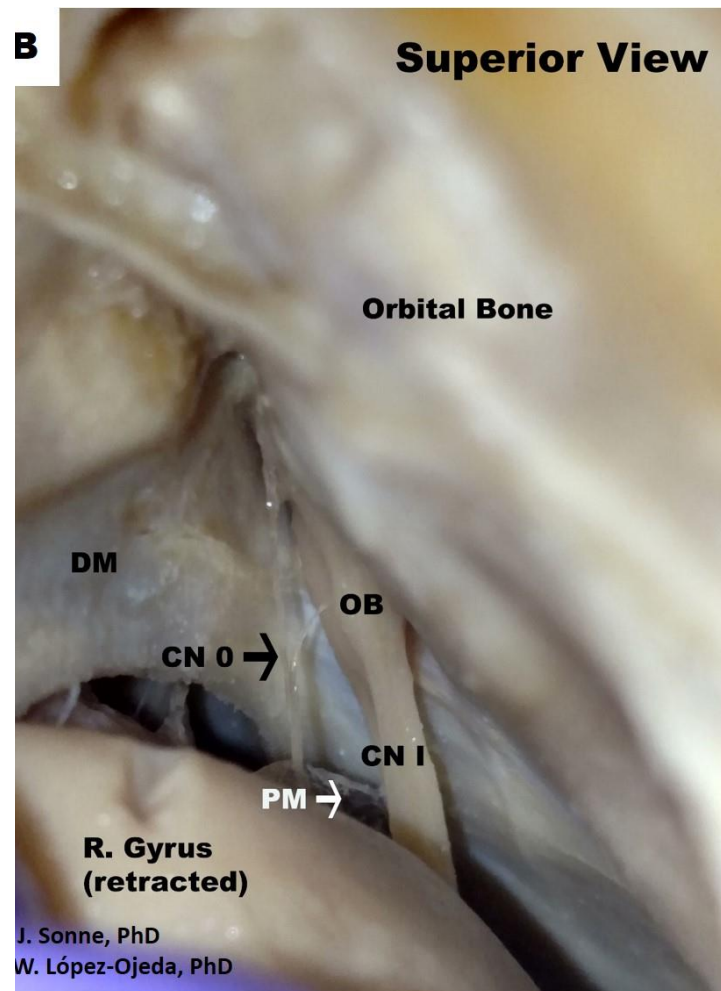


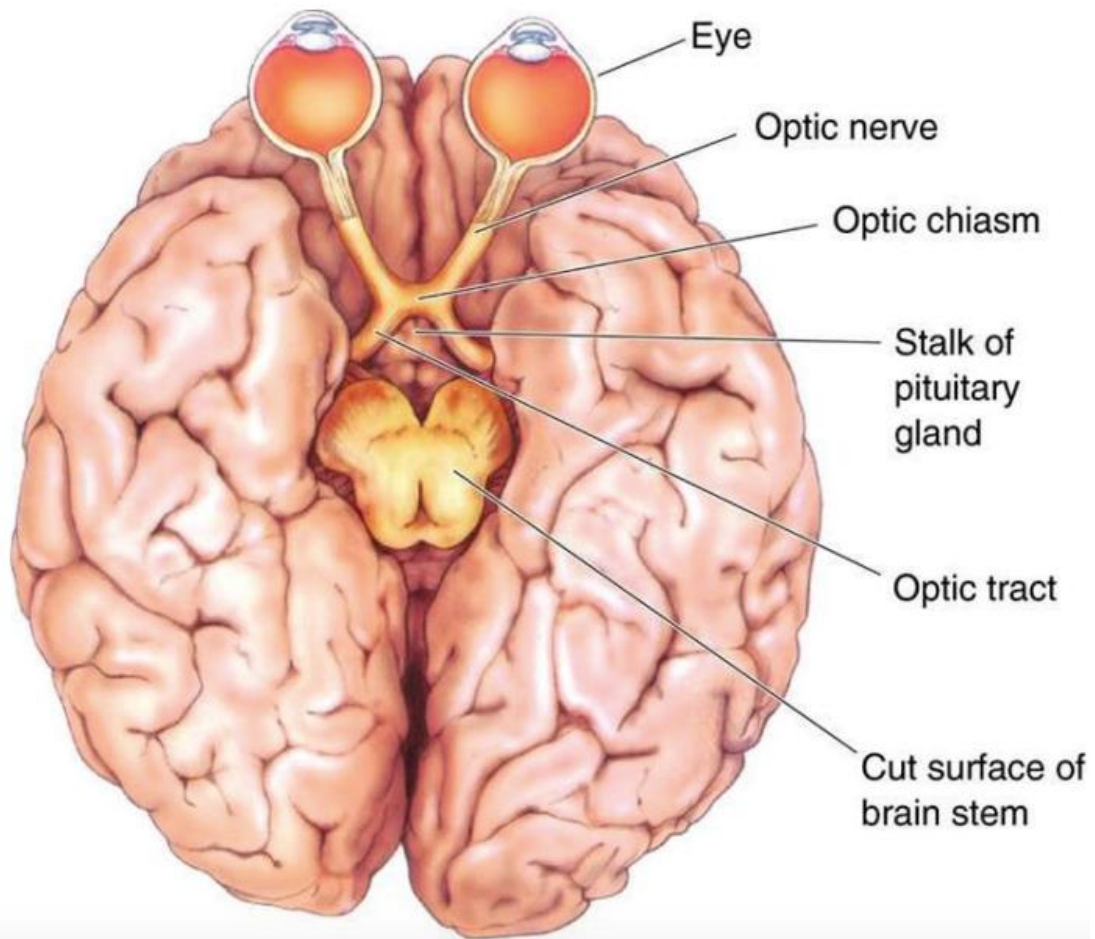
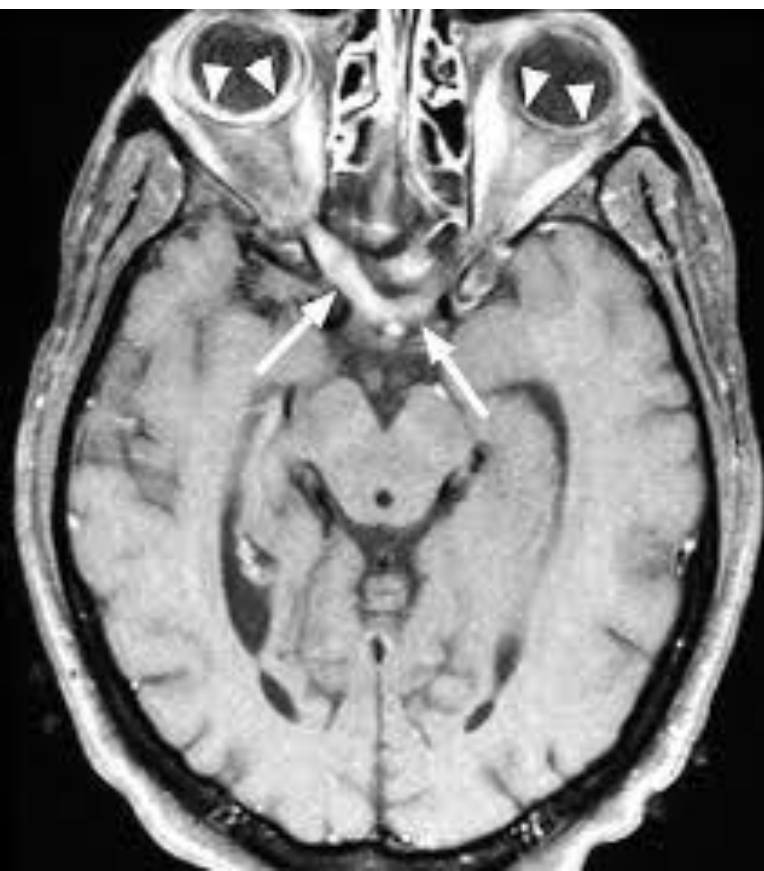
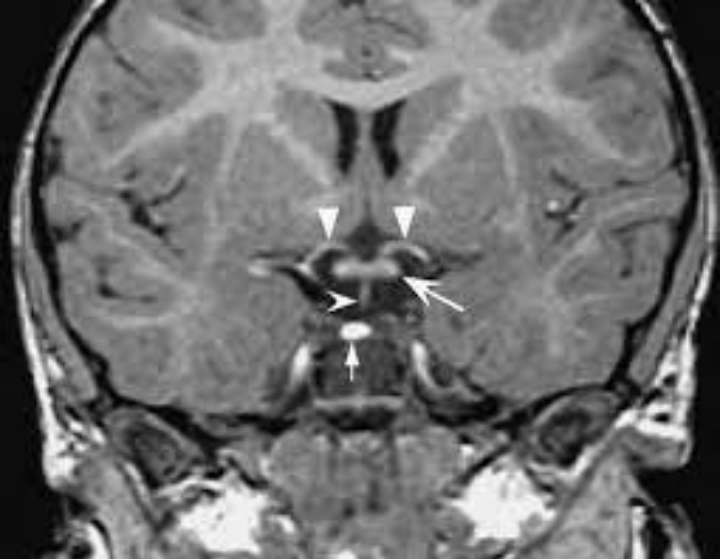
Photo courtesy of Dr. W. López-Ojeda

**B**

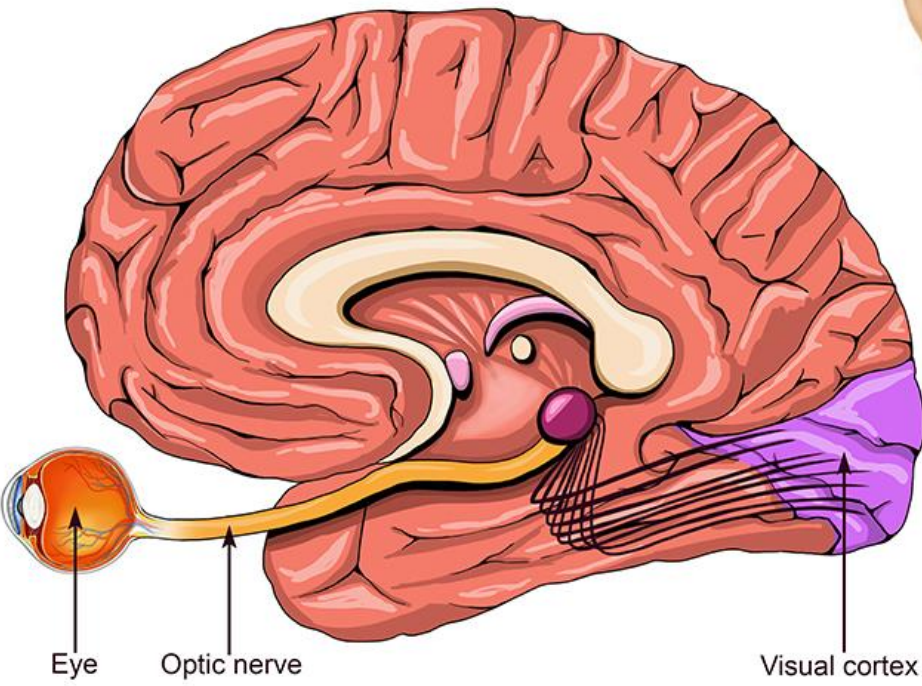
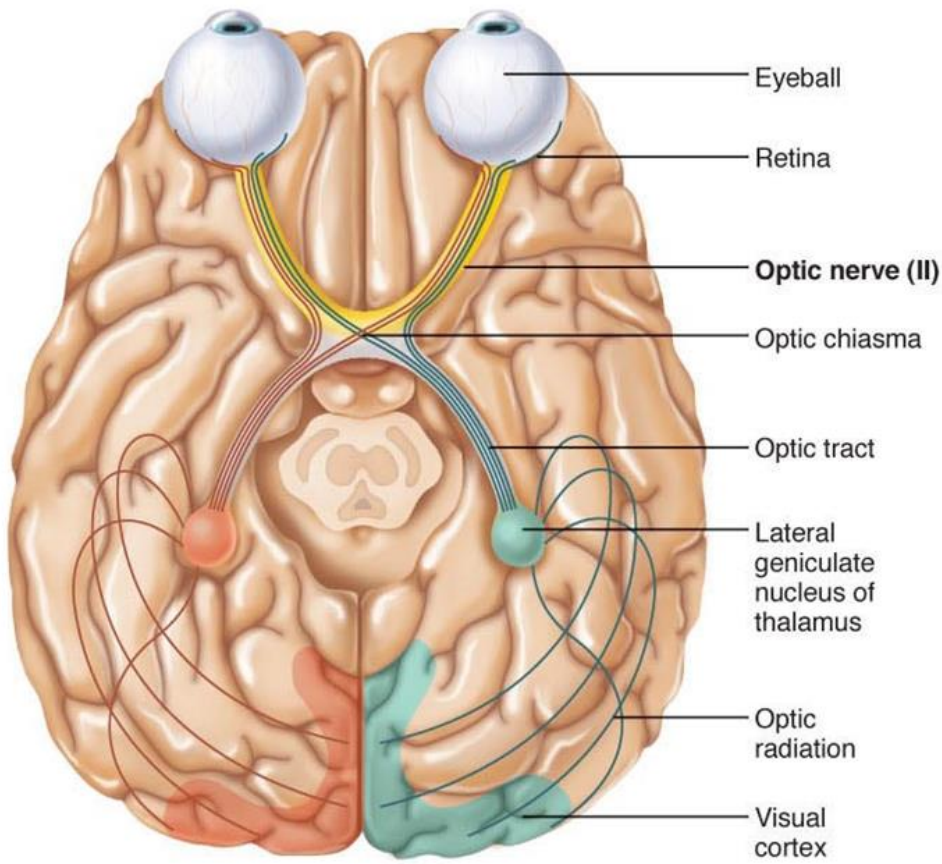
# Superior View

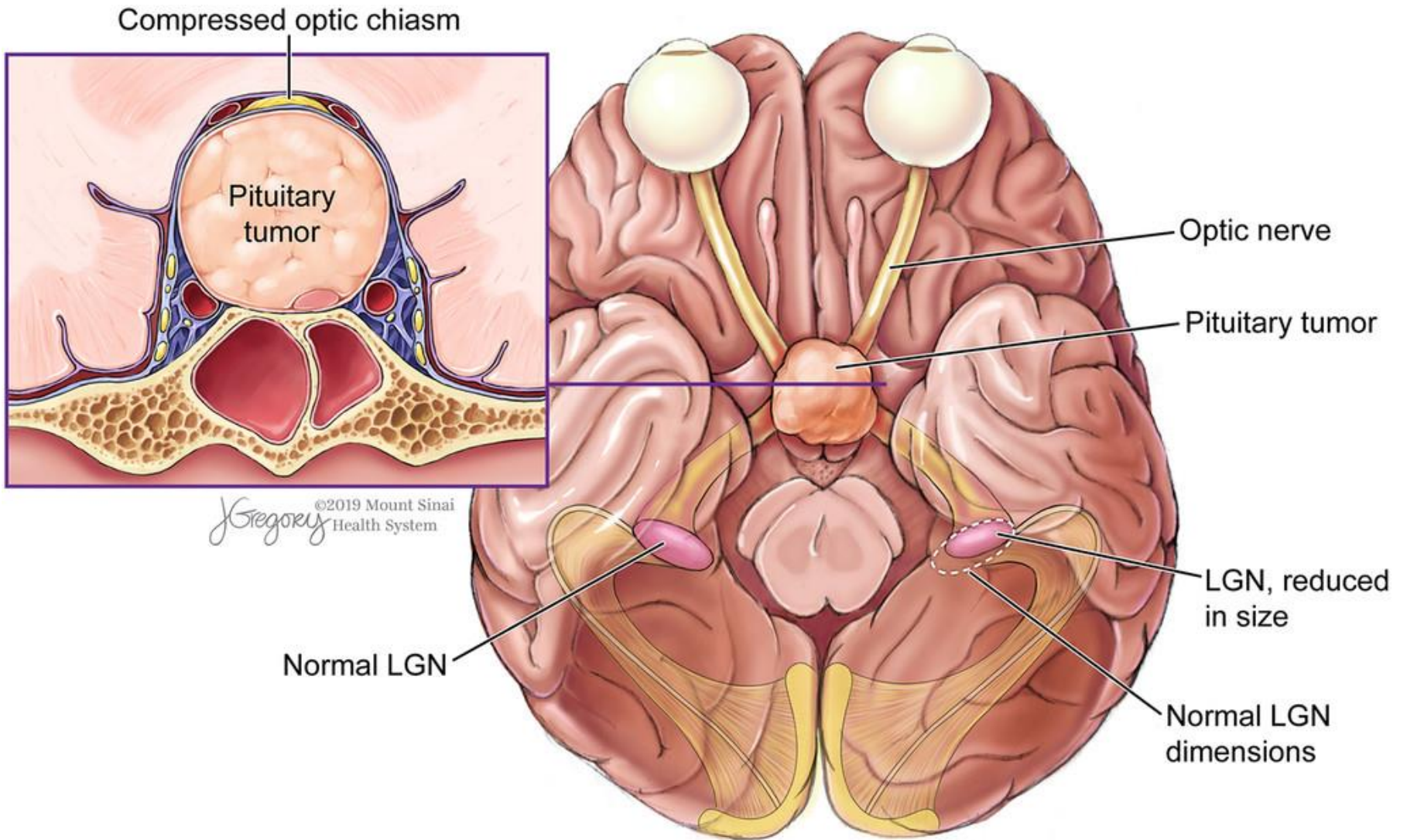


J. Sonne, PhD  
W. López-Ojeda, PhD

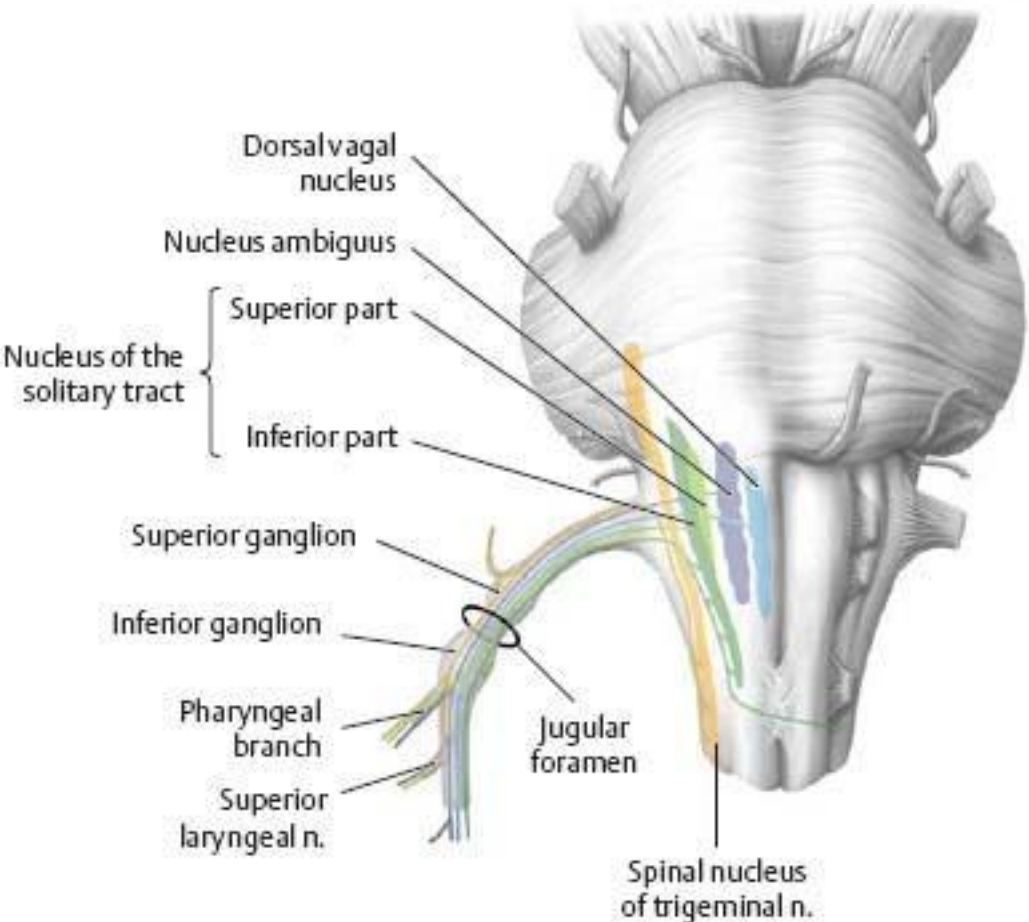
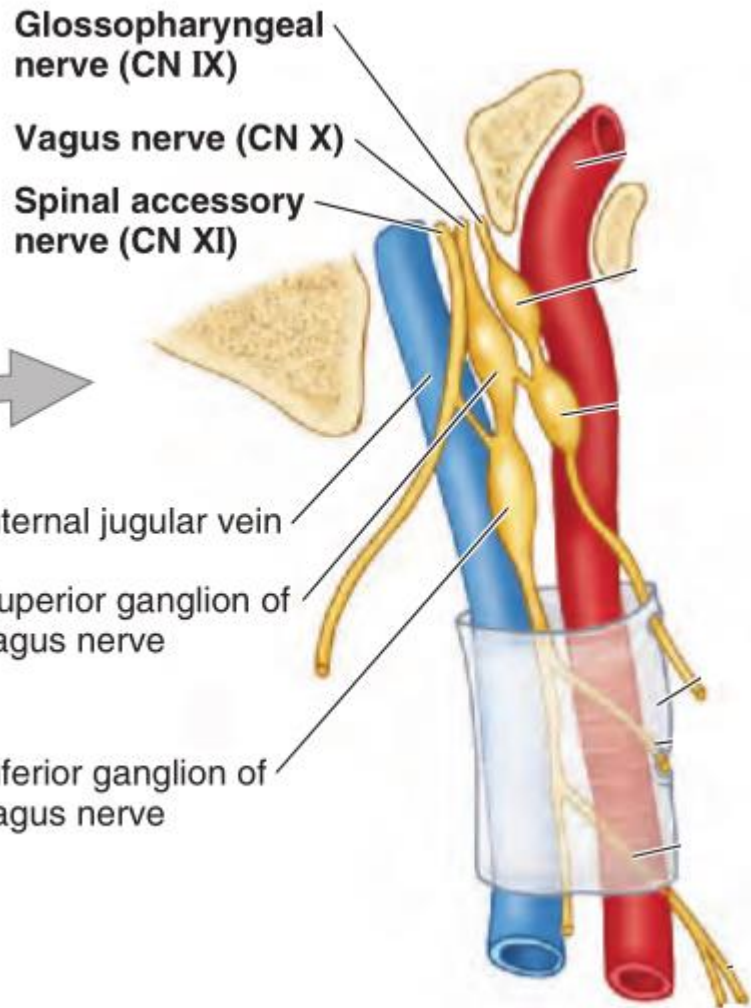
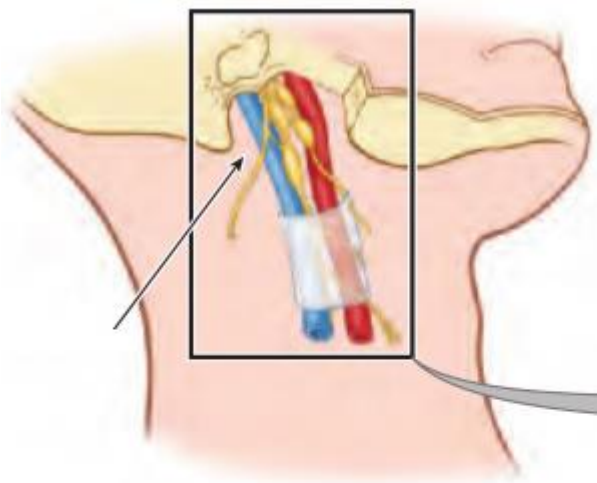


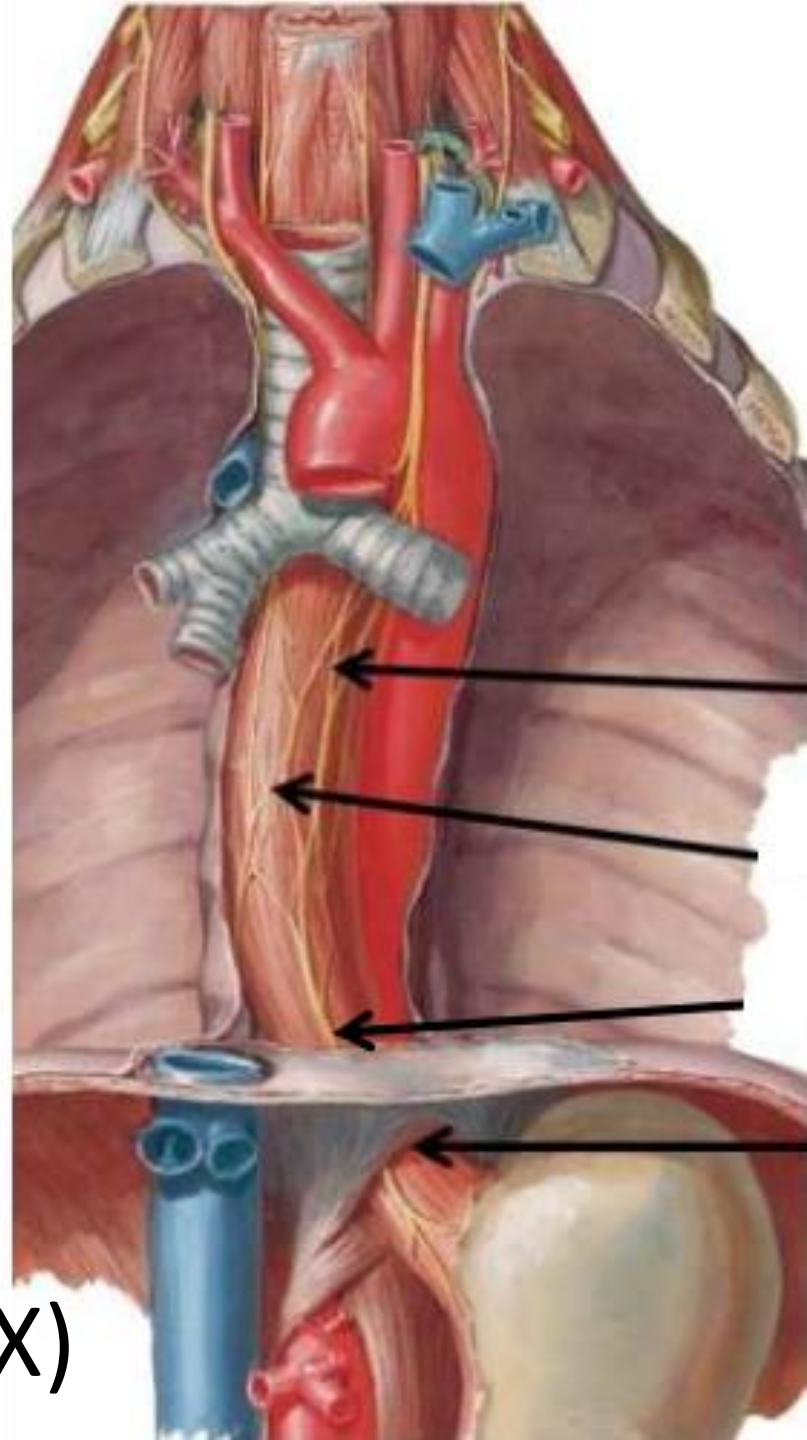
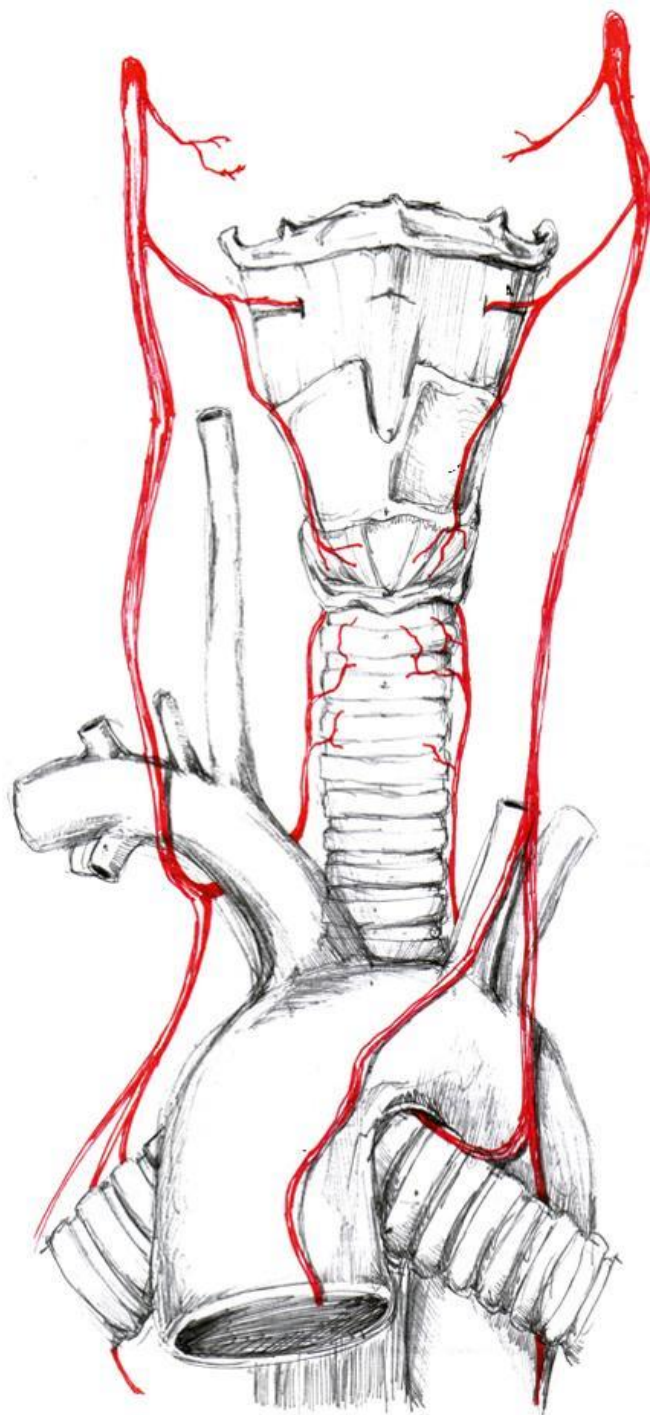






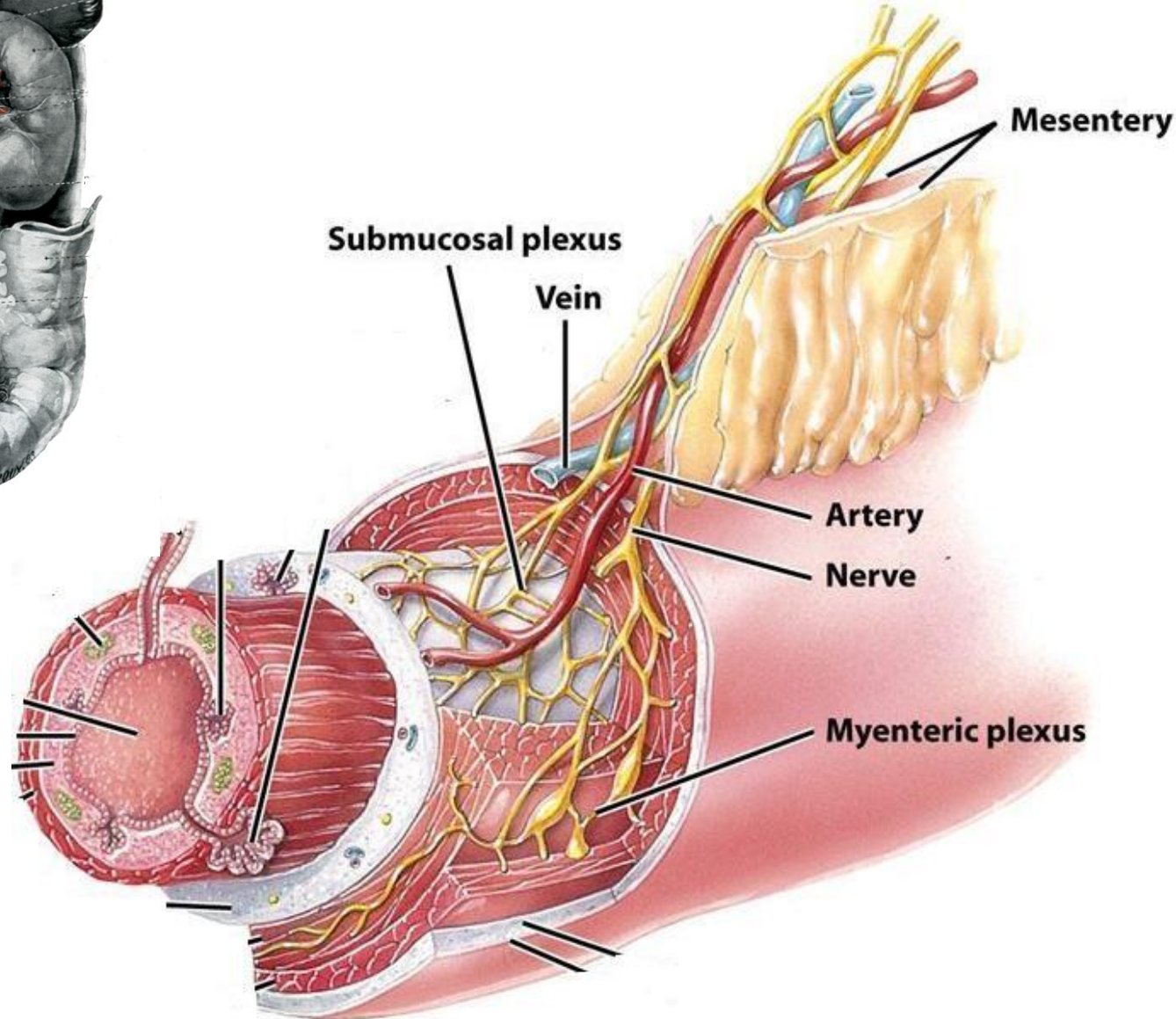
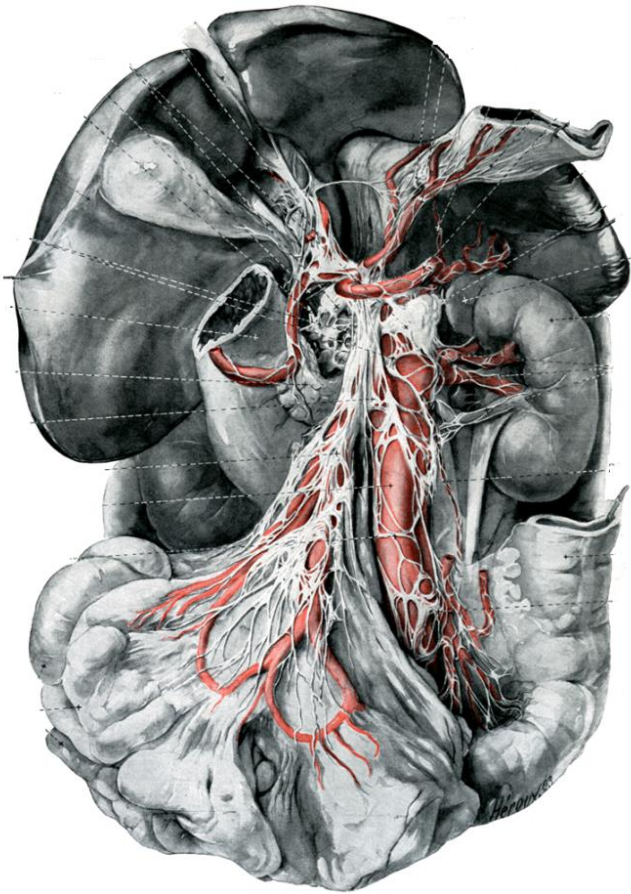
# Vagus n. (X)





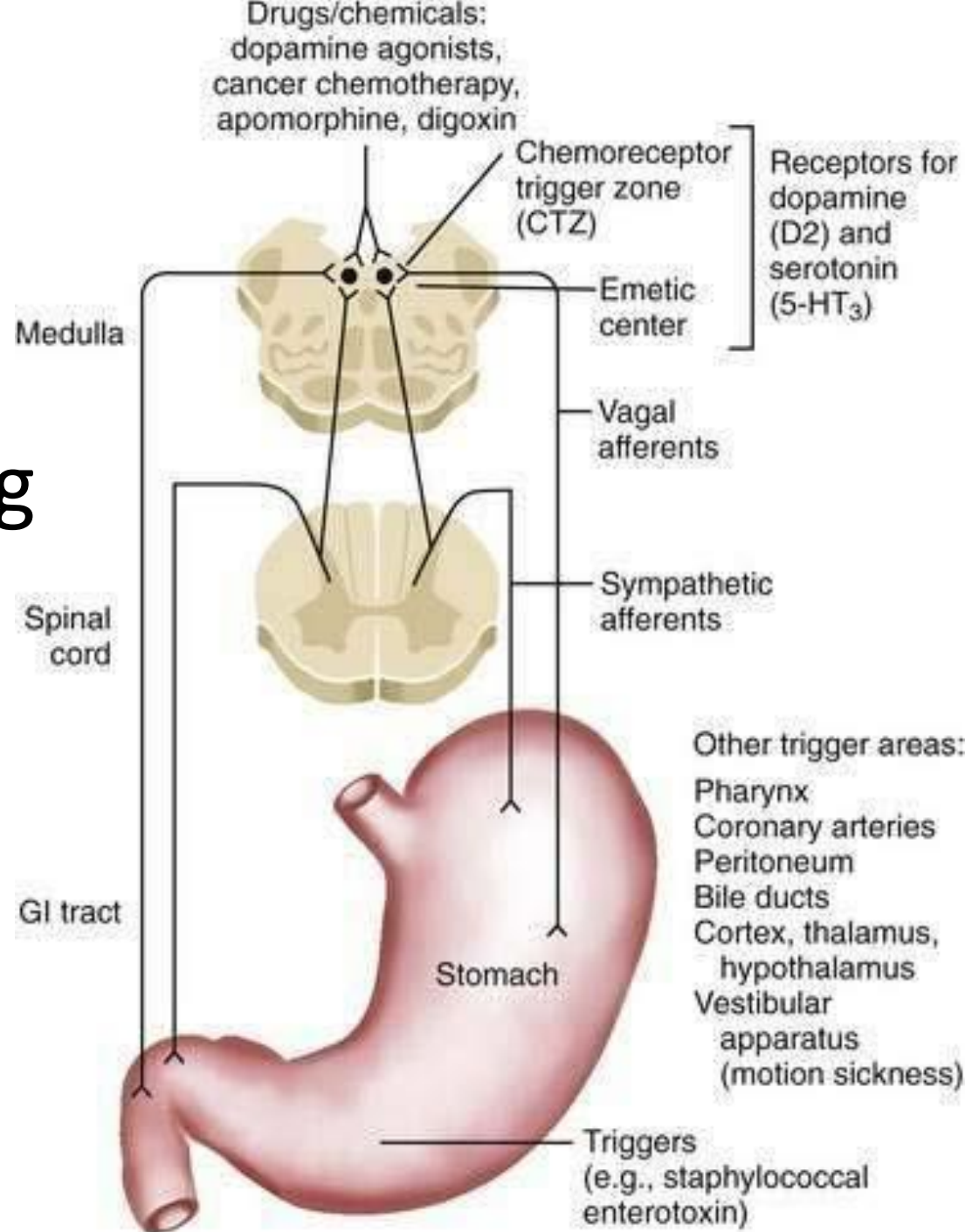
Vagus n. (X)

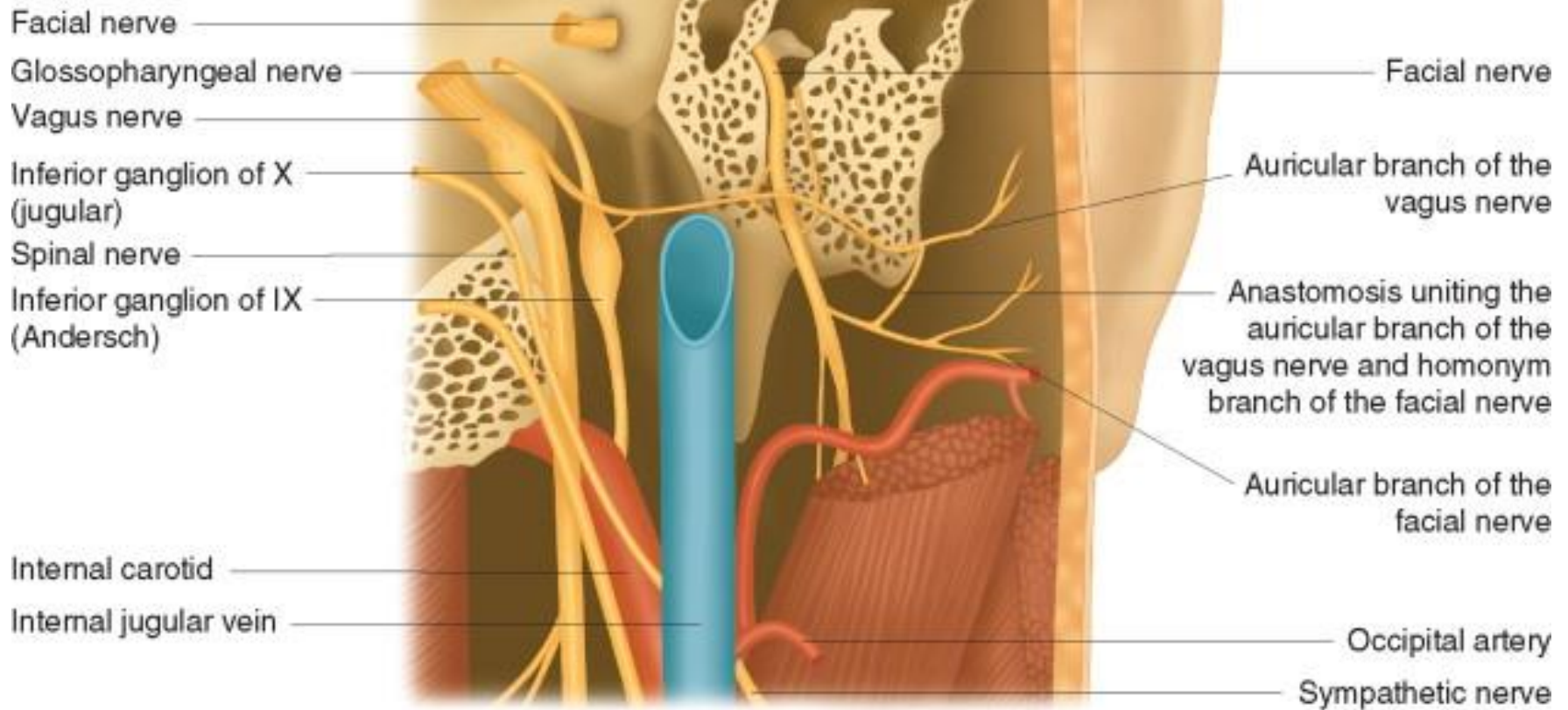
# Vagus n. (X)



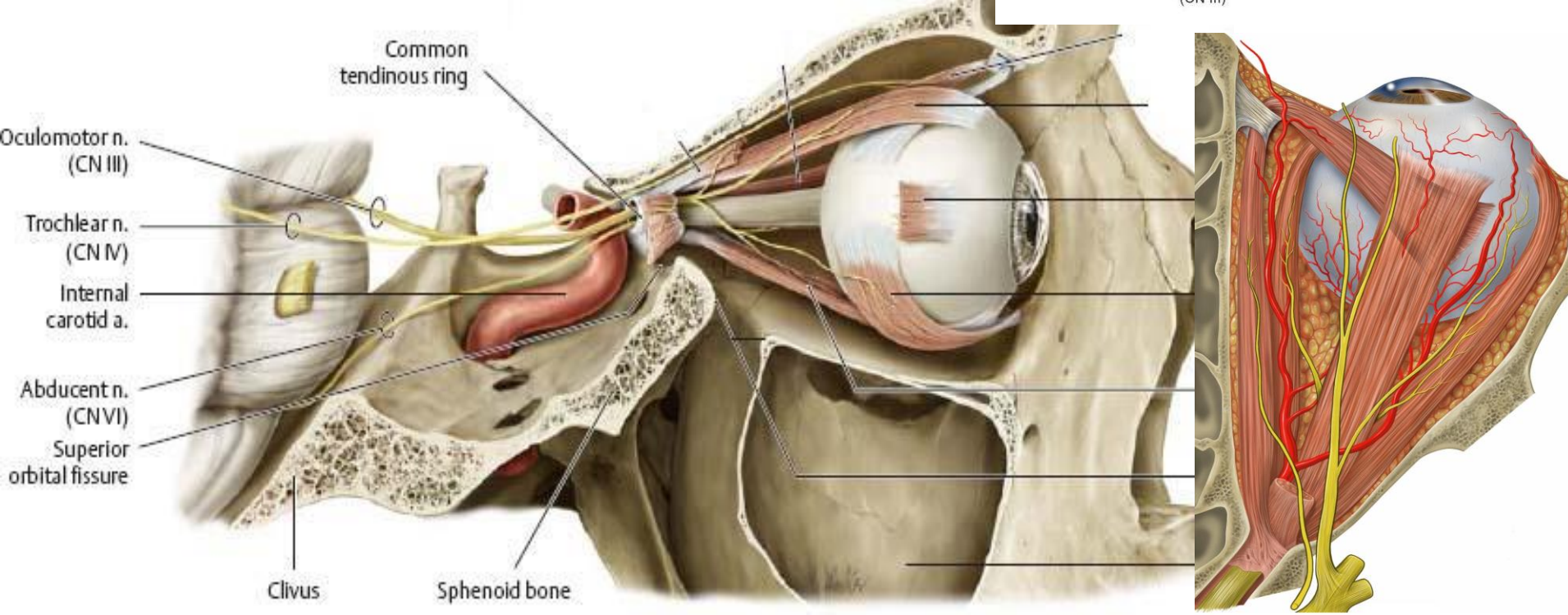
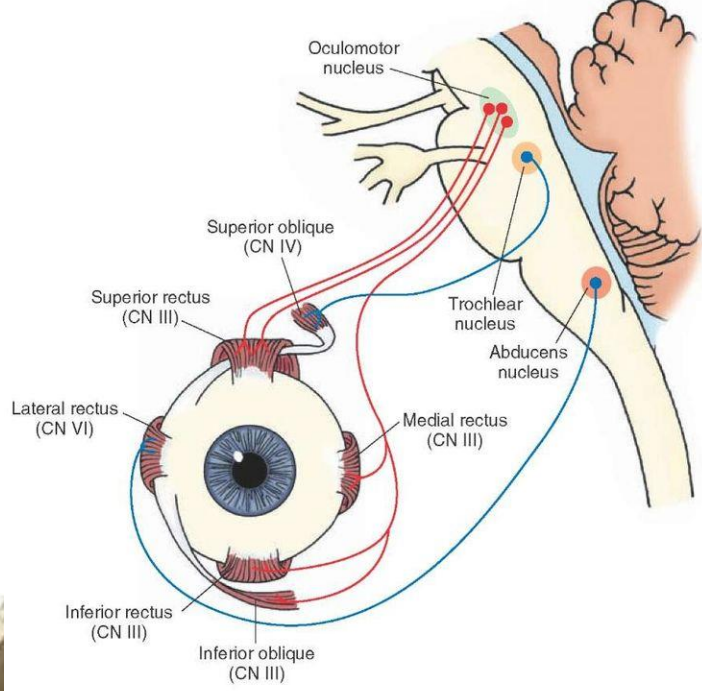
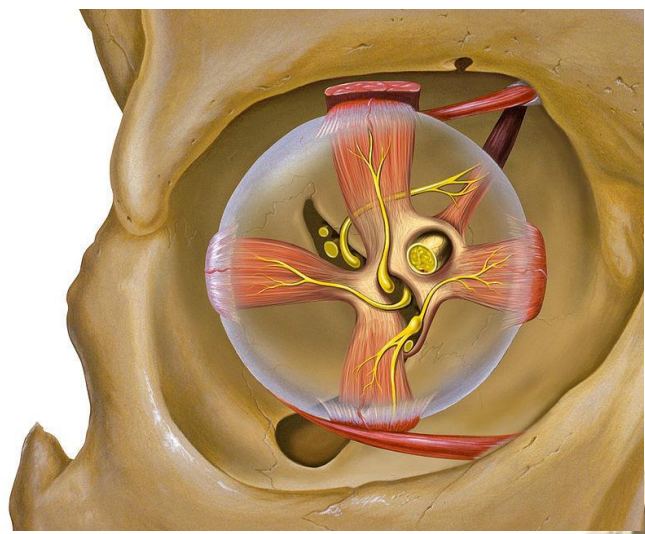
# Vagus n. (X)

## Nausea & Vomiting





Oculomotor n. (III)  
 Trochlear n. (IV)  
 Abducens n. (VI)

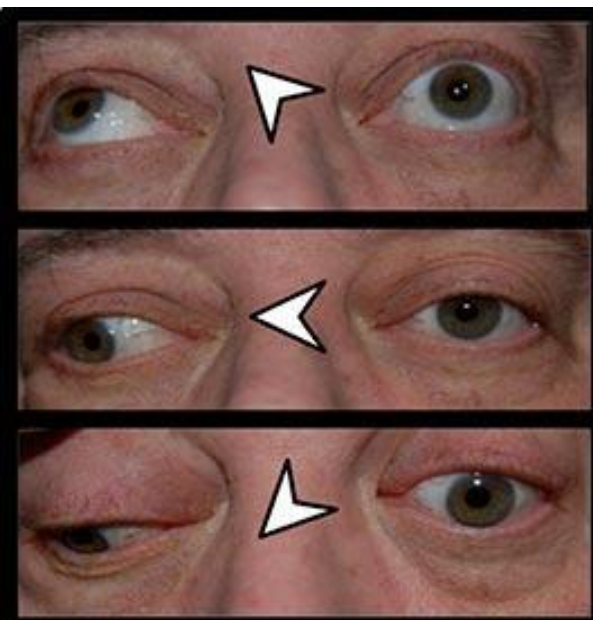
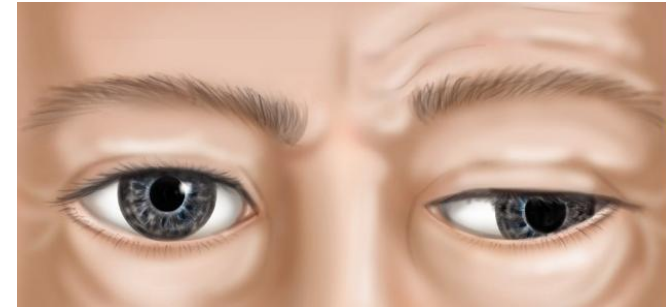
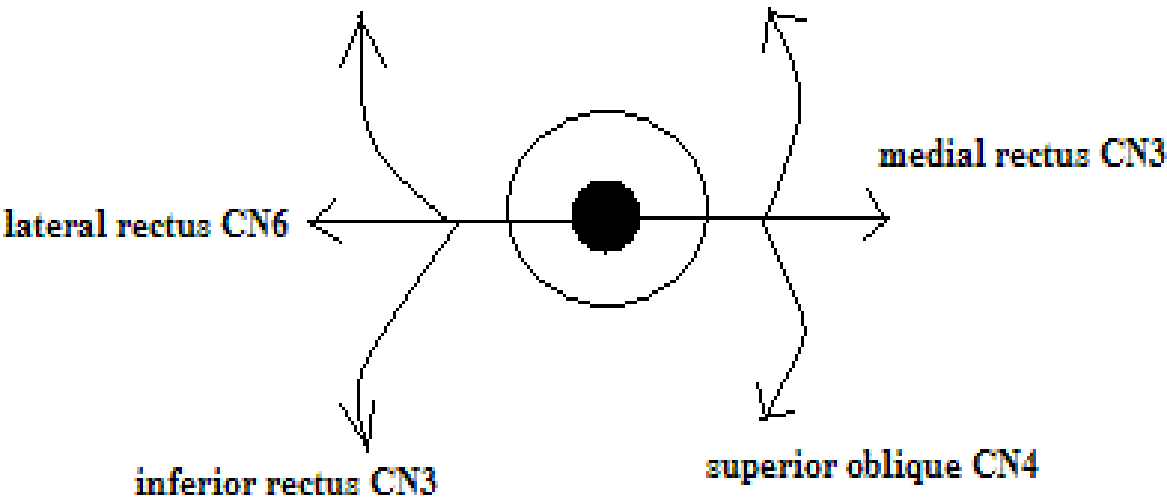




# Oculomotor n. (III), Trochlear n. (IV), Abducens n. (VI) Palsy

superior rectus CN3

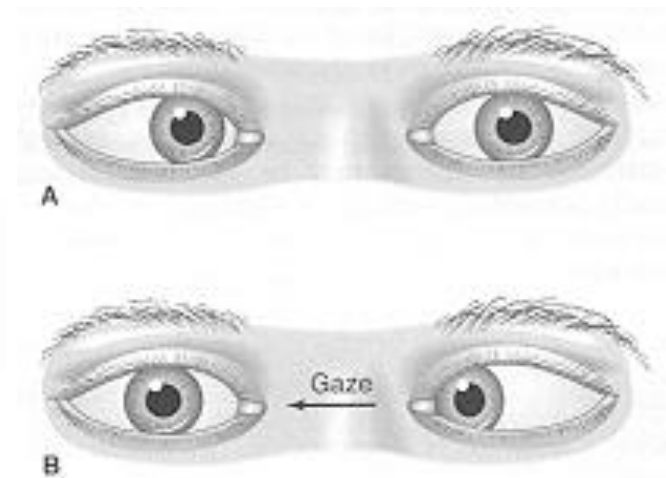
inferior oblique CN3



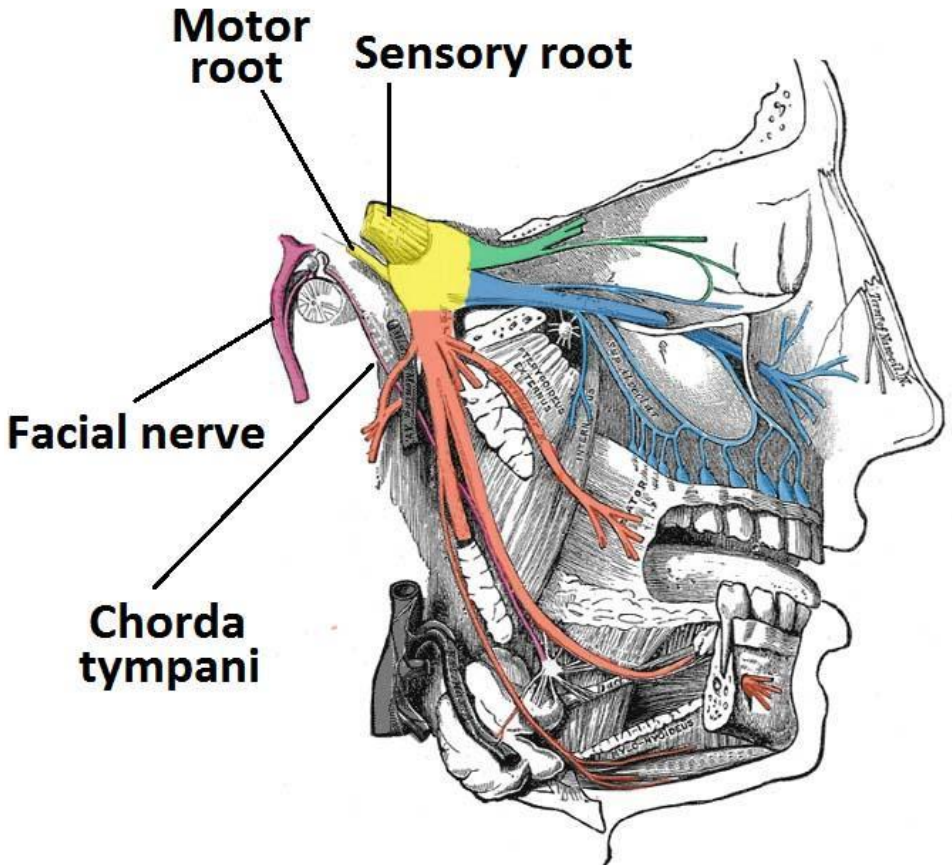
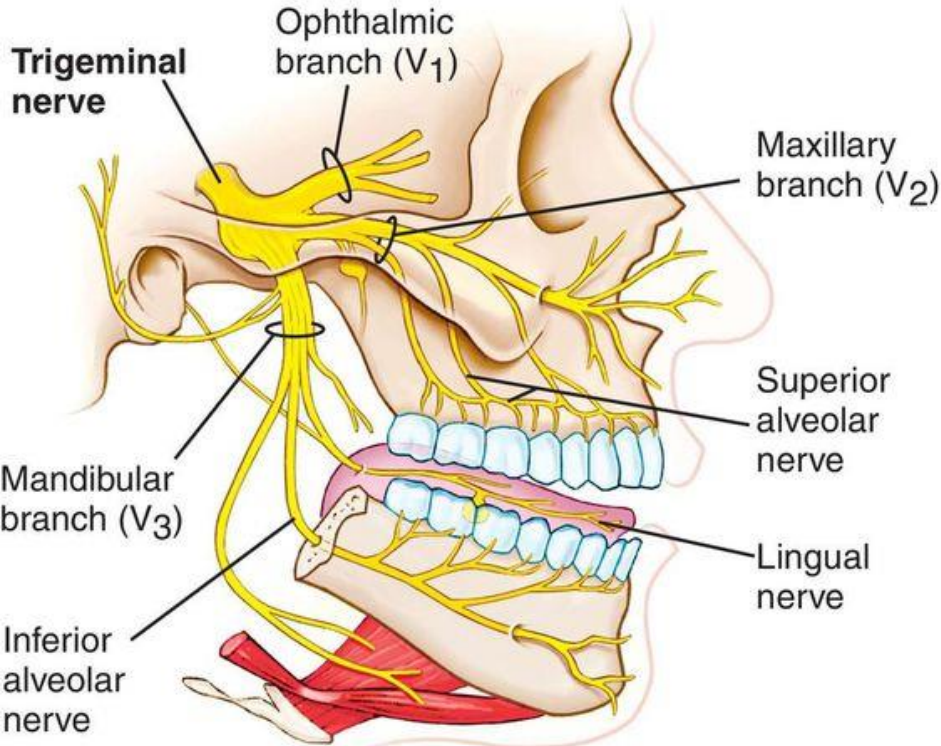
Trochlear Nerve Palsy

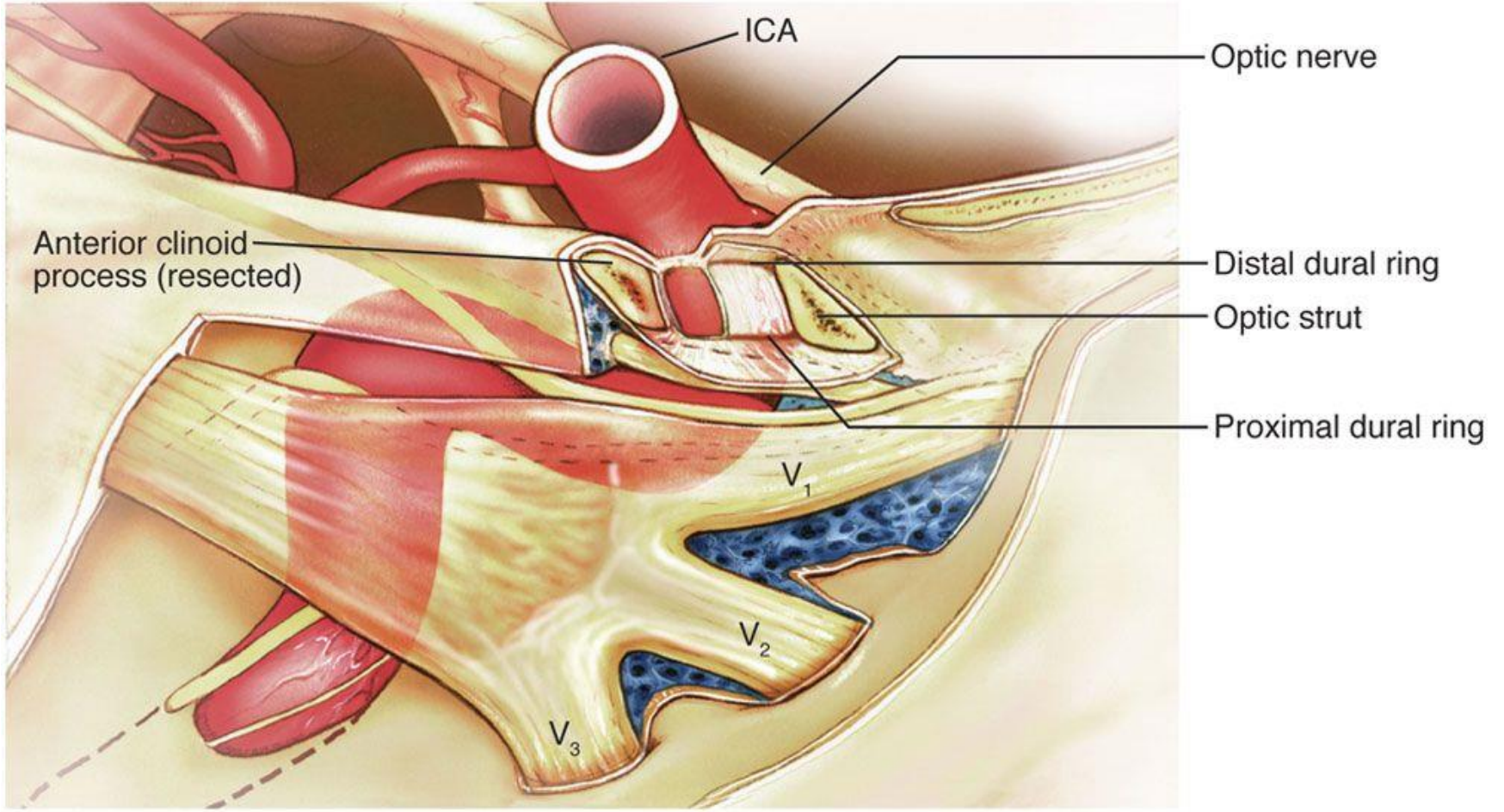


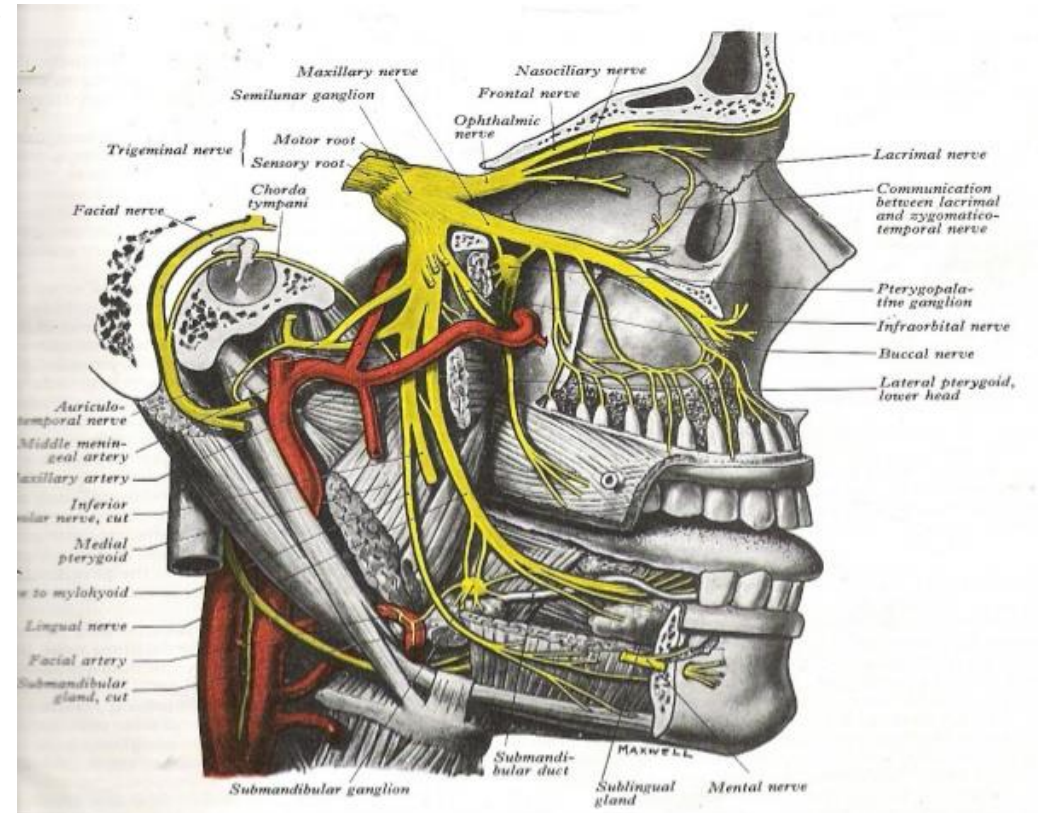
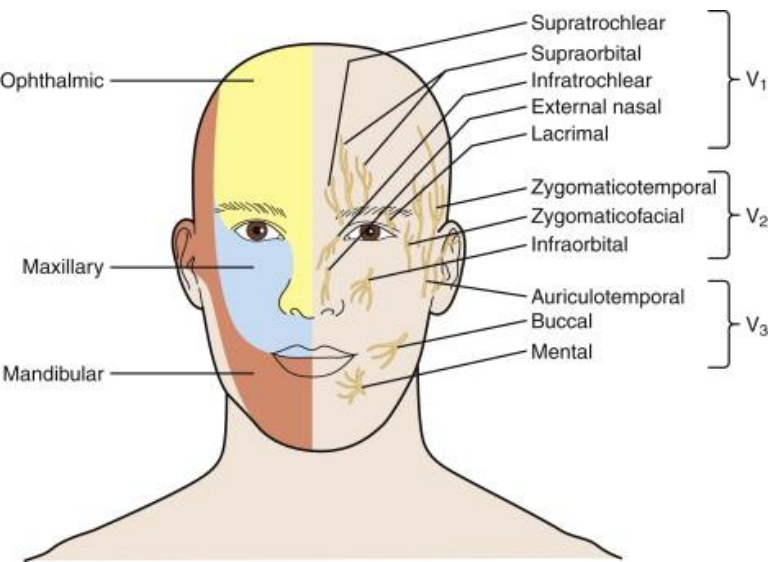
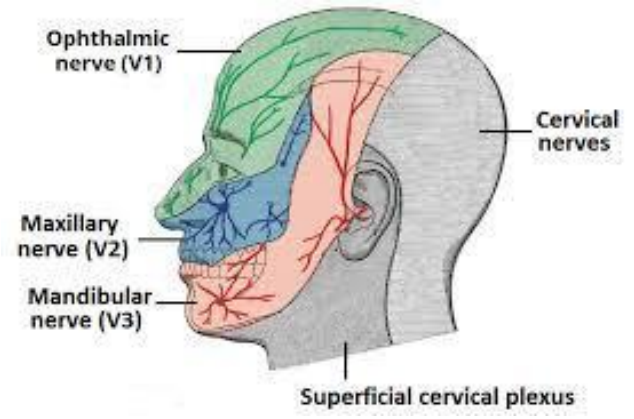
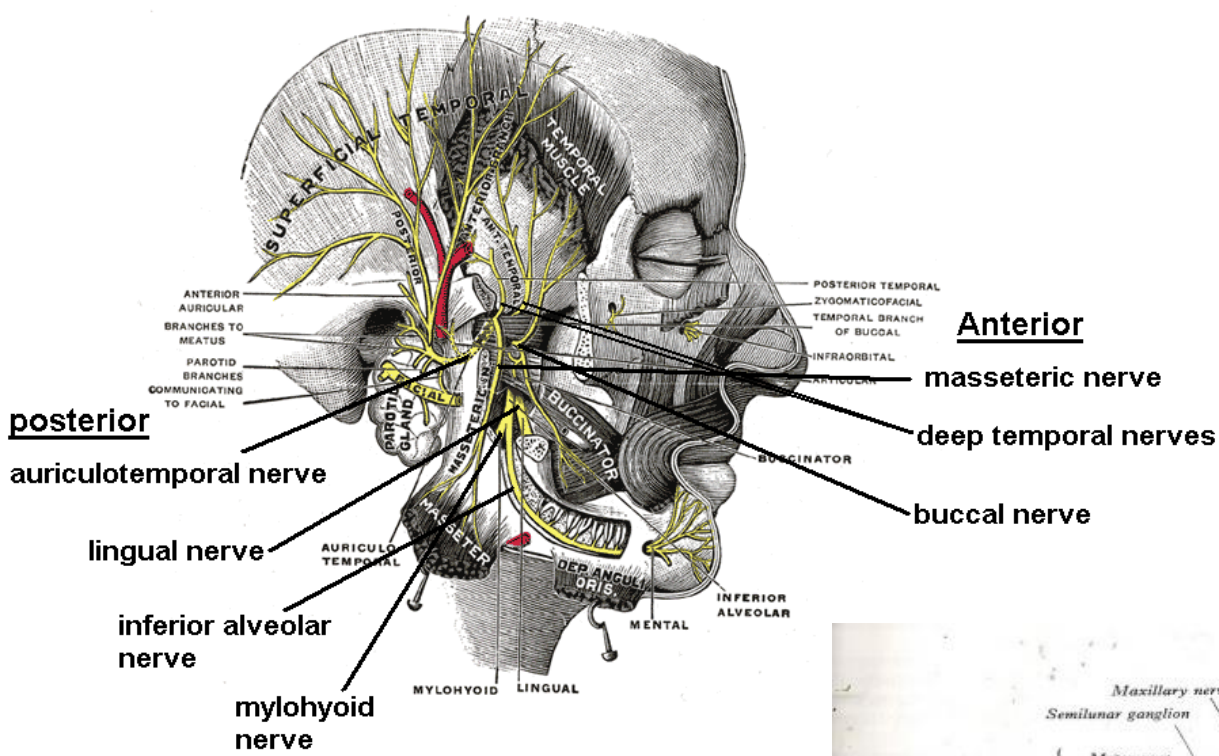
Gaze to the right



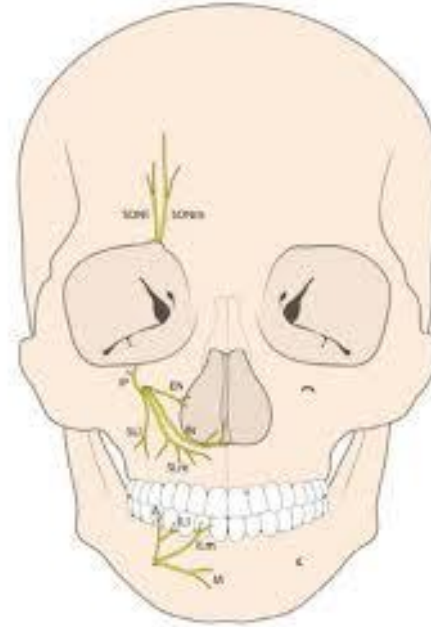
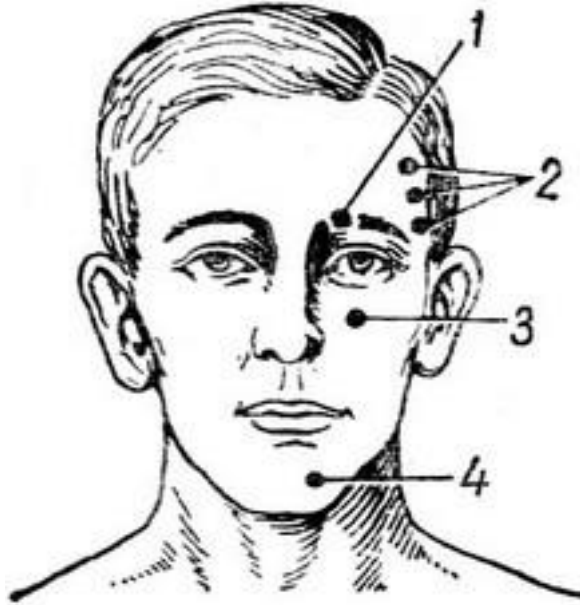
# Trigeminal n. (V)



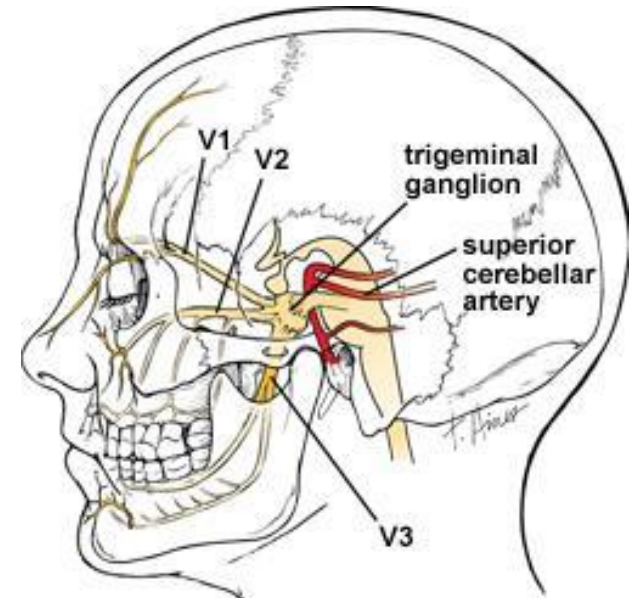
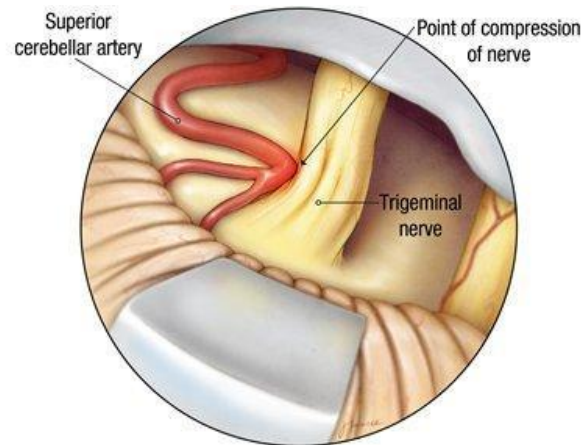




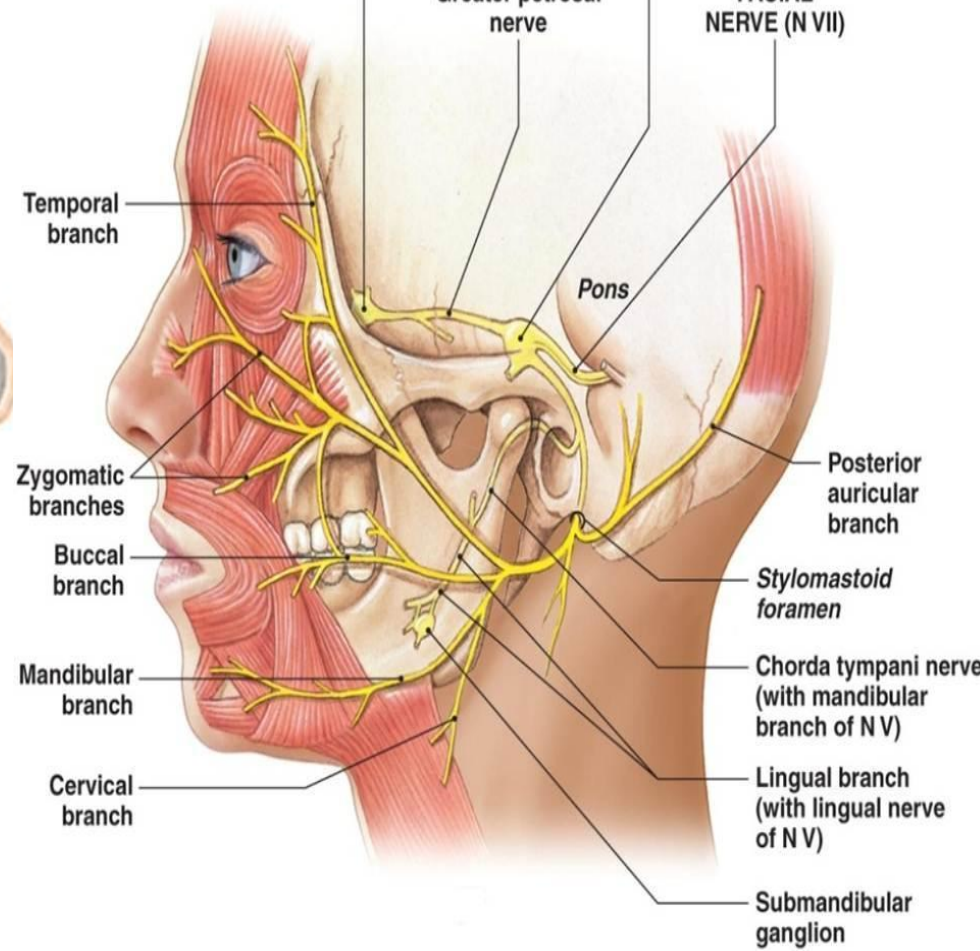
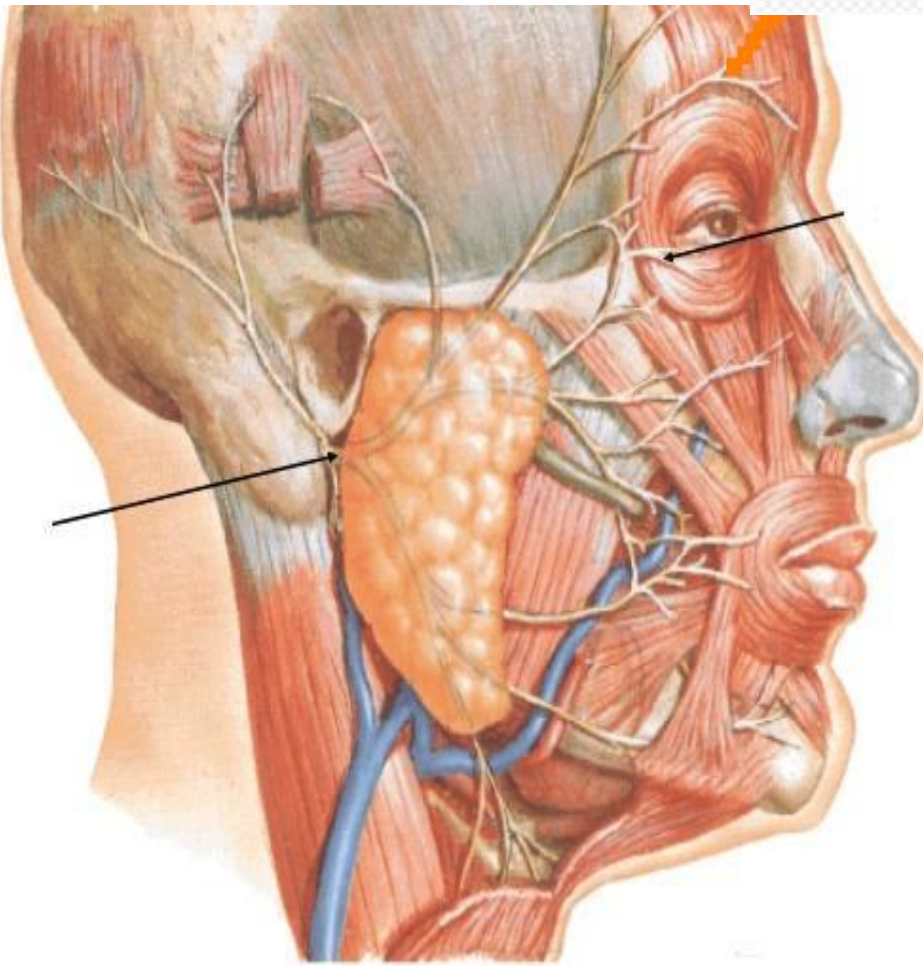
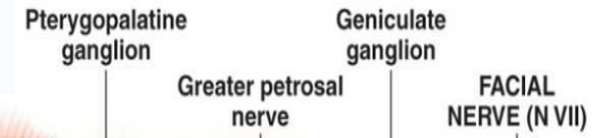
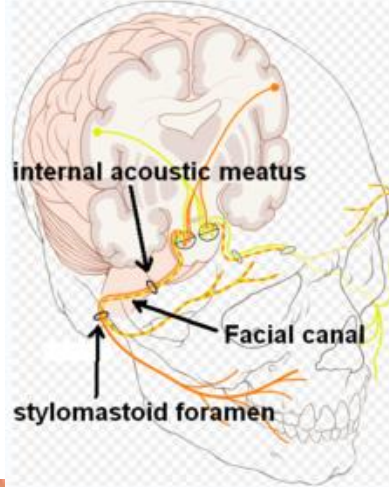
# Trigeminal n. (V) Pressure Points

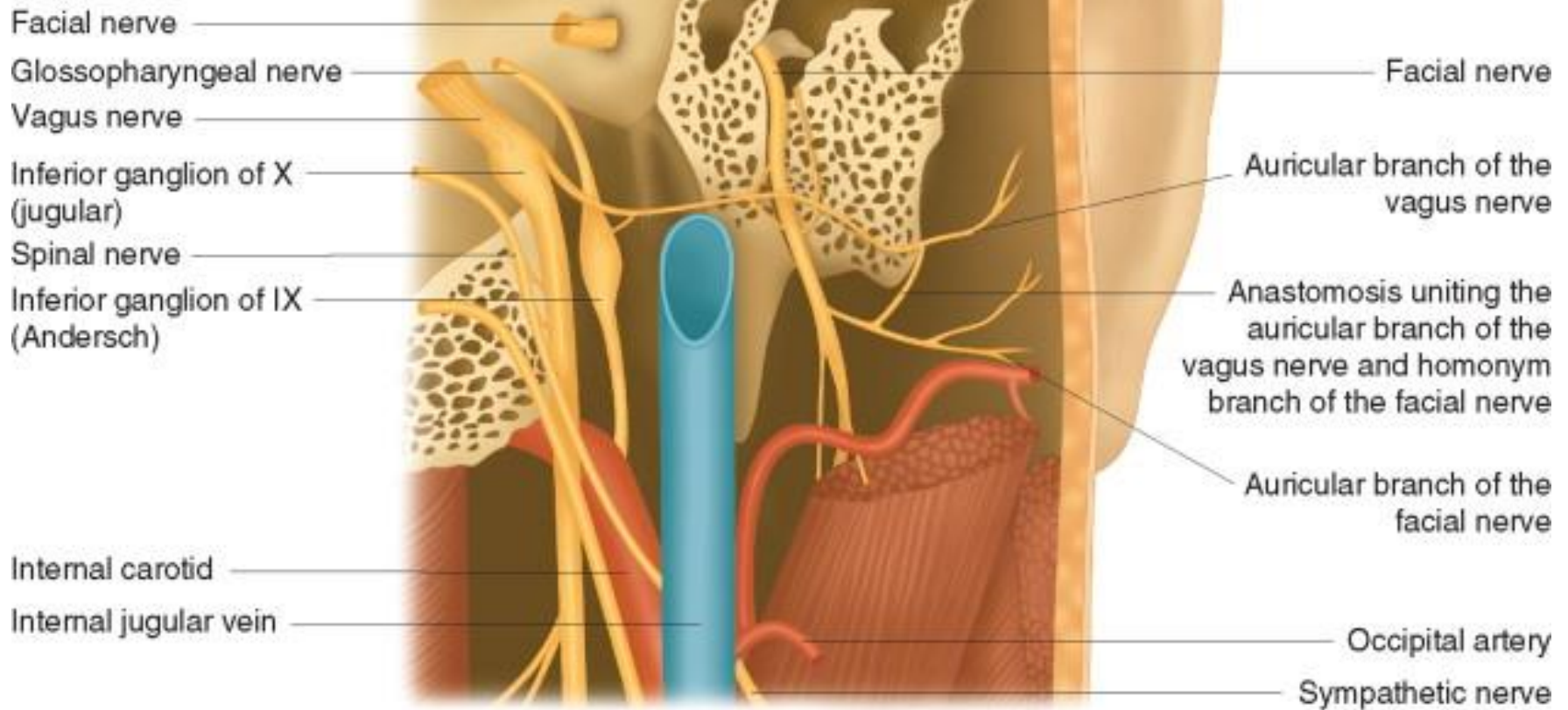


# Trigeminal n. (V) Compression

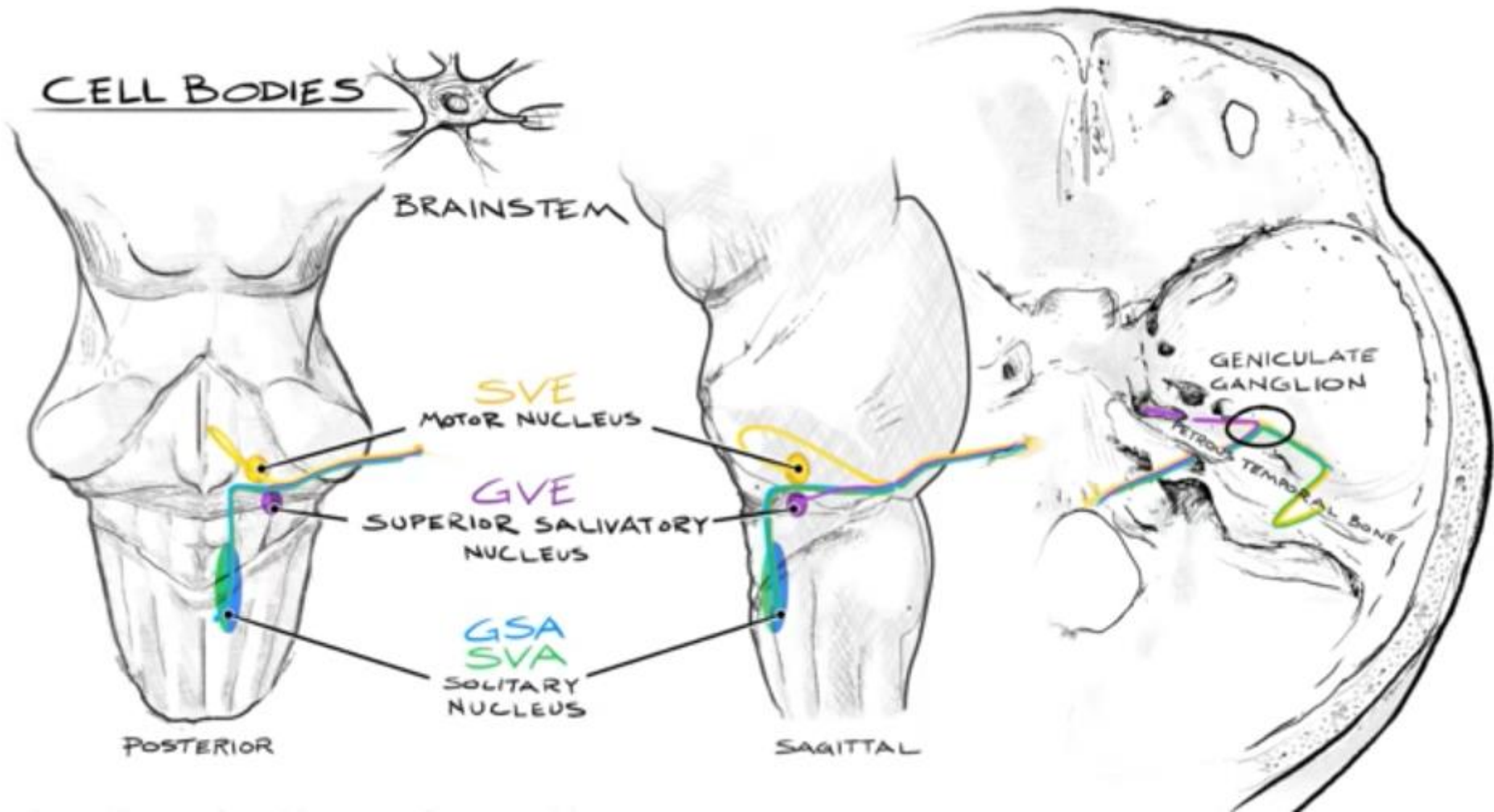


# Facial n. (VII)



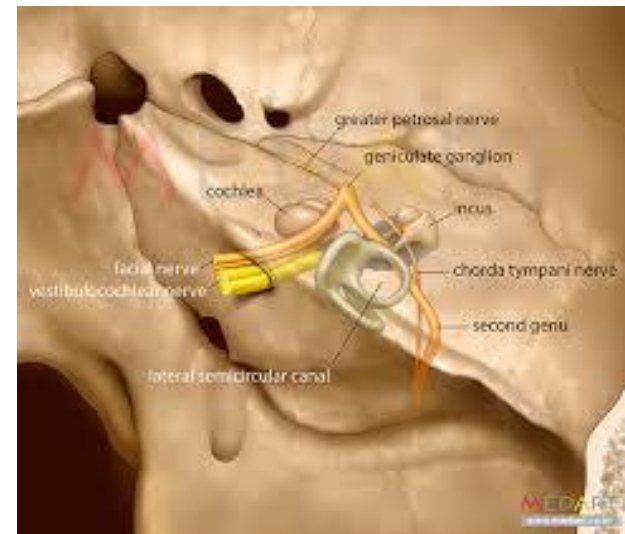
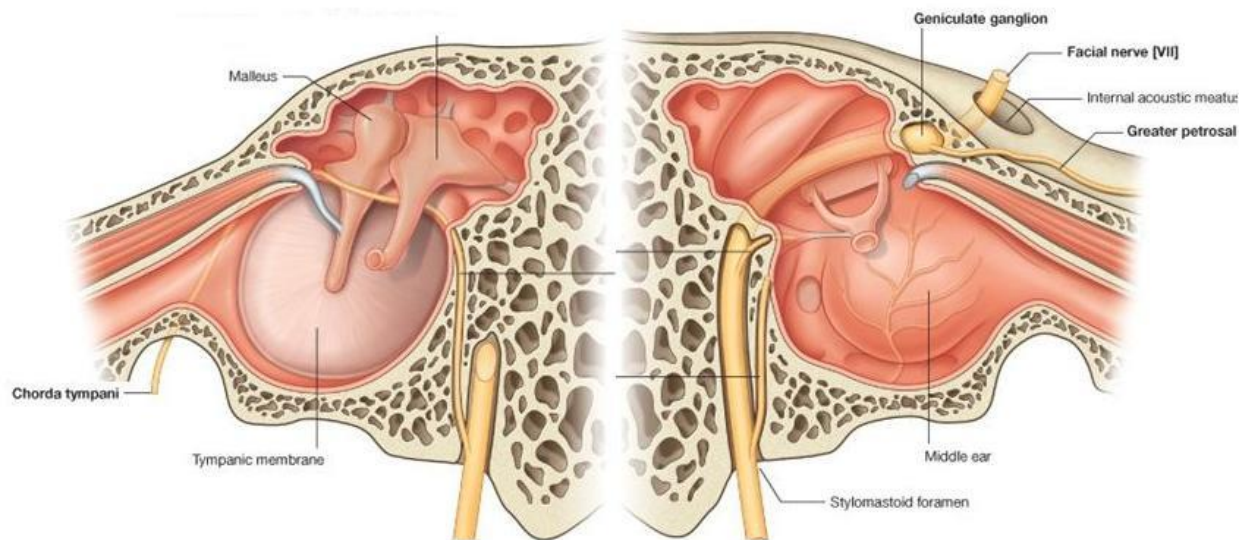
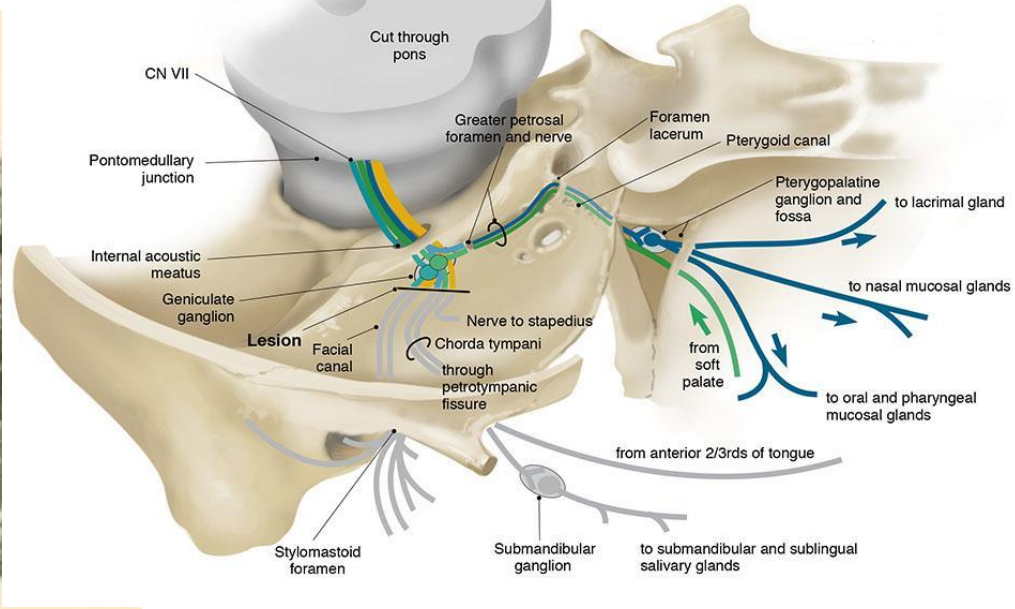
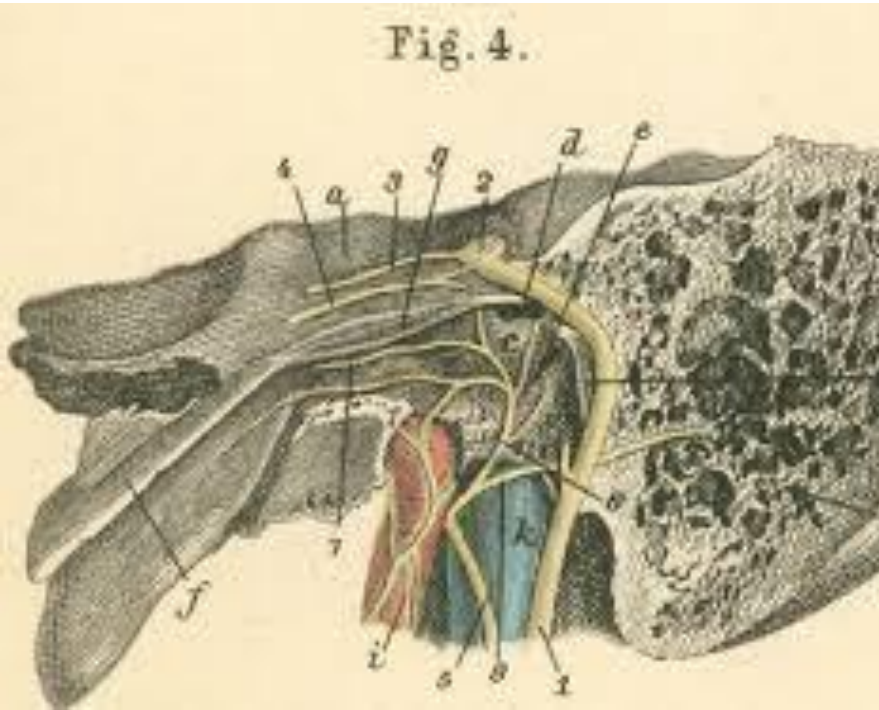


# Facial n. (VII) Nuclei





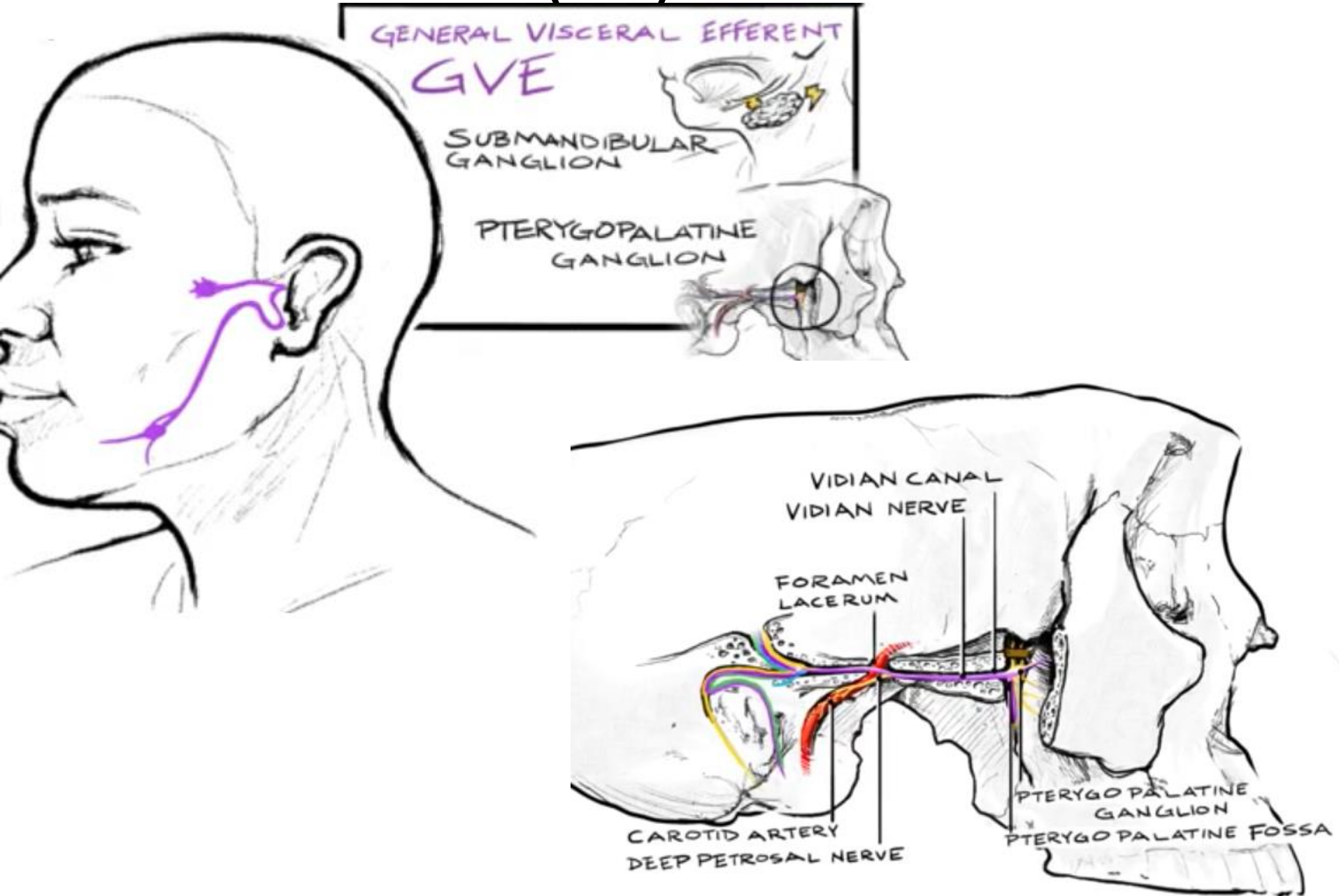
# “Facial Canal”



# Facial n. (VII) Distribution

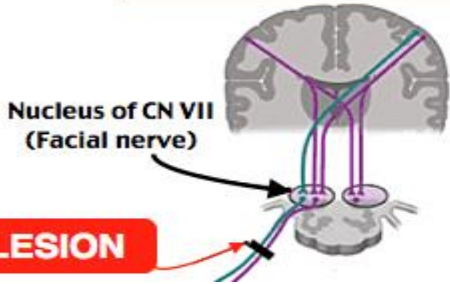


# Facial n. (VII) Distribution

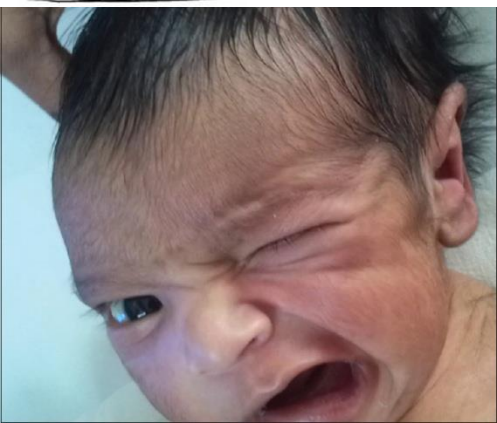
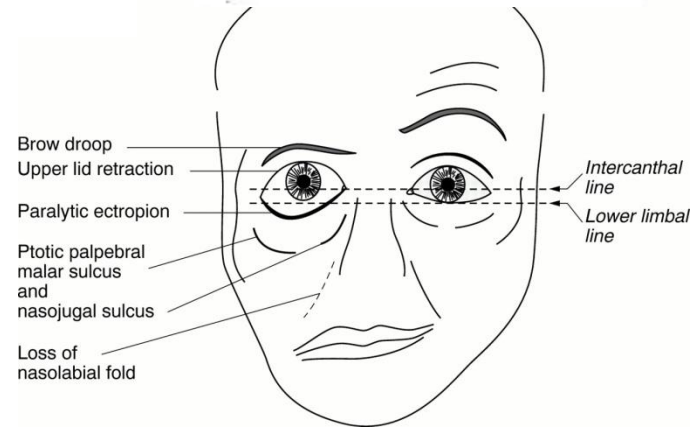
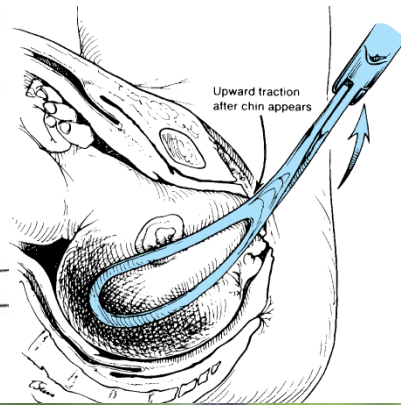
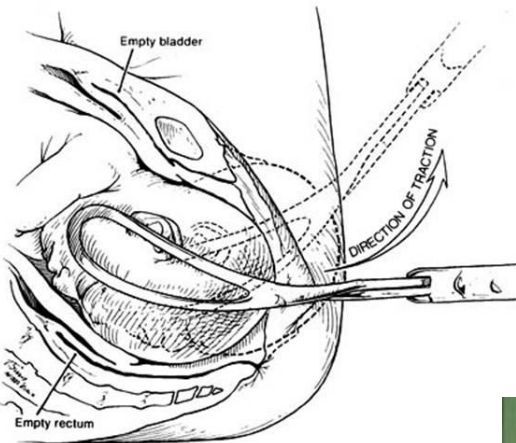
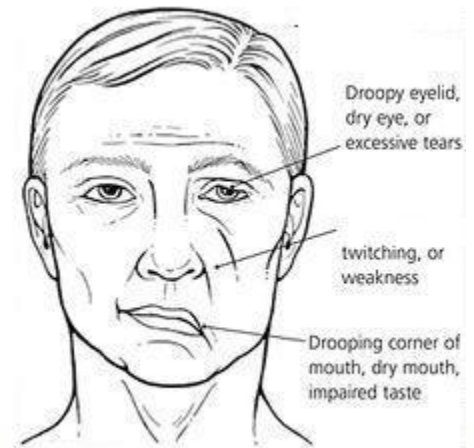
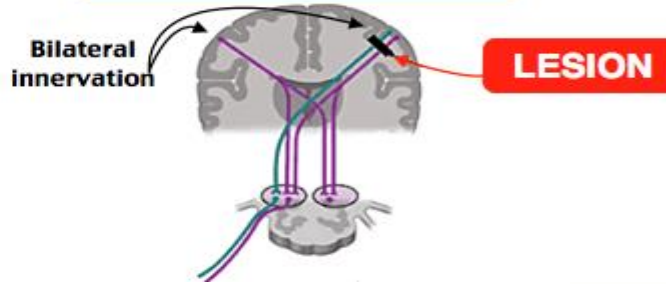


# Facial n. (VII) Palsy

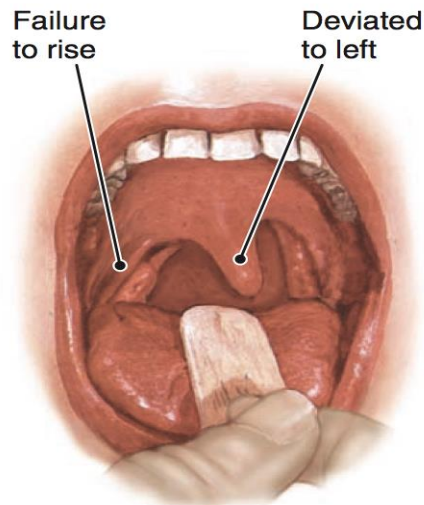
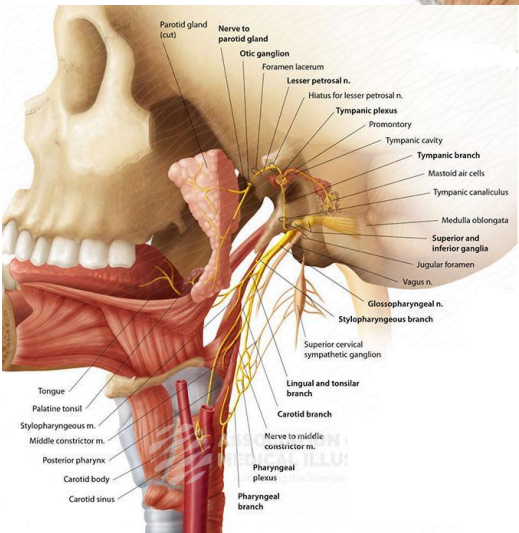
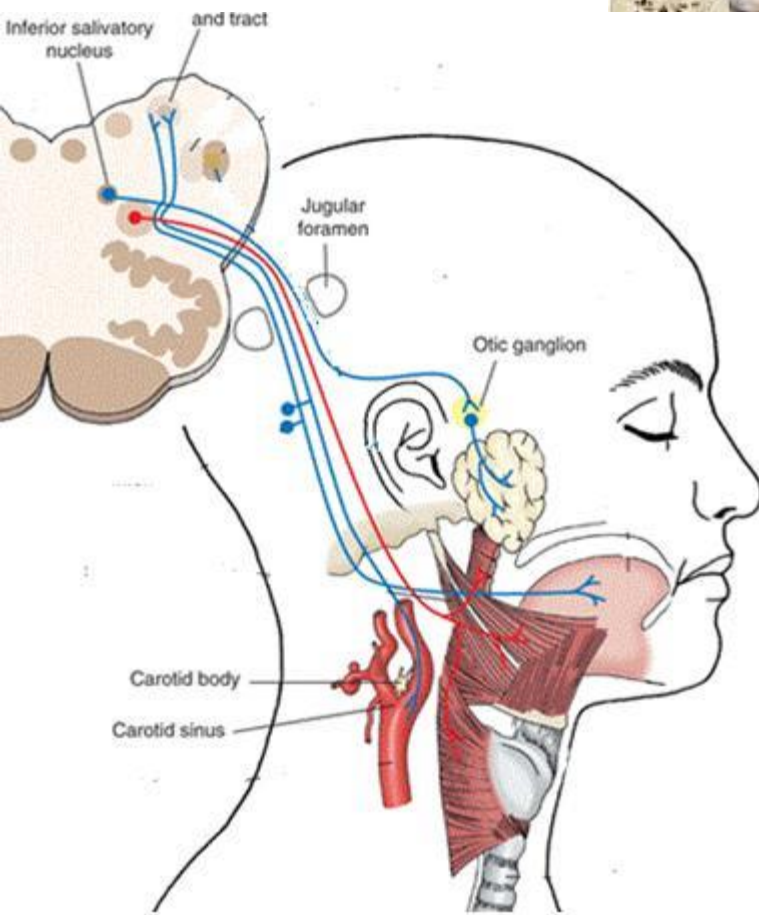
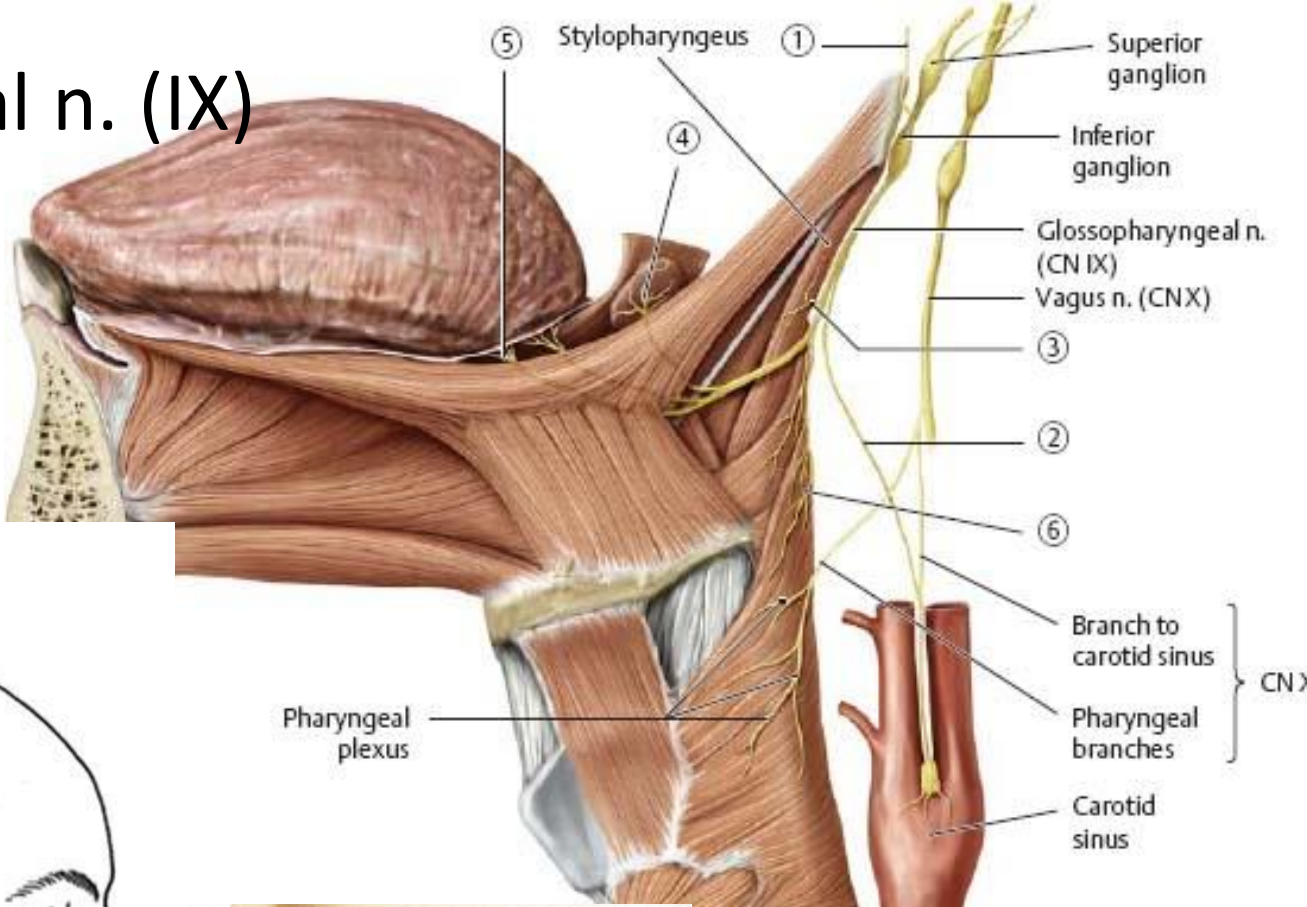
## Peripheral lesion (Bell's palsy (CNVII))



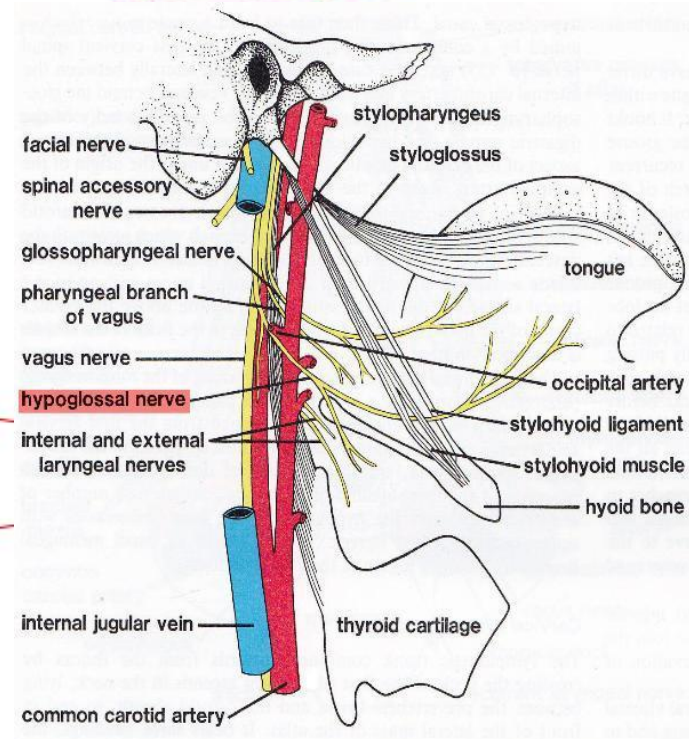
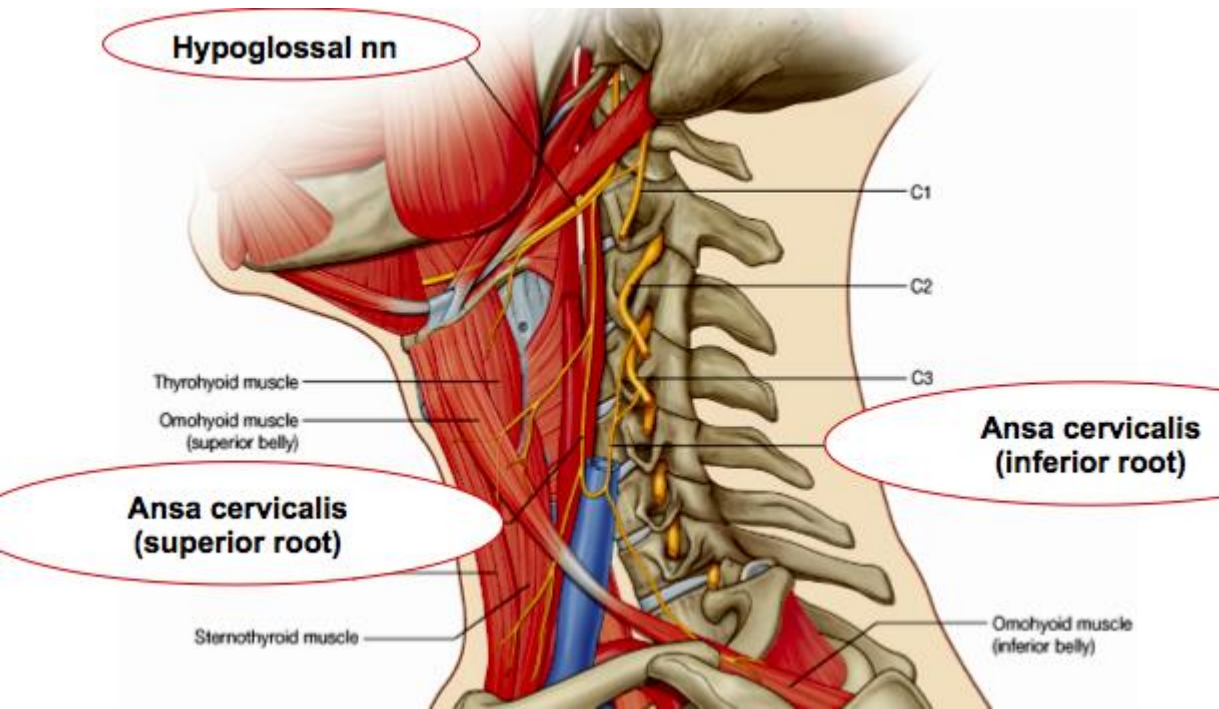
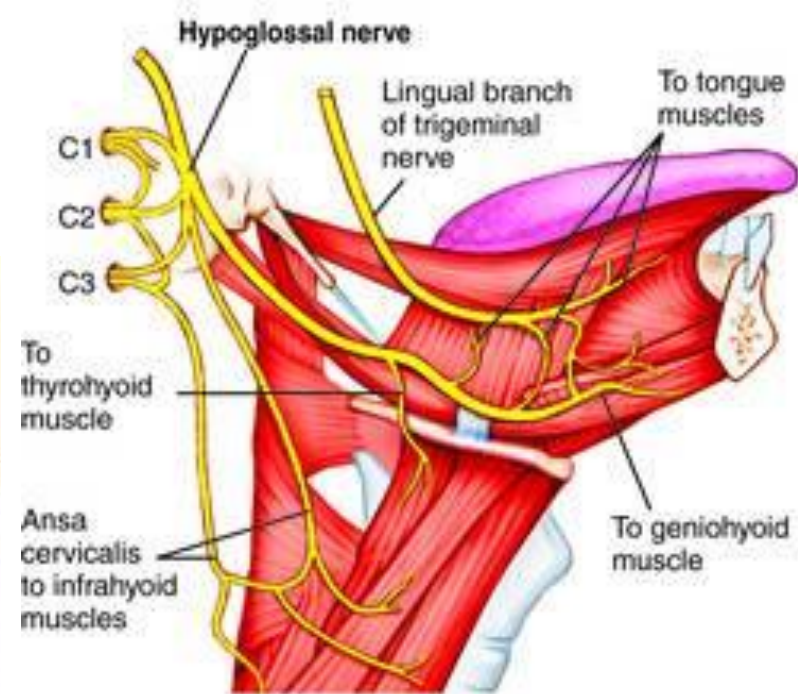
## Central lesion (Stroke)

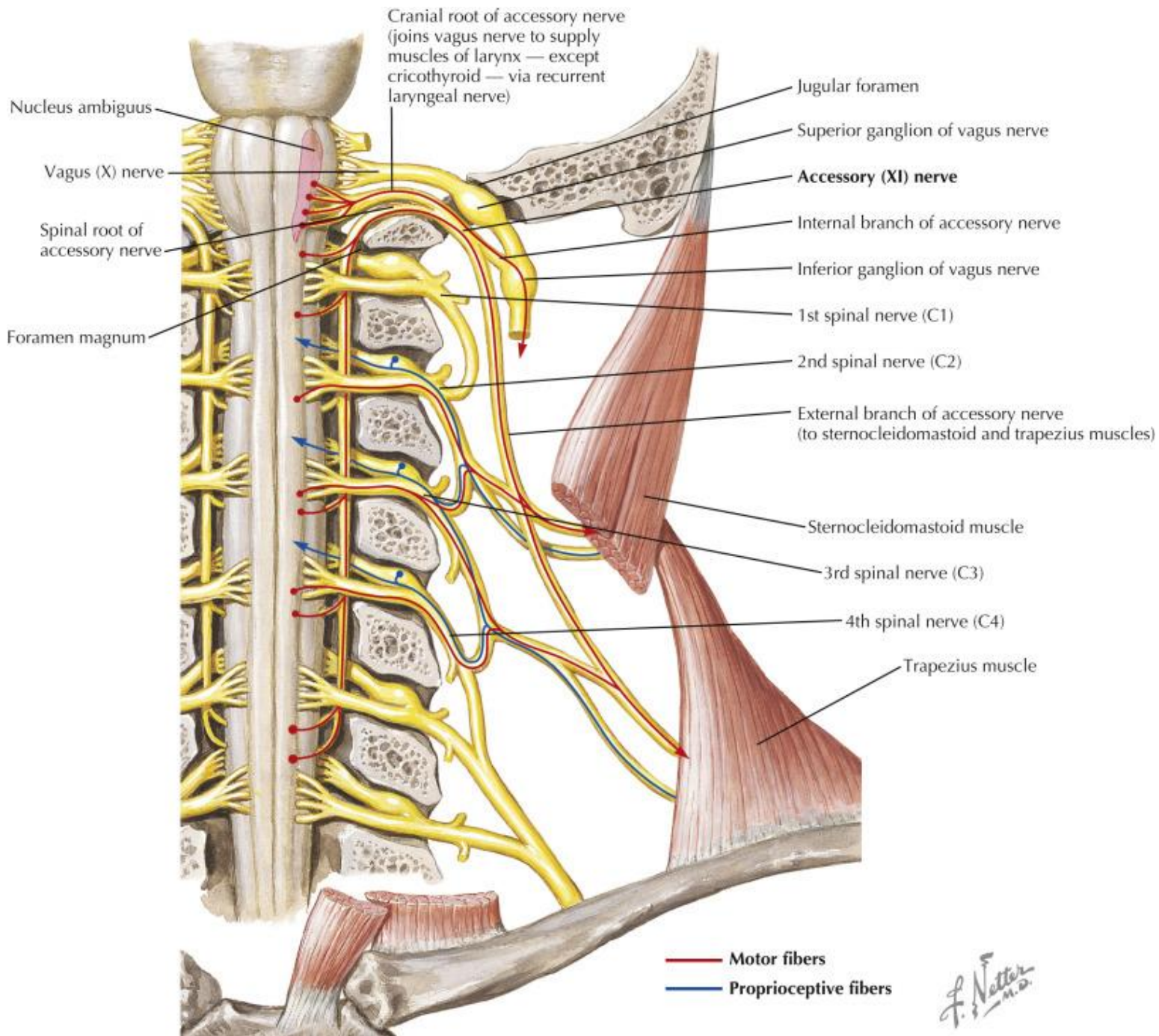


# Glossopharyngeal n. (IX) & Palsy

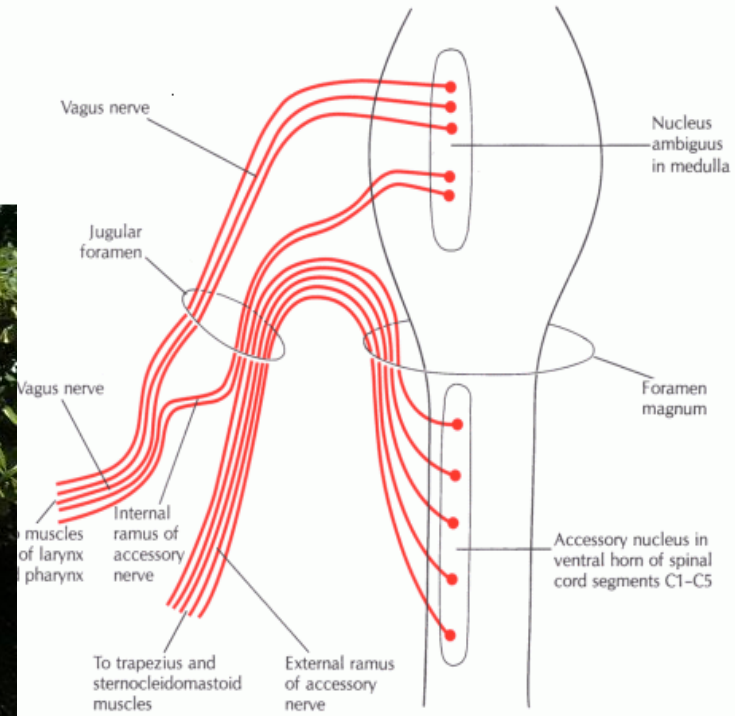
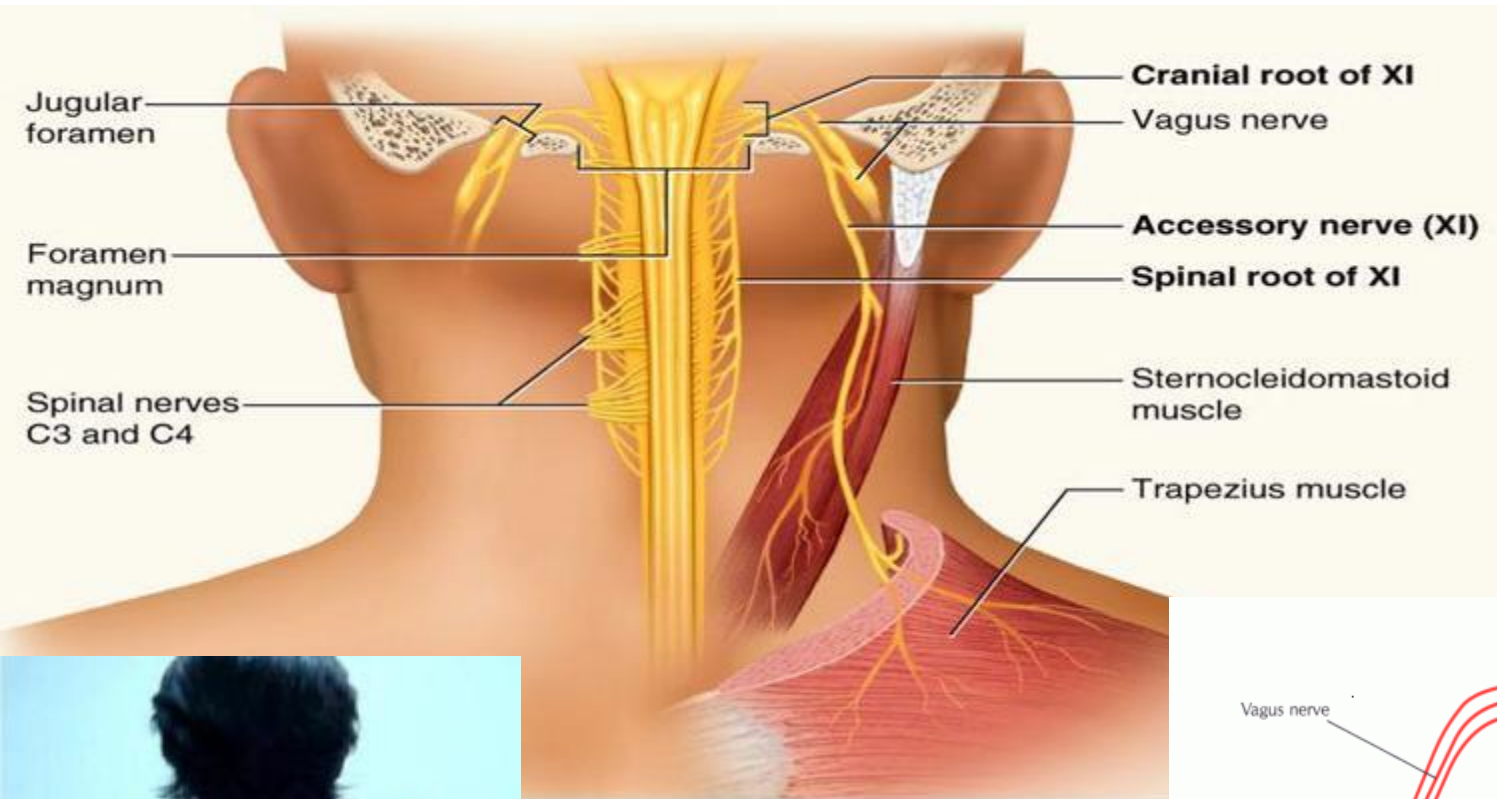


# Hypoglossal n. (XII) & Palsy

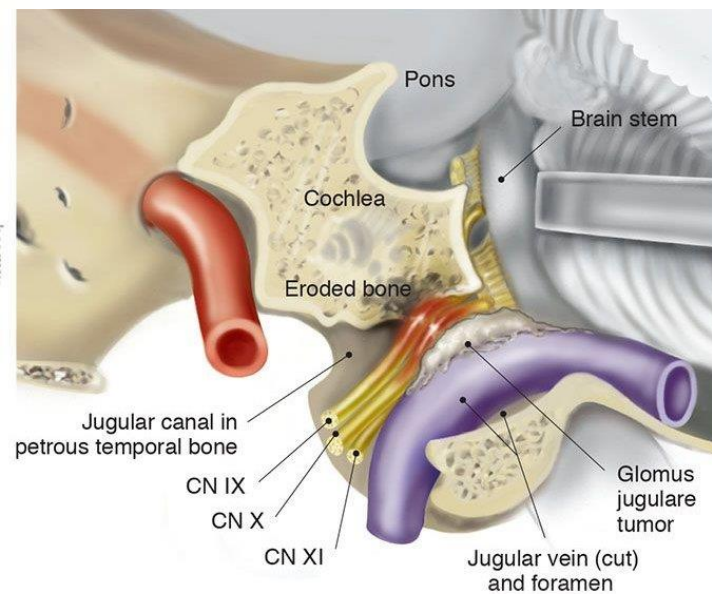
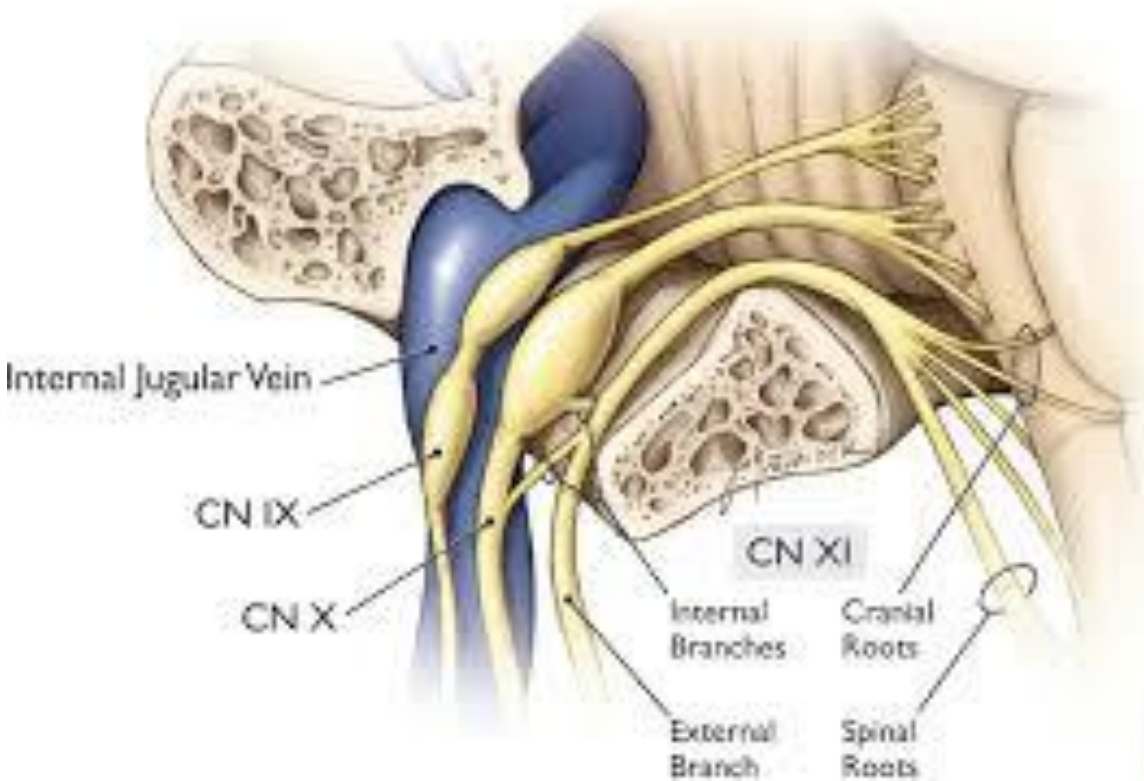




# Accessory n. (XI) & Palsy







**Figure X-12** Tumor of the glomus cells of the jugular bulb compressing cranial nerves IX, X, and XI (lateral view showing cut jugular foramen).

Ask before being Asked !

