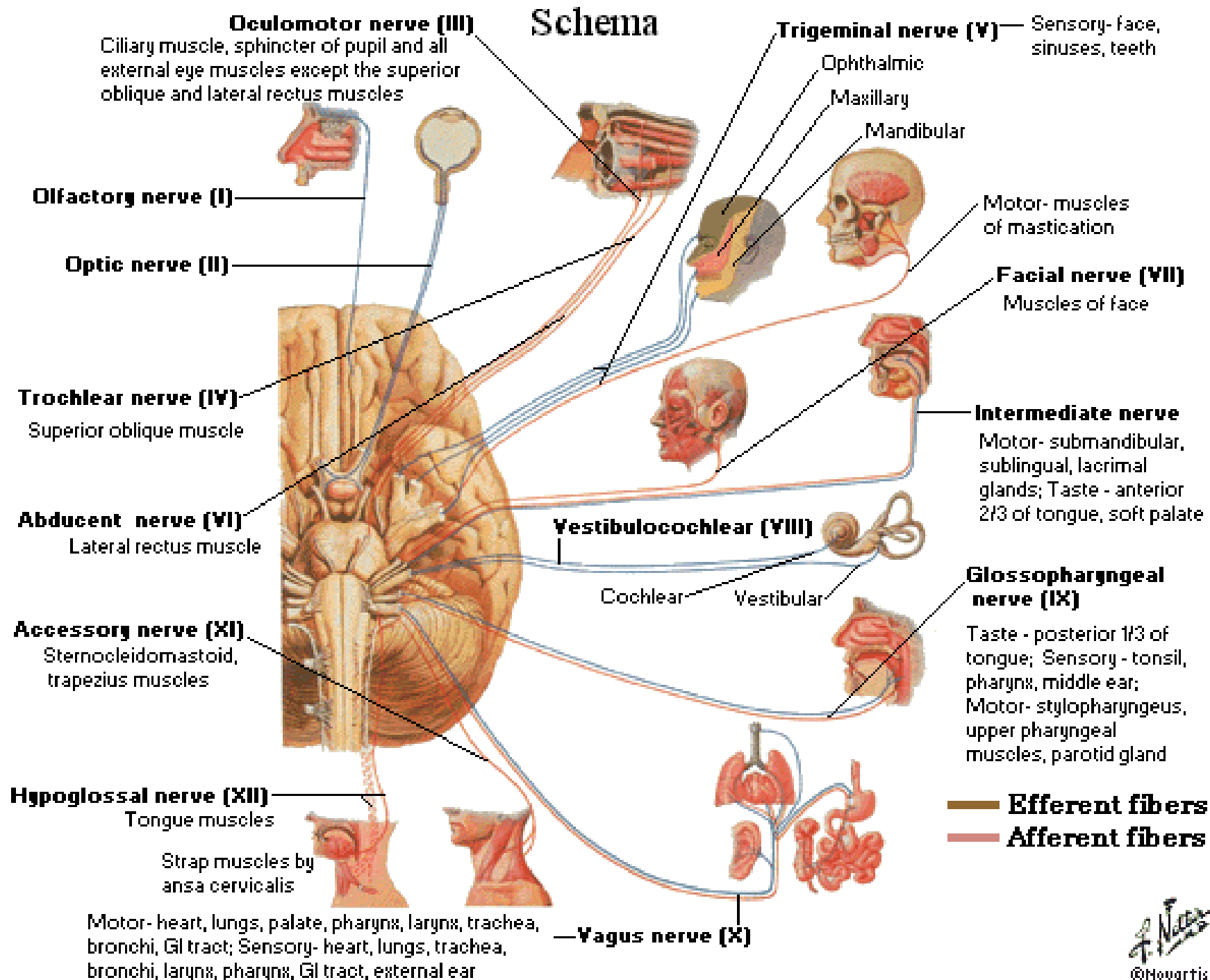
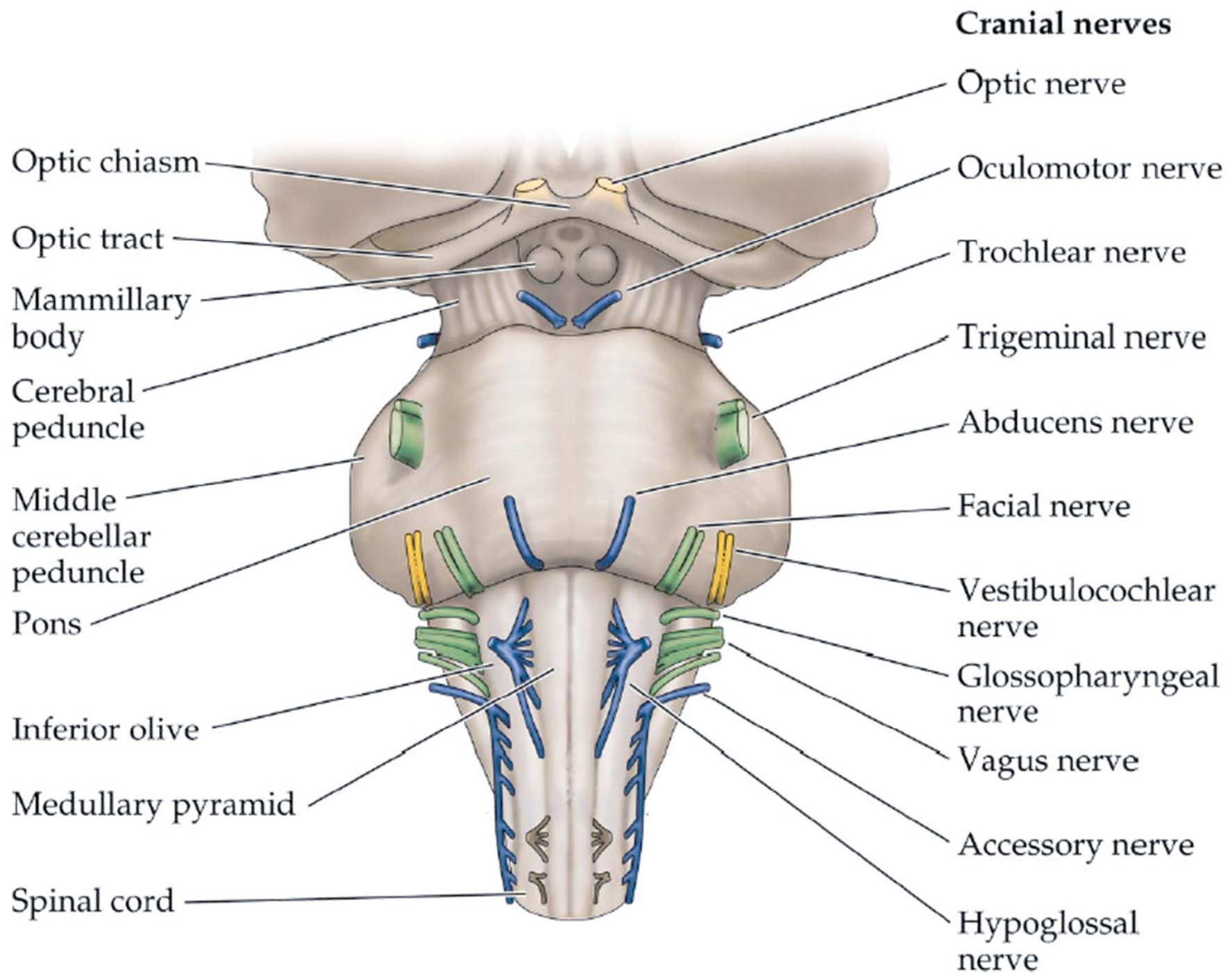
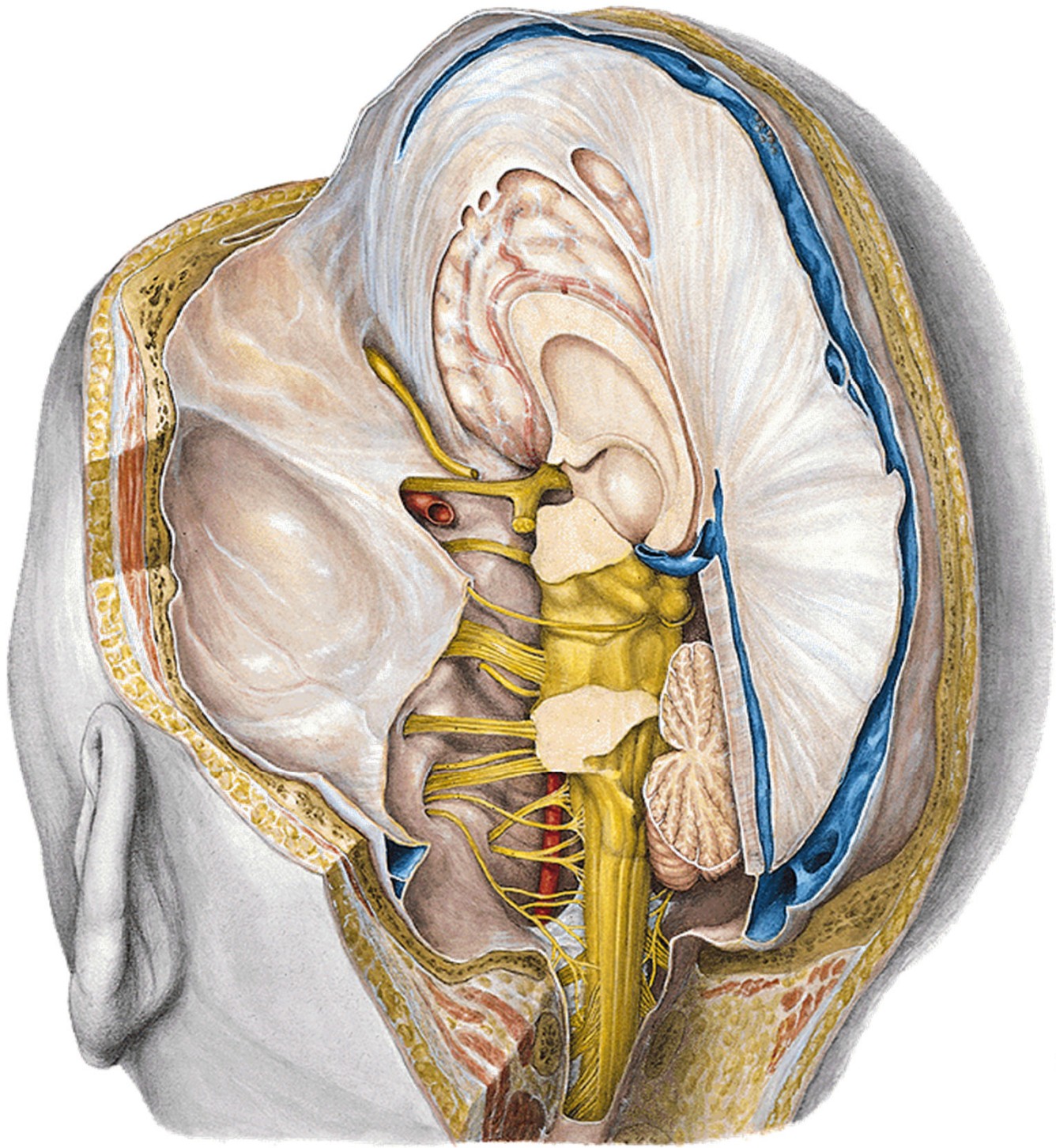


# Cranial nerves - overview

# Cranial Nerves [Motor and Sensory Distribution]







**Basis cranii****Lamina cribrosa**

nn. olfactorii [I]  
a. etmoidalis anterior

**Canalis opticus**

n. opticus [II]  
a. ophthalmica  
meninges; vaginae n. optici

**Fissura orbitalis superior**

*-Medijalno područje:*

N. nasociliaris (n. ophthalmicus [V/1])  
N. oculomotorius [III]  
N. abducens [VI]

*-Lateralno područje:*

n. trochlearis [IV]  
n. frontalis (n. ophthalmicus [V/1])  
n. lacrimalis (n. ophthalmicus [V/1])  
r. orbitalis (a. meningea media)  
v. ophthalmica superior

**Foramen rotundum**

n. maxillaris [V/2]

**Foramen ovale**

n. mandibularis [V/3]  
plexus venosus foraminis ovalis

**Foramen spinosum**

r. meningeus (n. mandibularis [V/3])  
a. meningea media

**Fisura sphenopetrosa**

n. petrosus minor (n. glosopharyngeus [IX])

**Foramen lacerum**

n. petrosus major (n. facialis [VII])  
n. petrosus profundus (plexus caroticus internus)

**Canalis caroticus**

plexus caroticus internus (truncus sympathicus,  
ganglion cervicale superius)  
plexus venosus caroticus internus  
a. carotis interna, pars petrosa

**Meatus acusticus internus**

n. facialis [VII]  
n. vestibulocochlearis [VIII]  
n. labyrinthi  
vv. labyrinthi

**Foramen jugulare**

*-Prednje područje:*

n. glossopharyngeus [IX]  
sinus petrosus inferior

*-Stražnje područje:*

n. vagus [X]  
n. accessorius [XI]  
sinus sigmoideus; bulbus superior venae jugularis  
a. meningea posterior (a. pharyngea ascendens)

**Canalis nervi hypoglossi**

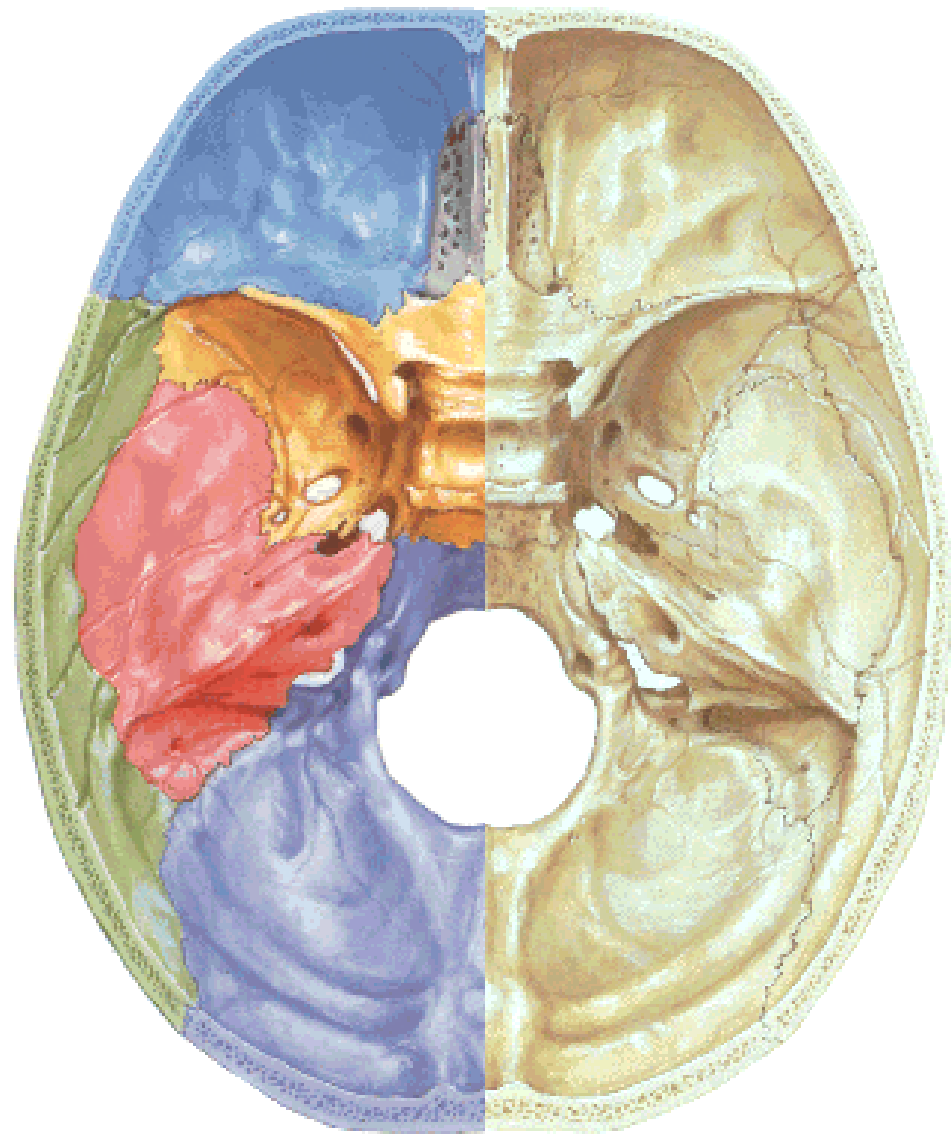
n. hypoglossus [XII]  
plexus venosus canalis nervi hypoglossi

Canalis condylaris

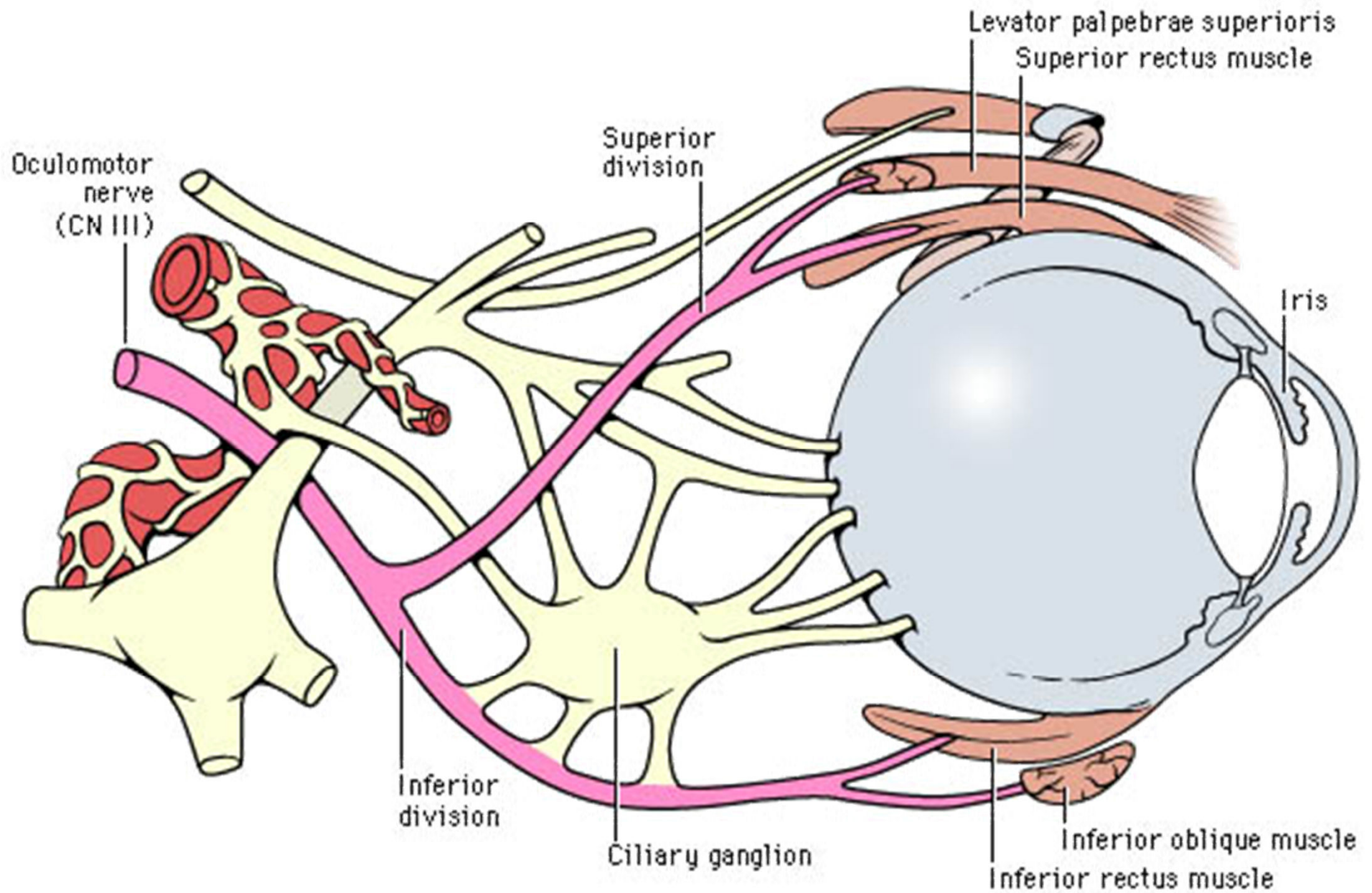
v. emissaria condylaris

**Foramen magnum**

medulla oblongata; medulla spinalis  
n. accessorius [XI]; radices spinales  
sinus marginalis, plexus venosus vertebralis  
internus  
a. vertebralis  
a. spinalis anterior  
meninges



# Oculomotor nerves (III, IV, VI)



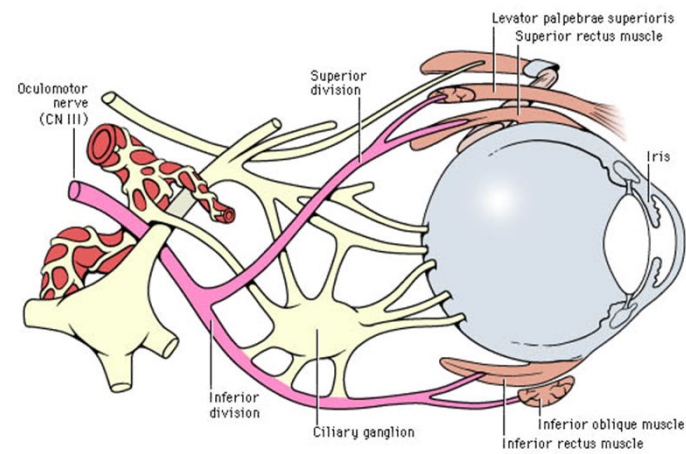
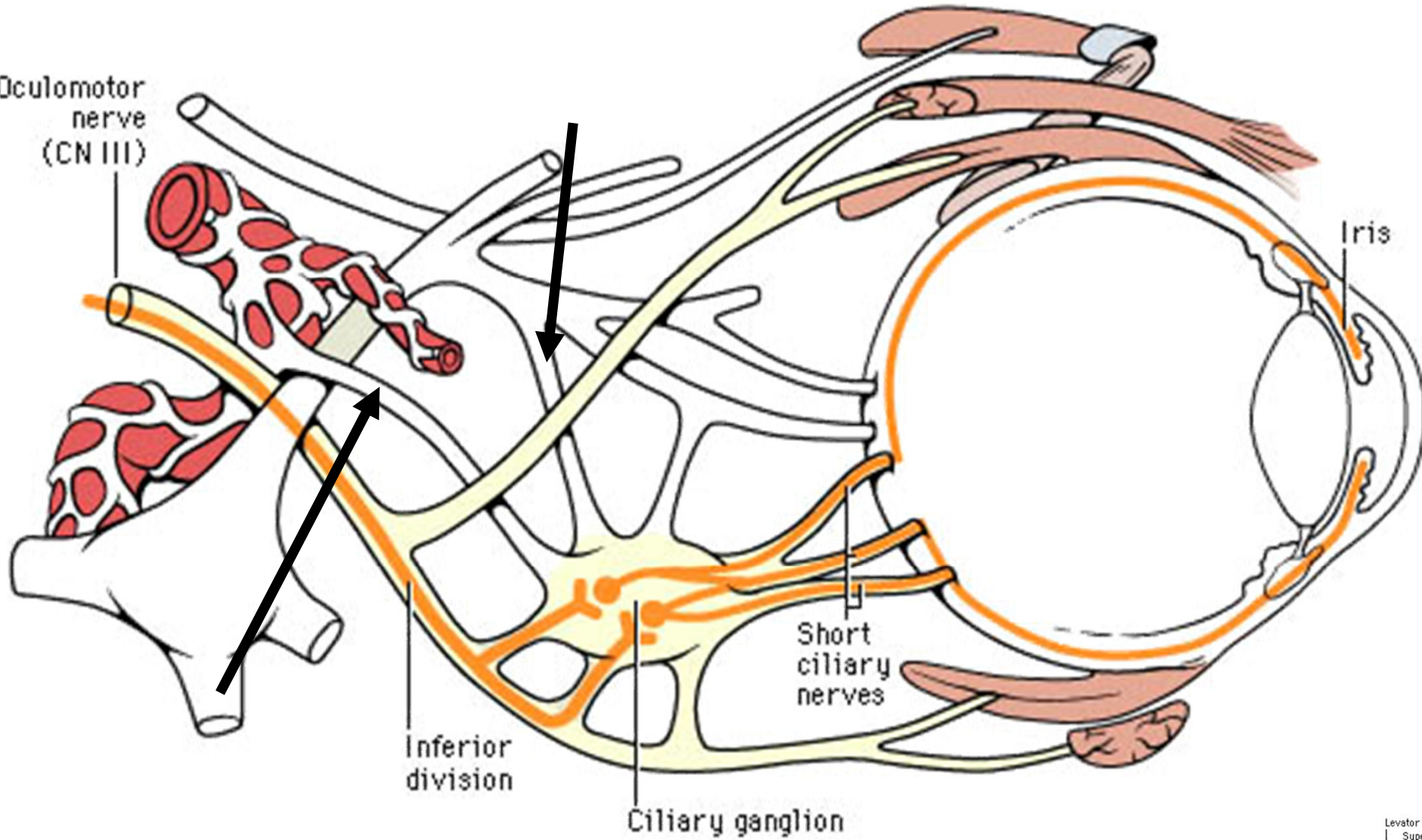
# Composition of oculomotor nerves

**Motor** - innervation of extrinsic muscles of the eyes, including m. levator palpebrae

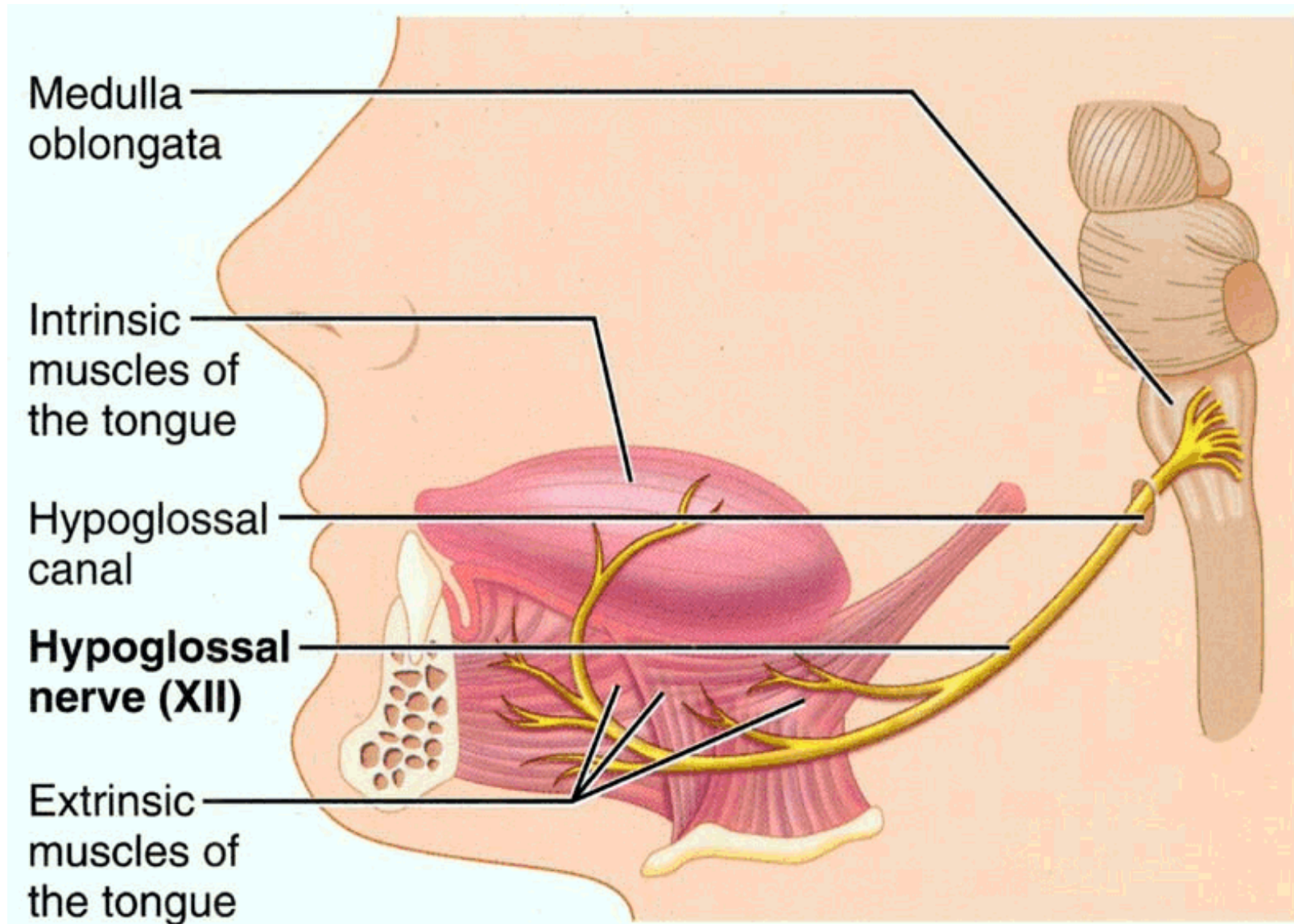
*n. III* - in addition *parasympathetic* - innervation of intrinsic smooth muscles of the eye (m. sphincter pupillae, m. ciliaris)



Oculomotor nerve (CN III)

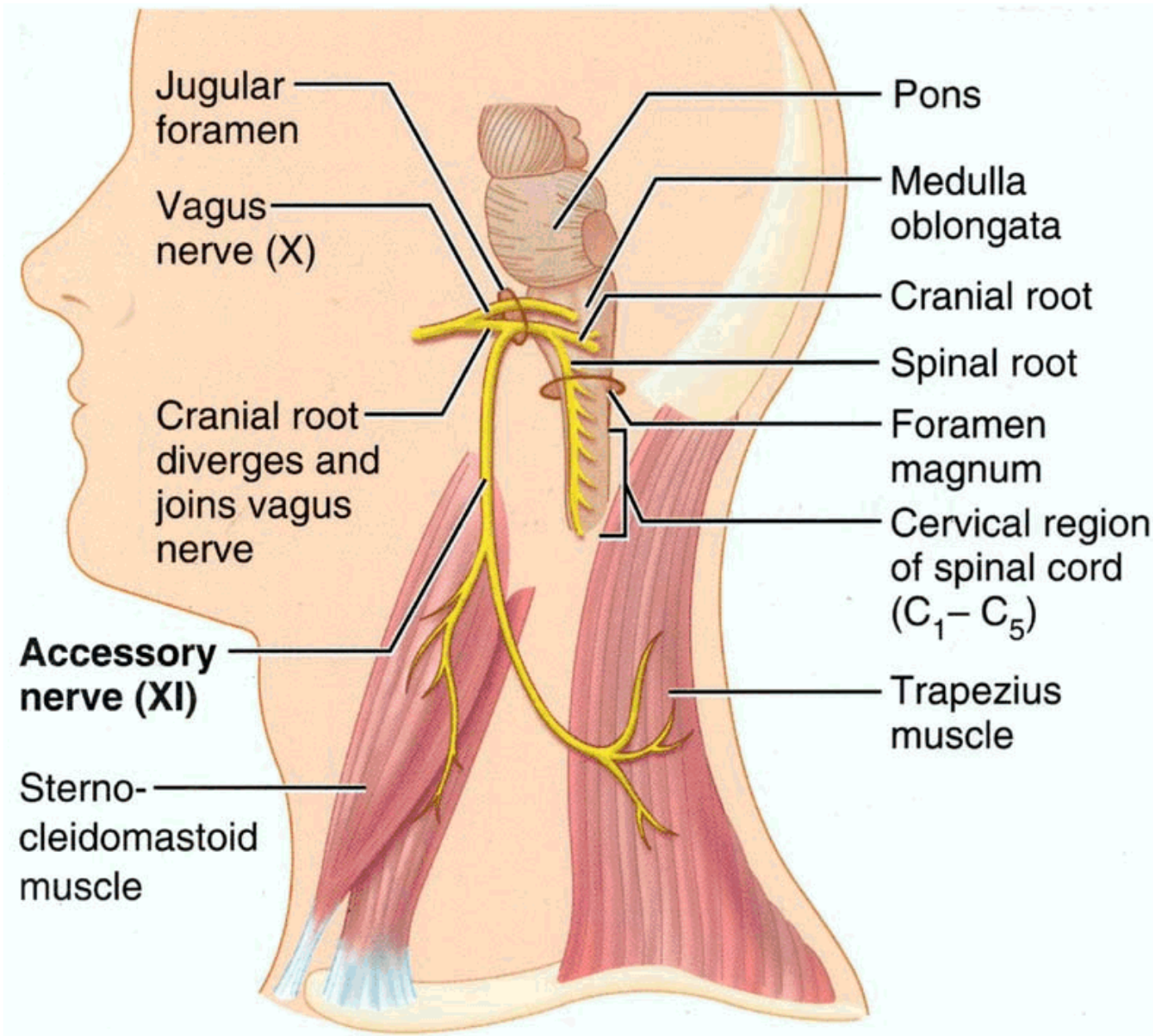


# Hypoglossal nerve XII



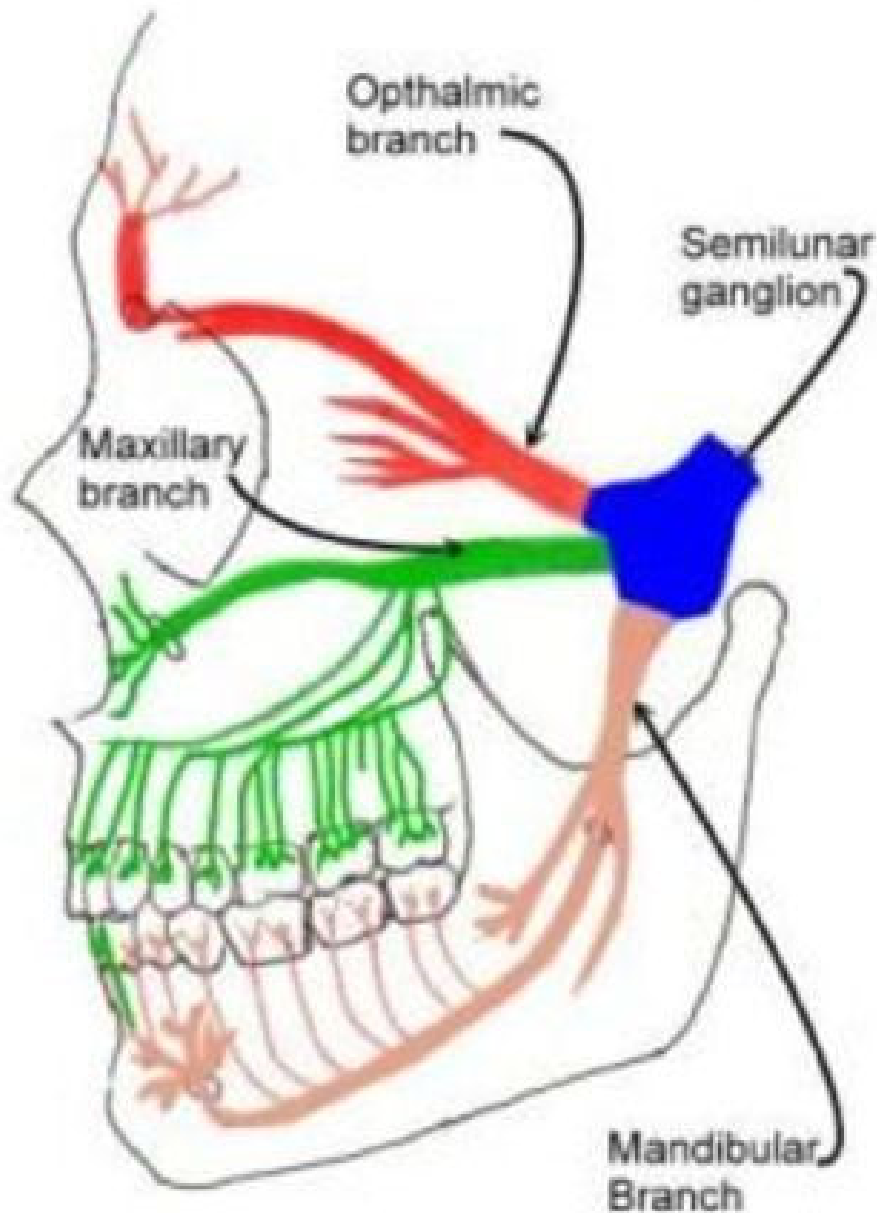
**Motor** - supplies intrinsic and majority of extrinsic muscles of the tongue

# Accessory nerve XI



**Motor -**  
supplies sterno-  
cleido-mastoid  
muscle (rotates  
head)  
supplies trapezius  
muscle (elevates  
shoulders)

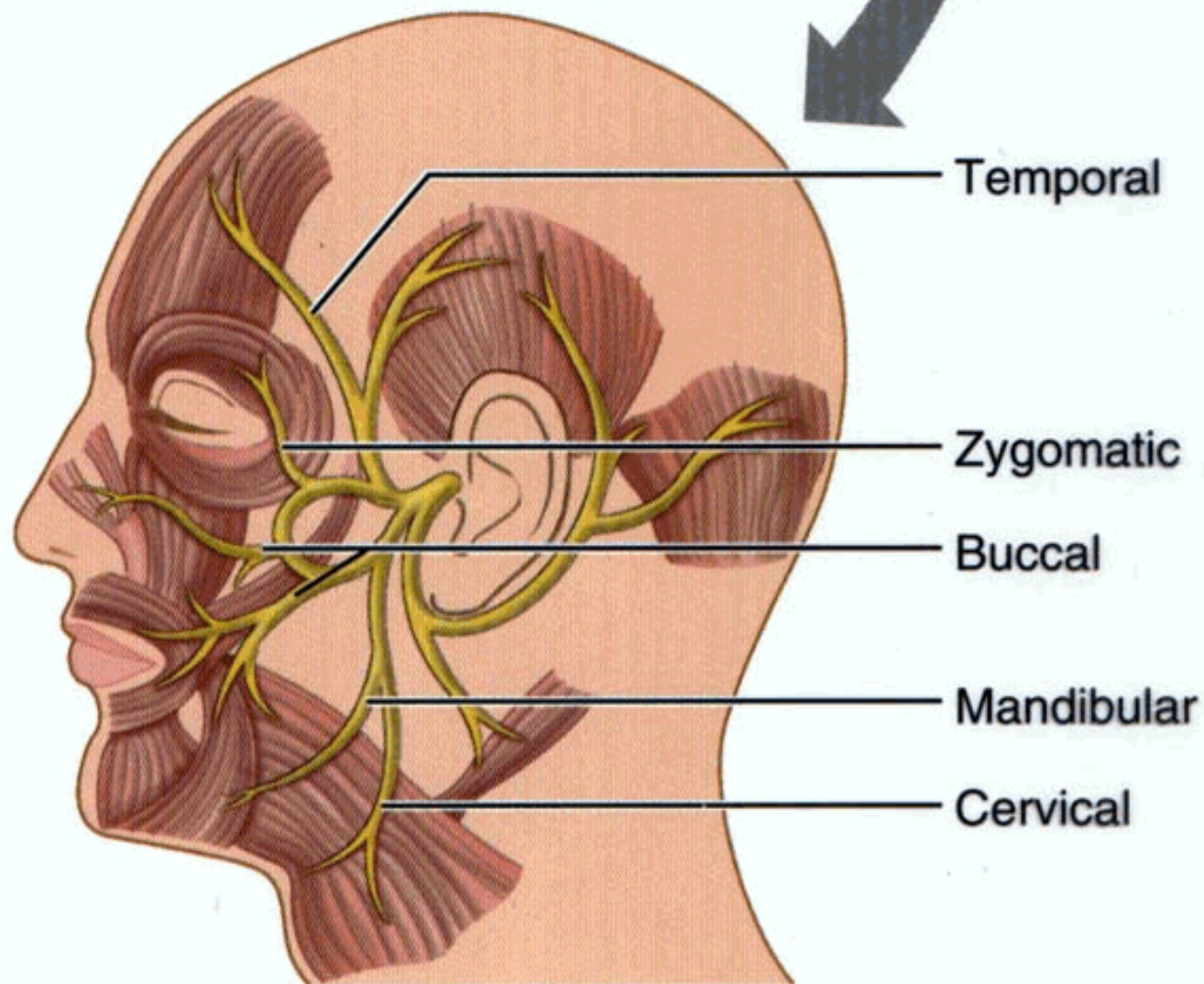
# Trigeminal nerve V



**Sensible** - majority of skin, oral and nasal cavity  
*n. V3 - n. mandibularis* - in addition motor - innervation of masticatory muscles

# Facial Nerve VII

## A. Motor - muscles of facial expression

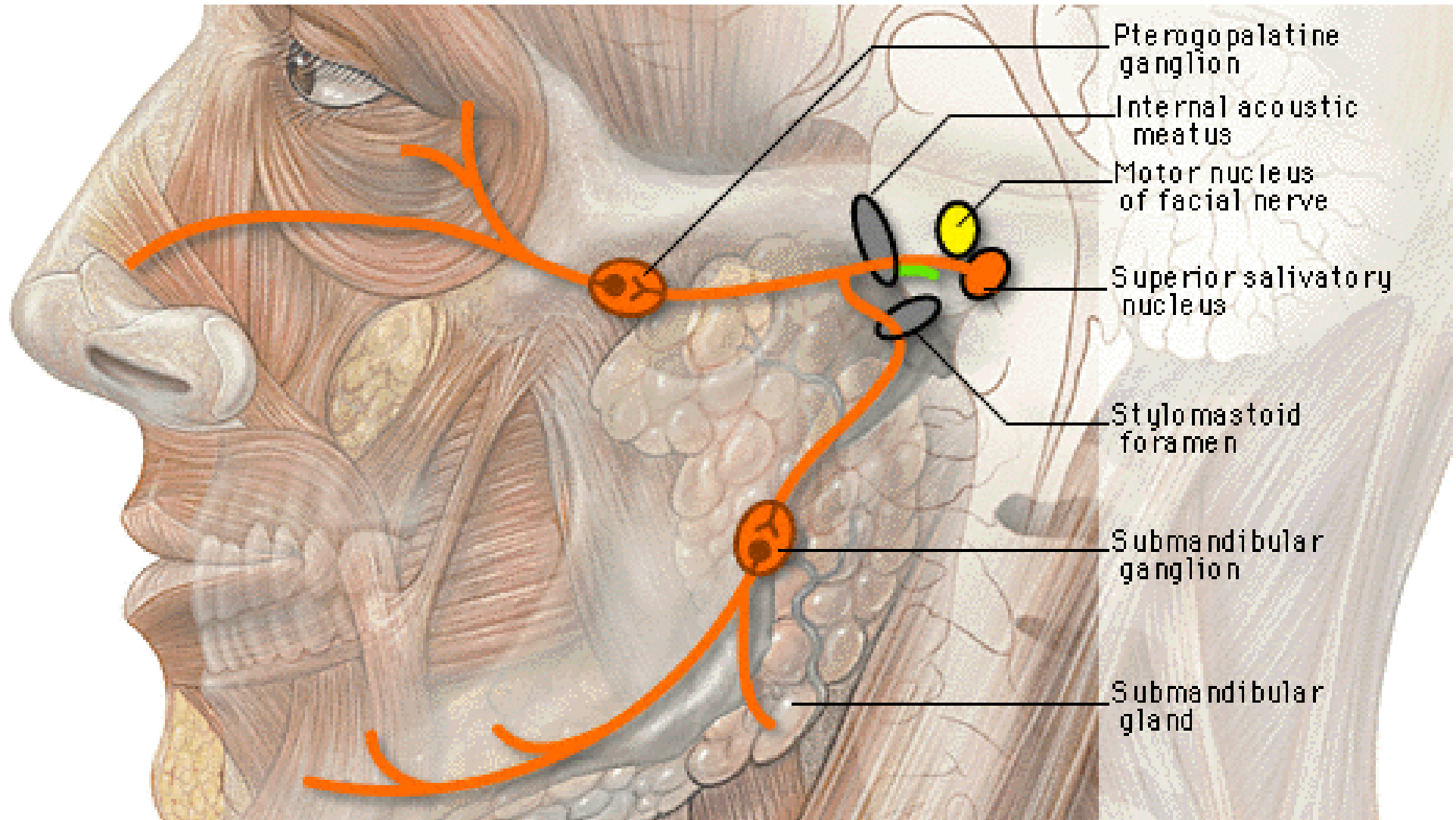


**(b) Motor branches to muscles of facial expression and scalp muscles**

# Facial Nerve VII

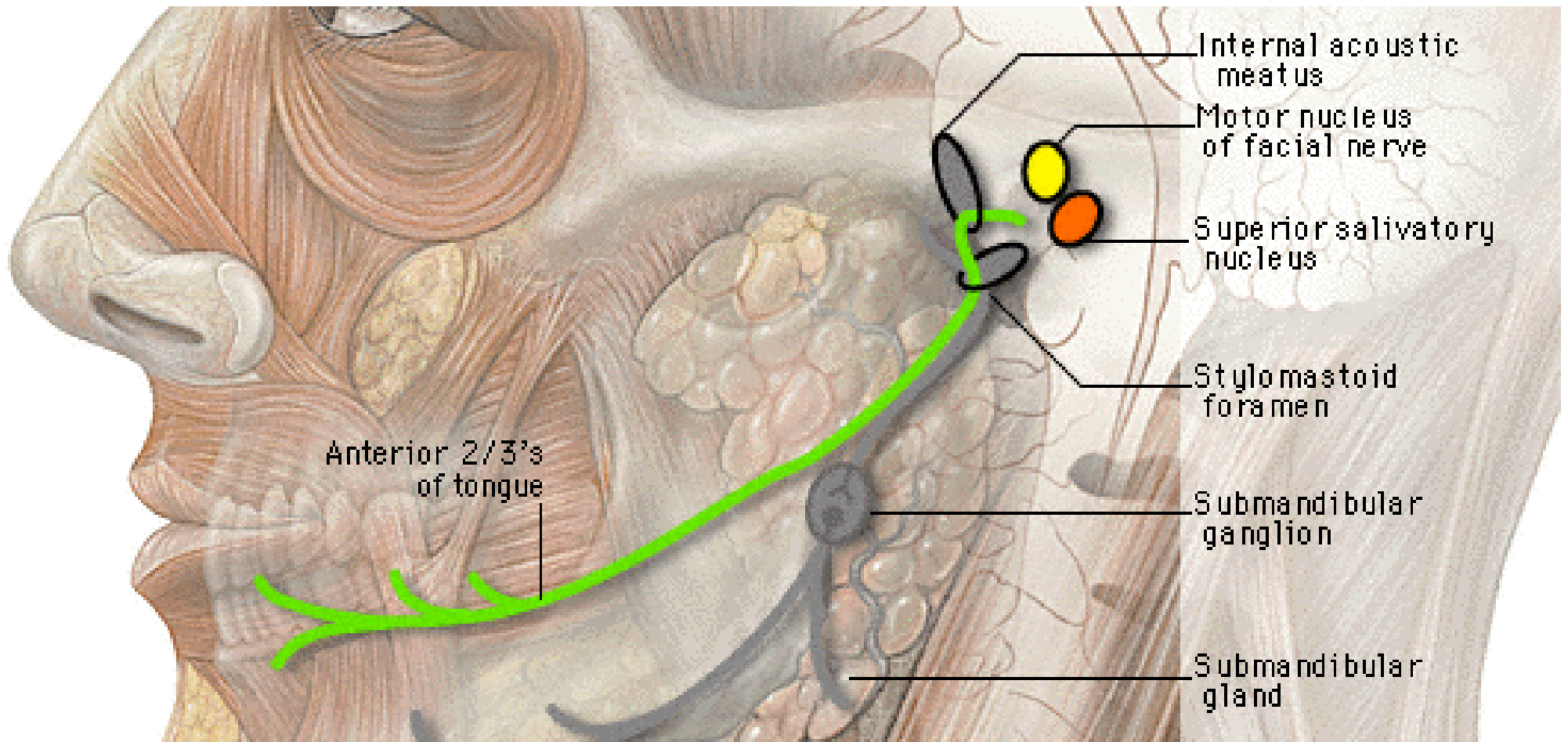
## B. Parasympathetic

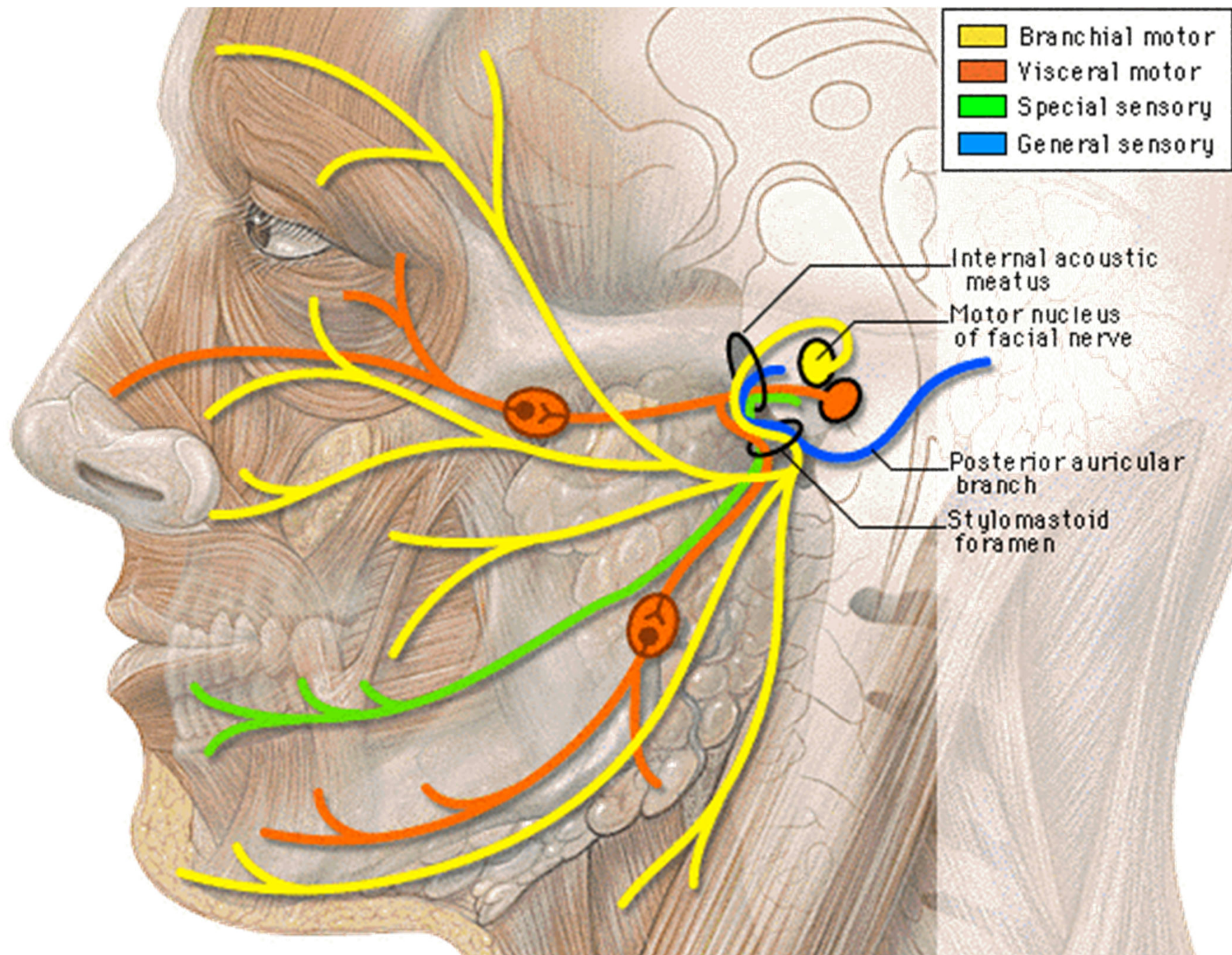
- Lacrimation (via pterygopalatine ganglion & V2, V1) - LACRIMO-MUCO-NASAL
- Salivation (submandibular & sublingual glands via submandibular ganglion & V3)



# Facial Nerve VII

C. Sensory - Special visceral afferents - Taste on the anterior 2/3 of tongue

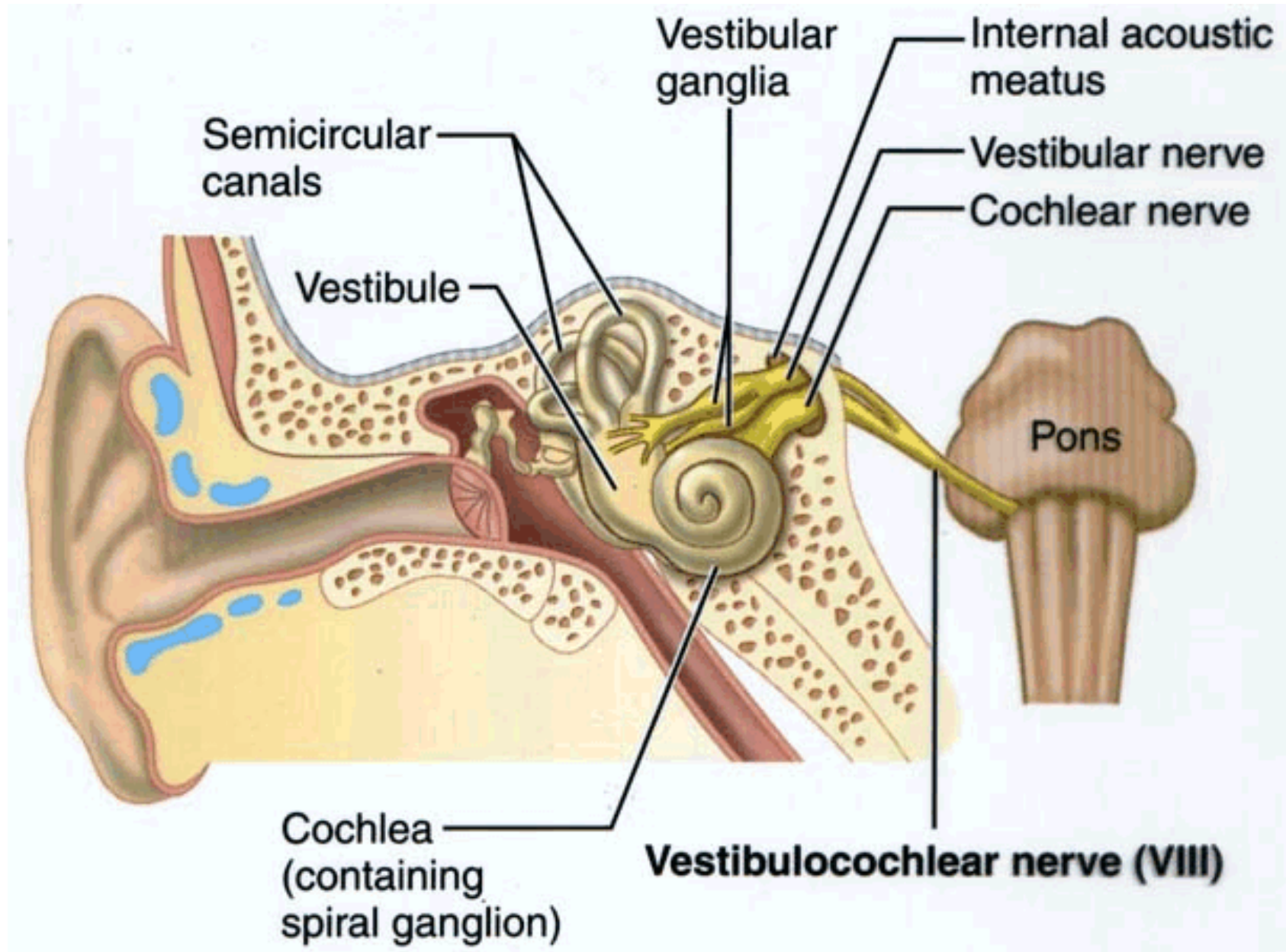






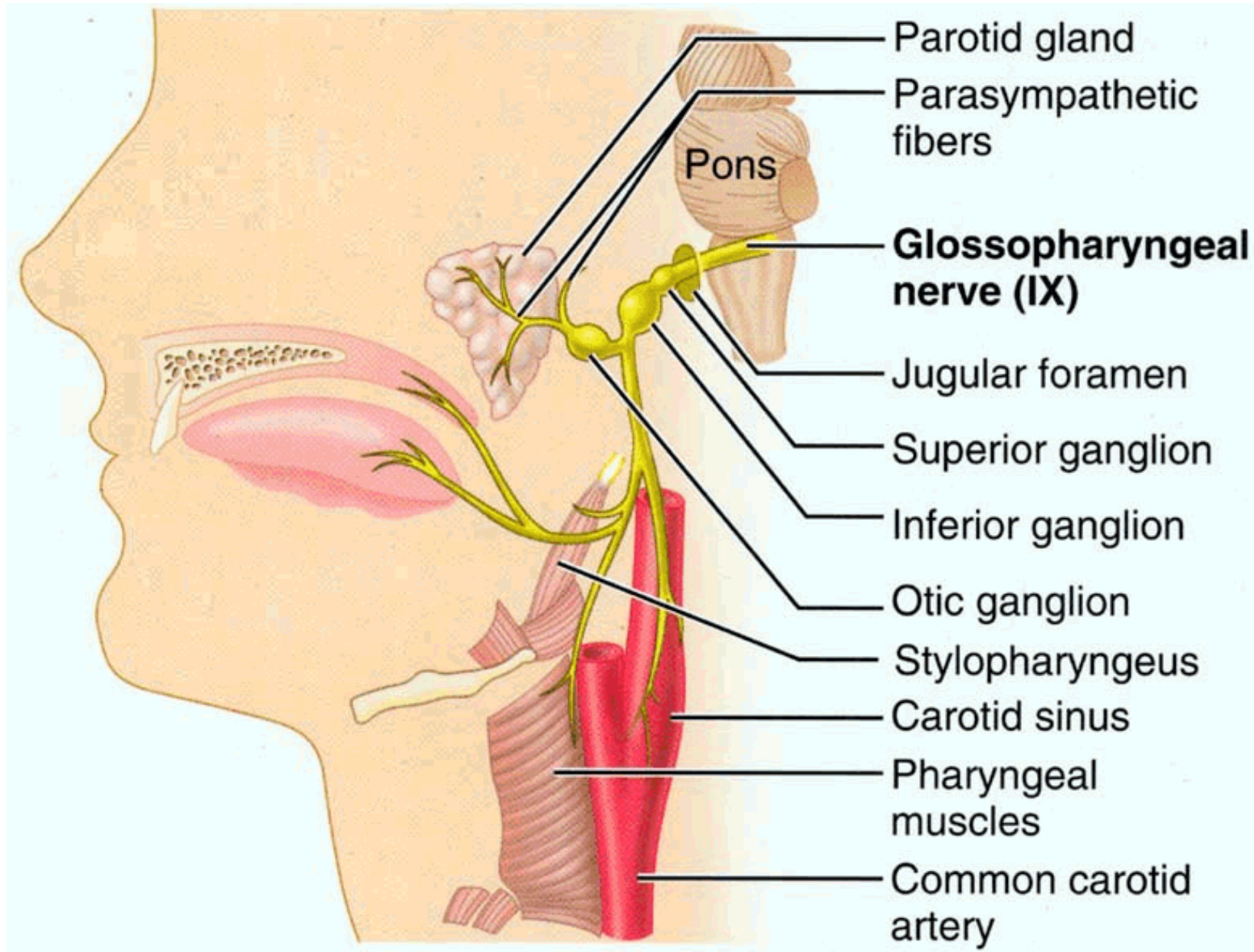
# Vestibulocochlear Nerve VIII

Sensory - innervate hair cells of cochlea and vestibule



# Glossopharyngeal Nerve IX

Upper part of pharynx and parotid gland (organs of upper neck)



# Composition of glossopharyngeal nerve

A. Motor - muscles of upper pharynx

B. Parasympathetic -

Secretomotor innervation of parotid gland

C. Sensory - general sensation of upper pharynx  
and taste to posterior 1/3 of tongue

# Vagus Nerve X

Larynx and inferior part of pharynx  
(organs of inferior neck)

A. Motor - muscles of inferior pharynx & intrinsic muscles of larynx

B. Parasympathetic - Supplies smooth muscles of thoracic and abdominal viscera (except organs of pelvis)

C. Sensory - general sensation to larynx and pharynx

