CRANIAL NERVE

DR KUNJ BIHREE

M.D.(ANATOMY)

- **The 12 pairs of cranial nerves are so named because they arise from the brain inside the cranial cavity and pass through various foramina in the bones of the cranium.**
- **Each cranial nerve designated by a roman numeral, and a name. The numbers indicate the order, from anterior to posterior, in which the nerves arise from the brain.**

- **Cranial nerves emerge from the nose (cranial nerve I), the eyes (cranial nerve II), the inner ear (cranial nerve VIII), the brain stem (cranial nerves III–XII), and the spinal cord (cranial nerve XI).**

- **I, II, and VIII - sensory nerves.**
- **III, IV, VI, XI and XII - motor nerves.**
- **V, VII, IX and X- mixed nerves.**
- **The cell bodies of sensory neurons are located in ganglia outside the brain.**
- **The cell bodies of motor neurons lie in nuclei within the brain. Cranial nerves III, VII, IX, and X include both somatic and autonomic motor axons.**

- **The somatic axons innervate skeletal muscles; the autonomic axons, which are part of the parasympathetic division, innervate glands, smooth muscle, and cardiac muscle.**

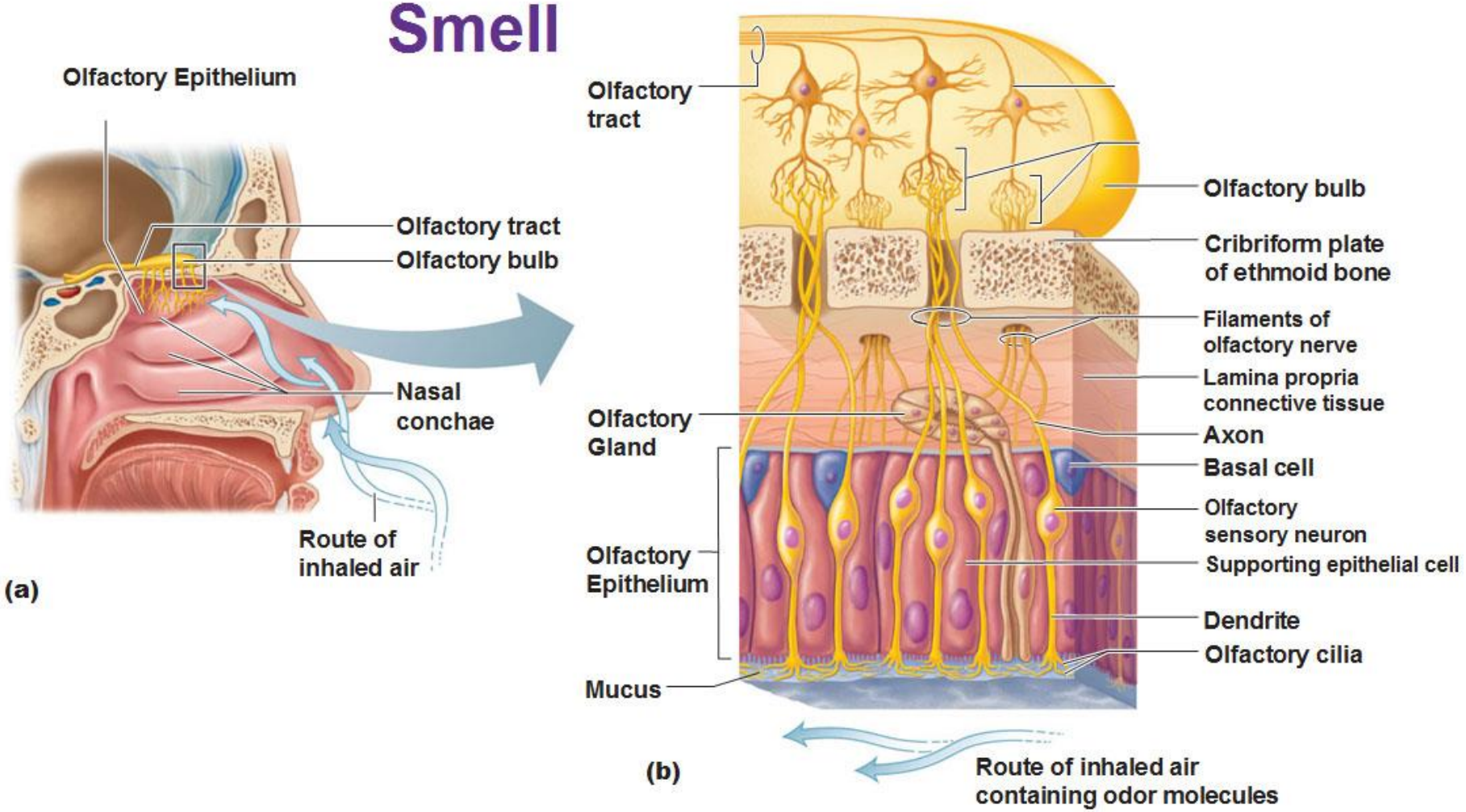
OLFACTORY NERVE

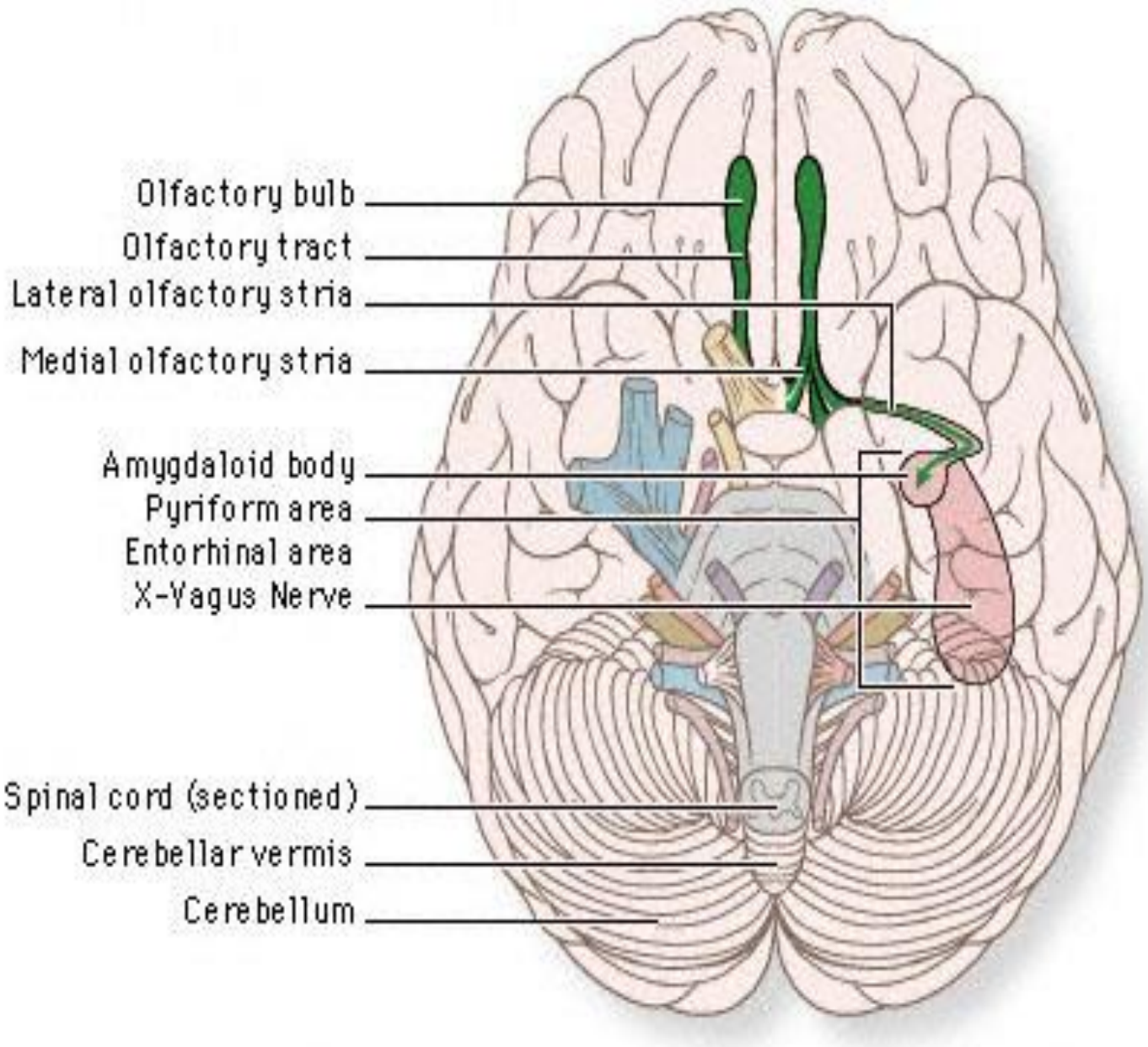
- **olfact- to smell**
- **It contains axons that conduct nerve impulses for olfaction, the sense of smell.**
- **The olfactory epithelium occupies the superior part of the nasal cavity, covering the inferior surface of the cribriform plate and extending down along the superior nasal concha.**
- **The olfactory receptors within the olfactory epithelium are bipolar neurons.**

- **Bundles of axons of olfactory receptors extend through about 20 olfactory foramina in the cribriform plate of the ethmoid bone on each side of the nose. These 40 or so bundles of axons collectively form the right and left olfactory nerves.**
- **Olfactory nerves end in the brain in paired masses of gray matter called the olfactory bulbs, two extensions of the brain that rest on the cribriform plate.**

- **Within the olfactory bulbs, the axon terminals of olfactory receptors form synapses with the dendrites and cell bodies of the next neurons in the olfactory pathway. The axons of these neurons make up the olfactory tracts, which extend posteriorly from the olfactory bulbs. Axons in the olfactory tracts end in the primary olfactory area in the temporal lobe of the cerebral cortex.**

Smell


Olfactory Epithelium
Olfactory tract
Olfactory bulb
Nasal conchae
Route of inhaled air
(a)
Olfactory tract
Olfactory bulb
Cribriform plate of ethmoid bone
Filaments of olfactory nerve
Lamina propria connective tissue
Olfactory Gland
Axon
Basal cell
Olfactory sensory neuron
Olfactory Epithelium
Supporting epithelial cell
Dendrite
Olfactory cilia
Mucus
(b)
Route of inhaled air containing odor molecules


Olfactory bulb
Olfactory tract
Lateral olfactory stria
Medial olfactory stria
Amygdaloid body
Pyriform area
Entorhinal area
X-Vagus Nerve
Spinal cord (sectioned)
Cerebellar vermis
Cerebellum

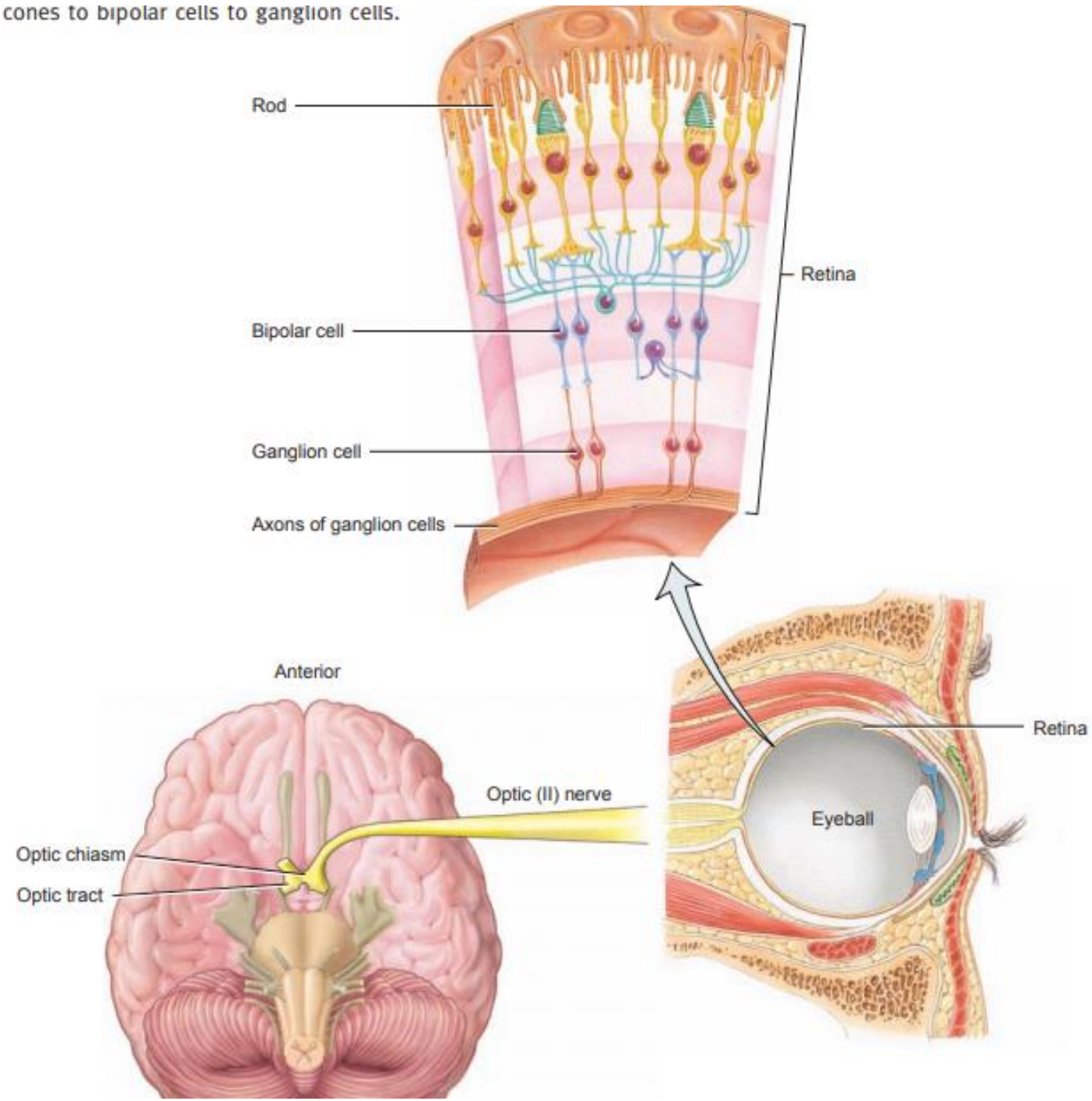
OPTIC NERVE

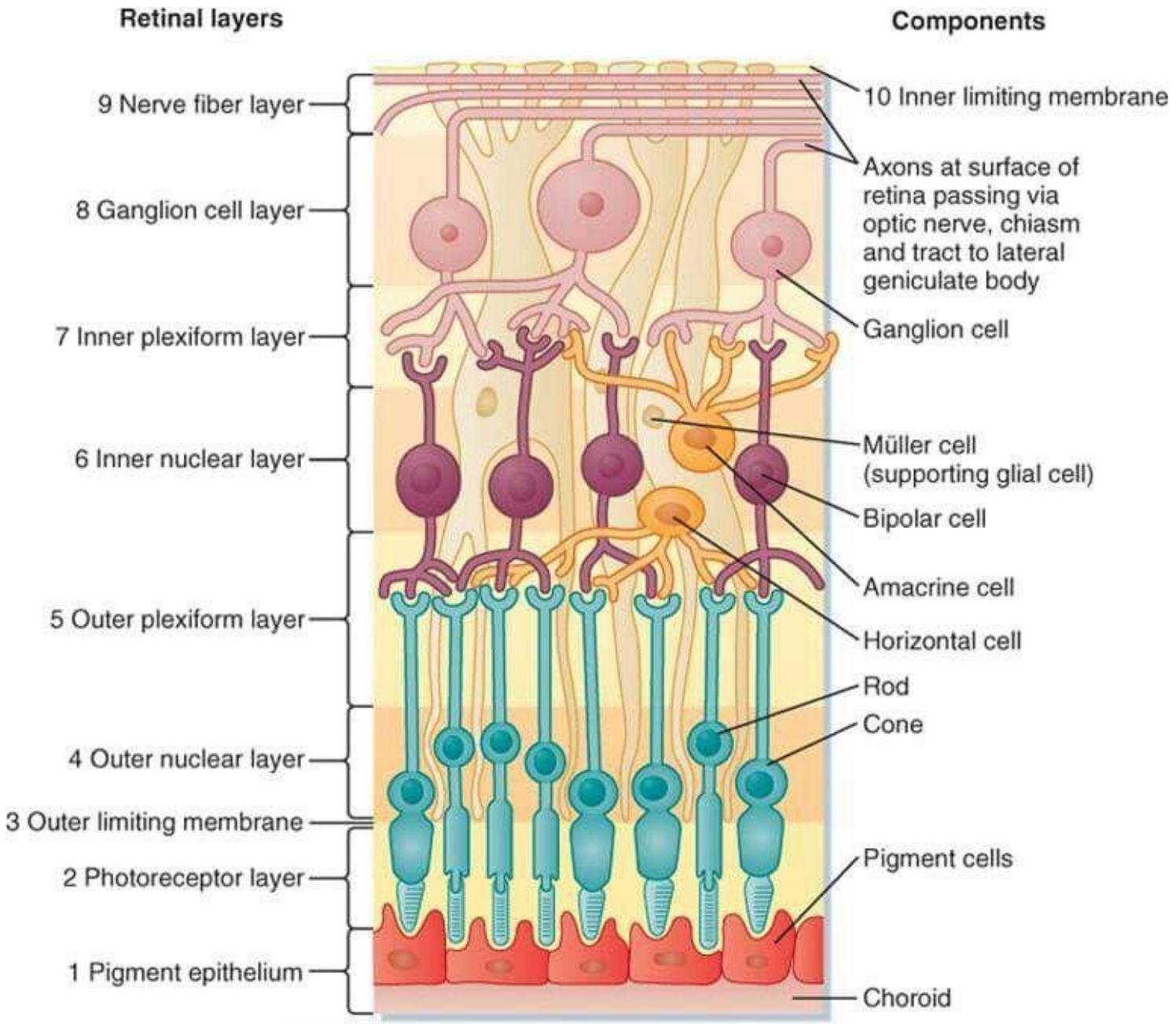
- **Opti- the eye, vision; it contains axons that conduct nerve impulses for vision.**
- **In the retina, rods and cones initiate visual signals and relay them to bipolar cells, which transmit the signals to ganglion cells.**
- **Axons of all the ganglion cells in the retina of each eye join to form an optic nerve, which passes through the optic foramen.**

- **About 10 mm posterior to the eyeball, the two optic nerves merge to form the optic chiasma.**
- **Within the chiasm, axons from the medial half of each eye cross to the opposite side; axons from the lateral half remain on the same side. Posterior to the chiasm, the reorganize axons, some from each eye, form the optic tracts. Most axons in the optic tracts end in the lateral geniculate nucleus of the thalamus. Then they extend to the primary visual area in the occipital lobe of the cerebral cortex (area 17).**

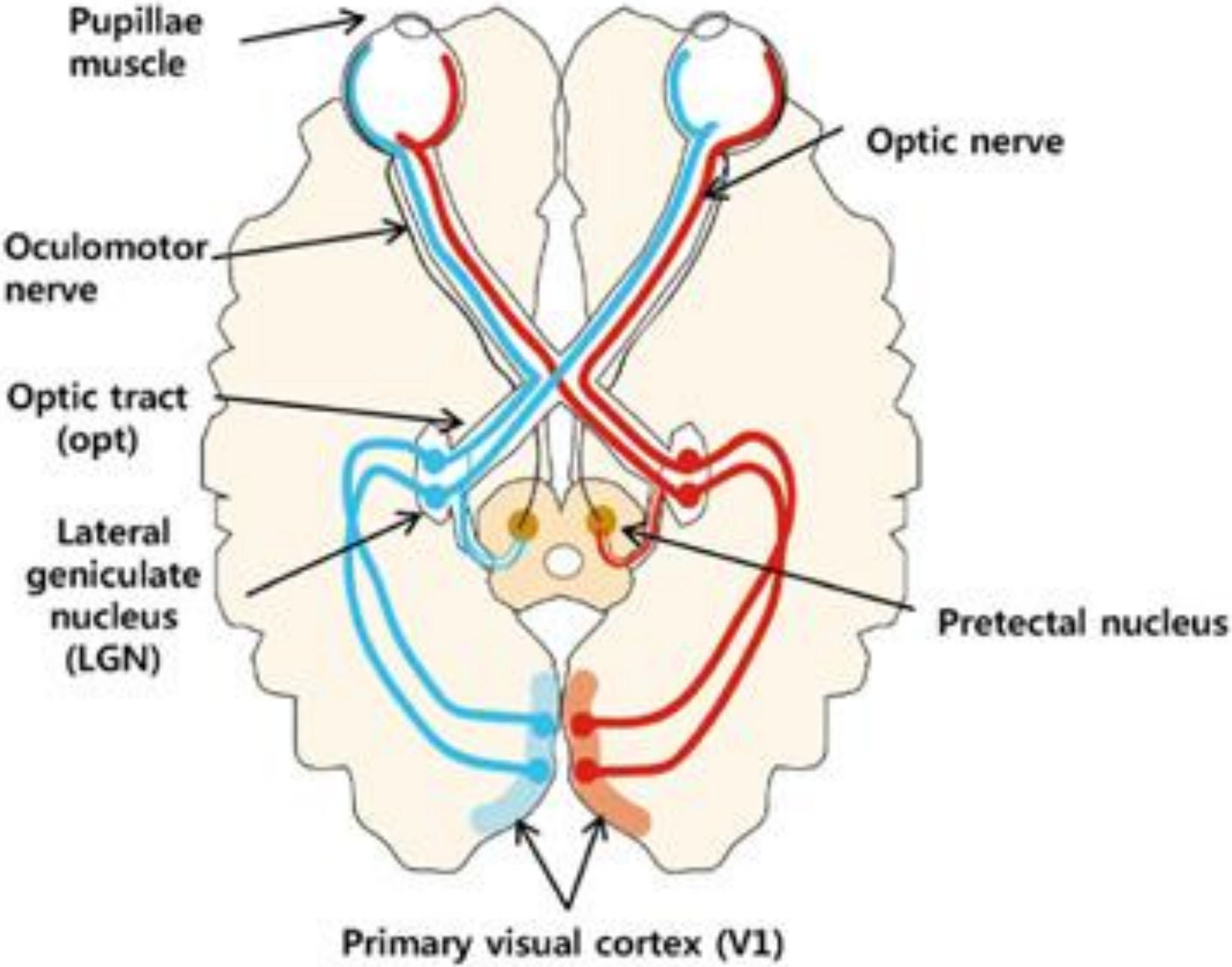
- **A few axons pass through the optic chiasm and then extend to the superior colliculi of the midbrain. They synapse with motor neurons that control the extrinsic and intrinsic eye muscles.**
- 10

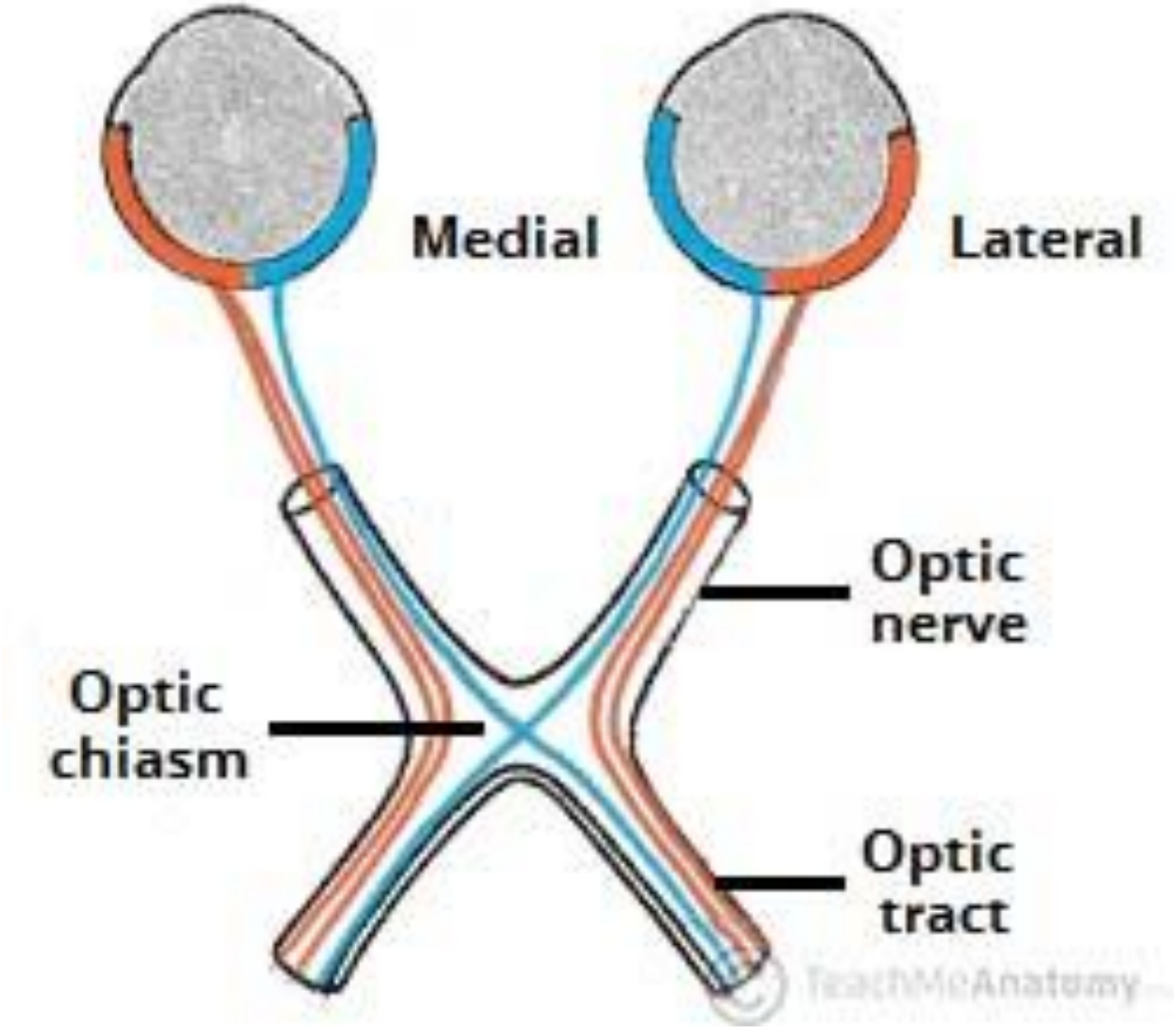
cones to bipolar cells to ganglion cells.





Koeppen & Stanton: Berne and Levy Physiology, 6th Edition.


Pupillae muscle
Optic nerve
Oculomotor nerve
Optic tract (opt)
Lateral geniculate nucleus (LGN)
Pretectal nucleus
Primary visual cortex (V1)


Medial
Lateral
Optic nerve
Optic chiasm
Optic tract

OCULOMOTOR NERVE

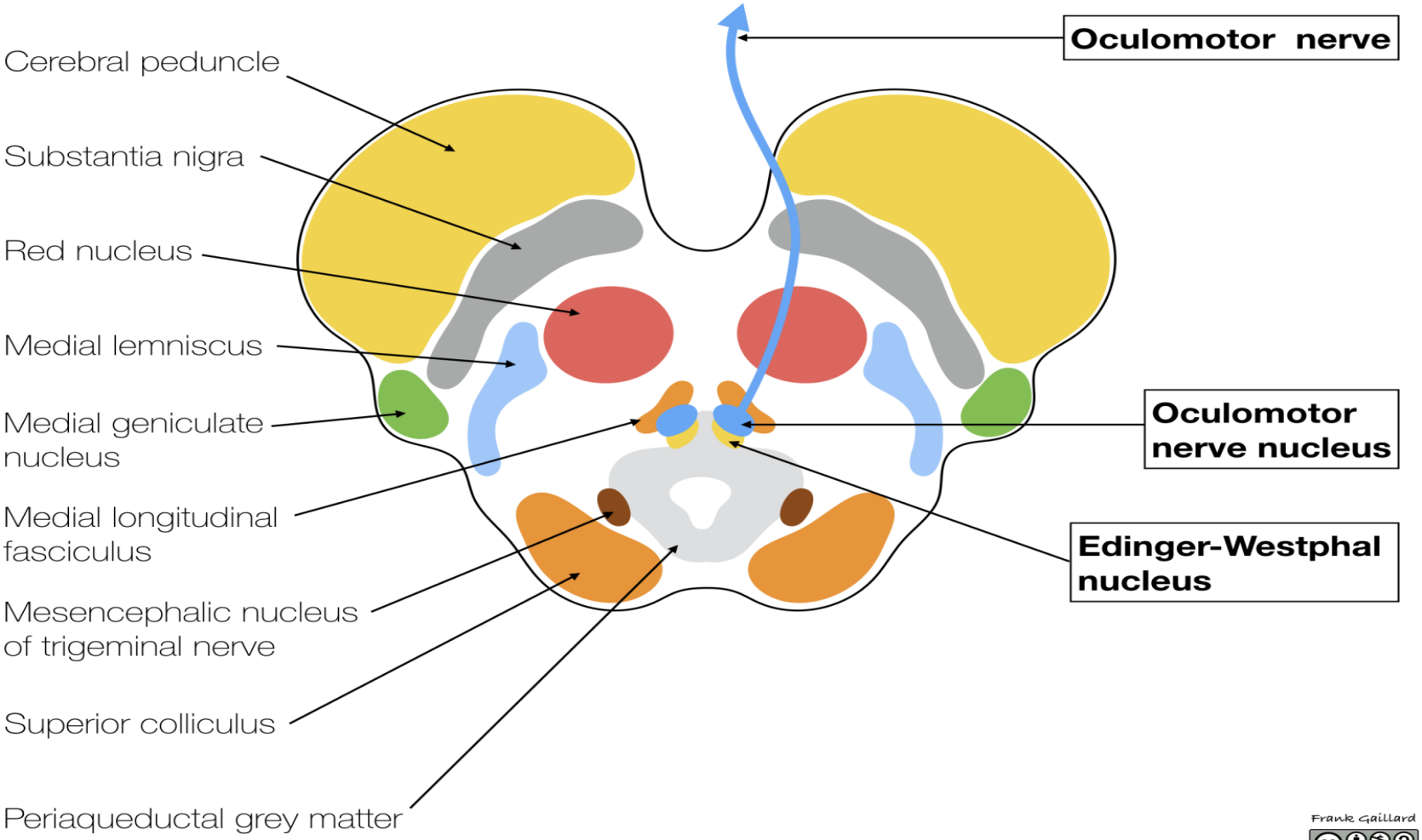
- **The oculomotor nerve originates from the anterior aspect of the midbrain.**
- **2 nucleus-**

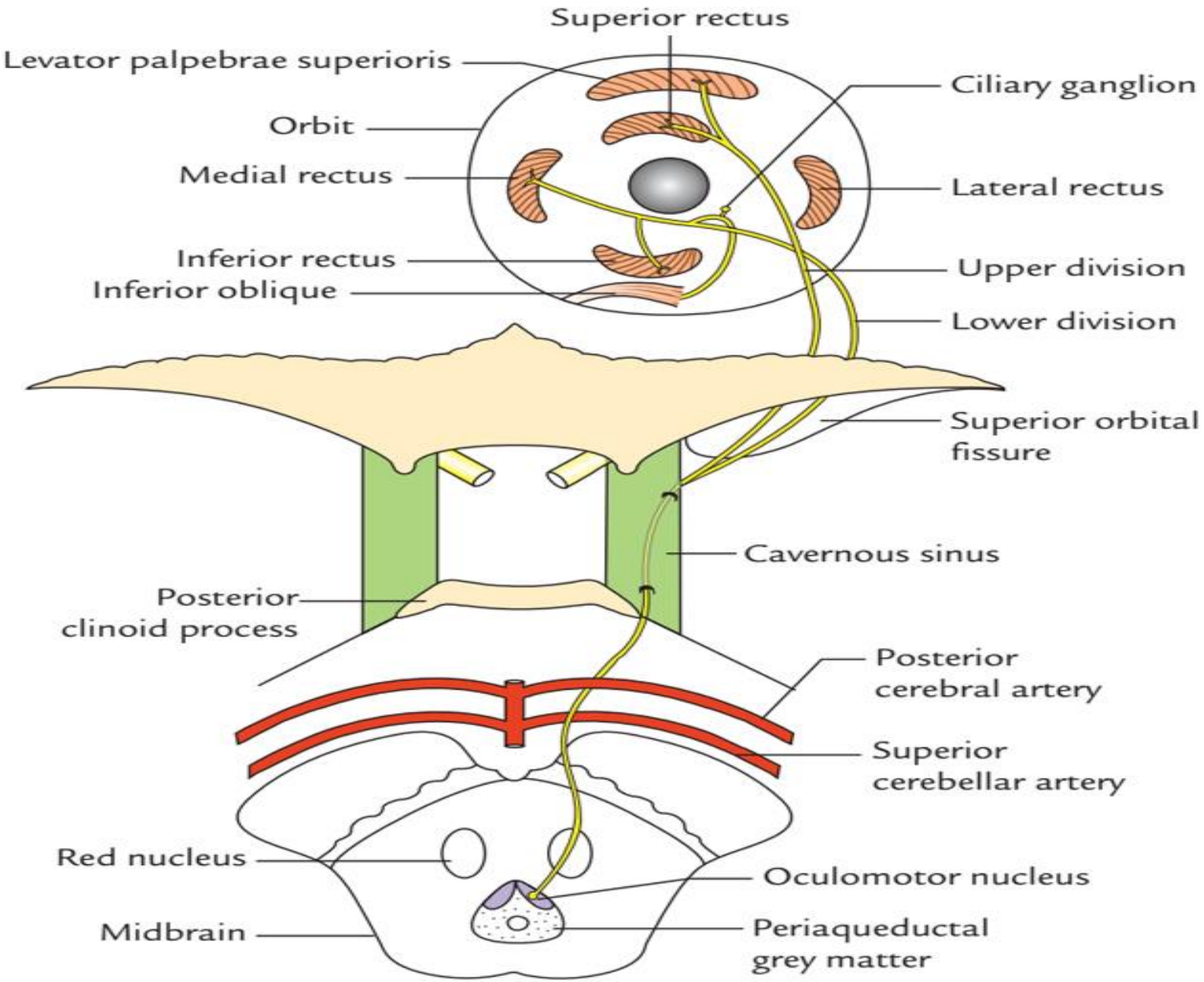
1. **Oculomotor nucleus- somatic fibers**
2. **Edinger-Westphal nucleus- parasymphathetic fibres.**

- **It moves anteriorly, passing below the posterior cerebral artery, and above the superior cerebellar artery. The nerve pierces the dura mater and enters the lateral aspect of the cavernous sinus.**

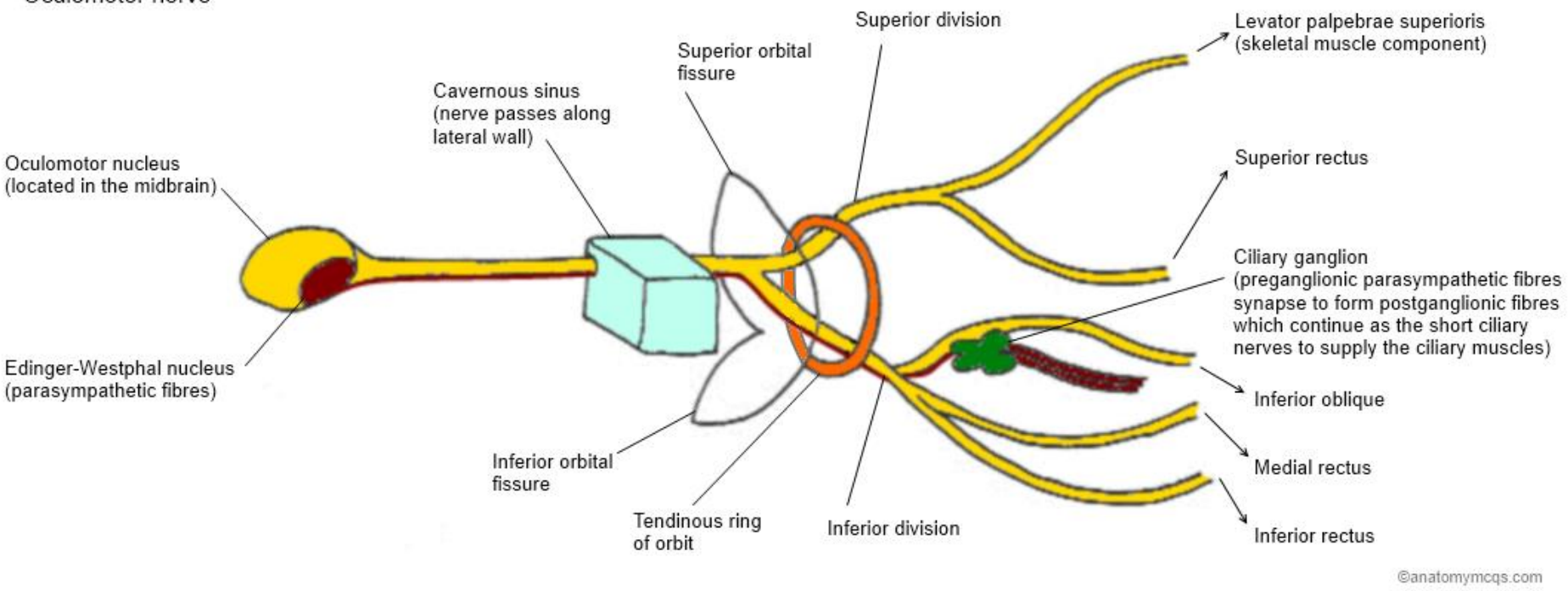
Oculomotor nerve

CN III




Superior rectus
Levator palpebrae superioris
Ciliary ganglion
Orbit
Medial rectus
Lateral rectus
Inferior rectus
Upper division
Inferior oblique
Lower division
Superior orbital fissure
Cavernous sinus
Posterior clinoid process
Posterior cerebral artery
Superior cerebellar artery
Red nucleus
Oculomotor nucleus
Midbrain
Periaqueductal grey matter

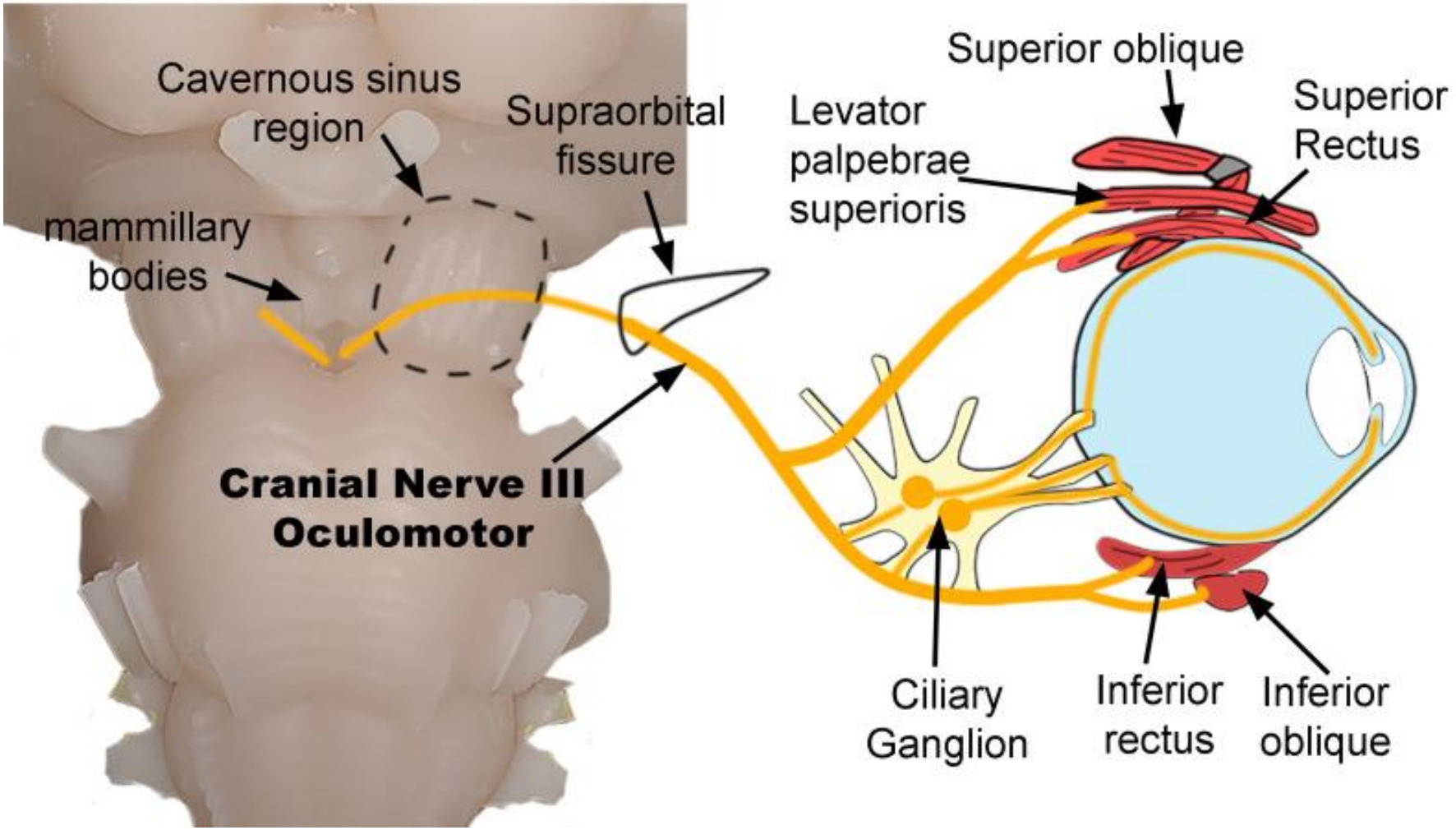
Oculomotor nerve

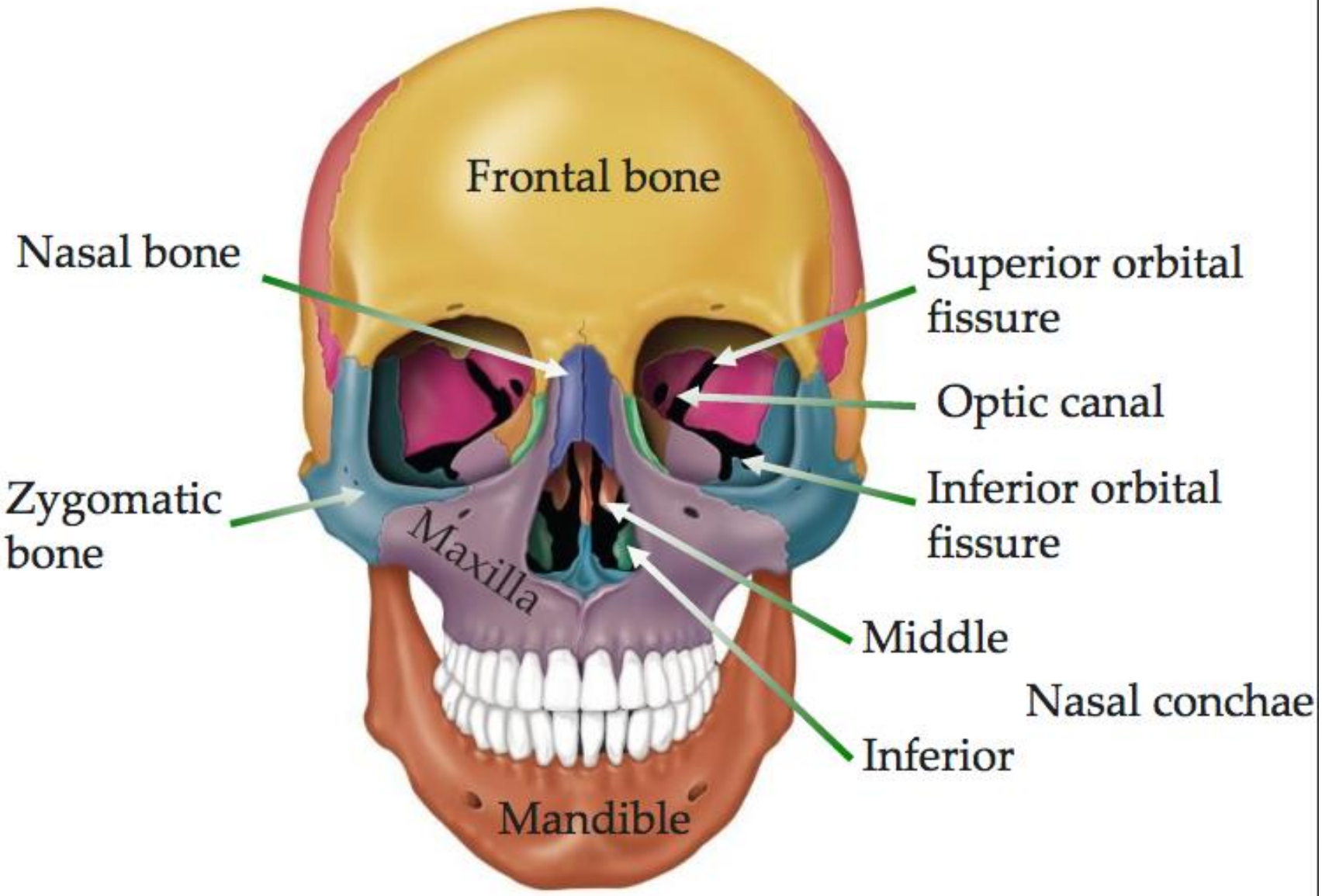


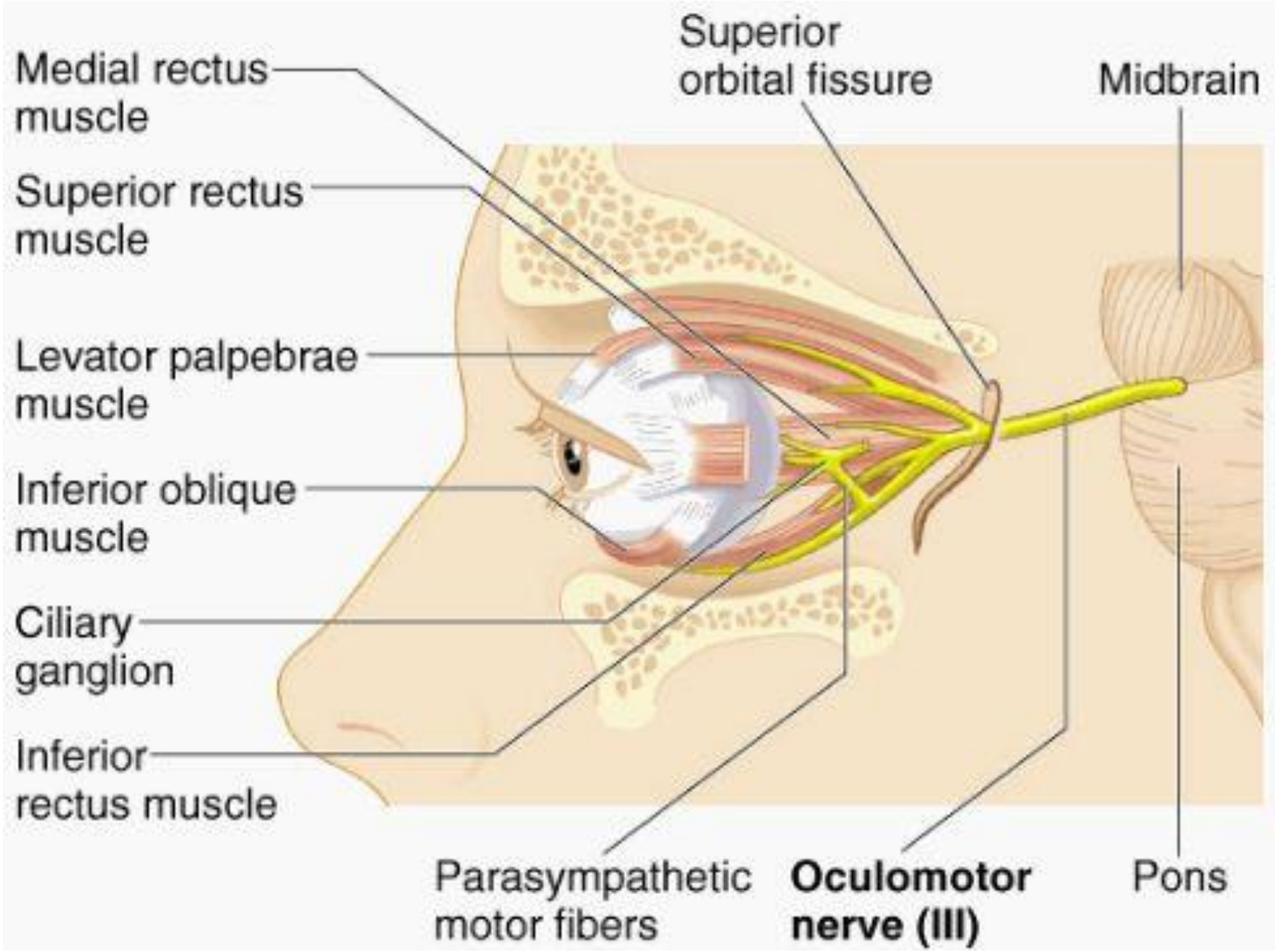
- **The nerve leaves the cranial cavity via the superior orbital fissure. At this point, it divides into superior and inferior branches.**

1. **Superior branch: Motor innervation to the superior rectus and levator palpabrae superioris.**
2. **Inferior branch: Motor innervation to the inferior rectus, medial rectus and inferior oblique. Parasympathetic fibres to the ciliary ganglion, which ultimately innervates the sphincter pupillae and ciliary muscles.**

Oculomotor Nerve (III) Pathway

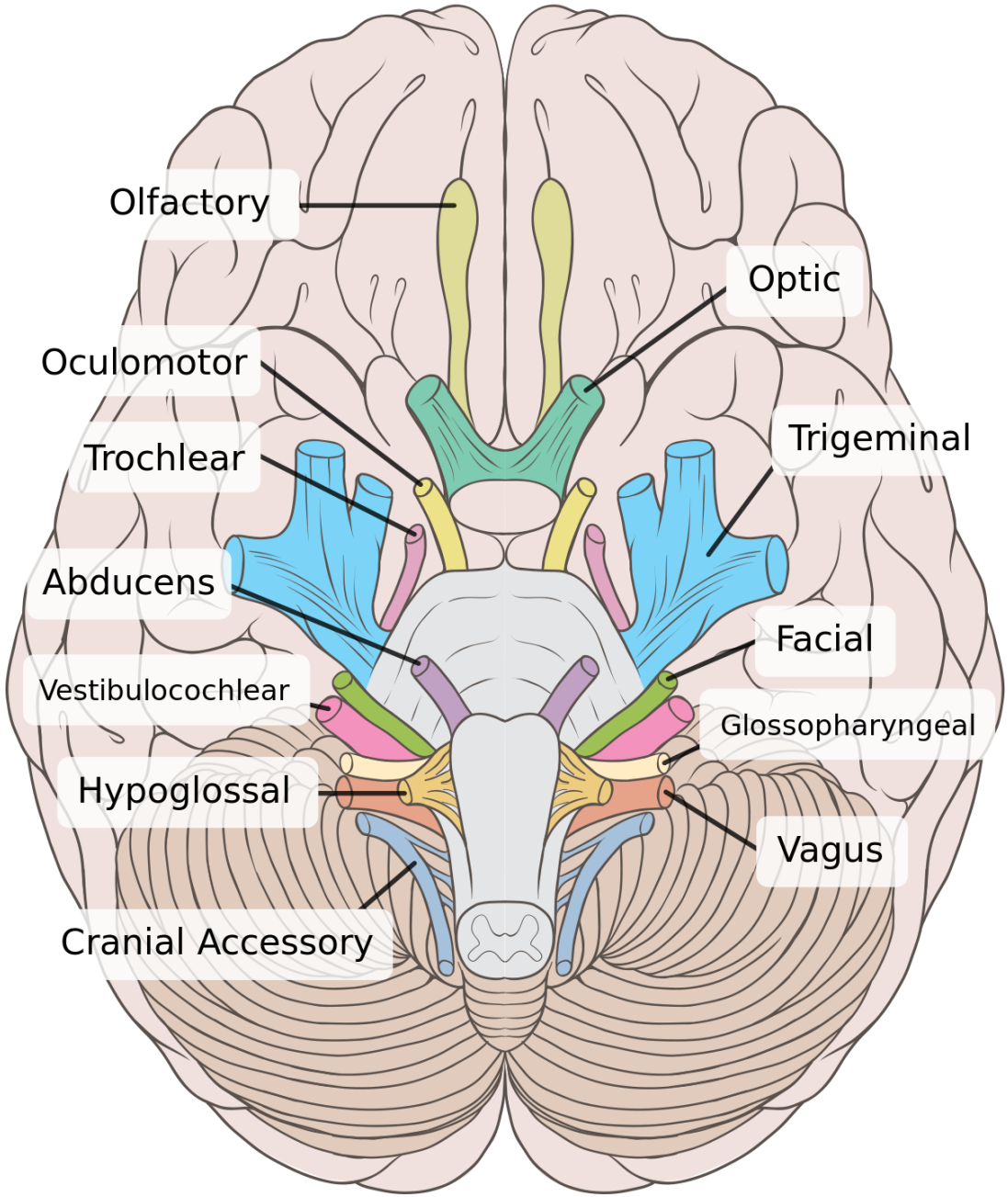


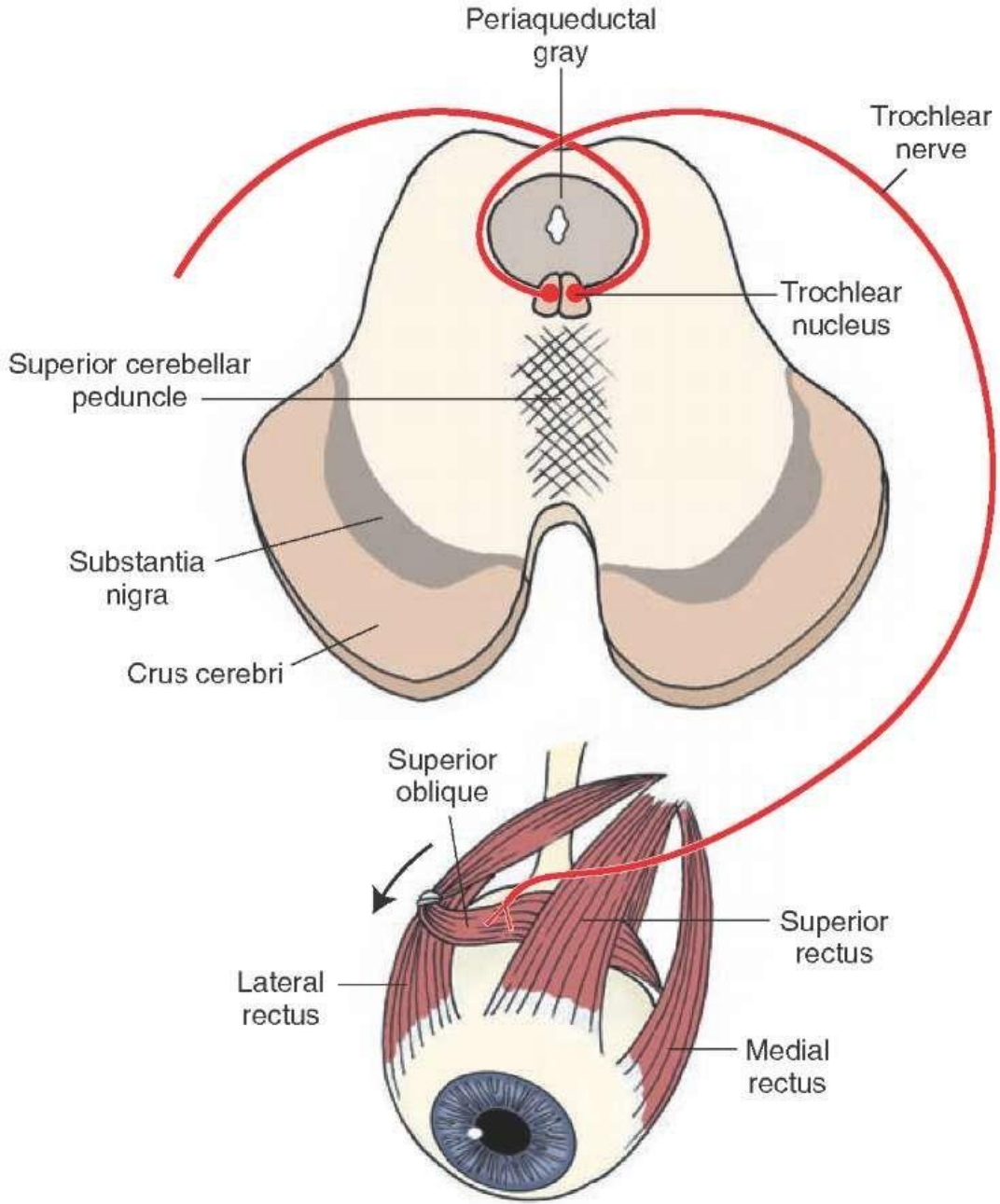

Frontal bone
Nasal bone
Superior orbital fissure
Optic canal
Zygomatic bone
Maxilla
Inferior orbital fissure
Middle
Nasal conchae
Inferior
Mandible

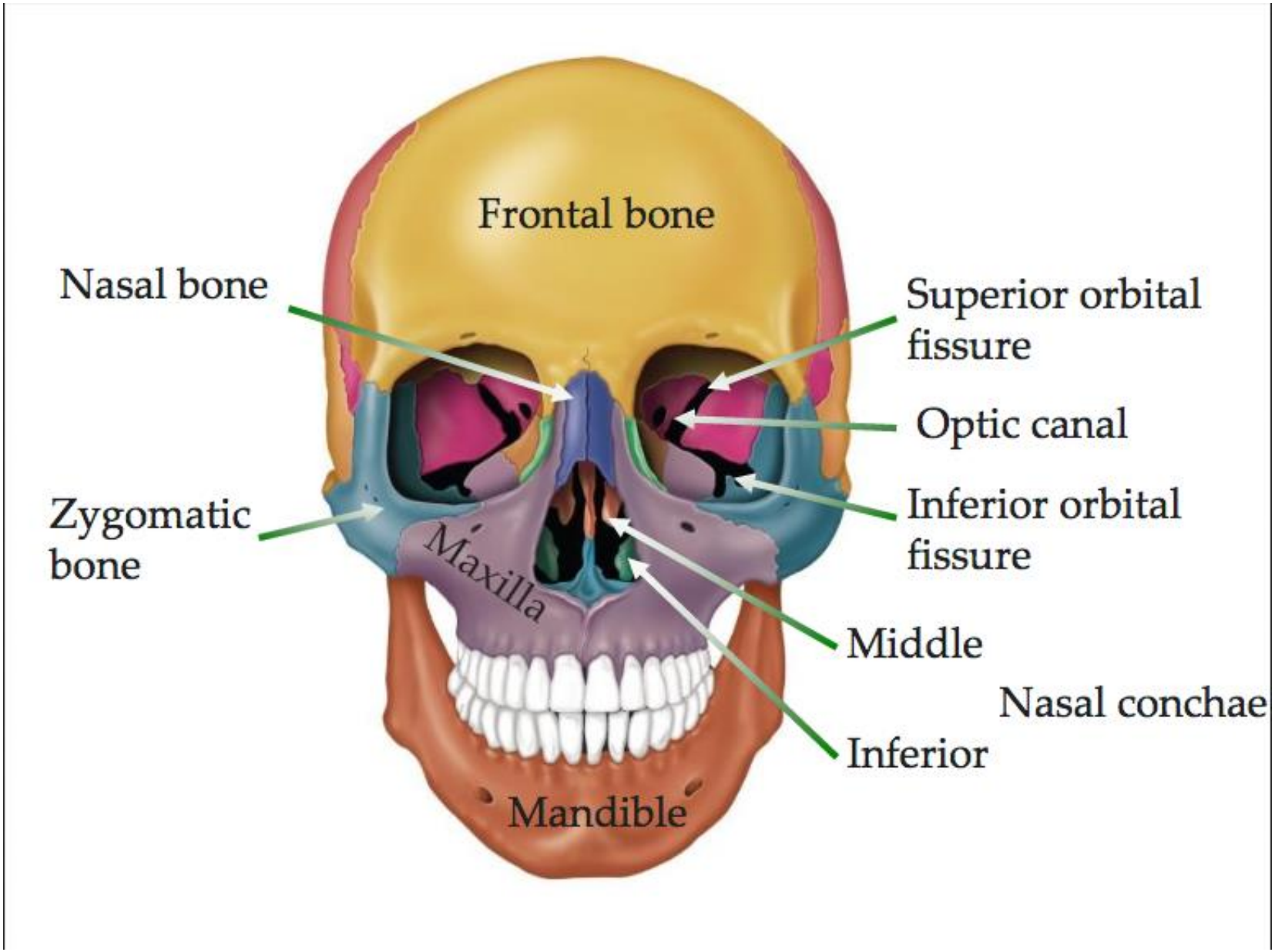

Medial rectus muscle
Superior rectus muscle
Levator palpebrae muscle
Inferior oblique muscle
Ciliary ganglion
Inferior rectus muscle
Superior orbital fissure
Midbrain
Parasympathetic motor fibers
Oculomotor nerve (III)
Pons

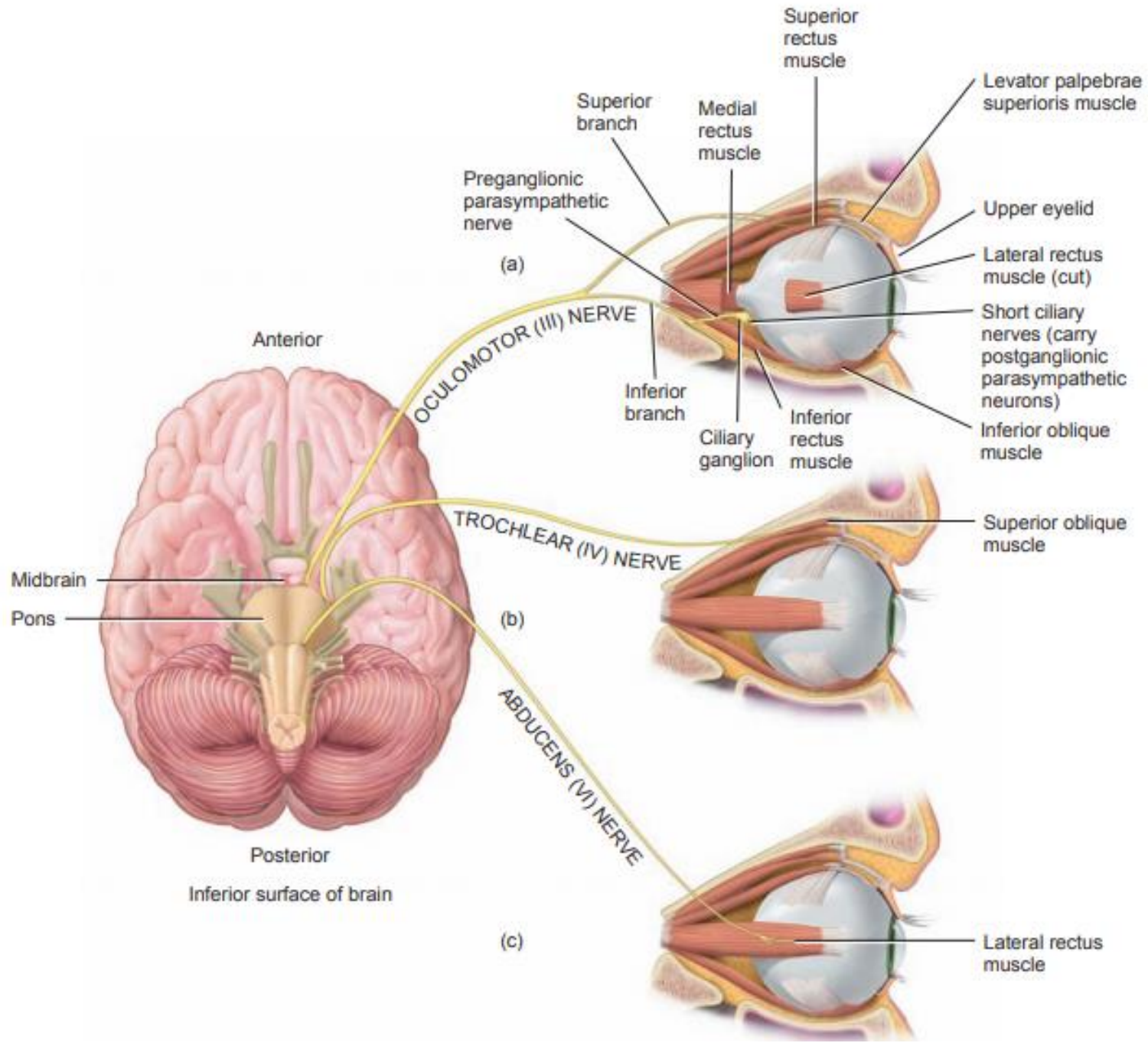
TROCHLEAR NERVE

- **trochlea- a pulley**
- **It is the smallest of the 12 cranial nerves and is the only one that arises from the posterior aspect of the brain stem.**
- **The motor neurons originate in the trochlear nucleus in the midbrain, and axons from the nucleus pass through the superior orbital fissure of the orbit. These somatic motor axons innervate the superior oblique muscle of the eyeball.**


Olfactory
Optic
Oculomotor
Trochlear
Trigeminal
Abducens
Facial
Vestibulocochlear
Glossopharyngeal
Hypoglossal
Vagus
Cranial Accessory

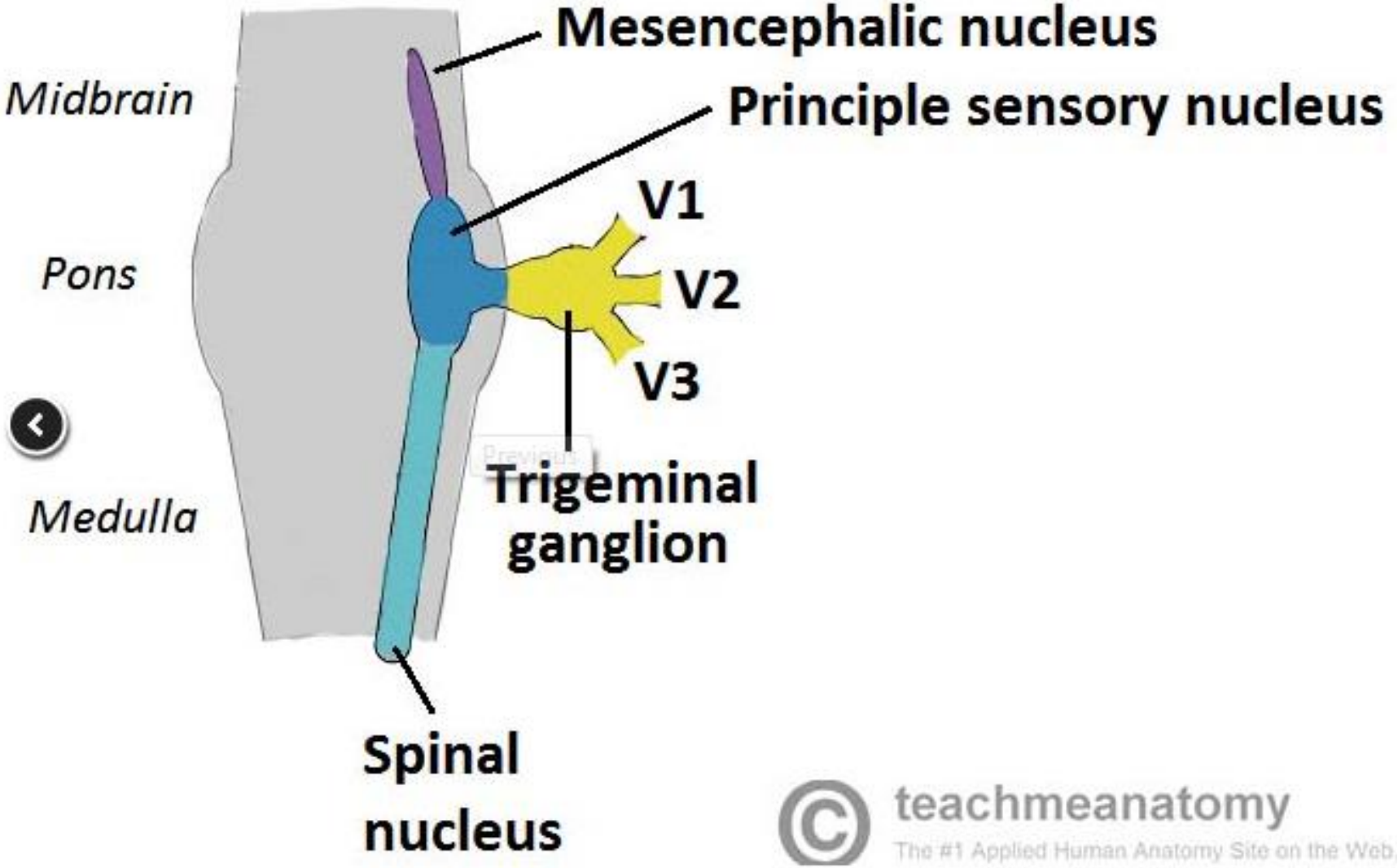

Periaqueductal gray
Trochlear nerve
Trochlear nucleus
Superior cerebellar peduncle
Substantia nigra
Crus cerebri
Superior oblique
Superior rectus
Lateral rectus
Medial rectus


Frontal bone
Nasal bone
Superior orbital fissure
Optic canal
Zygomatic bone
Maxilla
Inferior orbital fissure
Middle
Nasal conchae
Inferior
Mandible


Superior rectus muscle
Levator palpebrae superioris muscle
Superior branch
Medial rectus muscle
Preganglionic parasympathetic nerve
(a)
Upper eyelid
Lateral rectus muscle (cut)
Short ciliary nerves (carry postganglionic parasympathetic neurons)
Anterior
OCULOMOTOR (III) NERVE
Inferior branch
Ciliary ganglion
Inferior rectus muscle
Inferior oblique muscle
TROCHLEAR (IV) NERVE
Superior oblique muscle
Midbrain
Pons
(b)
ABDUCENS (VI) NERVE
Posterior
Inferior surface of brain
(c)
Lateral rectus muscle

TRIGEMINAL NERVE

- **largest cranial nerve.**
- **Three sensory nuclei (mesencephalic, principal sensory, spinal nuclei of trigeminal nerve) and one motor nucleus(motor nucleus of the trigeminal nerve) extending from the midbrain to the medulla.**
- **It supplies sensations to the face, mucous membranes, and other structures of the head. It is the motor nerve for the muscles of mastication and contains proprioceptive fibers.**


Midbrain
Pons
Medulla
Mesencephalic nucleus
Principle sensory nucleus
V1
V2
V3
Trigeminal ganglion
Spinal nucleus
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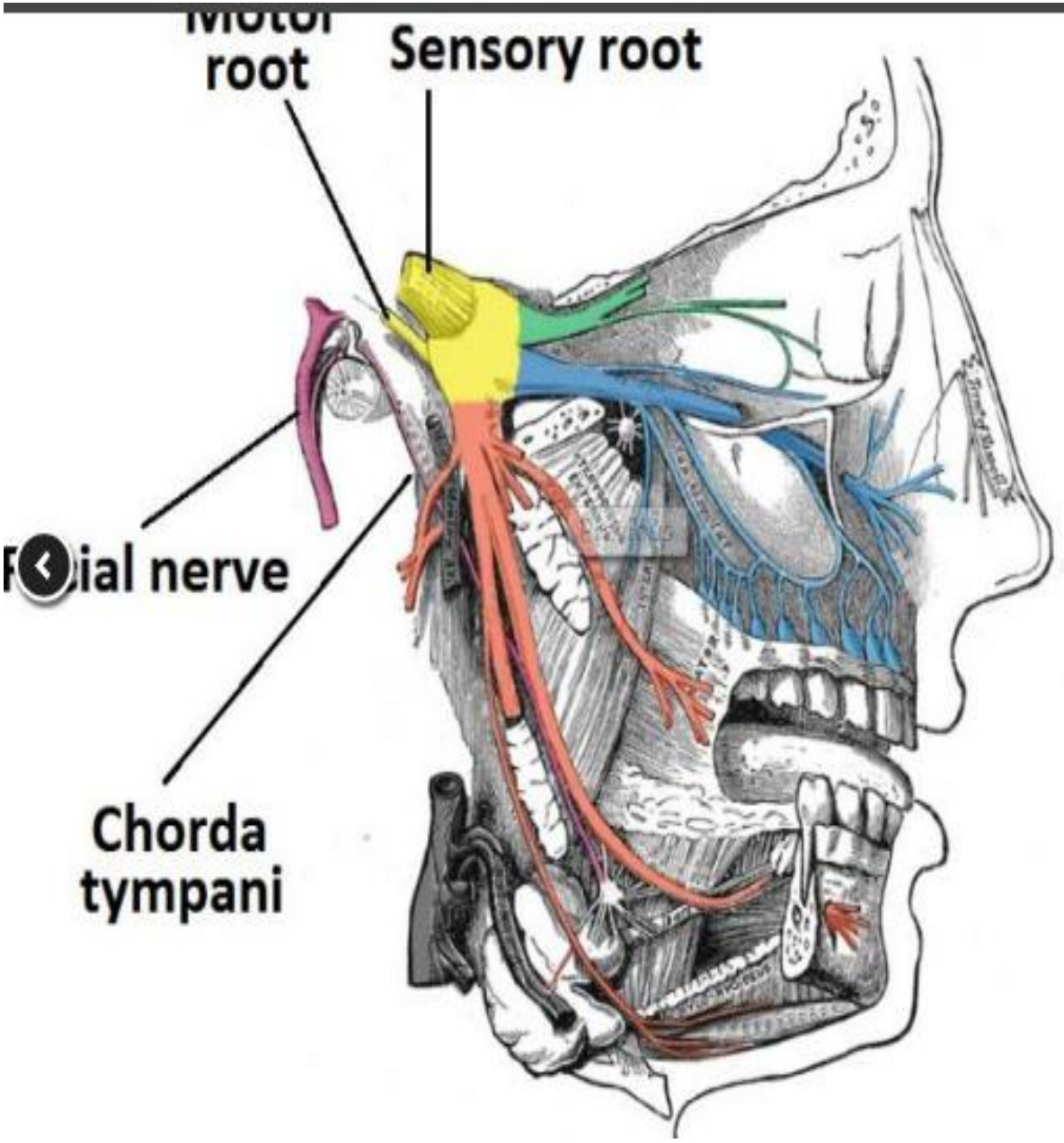
The #1 Applied Human Anatomy Site on the Web.

It exits the brain by a large sensory root and a smaller motor root coming out of the pons at its junction with the middle cerebral peduncle.

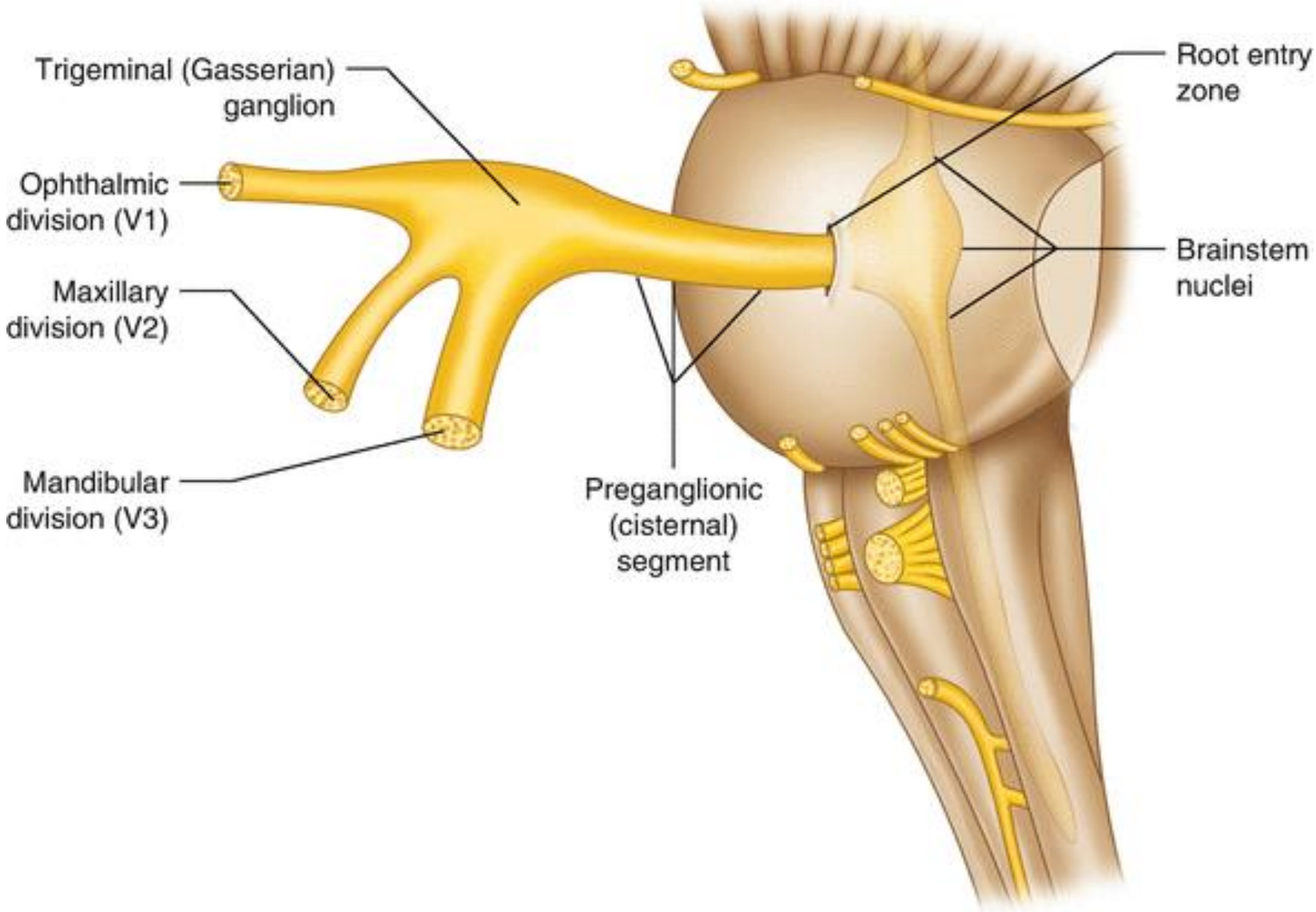


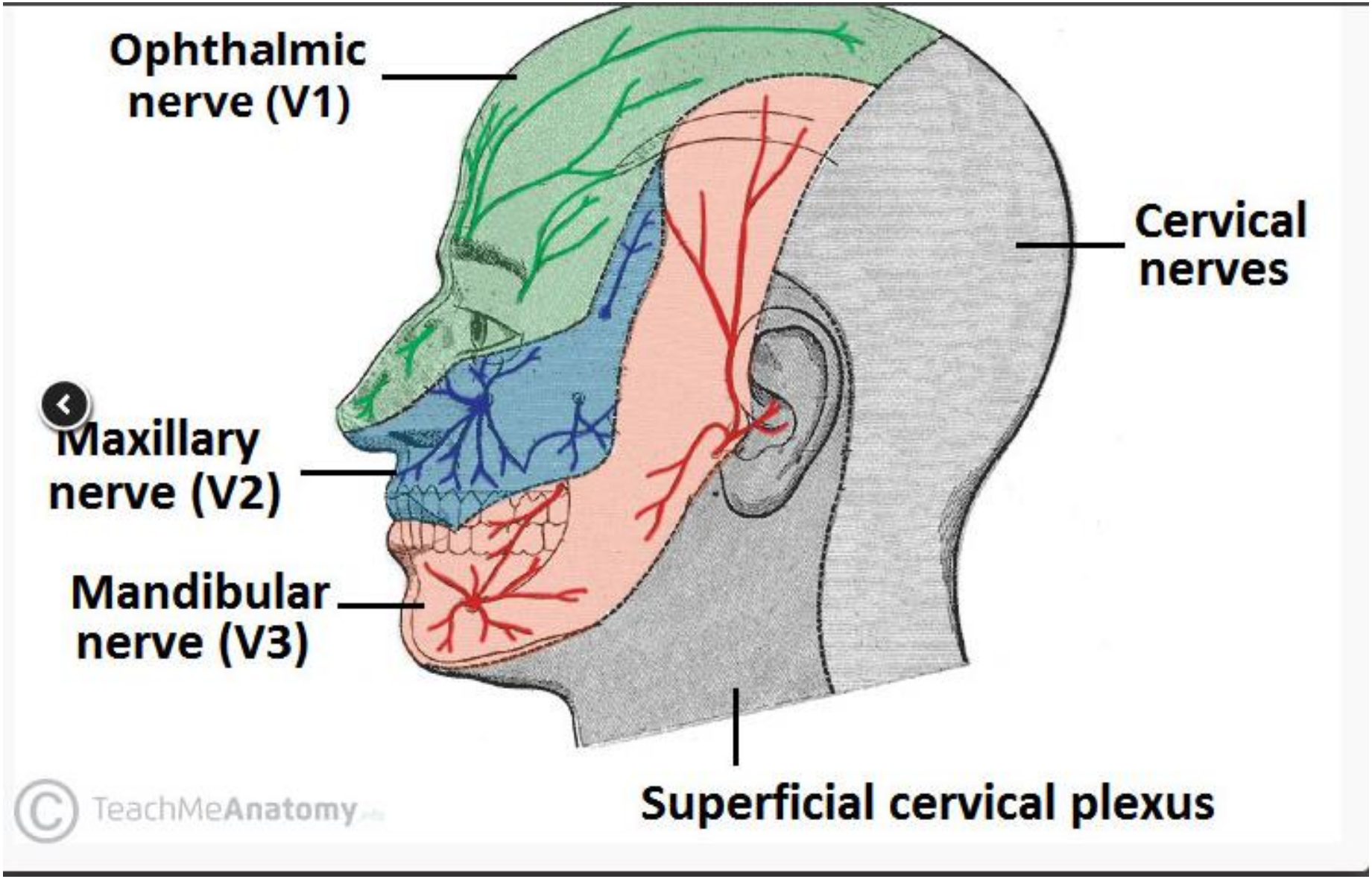
Opthalmic (V1)

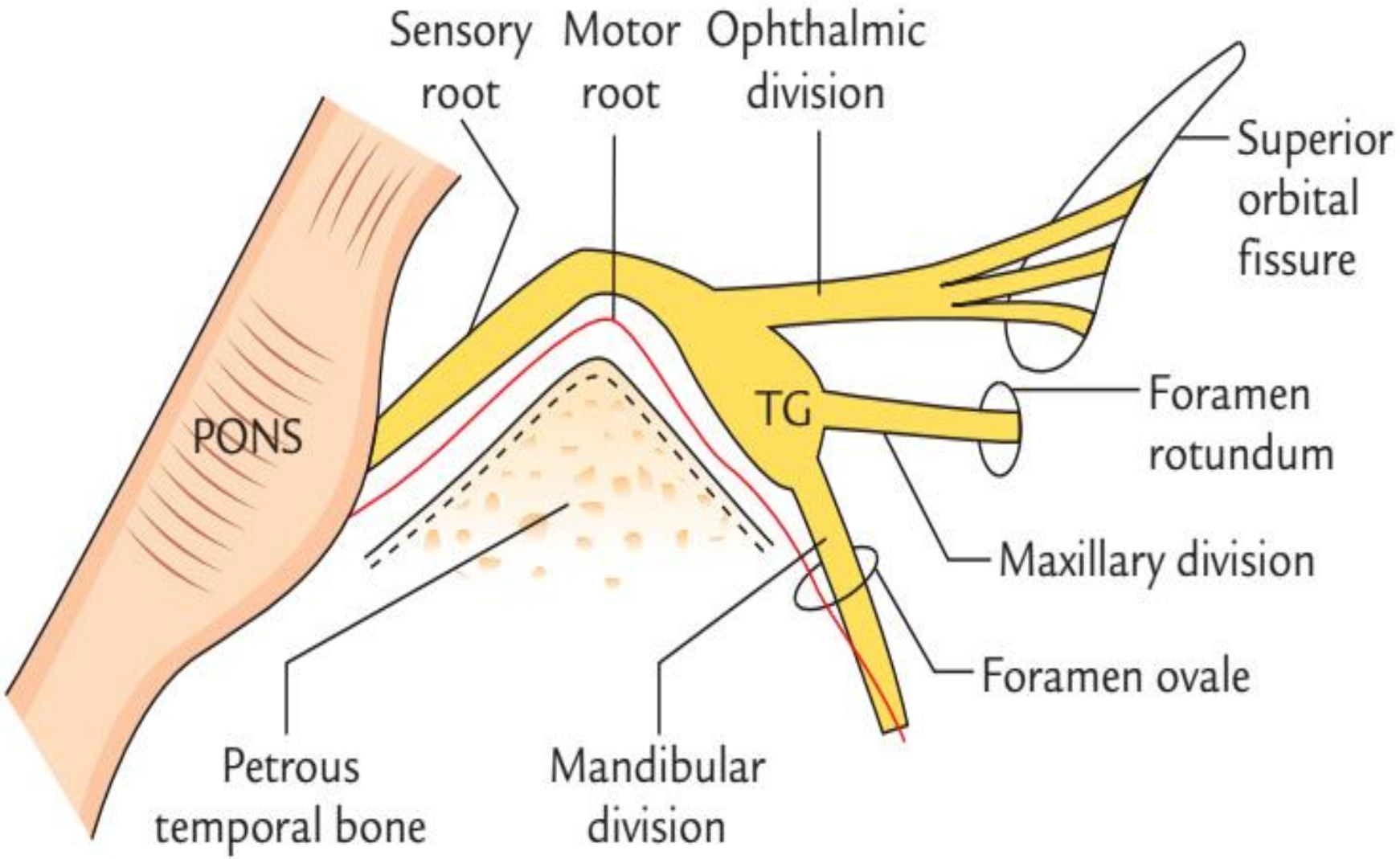
Maxillary (V2)

Mandibular (V3)

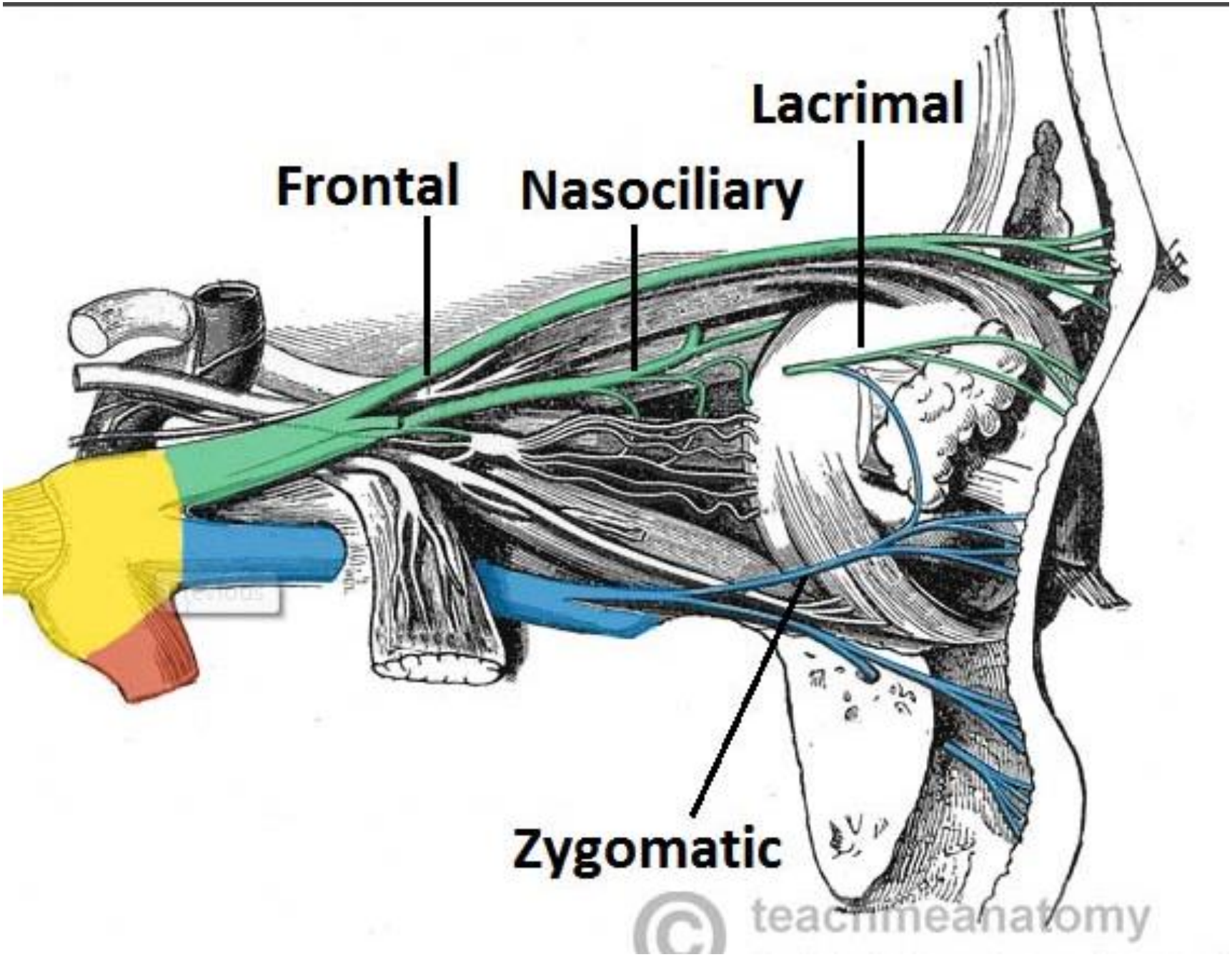
- **The large sensory root has a swelling called the trigeminal ganglion, which is located in a fossa on the inner surface of the petrous portion of the temporal bone. The ganglion contains cell bodies of most of the primary sensory neurons.**
- **The smaller motor root originates in a nucleus in the pons.**
- **Trigeminal nerve has three branches: ophthalmic, maxillary, and mandibular.**


Trigeminal (Gasserian) ganglion
Ophthalmic division (V1)
Maxillary division (V2)
Mandibular division (V3)
Preganglionic (cisternal) segment
Root entry zone
Brainstem nuclei


Ophthalmic nerve (V1)
Cervical nerves
Maxillary nerve (V2)
Mandibular nerve (V3)
Superficial cervical plexus
© TeachMeAnatomy


Sensory root
Motor root
Ophthalmic division
Superior orbital fissure
PONS
TG
Foramen rotundum
Maxillary division
Foramen ovale
Petrous temporal bone
Mandibular division

- **The ophthalmic nerve- the smallest branch, enters the orbit via the superior orbital fissure.**
- **3 branches: frontal, lacrimal and nasociliary.**
- **The ophthalmic nerve contains sensory axons from the skin over the upper eyelid, eyeball, lacrimal glands, upper part of the nasal cavity, side of the nose, forehead, and anterior half of the scalp .**


Lacrimal
Frontal
Nasociliary
Zygomatic
© teachmeanatomy

- **The maxillary nerve is intermediate in size between the ophthalmic and mandibular nerves and enters the foramen rotundum. The maxillary nerve includes sensory axons from the mucosa of the nose, palate, part of the pharynx, upper teeth, upper lip, and lower eyelid.**
- **Branches- meningeal branch, zygomaticotemporal, zygomaticofacial, superior alveolar (anterior, middle, posterior) infraorbital etc.**

The mandibular nerve- the largest branch, exits through the foramen ovale. The mandibular division is the only part of the trigeminal nerve that has both sensory and motor functions.

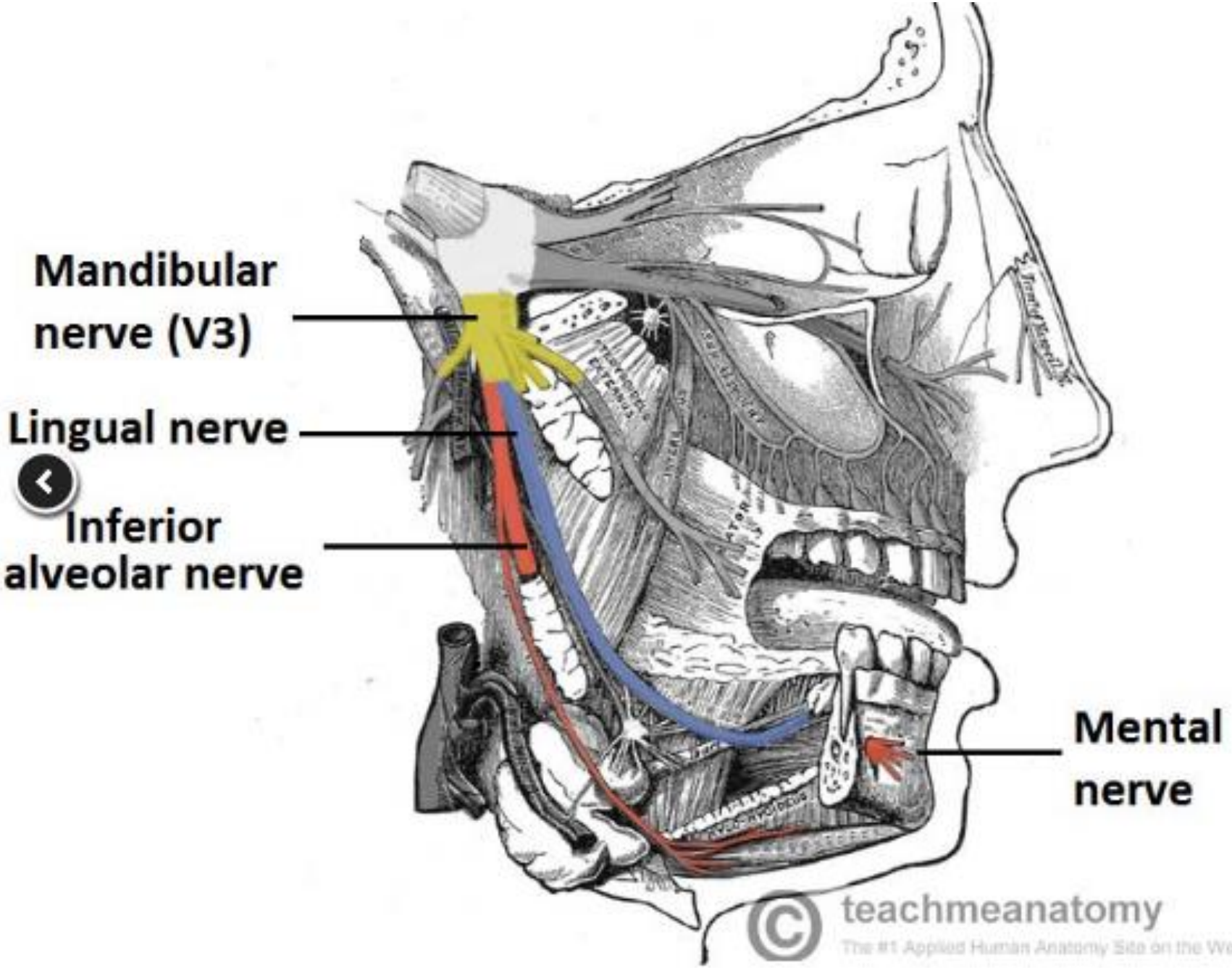
It communicates sensory information from the:

- **outer part of the ear**
- **lower part of the mouth and the associated mucous membranes**
- **front and middle parts of the tongue**
- **teeth of the lower jaw and the associated mucous membranes**
- **lower lip and chin**

The sensory axons from the three branches enter the trigeminal ganglion and terminate in nuclei in the pons.

Somatic motor axons of the trigeminal nerve are part of the mandibular nerve and innervates the muscles of mastication: medial pterygoid, lateral pterygoid, masseter and temporalis. The mandibular nerve also supplies other 1st pharyngeal arch derivatives: anterior belly of digastric, mylohyoid, tensor veli palatini and tensor tympani.

- **Four terminal branches: buccal nerve, inferior alveolar nerve, auriculotemporal nerve and lingual nerve.**


Mandibular nerve (V3)
Lingual nerve
Inferior alveolar nerve
Mental nerve
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ABDUCENS NERVE

- **Motor cranial nerve that originates from the abducens nucleus in the pons . Somatic motor axons extend from the nucleus to the lateral rectus muscle of the eyeball, an extrinsic eyeball muscle, through the superior orbital fissure of the orbit.**

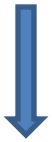
FACIAL NERVE

- **Nucleus-**

1 motor nucleus

2 Sensory nucleus

3. Superior salivatory nucleus- parasymphathetic part



1. Submandibular ganglion  **submandibular gland and sublingual gland**

2. Pterygopalatine ganglion- lacrimal gland

Anatomically, the course of the facial nerve can be divided into two parts:

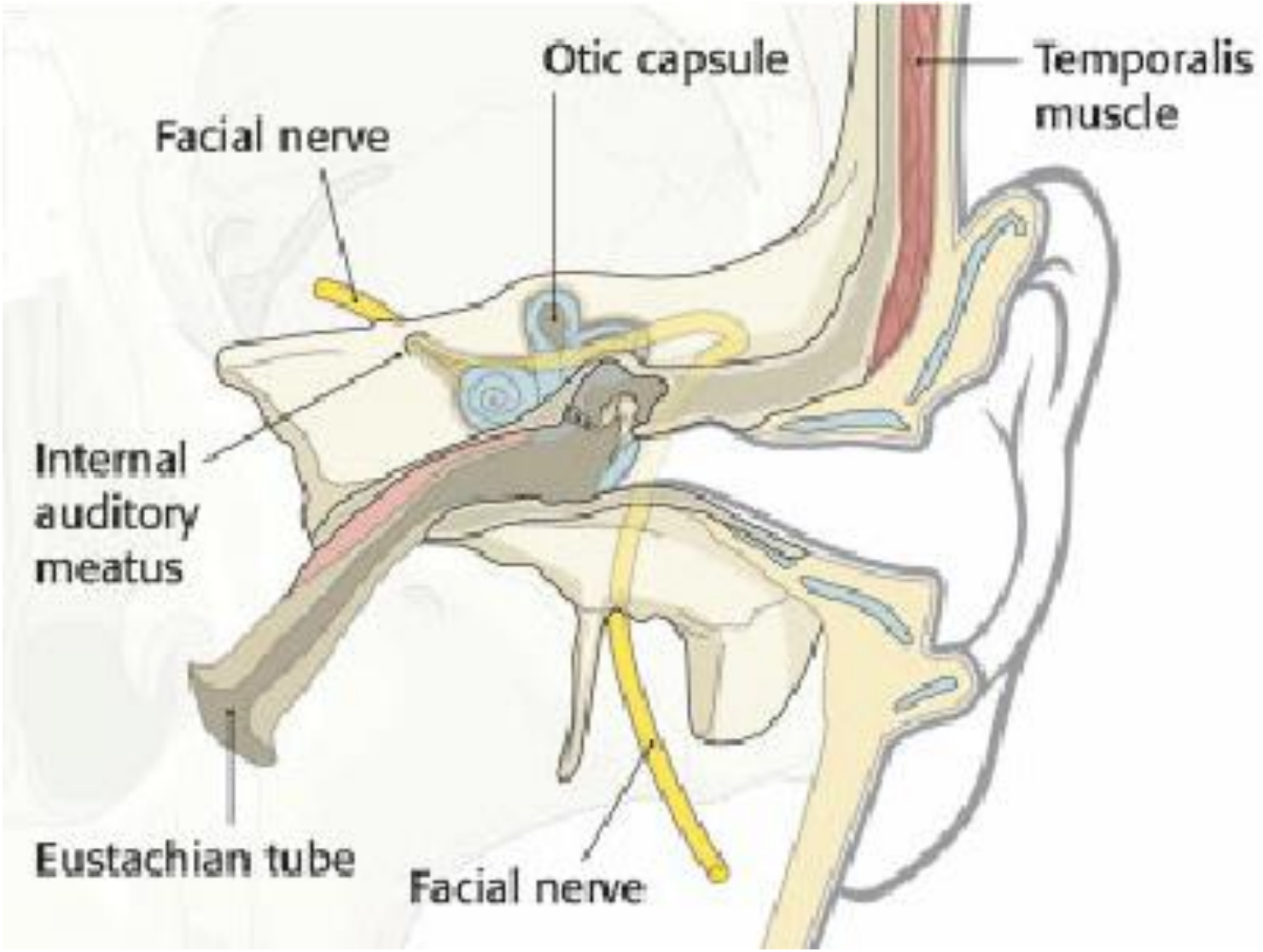
- **Intracranial**
- **Extracranial**

Intracranial

- **The nerve arises in the pons. It begins as two roots; a large motor root, and a small sensory root.**
- **Intermediate nerve- the part of the facial nerve that arises from the sensory root is sometimes known.**

- **The two roots travel through the internal acoustic meatus, a 1cm long opening in the petrous part of the temporal bone.**
- **Two roots leave the internal acoustic meatus, and enter into the facial canal. The canal is a 'Z' shaped structure. Within the facial canal, three important events occur:**

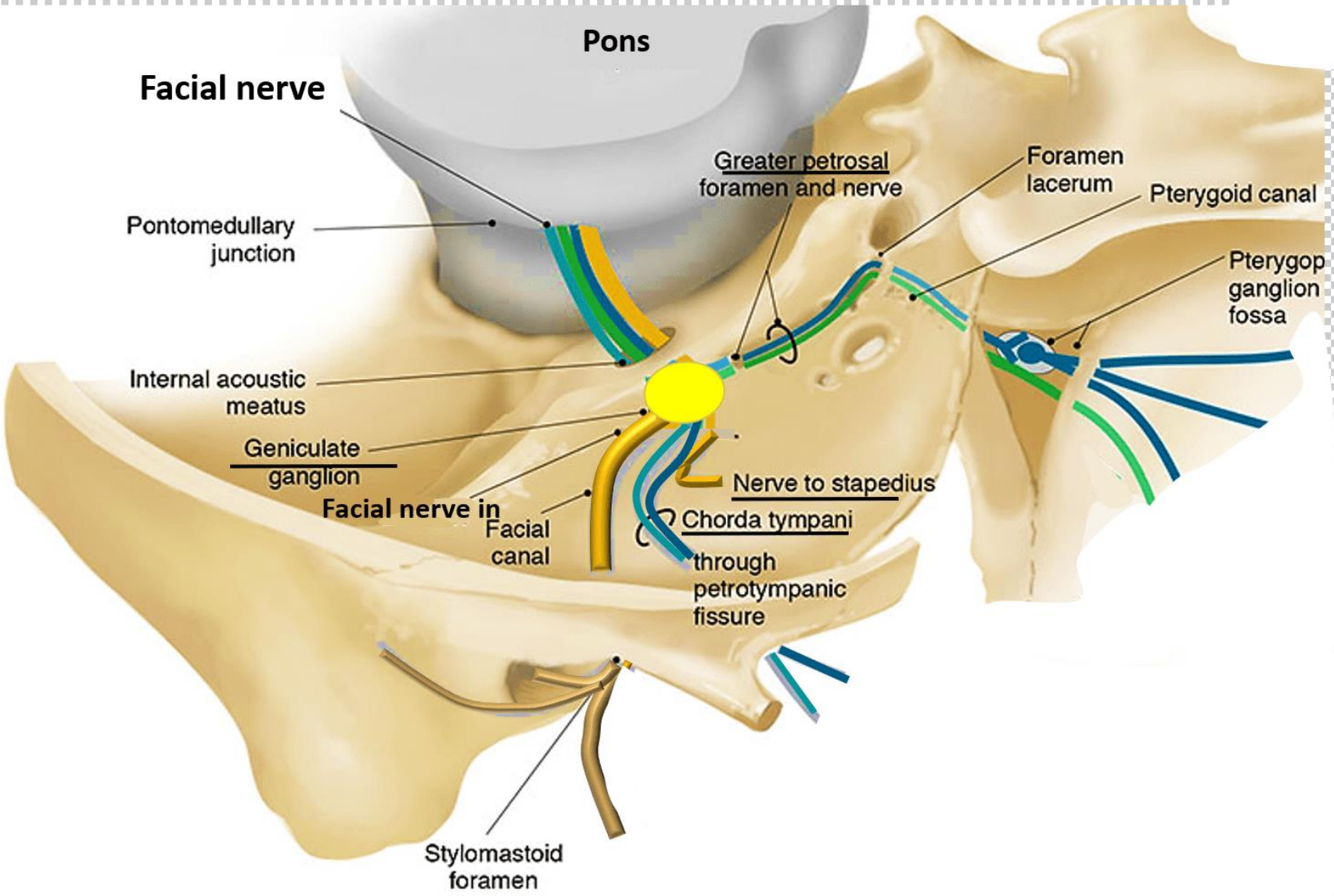
1. **Two roots fuse to form the facial nerve.**
2. **Next, the nerve forms the geniculate ganglion.**


Otic capsule
Temporalis muscle
Facial nerve
Internal auditory meatus
Eustachian tube
Facial nerve

3. **Lastly, the nerve gives rise to:**

- **Greater petrosal nerve – parasympathetic fibres to mucous glands and lacrimal gland.**
- **Nerve to stapedius – motor fibres to stapedius muscle of the middle ear.**
- **Chorda tympani – special sensory fibres to the anterior 2/3 tongue and parasympathetic fibres to the submandibular and sublingual glands.**

- **The facial nerve then exits the facial canal via the stylomastoid foramen.**


Pons
Facial nerve
Greater petrosal foramen and nerve
Foramen lacerum
Pterygoid canal
Pontomedullary junction
Pterygop ganglion fossa
Internal acoustic meatus
Geniculate ganglion
Facial nerve in
Facial canal
Nerve to stapedius
Chorda tympani
through petrotympanic fissure
Stylomastoid foramen

Extracranial course-

- **After exiting the skull, the facial nerve turns superiorly to run just anterior to the outer ear**
- **Branches-**

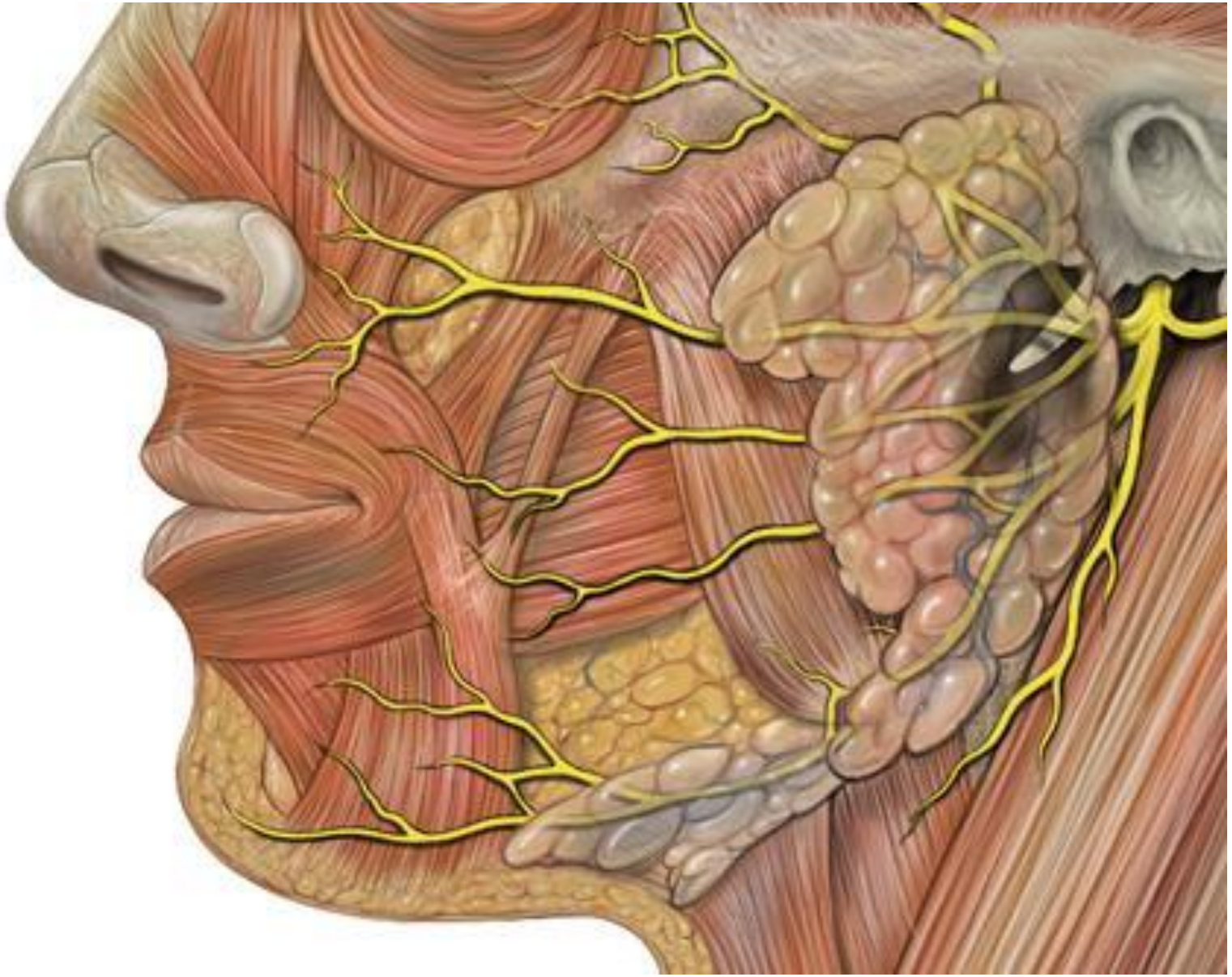
1. **Posterior auricular nerve.**
2. **Nerve to the posterior belly of the digastric muscle**
3. **Nerve to the stylohyoid muscle.**

Facial nerve, continues anteriorly and inferiorly into the parotid gland

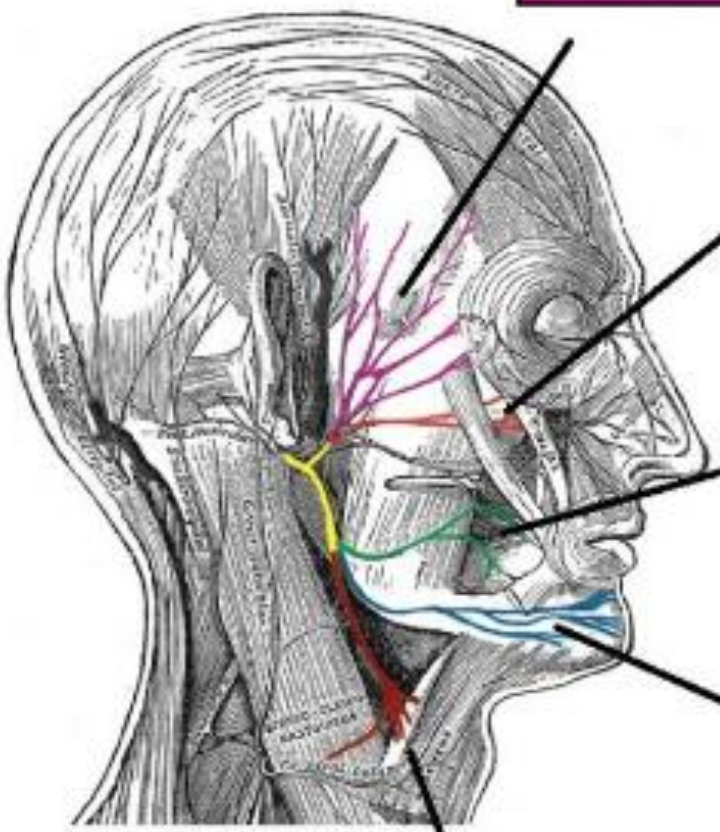
Within the parotid gland, the nerve terminates by splitting into five branches:

- **Temporal branch**
- **Zygomatic branch**
- **Buccal branch**
- **Marginal mandibular branch**
- **Cervical branch**

These branches are responsible for innervating the muscles of facial expression



Branches of the Facial Nerve



Temporal Branches
Innervate the frontalis, orbicularis oculi and corrugator supercilli

Zygomatic Branches
Innervate the orbicularis oculi

Buccal Branches
Innervate the orbicularis oris, buccinator and zygomaticus.

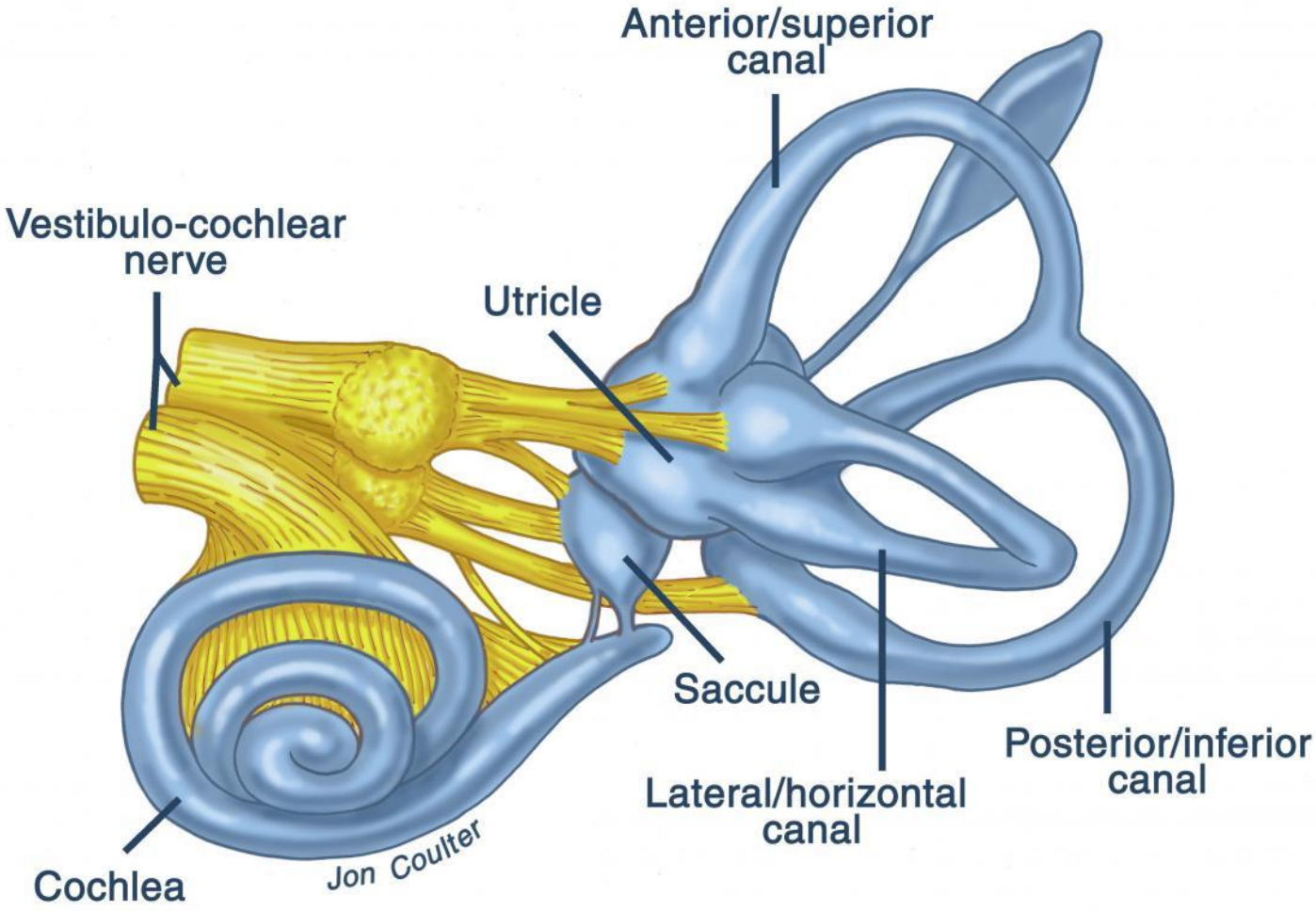
Marginal Mandibular Branch
Innervates the mentalis.

Cervical Branch
Innervates the platysma

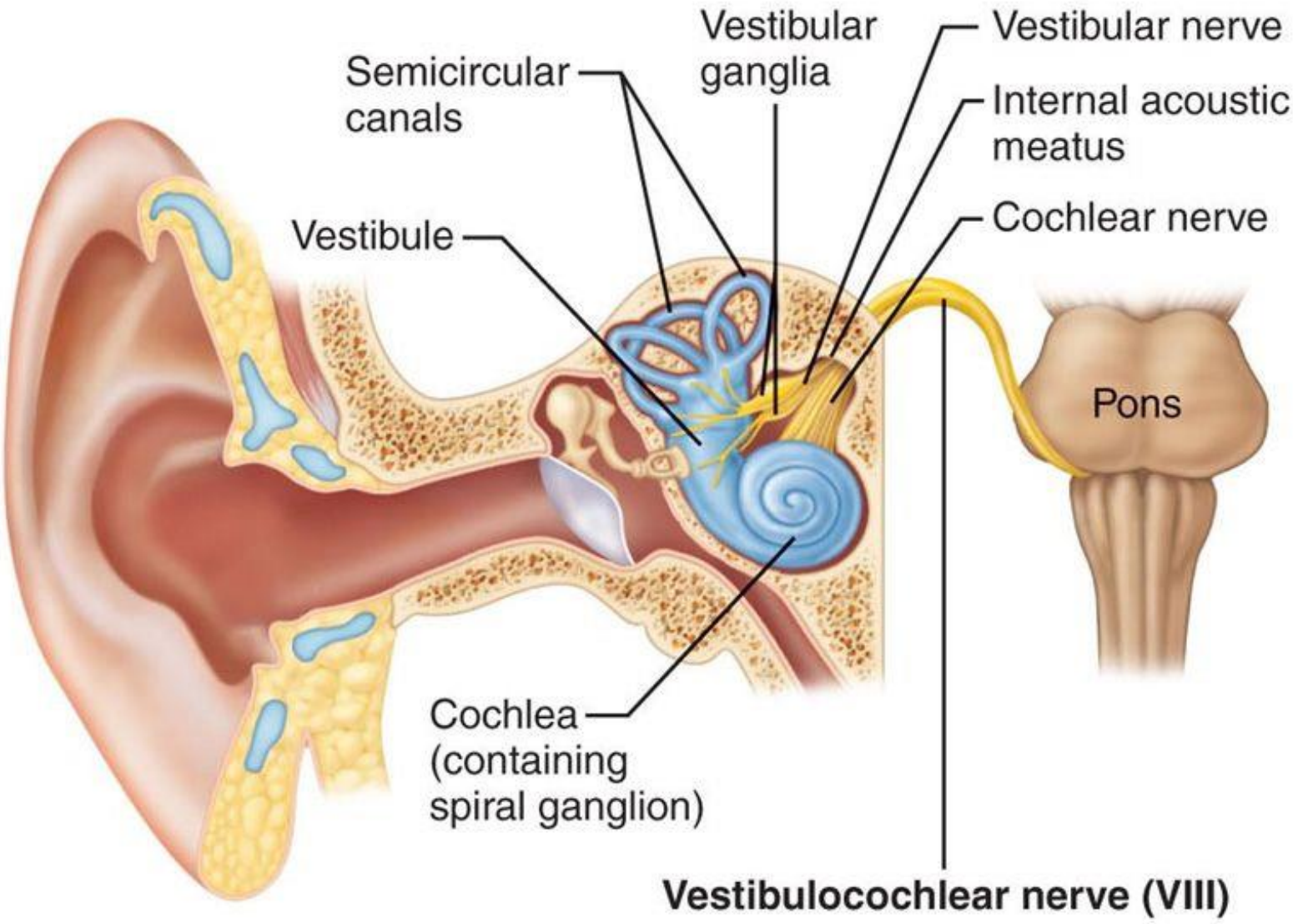
VESTIBULOCOCHLEAR NERVE

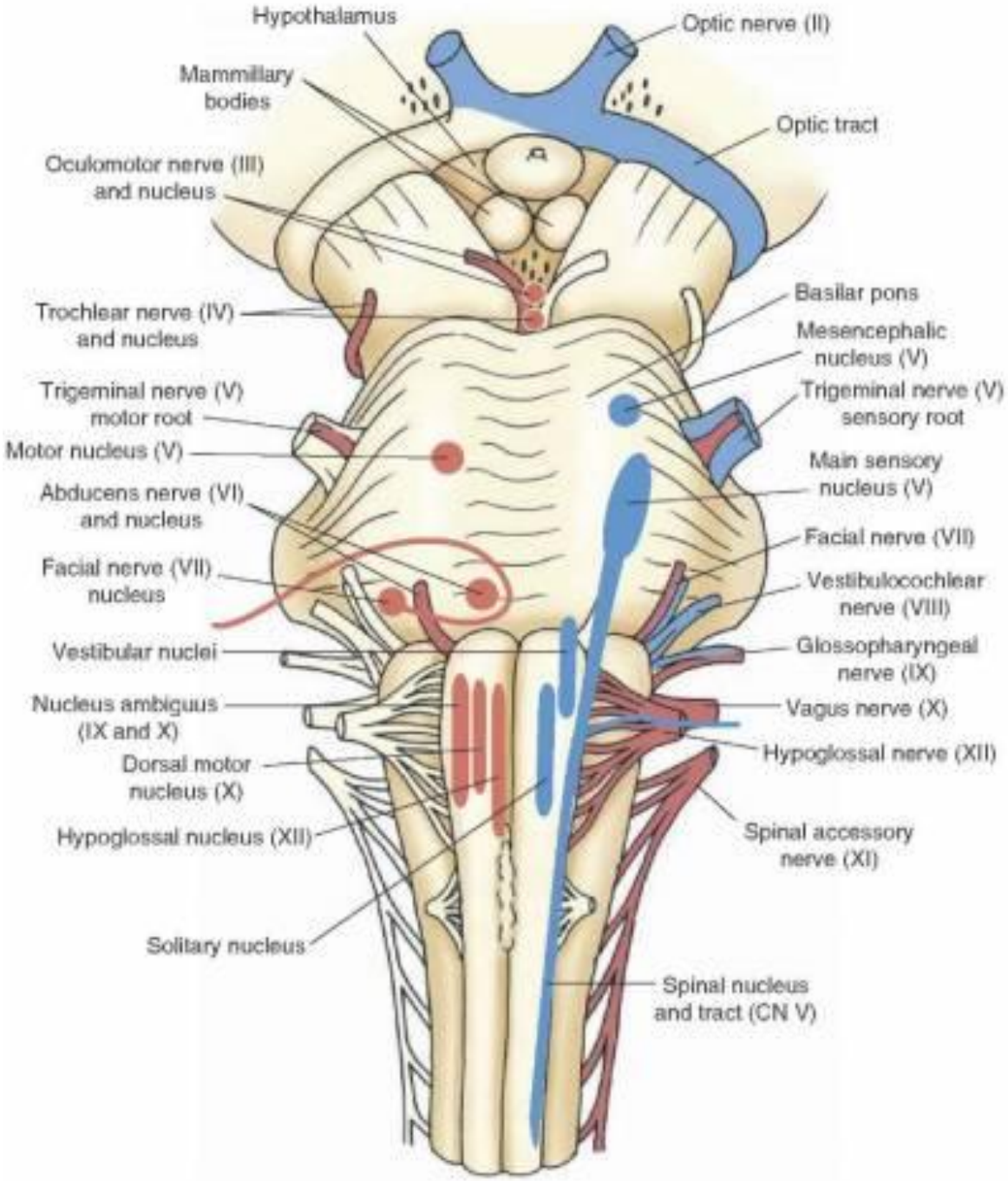
- known as the acoustic or auditory nerve.
- two branches, the vestibular branch and the cochlear branch.
- The vestibular branch carries impulses for equilibrium; the cochlear branch carries impulses for hearing.
- Sensory axons in the vestibular branch arise from the semicircular canals, the saccule, and the utricle of the inner ear; extend to the vestibular ganglion, where their cell bodies are located and end in vestibular nuclei in the medulla and pons. Some sensory axons also enter the cerebellum via the inferior cerebellar peduncle.

- **Sensory axons in the cochlear branch arise in the spiral organ (organ of Corti) in the cochlea of the inner ear. The cell bodies of cochlear branch are located in the spiral ganglion of the cochlea. From there, axons extend to cochlear nuclei in the medulla oblongata.**


Anterior/superior canal
Vestibulo-cochlear nerve
Utricle
Saccule
Posterior/inferior canal
Lateral/horizontal canal
Cochlea
Jon Coulter

The Vestibulocochlear Nerves - VIII




Hypothalamus
Optic nerve (II)
Mammillary bodies
Optic tract
Oculomotor nerve (III) and nucleus
Basilar pons
Trochlear nerve (IV) and nucleus
Mesencephalic nucleus (V)
Trigeminal nerve (V) motor root
Trigeminal nerve (V) sensory root
Motor nucleus (V)
Main sensory nucleus (V)
Abducens nerve (VI) and nucleus
Facial nerve (VII)
Facial nerve (VII) nucleus
Vestibulocochlear nerve (VIII)
Vestibular nuclei
Glossopharyngeal nerve (IX)
Nucleus ambiguus (IX and X)
Vagus nerve (X)
Dorsal motor nucleus (X)
Hypoglossal nerve (XII)
Hypoglossal nucleus (XII)
Spinal accessory nerve (XI)
Solitary nucleus
Spinal nucleus and tract (CN V)

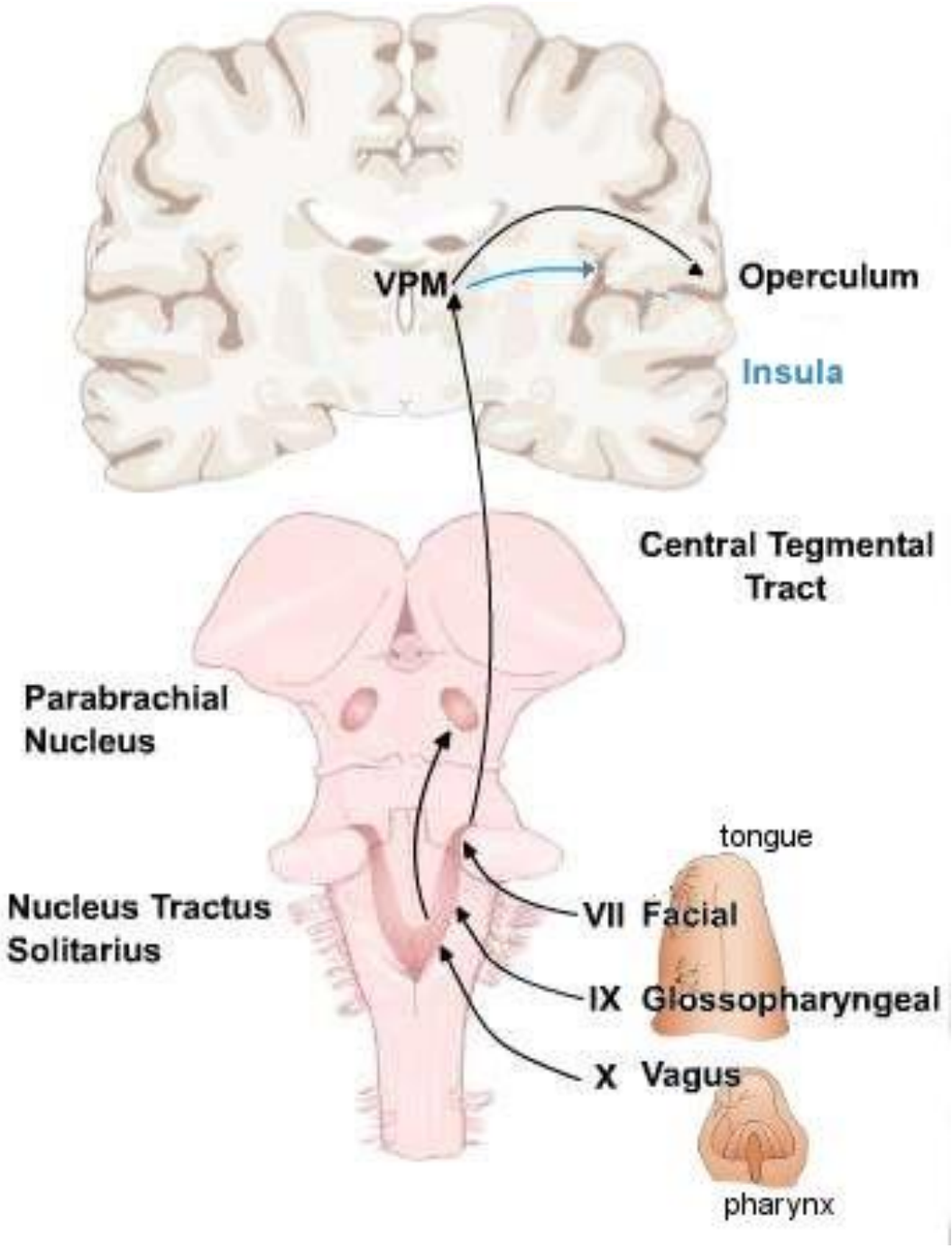
GLOSSOPHARYNGEAL NERVE

- **The glossopharyngeal nerve originates in the medulla oblongata of the brain.**
- **Nucleus-**

1. **Nucleus ambiguus- supply stylopharyngeus muscle. It is a composite nucleus and contributes fibres to the 9^{th} , 10^{th}, and 11^{th} CN.**
2. **Inferior salivatory nucleus- parasymphathetic component- otic ganglion- parotid gland**

3. **Nucleus of solitary tract- receives fibres carrying general sensation (touch, pain, temparature) from visceras through the 9^{th} and 10^{th} CN.**

Taste sensation from posterior 1/3 part of tongue- upper part of nucleus of solitary tract sometimes c/d gustatory nucleus. (CN- 7^{th} , 9^{th} , 10^{th})


VPM
Operculum
Insula
Central Tegmental Tract
Parabrachial Nucleus
Nucleus Tractus Solitarius
tongue
VII Facial
IX Glossopharyngeal
X Vagus
pharynx

- **The nerve leaves the cranium via the jugular foramen. At this point, the tympanic nerve arises.**
- **Tympanic nerve penetrates the temporal bone and enters the cavity of the middle ear. Here, it forms the tympanic plexus that provide sensory innervation to the middle ear, internal surface of the tympanic membrane and Eustachian tube.**

- **Immediately outside the jugular foramen lie two ganglia. They are known as**

1. Superior or jugular ganglion

2 Inferior (or petrous) ganglion

From the ganglia, sensory axons pass through the jugular foramen and end in the medulla.

Nerve descends down the neck, anterolateral to the internal carotid artery. At the inferior margin of the stylopharyngeus, several branches arise to provide motor innervation to the muscle.

1. **carotid sinus nerve, which provides sensation to the carotid sinus and body.**
2. **Pharyngeal branch – mucosa of the oropharynx.**

3. **Lingual branch – provides the posterior 1/3 of the tongue with general and taste sensation**
4. **Tonsillar branch – innervates the palatine tonsils**

The Glossopharyngeal Nerve

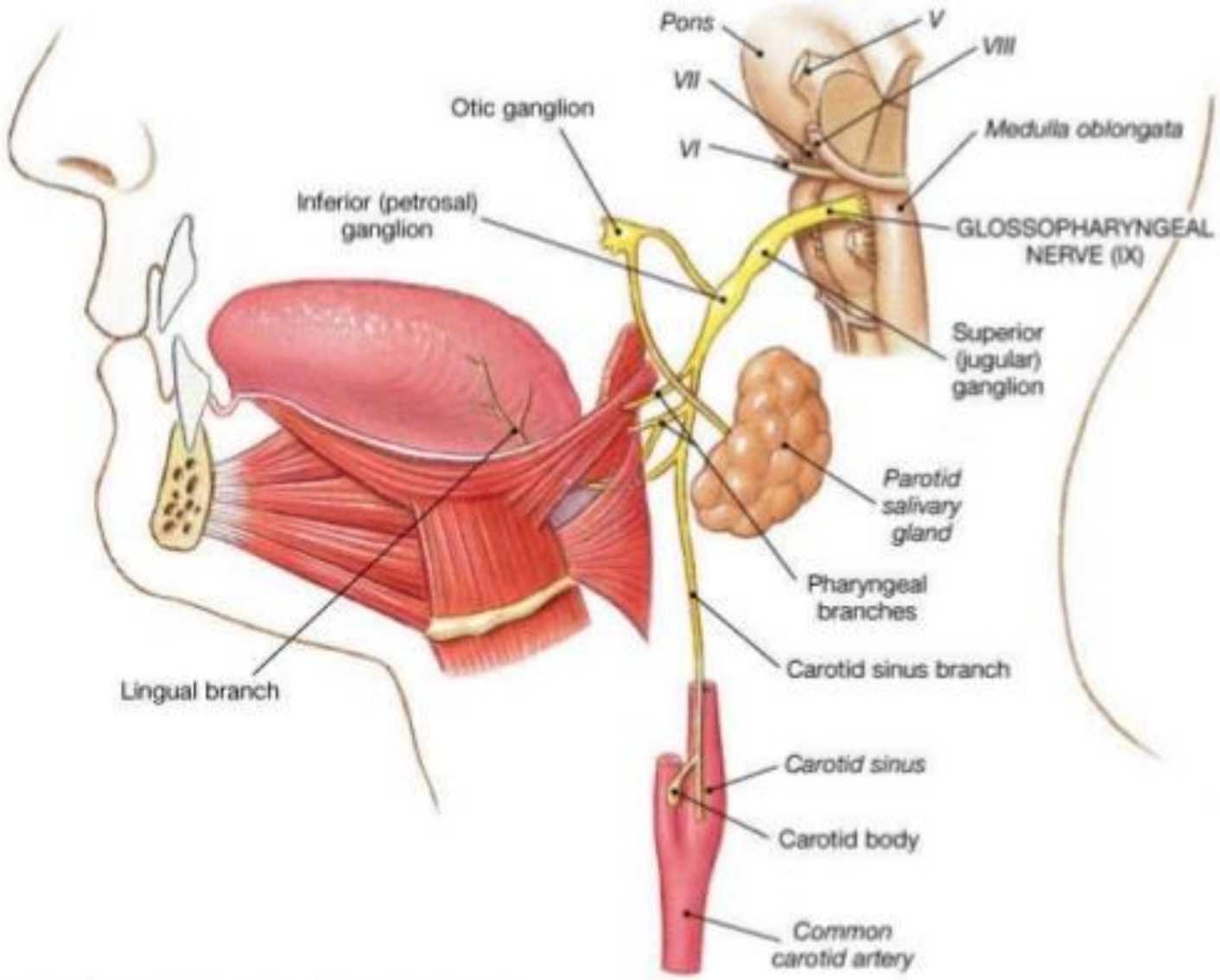
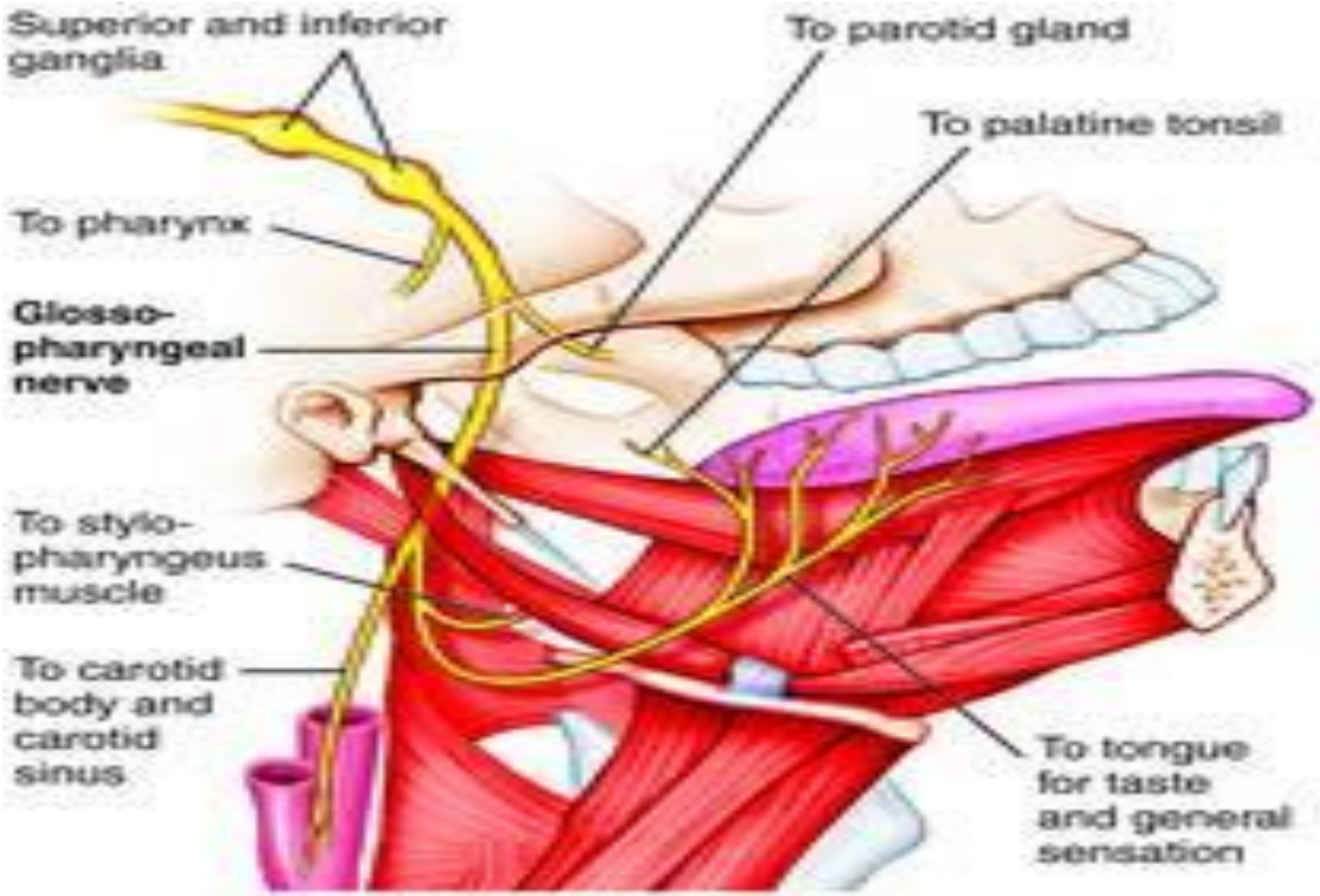
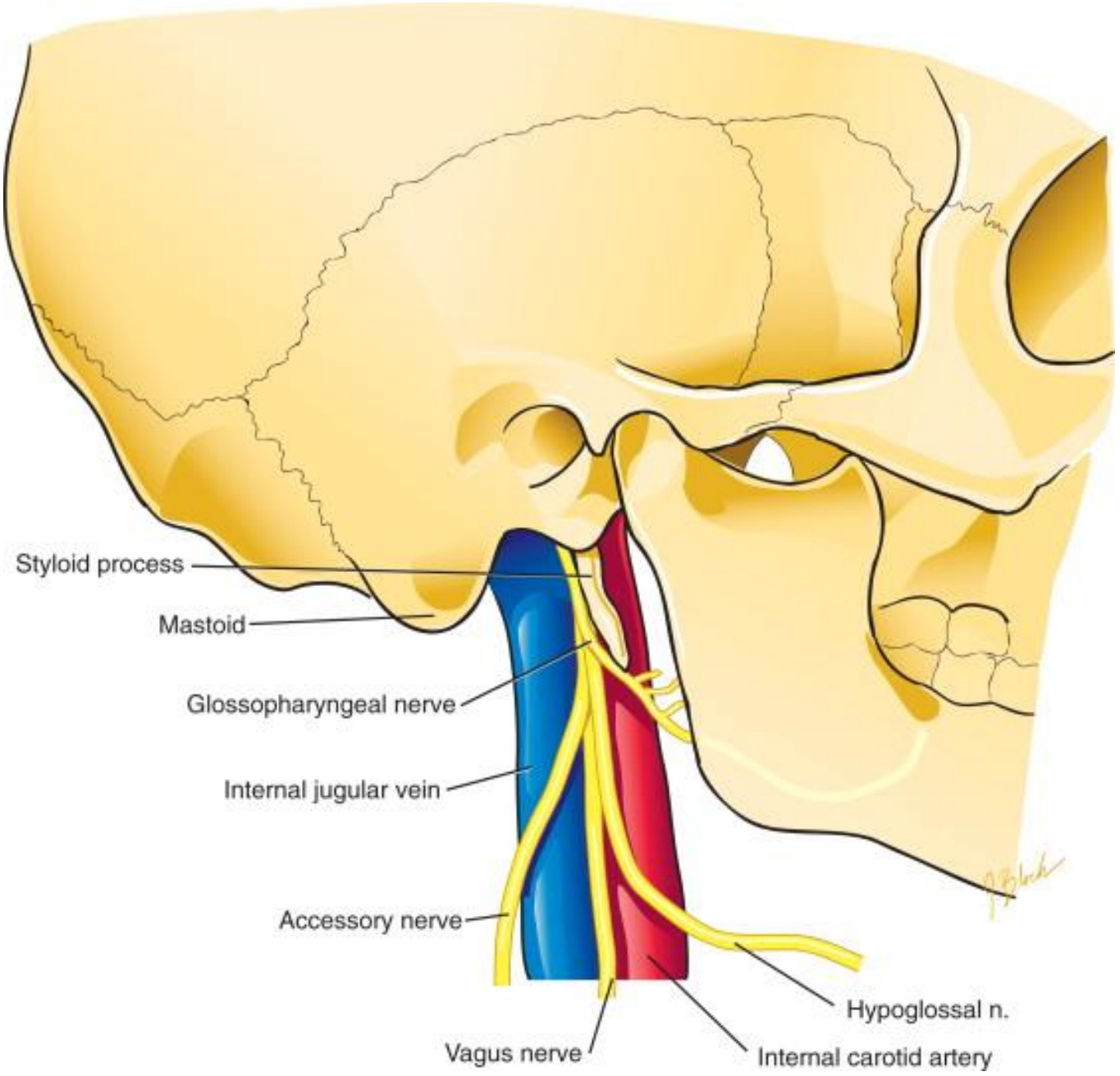


Figure 14.27


Superior and inferior ganglia
To parotid gland
To palatine tonsil
To pharynx
Glosso-pharyngeal nerve
To stylo-pharyngeus muscle
To carotid body and carotid sinus
To tongue for taste and general sensation


Styloid process
Mastoid
Glossopharyngeal nerve
Internal jugular vein
Accessory nerve
Vagus nerve
Hypoglossal n.
Internal carotid artery

VAGUS NERVE

- **Vagus (wide distribution), longest CN**
- **Nucleus-**

1. **Nucleus ambiguus- motor nucleus, supply muscles of the pharynx and larynx.**
2. **Dorsal nucleus- parasympathetic part. Thorax and abdomainal visceras.**
3. **Nucleus of solitary tract- sensory part, taste sensation from posterior most part of tongue and from the epiglottis and sensation from pharynx, larynx, trachea and oesophagus and from thoracic and abdominal visceras.**

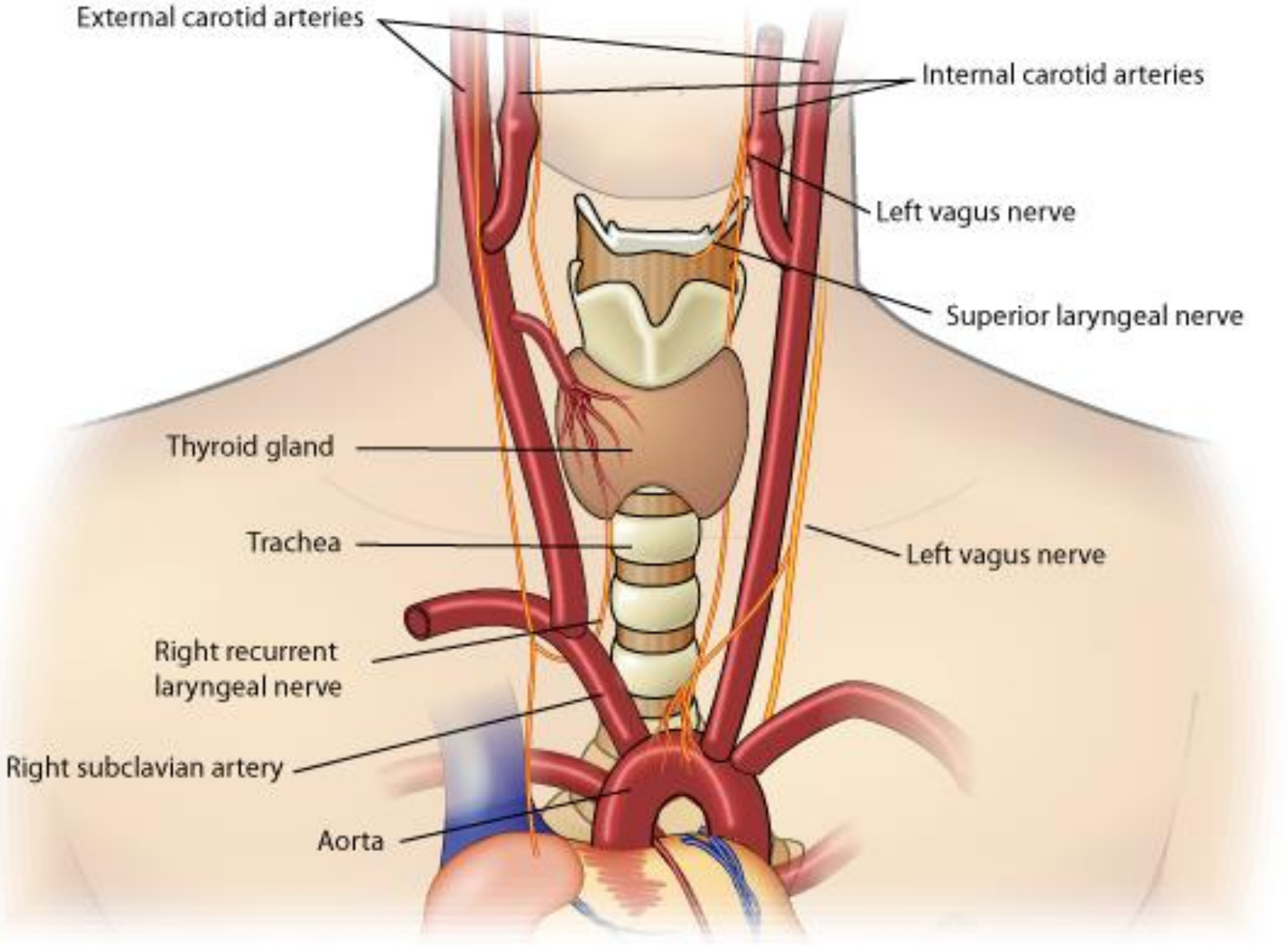
- **The vagus nerve originates from the medulla of the brainstem. It exits the cranium via the jugular foramen, with the glossopharyngeal and accessory nerves. Within the cranium, the auricular branch arises. This supplies sensation to the posterior part of the external auditory canal and external ear.**

In the neck, the vagus nerve passes into the carotid sheath, travelling inferiorly with the internal jugular vein and common carotid artery. At the base of the neck, the right and left nerves have differing pathways:

- **The right vagus nerve passes anterior to the subclavian artery and posterior to the sternoclavicular joint, entering the thorax.**
- **The left vagus nerve passes inferiorly between the left common carotid and left subclavian arteries, posterior to the sternoclavicular joint, entering the thorax.**

Branches in the neck-

- **superior laryngeal nerve**
- **pharyngeal nerve- Superior, middle and inferior pharyngeal constrictor muscles, Palatopharyngeus, Salpingopharyngeus**
- **Right recurrent laryngeal nerve**


External carotid arteries
Internal carotid arteries
Left vagus nerve
Superior laryngeal nerve
Thyroid gland
Trachea
Left vagus nerve
Right recurrent laryngeal nerve
Right subclavian artery
Aorta

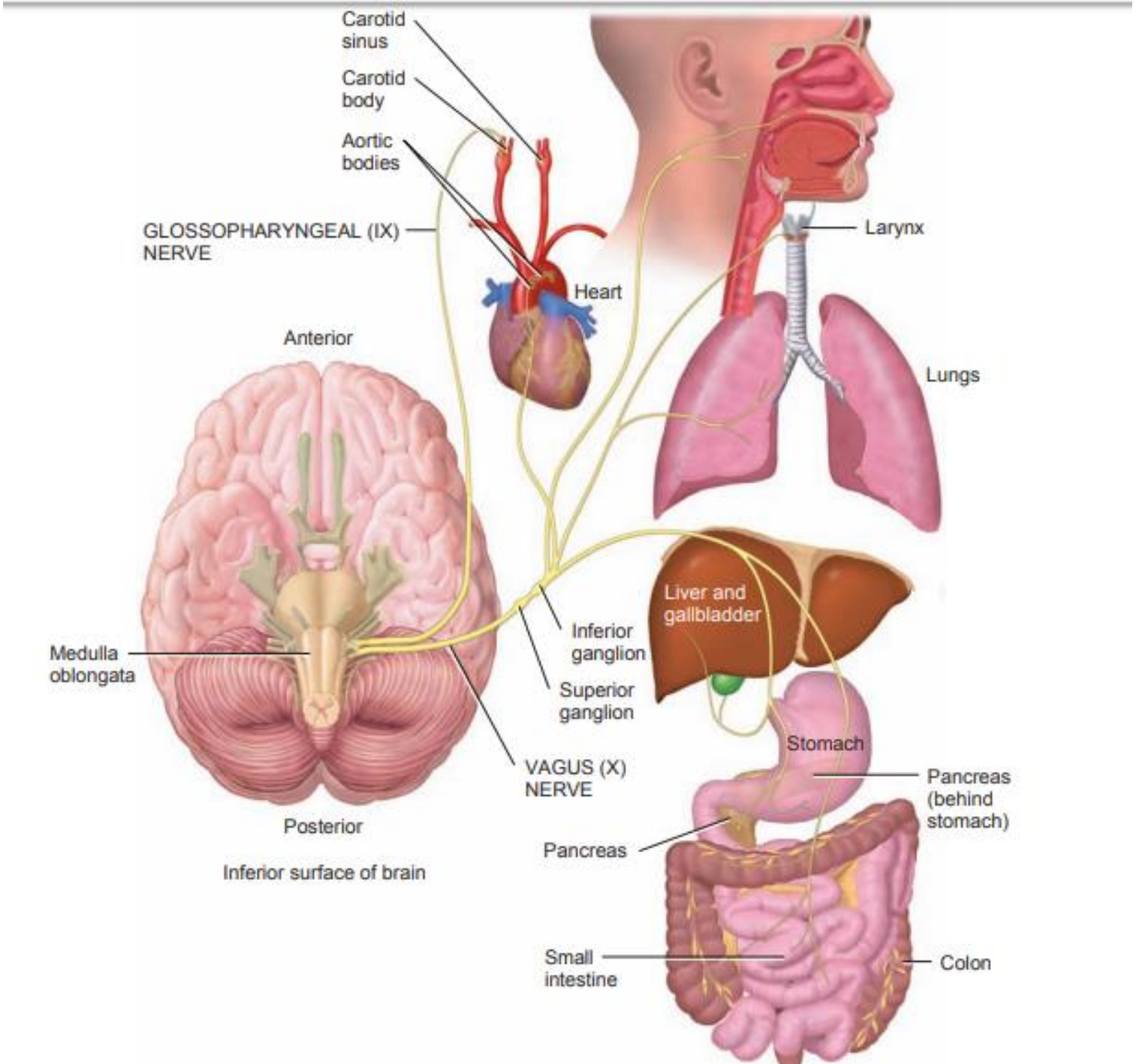
- **In the thorax, the right vagus nerve forms the posterior vagal trunk, and the left forms the anterior vagal trunk. Branches from the vagal trunks contribute to the formation of the oesophageal plexus, which innervates the smooth muscle of the oesophagus.**

Two other branches arise in the thorax:

- **Left recurrent laryngeal nerve –**
- **Cardiac branches – these innervate regulate heart rate.**

The vagal trunks enter the abdomen via the oesophageal hiatus, an opening in the diaphragm.

In the abdomen, the vagal trunks terminate by dividing into branches that supply the oesophagus, stomach and the small and large bowel (up to the splenic flexure).


Carotid sinus
Carotid body
Aortic bodies
GLOSSOPHARYNGEAL (IX) NERVE
Heart
Larynx
Lungs
Anterior
Medulla oblongata
Posterior
Inferior surface of brain
Inferior ganglion
Superior ganglion
VAGUS (X) NERVE
Liver and gallbladder
Stomach
Pancreas (behind stomach)
Pancreas
Small intestine
Colon

ACCESSORY NERVE

- **It has a purely somatic motor function, innervating the sternocleidomastoid and trapezius muscles.**

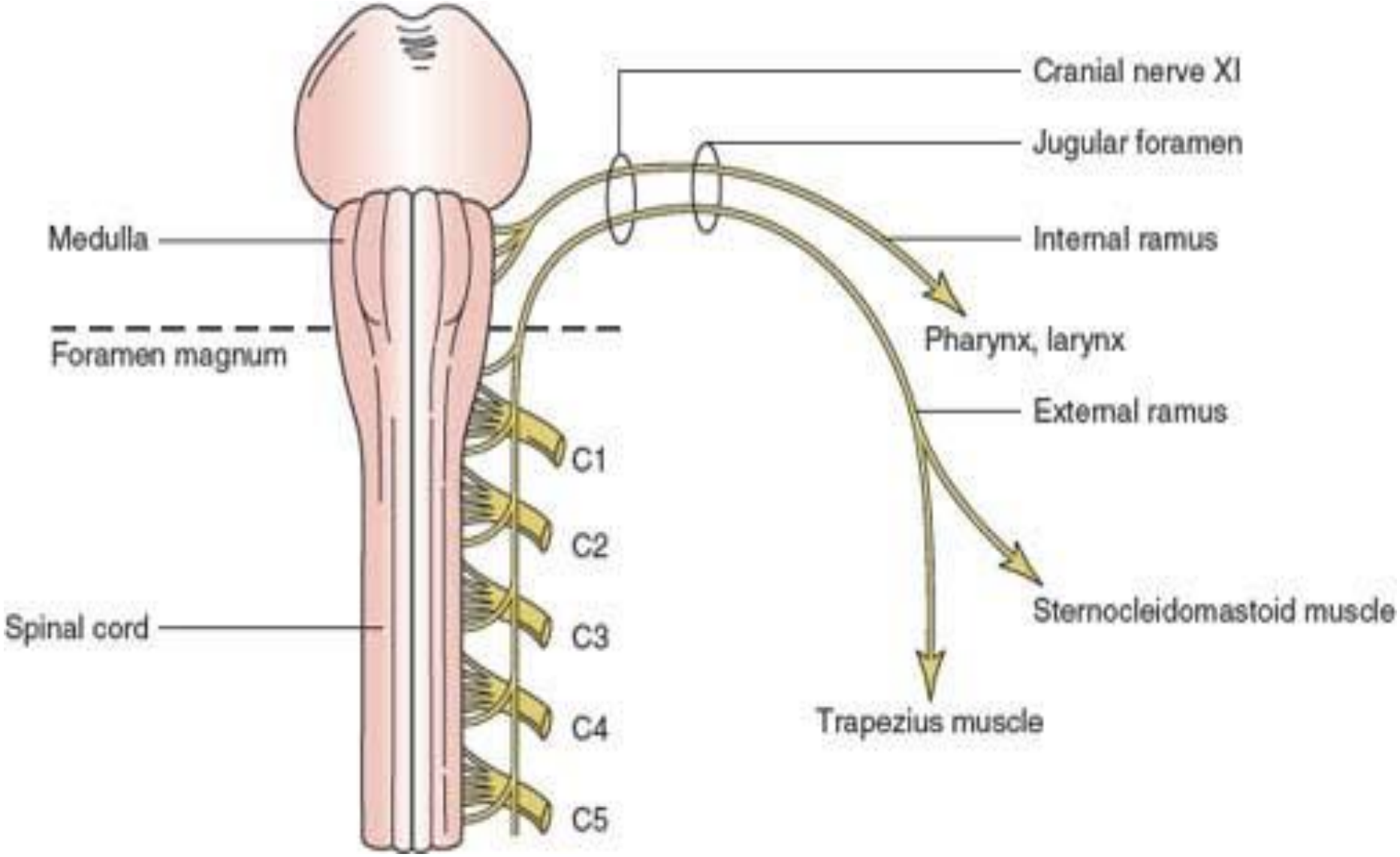
The accessory nerve is divided into spinal and cranial parts.

1. Spinal Part- The spinal portion arises from C1-C5/C6 spinal nerve roots. These fibres join together to form the spinal part of the accessory nerve, which then runs superiorly to enter the cranial cavity via the foramen magnum.

- **The nerve traverses the posterior cranial fossa to reach the jugular foramen. It briefly meets the cranial portion of the accessory nerve, before exiting the skull.**

2. Cranial Part

- **The cranial portion is much smaller, and arises from the lateral aspect of the medulla oblongata. It leaves the cranium via the jugular foramen, where it briefly contacts the spinal part of the accessory nerve.**


Cranial nerve XI
Jugular foramen
Medulla
Internal ramus
Foramen magnum
Pharynx, larynx
External ramus
C1
C2
Sternocleidomastoid muscle
Spinal cord
C3
C4
Trapezius muscle
C5

HYPOGLOSSAL NERVE

- **‘*hypo*‘ meaning under, and ‘*glossal*‘ meaning tongue. The nerve has a purely somatic motor function, innervating the majority of the muscles of the tongue.**
- **The hypoglossal nerve arises from the hypoglossal nucleus in the medulla oblongata. The nerve exits the cranium via the hypoglossal canal.**

- **Now extracranial, the nerve receives a branch of the cervical plexus that conducts fibres from C1/C2 spinal nerve roots. These fibres do not combine with the hypoglossal nerve – they merely travel within its sheath.**

- **The hypoglossal nerve is responsible for motor innervation of the vast majority of the muscles of the tongue (except for palatoglossus). These muscles can be subdivided into two groups:**

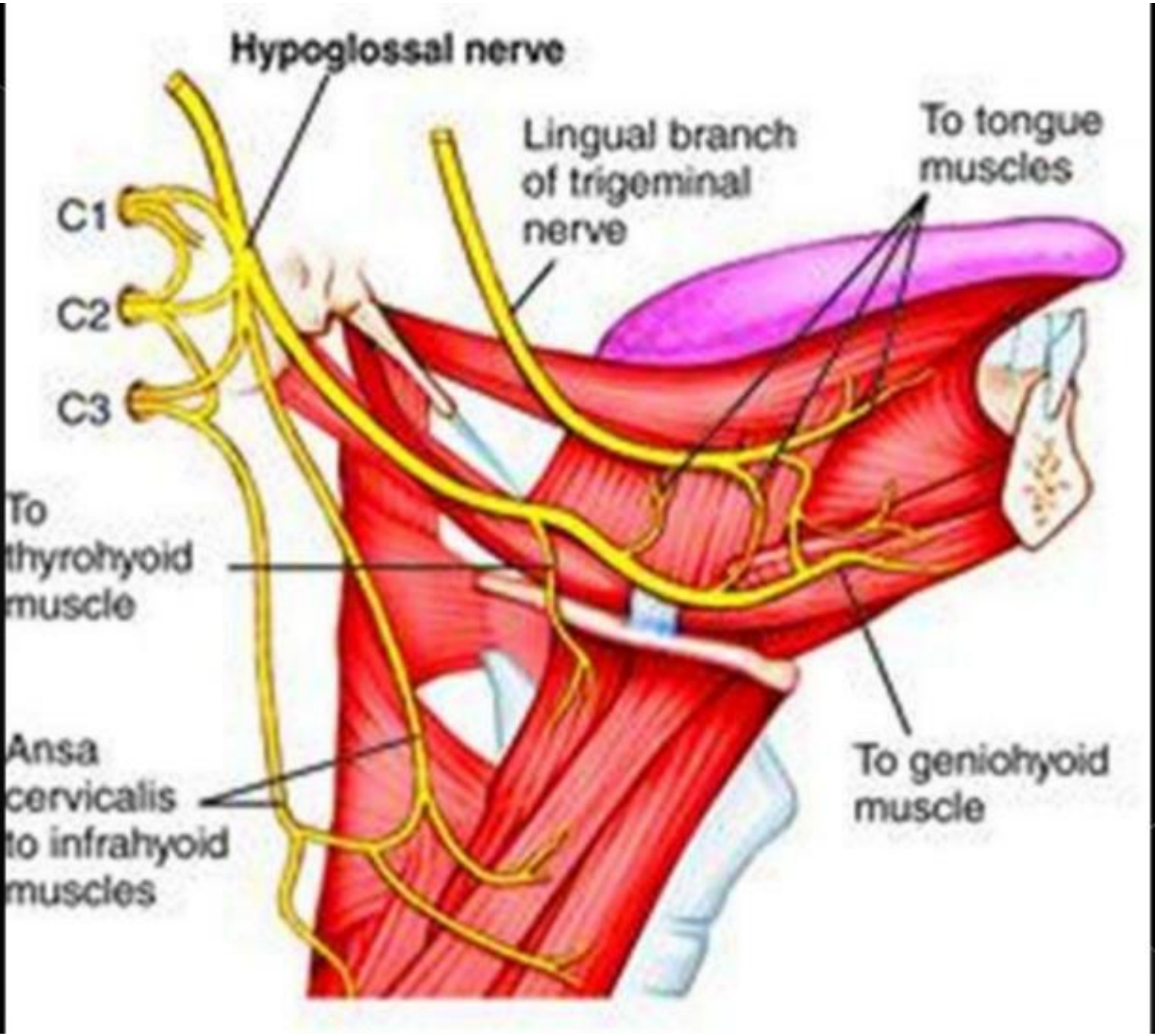
i) Extrinsic muscles

- **Genioglossus (makes up the bulk of the tongue)**
- **Hyoglossus**
- **Styloglossus**
- **Palatoglossus (innervated by vagus nerve)**

2. **Intrinsic muscles**

- **Superior longitudinal**
- **Inferior longitudinal**
- **Transverse**
- **Vertical**

- **The C1/C2 roots that travel with the hypoglossal nerve also have a motor function. They branch off to innervate the geniohyoid and thyrohyoid muscles.**


Hypoglossal nerve
Lingual branch of trigeminal nerve
To tongue muscles
C1
C2
C3
To thyrohyoid muscle
Ansa cervicalis to infrahyoid muscles
To geniohyoid muscle

Ansa cervicalis

- **A loop of nerves that is part of the cervical plexus (containing C1/C2/C3 fibres). From the ansa cervicalis, nerves arise to innervate the omohyoid, sternohyoid and sternthyroid muscles. These muscles all act to depress the hyoid bone.**

Ansa Cervicalis and Muscles Supplied