

CN IX – Glossopharyngeal Nerve

Branches

- Tympanic nerve
- Pharyngeal nerve
- Tonsillar nerve
- Lingual nerve
- Carotid sinus nerve

Functions / Distribution

1. Somatic (Branchial) Motor

- Supplies stylopharyngeus muscle (derived from 3rd pharyngeal arch).

2. Visceral (Parasympathetic) Motor

- Fibers pass through the tympanic nerve → otic ganglion → innervate the parotid gland.

3. Somatic (General) Sensory

Via tympanic nerve and tympanic plexus:

- Mucosa of tympanic cavity
- Pharyngotympanic tube
- Internal surface of tympanic membrane

Via pharyngeal, tonsillar, and lingual nerves:

- Mucosa of oropharynx
- Isthmus of fauces
- Palatine tonsil
- Soft palate
- Posterior third of tongue

CN X – Vagus Nerve

Important Branches in the Neck

- Meningeal branch
- Auricular branch
- Pharyngeal branch
- Superior laryngeal nerve
- Internal laryngeal nerve
- External laryngeal nerve
- Recurrent laryngeal nerve
- Cardiac branches

Functions / Distribution

Somatic Sensory

- Skin of the external ear (auricular branch)

Visceral Sensory

- Sensation from heart, lungs, and digestive tract

Special Sensory (Taste)

- Taste from root of the tongue and epiglottis

Somatic Motor

- Muscles of:
 - Pharynx
 - Larynx
 - Soft palate

Parasympathetic Motor

- Heart
- Great vessels
- Larynx
- Trachea
- Bronchi
- Lungs
- Alimentary tract from pharynx to

splenic flexure

- Liver
- Pancreas

CN XI – Accessory Nerve

Roots

- Cranial root
- Spinal root

Distribution

Cranial Root

Joins vagus nerve and supplies:

- Muscles of soft palate
- Pharynx (via pharyngeal plexus)
- Larynx (except cricothyroid)

Spinal Root

Supplies:

- Sternocleidomastoid muscle
- Trapezius muscle

Function

Controls movements of:

- Soft palate
- Pharynx
- Larynx
- Sternocleidomastoid
- Trapezius

CN XII – Hypoglossal Nerve

Important Branches

- Meningeal branch
- Descending branch (C1 fibers) → joins

C2–C3 → ansa cervicalis

- Nerve to thyrohyoid muscle (C1)
- Muscular branches to tongue muscles
- Nerve to geniohyoid muscle (C1)

Distribution

Ansa Cervicalis Supplies

- Omohyoid
- Sternohyoid
- Sternothyroid

Hypoglossal Motor Supply

- All tongue muscles except palatoglossus

Function

- Controls shape and movements of the tongue

4. Visceral Sensory

Via carotid sinus nerve:

- Carotid sinus (baroreceptor)
- Carotid body (chemoreceptor)

5. Special Sensory (Taste)

• Taste from posterior one-third of the tongue.

Specific Branch Functions

Internal laryngeal nerve

- Sensory to piriform fossa and larynx above vocal cords

External laryngeal nerve

- Motor to cricothyroid muscle

Recurrent laryngeal nerve

- Supplies:
- All laryngeal muscles except cricothyroid
- Laryngeal mucosa below vocal cords
- Upper tracheal mucosa