

Nerve supply

GI - Anatomy

○ Sensory innervation of the mouth:

• ROOF:

- Greater palatine and nasopalatine nerves from the maxillary division of the trigeminal nerve.

• FLOOR:

• General (common sensation):

- The lingual nerve a branch of the mandibular division of the trigeminal nerve.

• Special (taste sensation):

- chorda tympani a branch of the facial nerve.

• CHEEKS:

• Sensory:

- The buccal nerve a branch of the mandibular division of the trigeminal nerve.

• Motor:

- Motor buccal nerve a branch of the facial nerve.

○ Innervation of the tongue (sensory and taste):

• Posterior third:

- Glossopharyngeal (general and taste).

• Anterior two thirds:

- Chorda tympani (taste).

- Lingual nerve (general).

○ Motor innervation of the tongue:

- Intrinsic muscles: **Hypoglossal nerve.**
- Extrinsic muscles:
 - Palatoglossal: **pharyngeal plexus through the vagus nerve (cranial accessory nerve)**
 - Styloglossus: **Hypoglossal nerve.**
 - Hyoglossus: **Hypoglossal nerve.**
 - Genioglossus: **Hypoglossal nerve.**

○ Muscles of the soft palate:

- Levator veli palatini: **Pharyngeal plexus.**
- Tensor veli palatini: **nerve to medial pterygoid** from the mandibular nerve.
- Palatopharyngeus: **Pharyngeal plexus.**
- Musculus uvulae: **Pharyngeal plexus.**

○ Nerve supply of the palate:

- Through the greater and lesser palatine foramina: **greater and lesser palatine nerves** (a branch of the maxillary nerve).
- Through the incisive foramen: **the nasopalatine nerve** (a branch of the maxillary nerve).
- The **glossopharyngeal nerve** also supply the soft palate through the pharyngeal plexus.

○ The parotid gland:

- Parasympathetic secretomotor supply arises from the **glossopharyngeal nerve**.
 - The course of the innervation:
 - Glossopharyngeal nerve → **tympenic branch** → **lesser petrosal nerve** → **otic ganglion** → **auriculotemporal nerve**.

○ Sublingual and submandibular glands:

- Parasympathetic:
 - **Facial nerve** → **the geniculate ganglia** → **chorda tympani** → **joins the lingual nerve in the infratemporal fossa** → **together to the submandibular ganglion** → **direct postganglionic parasympathetic fibers to the gland**.
- Sympathetic:
 - through the blood supply (external carotid artery and its branches (lingual artery and branch from the facial artery)).
- Sensory:
 - **The lingual nerve** a branch from the mandibular nerve.

Done by: Rawan Aqaileh.