

Anatomy of the mouth The Tongue

L7

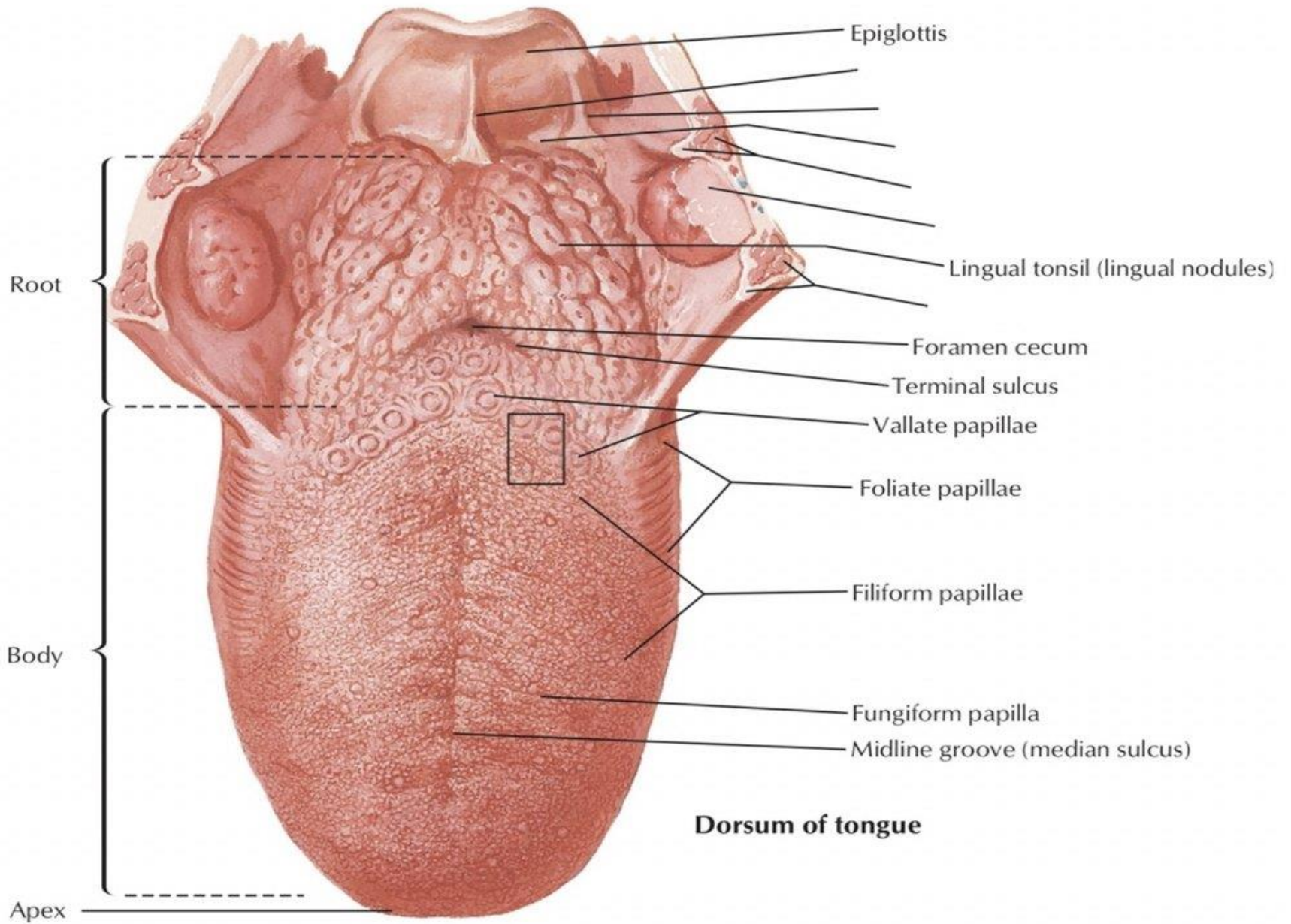


The Tongue

- The tongue is a mass of striated muscle covered with mucous membrane.
- The muscles attach the tongue to the styloid process and the soft palate above
- and to the mandible and the hyoid bone below.
- The tongue is divided into right and left halves by a median fibrous septum.

Mucous Membrane of the Tongue

- can be divided into anterior and posterior parts by a V-shaped sulcus, the **sulcus terminalis**.
- The apex of the sulcus projects backward and is marked by a small pit, **the foramen cecum**.
- The sulcus divide the tongue into the anterior two thirds, or **oral part**, and the posterior third, or **pharyngeal part**.
- The foramen cecum is an embryologic remnant and marks the site of the upper end of the thyroglossal duct.
- Three types of papillae on the upper surface of the anterior two thirds of the tongue: the filiform papillae, the fungiform papillae, and the vallate papillae.



- The mucous membrane covering **the posterior third** of the tongue is devoid of papillae but has an irregular surface, caused by the presence of underlying lymph nodules, **the lingual tonsil**.
- The mucous membrane on the inferior surface of the tongue is reflected from the tongue to the floor of the mouth. In the midline anteriorly, the undersurface of the tongue is connected to the floor of the mouth by a fold of mucous membrane, the frenulum of the tongue. On the lateral side of the **frenulum**,
 - the deep lingual vein can be seen through the mucous membrane. Lateral to the lingual vein, the mucous membrane forms a fringed fold called the plica fimbriata.

Muscles of the Tongue

The muscles of the tongue are divided into two types:

1-intrinsic

2-extrinsic

Intrinsic Muscles

- These muscles are confined to the tongue and are not attached to bone.
- They consist of longitudinal, transverse, and vertical fibers.
- Nerve supply: Hypoglossal nerve
- Action: Alter the shape of the tongue

Extrinsic Muscles

- These muscles are attached to bones and the soft palate.
- They are the **genioglossus**, the **hyoglossus**, the **styloglossus**, and the **palatoglossus**.
- Nerve supply: Hypoglossal nerve except the palatoglossus which supplied by pharyngeal nerve plexus.

**Intrinsic Muscles
of the Tongue**

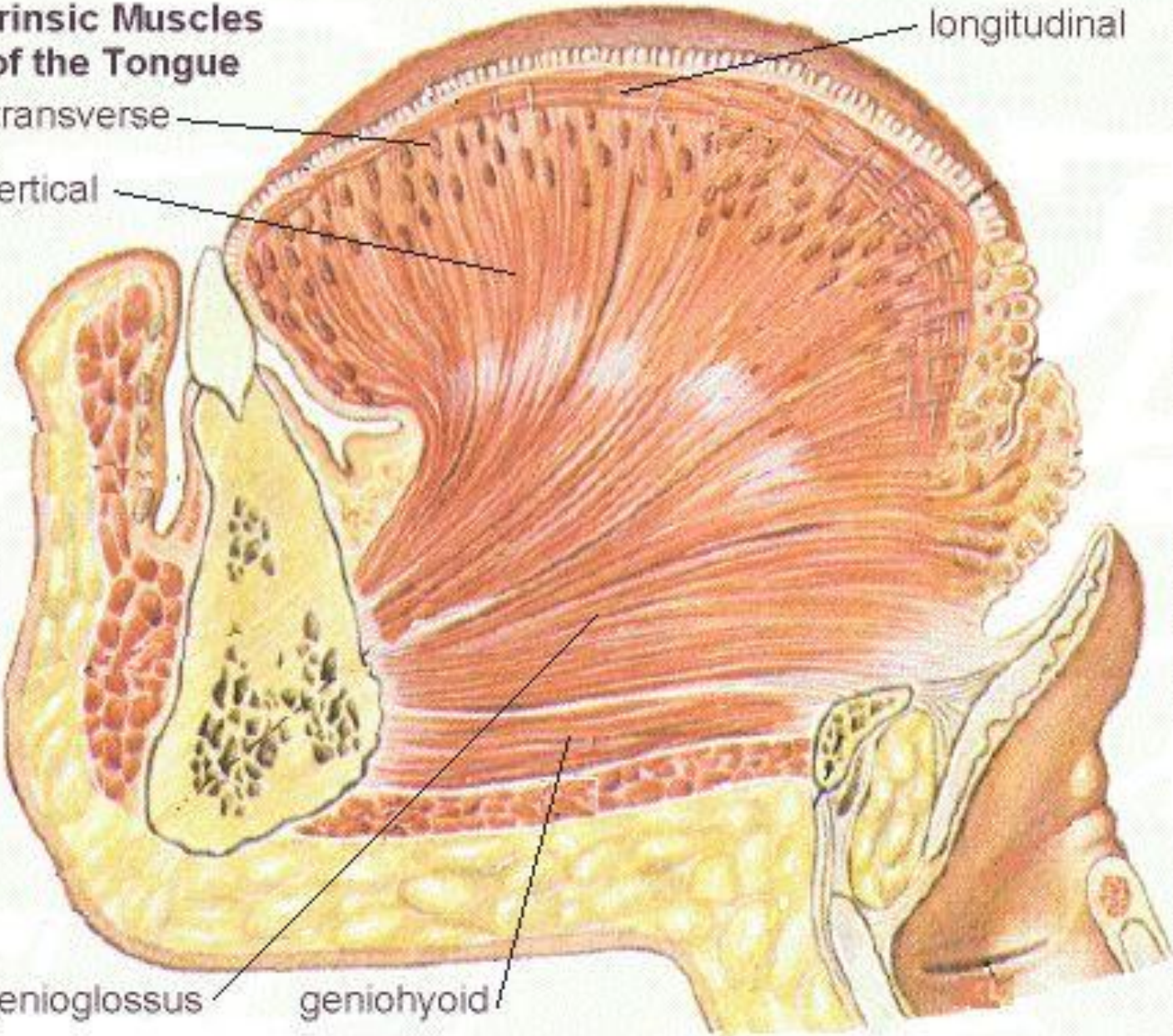
transverse

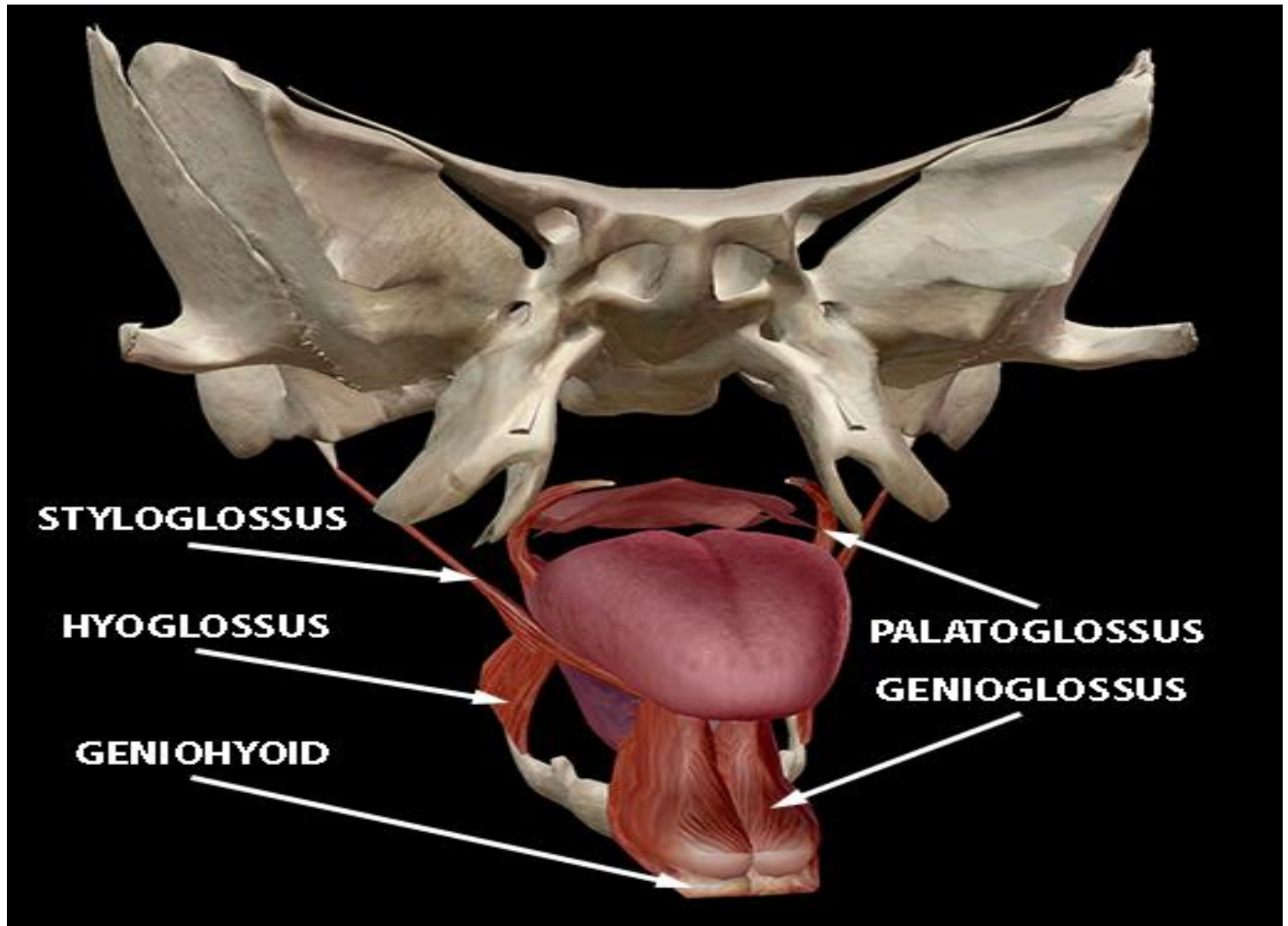
vertical

longitudinal

genioglossus

geniohyoid





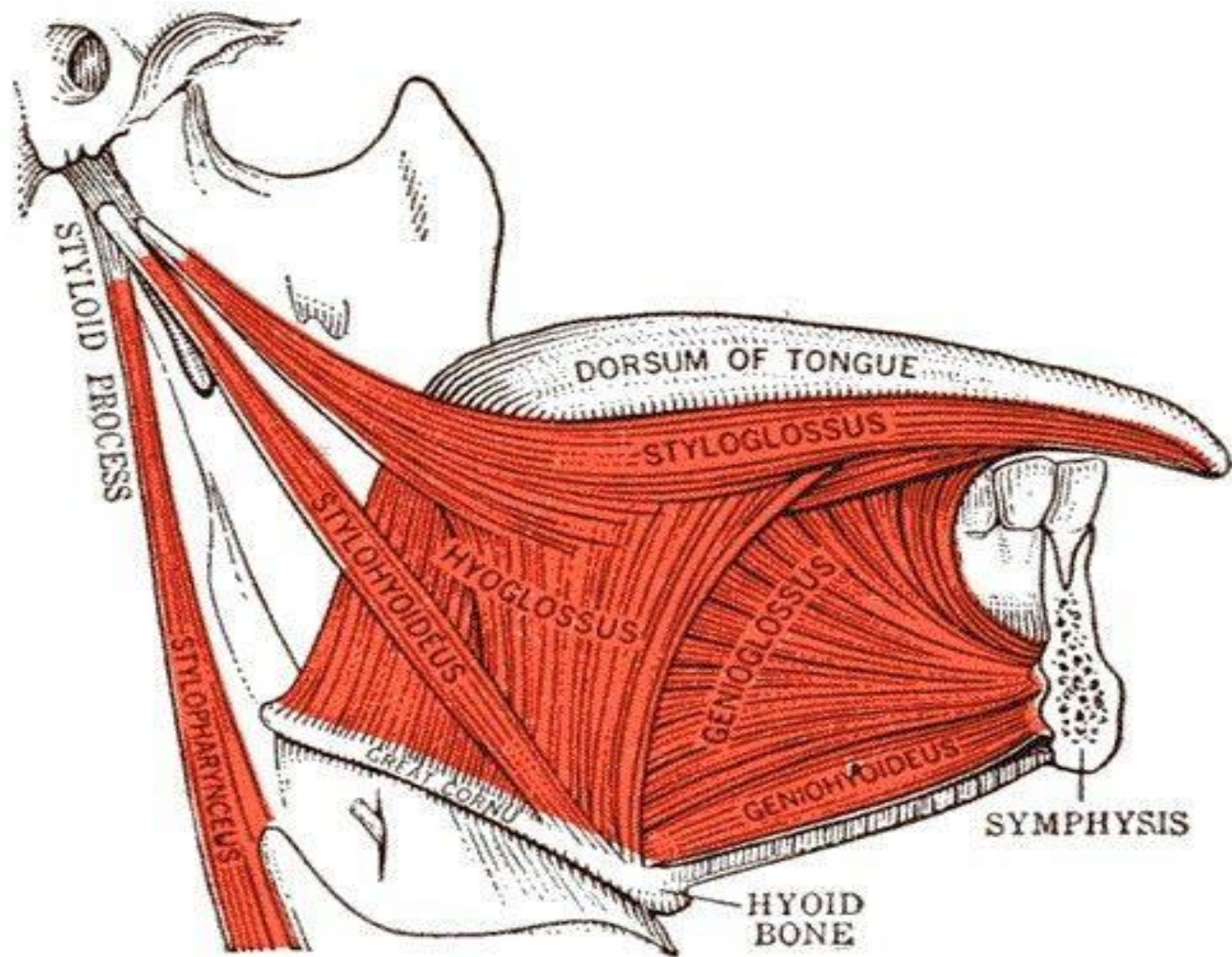
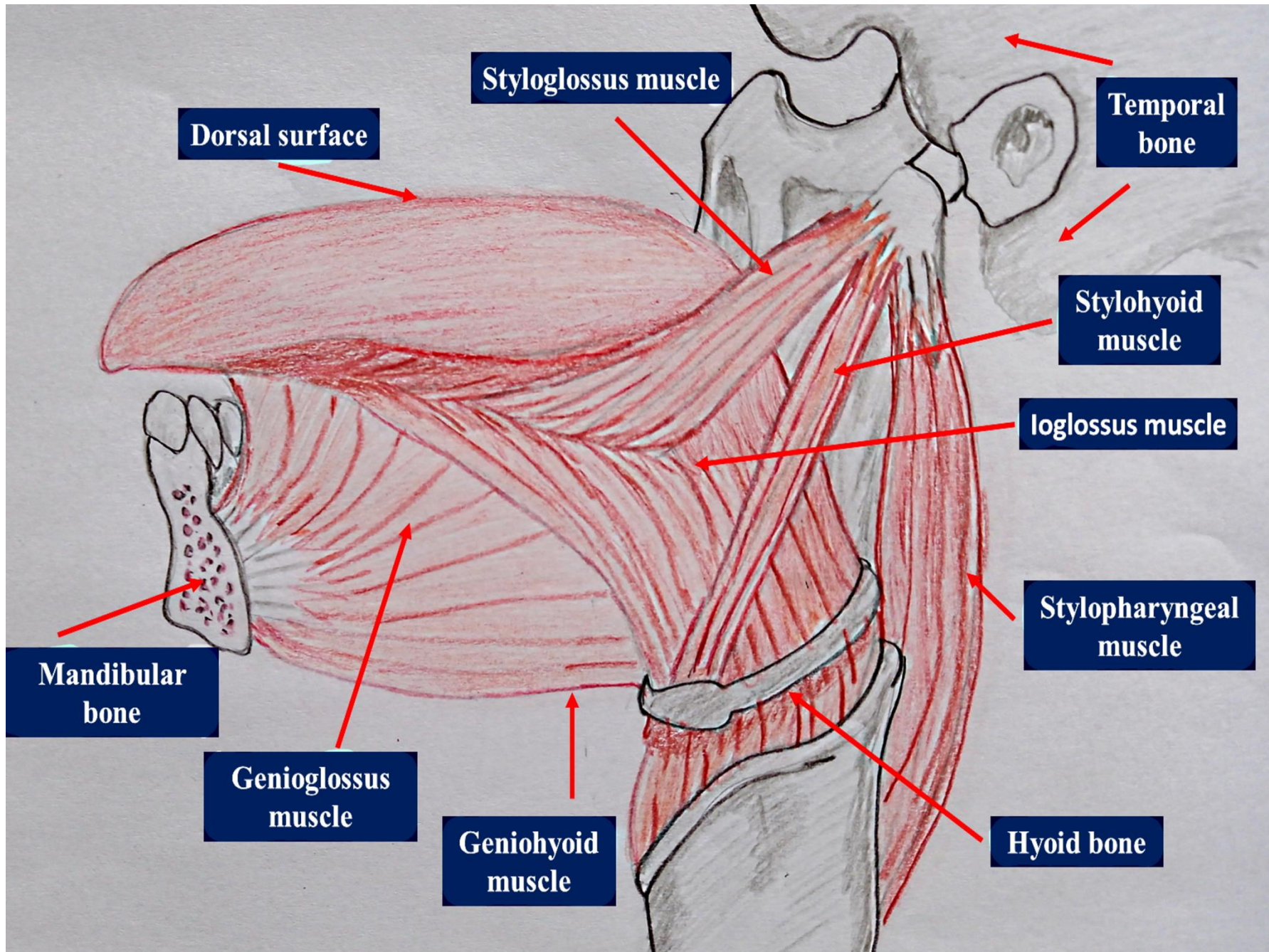


FIG. 89. SOME OF THE MUSCLES OF THE TONGUE. Viewed from the right side.

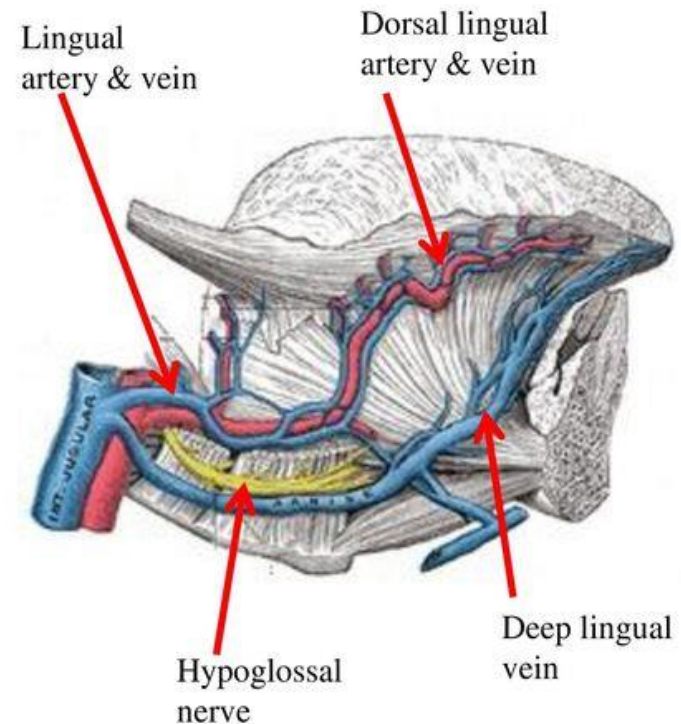


Blood Supply

- The lingual artery, the tonsillar branch of the facial artery, and the ascending pharyngeal artery supply the tongue.
- The veins drain into the internal jugular vein.

Blood Supply

- Arteries:
 - Lingual artery
 - Tonsillar branch of facial artery
 - Ascending pharyngeal artery
- Veins:
 - Lingual vein, ultimately drains into the internal jugular vein



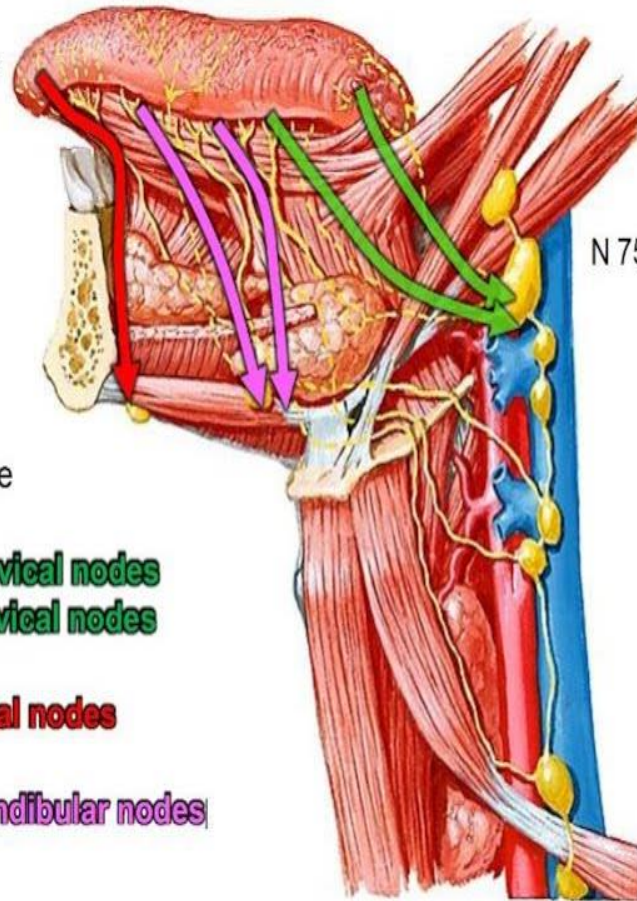
Lymph Drainage

- Tip: Submental lymph nodes
- Sides of the anterior two thirds:
Submandibular and deep cervical lymph nodes
- Posterior third: Deep cervical lymph nodes

Sensory Innervation

- Anterior two thirds: Lingual nerve branch of mandibular division of trigeminal nerve (general sensation) and chorda tympani branch of the facial nerve (taste)
- Posterior third: Glossopharyngeal nerve (general sensation and taste)

Tongue



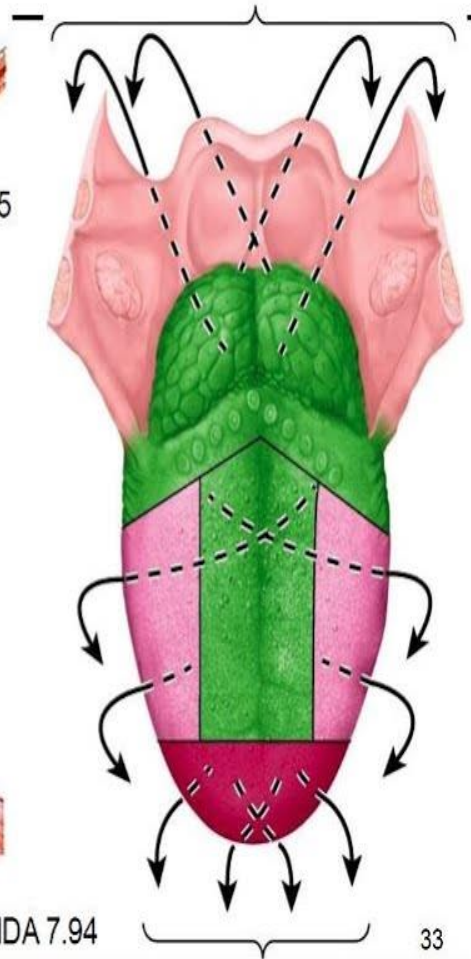
Lymphatic drainage

Root: to **deep cervical nodes**

Body: to **deep cervical nodes**

Apex: to **submental nodes**

Lateral: to **submandibular nodes**



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Movements of the Tongue

- **Protrusion:** The genioglossus muscles on both sides acting together
- **Retraction:** Styloglossus and hyoglossus muscles on both sides acting together
- **Depression:** Hyoglossus muscles on both sides acting together
- **Retraction and elevation** of the posterior third: Styloglossus and palatoglossus muscles on both sides acting together
- **Shape changes:** Intrinsic muscles