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# Tongue

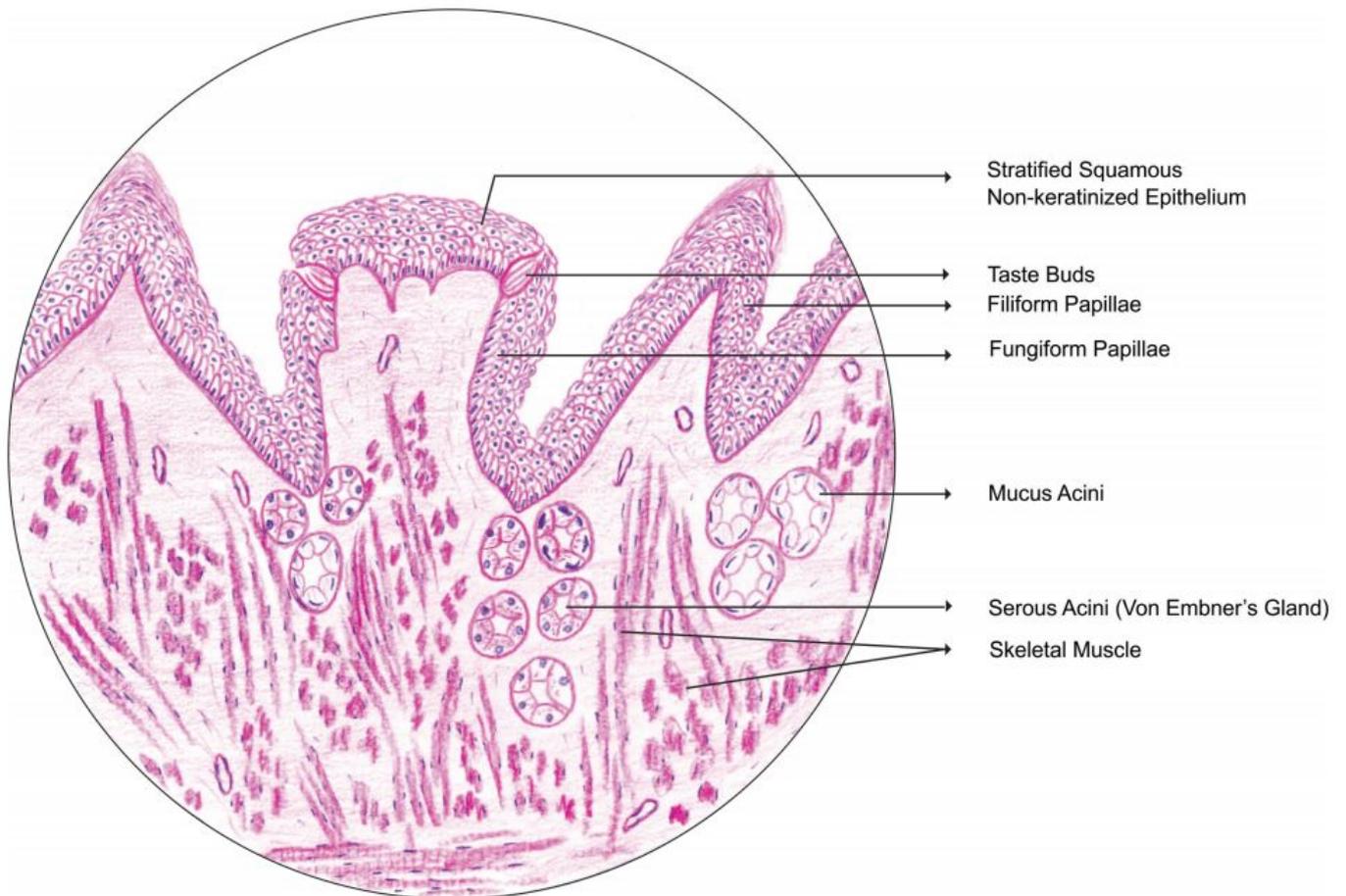
- TONGUE
  - Features
    - muscular organ
  - Function
    - Taste
    - Speech
    - Chewing
    - Deglutition or swallowing
    - Cleansing
  - situation
    - floor or [mouth](#)
  - Shape
    - Convex and triangularly flattened
    - Parts
      - Root of [tongue](#)
        - attachment
          - above
            - styloid process and soft palate
          - below
            - mandible and hyoid bone
        - these prevent the [tongue](#) from collapsing
      - Apex of [tongue](#); tip of [tongue](#)
        - anterior free end
          - at rest lies behind upper incisor [teeth](#)
      - [Body](#) of [tongue](#)
        - Dorsum of [tongue](#) , upper surface
          - divided by sulcus terminalis ( Terminal sulcus of [tongue](#))
            - V shaped groove
              - meet at a point called
                - foramen caecum
                  - site from which thyroid diverticulum grows in embryo
                  - (Thyroglossal duct)
                - runs laterally and forwards [up](#) to palatoglossal arches
          - Anterior part ; presulcal part , oral part
            - Papillae of [tongue](#); lingual papillae
              - Filiform papillae
              - Fungiform papillae
              - Vallate papillae
              - Foliate papillae
            - 2/3rd of [tongue](#)
            - margins are free
            - just in front of palatoglossal arch it shows
              - foliate papillae
          - Posterior part; post-sulcal part , pharyngeal part
            - 1/3rd of [tongue](#)
        - Inferior surface of [tongue](#)

- oral part only
      - smooth mucous membrane
      - Frenulum of [tongue](#)
        - each side prominence produced by [deep](#) lingual veins
        - more laterally there is a fold called
          - plica Fimbriata , Fimbriated fold
    - Margin of [tongue](#)
      - Mucous membrane of [tongue](#)
      - Midline groove of [tongue](#); median sulcus of [tongue](#)
  - Lingual tonsil
  - Lymphoid nodules
  - Lingual septum
  - Lingual aponeurosis
  - Muscles of [tongue](#)
    - Extrinsic
      - Genioglossus
      - Hyoglossus
      - Chondroglossus
      - Ceratoglossus
      - Styloglossus
    - Intrinsic
      - Superior longitudinal [muscle](#)
      - Inferior longitudinal [muscle](#)
      - Transverse [muscle](#)
      - Vertical [muscle](#)
    - Palatoglossus
- FAUCES
  - Isthmus of fauces; oropharyngeal isthmus
  - Soft palate
    - Uvula
    - Palatoglossal arch; anterior pillar of fauces
      - (Triangular fold)
    - Palatopharyngeal arch; posterior pillar of fauces
      - (Semilunar fold)
  - Tonsillar sinus; tonsillar fossa; tonsillar [bed](#)
  - Supratonsillar fossa
  - Palatine tonsil
    - Tonsillar capsule
    - (Tonsillar cleft; intratonsillar cleft)
    - Tonsillar pits
      - Tonsillar crypts
  - Muscles of soft palate and fauces
    - Palatine aponeurosis
    - Levator veli palatini
    - Tensor veli palatini
    - Musculus uvulae
    - Palatoglossus
    - Palatopharyngeus
      - Anterior fascicle
      - Posterior fascicle; palatopharyngeal sphincter

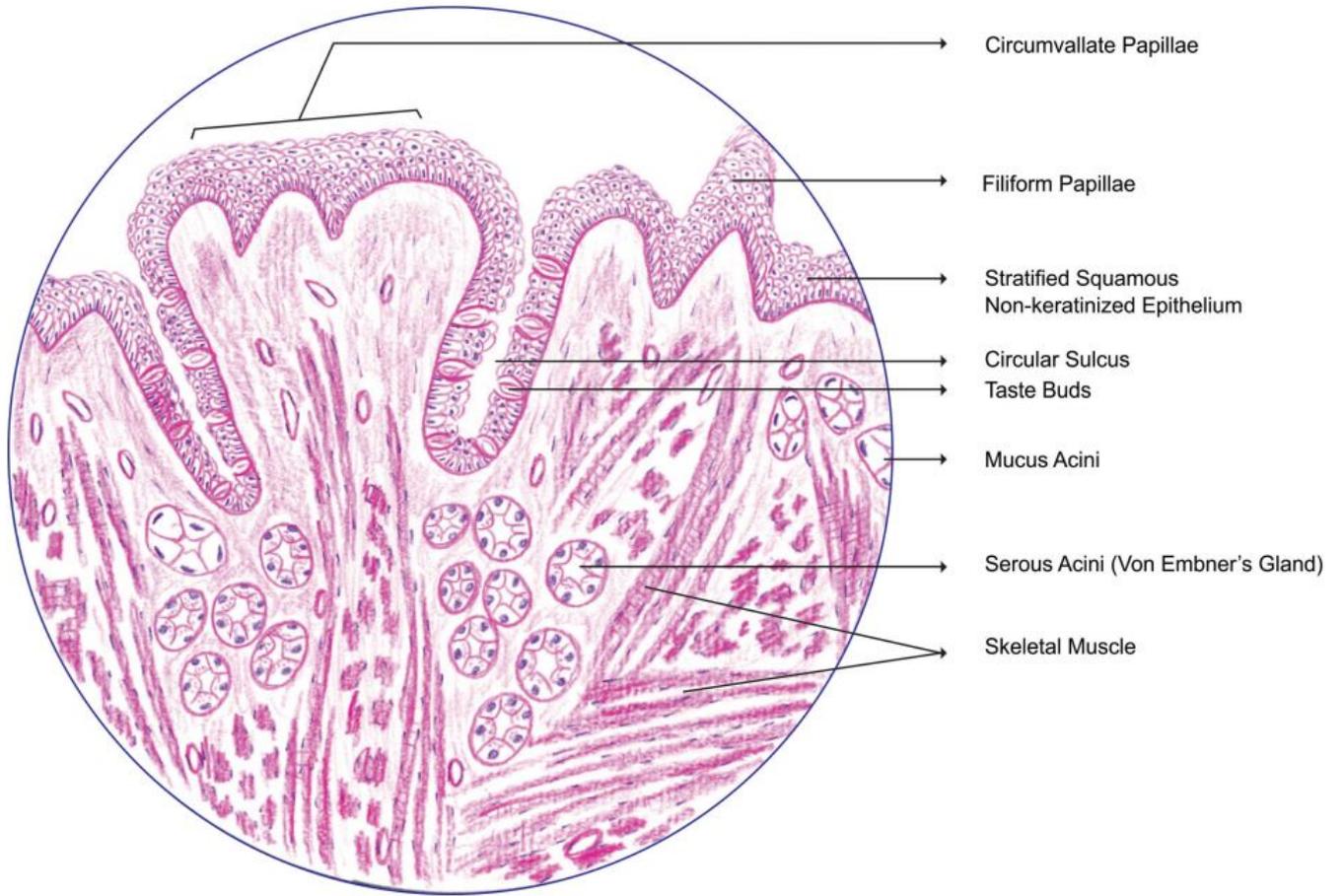
## TERMINOLOGY

| LINGUA  | TONGUE   |
|---|--|
| Corpus linguae  | Body of tongue   |
| Radix linguae   | Root of tongue   |
| Dorsum linguae  | Dorsum of tongue   |
| Pars anterior; pars presulcalis                                     | Anterior part; presulcal part                                      |
| Pars posterior; pars postsulcalis                                   | Posterior part; postsulcal part                                    |
| Facies inferior linguae   | Inferior surface of tongue   |
| Plica fimbriata   | Fimbriated fold  |
| Margo linguae   | Margin of tongue   |
| Apex linguae  | Apex of tongue; tip of tongue                                      |
| Tunica mucosa linguae   | Mucous membrane of tongue  |
| Frenulum linguae  | Frenulum of tongue   |
| Papillae linguales  | Papillae of tongue; lingual papillae                               |
| Papillae filiformes   | Filiform papillae  |
| Papillae fungiformes  | Fungiform papillae   |
| Papillae vallatae   | Vallate papillae   |
| Papillae foliatae   | Foliate papillae   |
| Sulcus medianus linguae   | Midline groove of tongue; median sulcus of tongue                  |
| Sulcus terminalis linguae   | Terminal sulcus of tongue  |
| Foramen caecum linguae<br>(Ductus thyroglossalis)                   | Foramen caecum of tongue<br>(Thyroglossal duct)                    |
| Tonsilla lingualis  | Lingual tonsil   |
| Noduli lymphoidei   | Lymphoid nodules   |
| Septum linguae  | Lingual septum   |
| Aponeurosis linguae   | Lingual aponeurosis  |
| Musculi linguae   | Muscles of tongue  |
| M. genioglossus   | Genioglossus   |
| M. hyoglossus   | Hyoglossus   |
| M. chondroglossus   | Chondroglossus   |
| M. ceratoglossus  | Ceratoglossus  |
| M. styloglossus   | Styloglossus   |
| M. longitudinalis superior  | Superior longitudinal muscle                                       |
| M. longitudinalis inferior  | Inferior longitudinal muscle                                       |
| M. transversus linguae  | Transverse muscle  |
| M. verticalis linguae   | Vertical muscle  |
| M. palatoglossus  | Palatoglossus  |
| <b>FAUCES</b>   | <b>FAUCES</b>  |
| Isthmus faucium   | Isthmus of fauces; oropharyngeal isthmus                           |
| Palatum molle; velum palatinum                                      | Soft palate  |
| Uvula palatina  | Uvula  |
| Arcus palatoglossus; plica anterior faucium<br>(Plica triangularis) | Palatoglossal arch; anterior pillar of fauces<br>(Triangular fold) |
| Arcus palatopharyngeus; plica posterior faucium                     | Palatopharyngeal arch; posterior pillar of fauces                  |

|   |   |
|---|---|
| (Plica semilunaris)                                 | (Semilunar fold)                                |
| Fossa tonsillaris; sinus tonsillaris                | Tonsillar sinus; tonsillar fossa; tonsillar bed |
| Fossa supratonsillaris                              | Supratonsillar fossa                            |
| Tonsilla palatina                                   | Palatine tonsil                                 |
| Capsula tonsillae                                   | Tonsillar capsule                               |
| (Fissura tonsillaris; fissura intratonsillaris)     | (Tonsillar cleft; intratonsillar cleft)         |
| Fossulae tonsillae                                  | Tonsillar pits                                  |
| Cryptae tonsillae                                   | Tonsillar crypts                                |
| Musculi palati molliis et faucium                   | Muscles of soft palate and fauces               |
| Aponeurosis palatina                                | Palatine aponeurosis                            |
| M. levator veli palatini                            | Levator veli palatini                           |
| M. tensor veli palatini                             | Tensor veli palatini                            |
| M. uvulae   | Musculus uvulae                                 |
| M. palatoglossus                                    | Palatoglossus                                   |
| M. palatopharyngeus                                 | Palatopharyngeus                                |
| Fasciculus anterior                                 | Anterior fascicle                               |
| Fasciculus posterior; m. sphincter palatopharyngeus | Posterior fascicle; palatopharyngeal sphincter  |



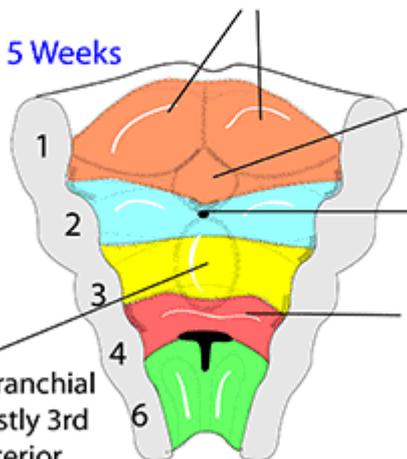
**CIRCUMVALLATE PAPILLA**



# FORMATION OF THE TONGUE

## FLOOR OF PHARYNX (PHARYNGEAL ARCHES)

Lingual swellings with tuberculum impar give anterior 2/3 of tongue



5 Weeks

Tuberculum impar

Foramen caecum

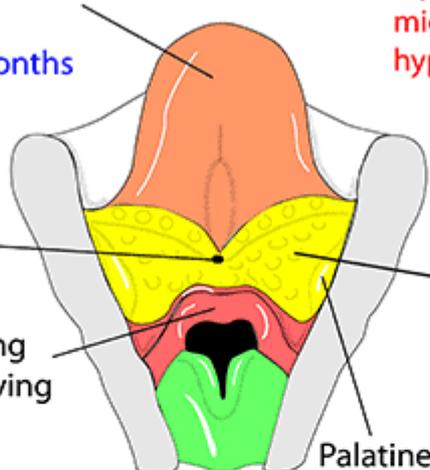
Epiglottal swelling from 4th arch giving epiglottis

Copula (hypobranchial eminence), mostly 3rd arch, gives posterior 1/3 of tongue

Mesoderm between both 1st & 2nd arches gives anterior 2/3 of tongue

Epithelium & glands are from arch endoderm, muscles are from occipital myotomes/somites that migrate with the hypoglossal nerve

5 months



Foramen caecum

Epiglottal swelling from 4th arch giving epiglottis

Posterior 1/3 From 2nd, 3rd & 4th arches (2nd is overgrown)

Palatine tonsil

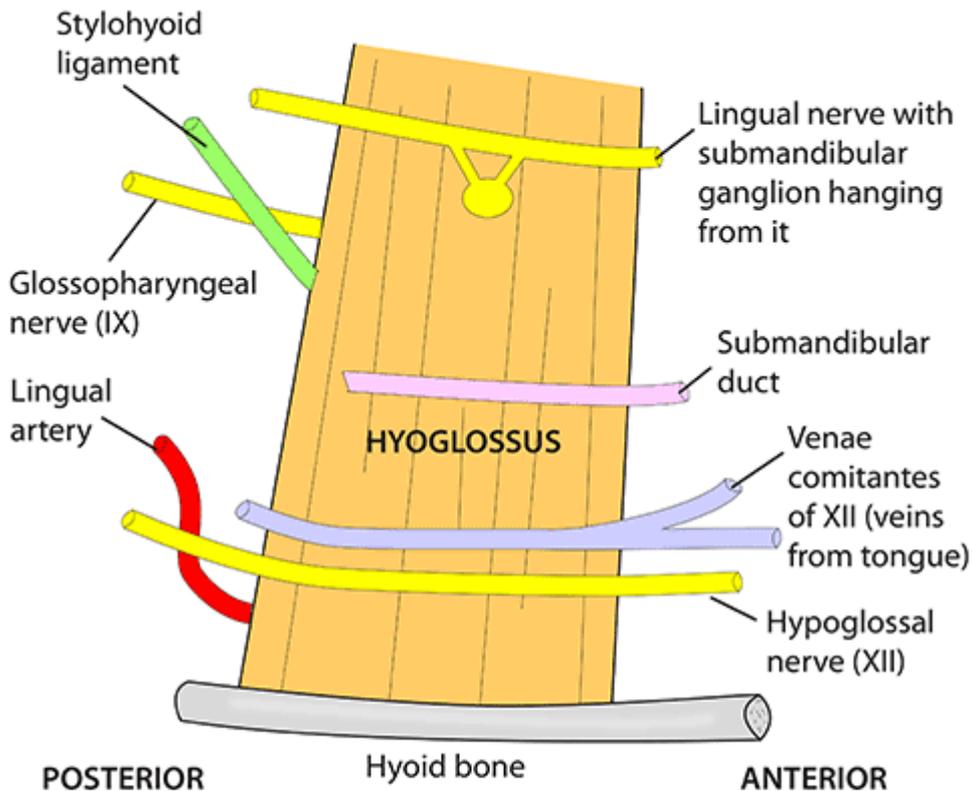
### NERVES

Redrawn, with permission, from Sadler TW. Langman's Medical Embryology, 11th ed. Baltimore: Lippincott Williams & Wilkins; 2010

**Anterior 2/3** Mandibular division of trigeminal (Vc). 1st arch nerve  
Chorda tympani for taste. Only remnant of 2nd arch

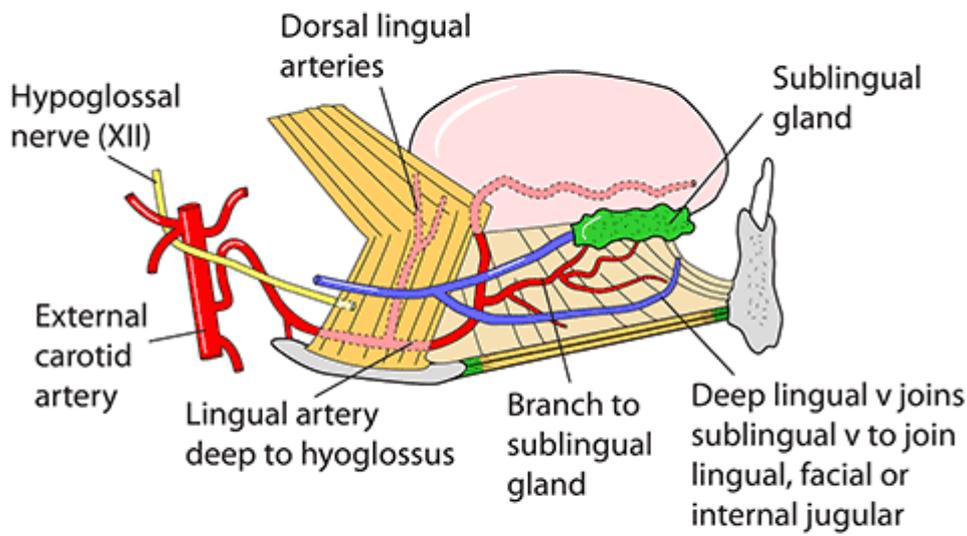
**Posterior 1/3** Glossopharyngeal (IX). 3rd arch nerve  
Internal branch of superior laryngeal branch of vagus which is 4th arch nerve

## HYOGLOSSUS & ITS RELATIONS



- The mylohyoid muscle (not shown) overlaps the anterior edge of hyoglossus
- Hyoglossus is supplied by the hypoglossal nerve as are all the muscles of the tongue except palatoglossus (pharyngeal plexus)
- Further anteriorly, under the mylohyoid, the lingual nerve passes lateral to the submandibular duct, then dips under it to appear on its medial side to enter the tongue
- The venae comitantes of the hypoglossal nerve pass posteriorly to join the facial vein

## TONGUE - LINGUAL ARTERY

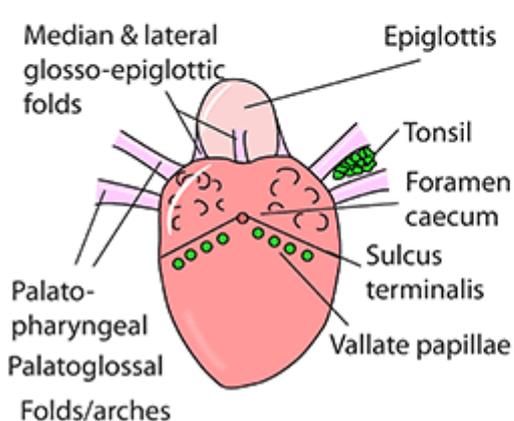


### LYMPH

- Tip to submental glands bilaterally
- Dorsum to submandibular mostly unilaterally
- Posterior to jugulo-omohyoid & deep cervical

### TONGUE - GENERAL TOPOGRAPHY

The tongue is a mass of skeletal muscle covered by mucous membrane. It is divided functionally and embryologically into an anterior 2/3 and a posterior 1/3 by the sulcus terminalis

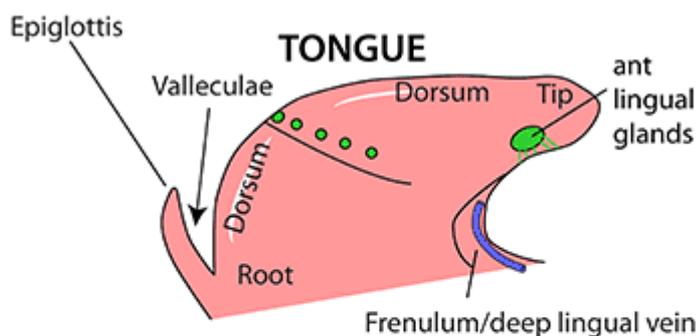


#### POSTERIOR 1/3:

Oropharynx. smooth mucosa for swallowing  
No papillae. Lingual tonsil.  
Serous/mucous glands

#### ANTERIOR 2/3:

Oral. Papillae (filiform, fungiform & vallate) for grip/taste.  
Glands on tip and sides only  
Stratified, keratinising squamous epithelium



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