Oral cavity, Anatomy and Histology Part 1

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Oral cavity (mouth) consists of two parts:
Oral vestibule
Oral cavity proper

Sublingual papilla
Periodontal membrane
Deciduous (milk) teeth

Maxillary Teeth
- Central incisor
- Lateral incisor
- Canine
- First molar
- Second molar

Mandibular Teeth
- Second molar
- First molar
- Canine
- Lateral incisor
- Central incisor
Permanent teeth:
- Central incisor
- Lateral incisor
- Canine
- First premolar
- Second premolar
- First molar
- Second molar
- Third molar
- Second premolar
- Canine
- Central incisor
- Lateral incisor
Hard palate
Hamulus project from the medial pterygoid plate
Hard palate

• The hard palate separates the oral cavity from the nasal cavities. It consists of a bony plate covered above and below by mucosa:
  • Above, it is covered by respiratory mucosa and forms the floor of the nasal cavities;
  • Below, it is covered by a tightly bound layer of oral mucosa and forms much of the roof of the oral cavity.
Hard and soft palate

- Gingivae (gums)
- Superior lip
- Superior labial frenulum
- Palatine raphe
- Hard palate
- Soft palate
- Uvula
- Palatoglossal arch
- Palatopharyngeal arch
- Posterior wall of oropharynx
- Tongue
- Lingual frenulum
- Palatine tonsil
- Duct of submandibular gland
- Vestibule
- Superior labial frenulum
- Inferior labial frenulum
- Inferior lip
Muscles of soft palate posterior view
Oral Mucosa

All of the oral mucosa is made up of a thick stratified squamous epithelium, supported by a lamina propria. The epithelium is thick because the epithelial lining of the oral cavity is subject to a lot of wear and tear. **In mobile areas**, such as the soft palate, underside of the tongue, floor of the mouth, and mucosal surfaces of the cheeks and lips, the epithelium is **not keratinised**. **In other areas**, such as the gums (gingivae), hard palate, and most of the upper surface of the tongue, the epithelium is **keratinised**.

Underneath the oral mucosa, there is a tough collagenous submucosal layer, with accessory salivary glands, except where the oral mucosa lies over bone, where the submucosa is thin.
Histology of the Hard palate

- The palate is covered by a thick stratified squamous epithelium \textit{Ep} supported by densely collagenous lamina propria \textit{L}.
- The mucosa of the hard palate is bound down to the underlying bone \textit{B} by relatively dense submucosal tissue \textit{S} containing a few accessory salivary glands.
HISTOLOGIC STRUCTURE OF THE HARD AND SOFT PALATE

Separate the oral and nasal cavity

- **Hard Palate**
  - Keratinized St. Sq. Epith.
  - Dense. Irreg. Coll. C.T
  - Rests on bony tissue

- **Soft Palate**
  - Non-keratinized St. Sq. Epith
  - Irreg. Coll. C.T.
  - Minor Salivary Glands

- **Uvula ~ Soft Palate**

**Coll.** = collagen
Histology of the lip

- Skeletal muscle embedded in fibroelastic C.T.

Each lip has 3 surfaces:

- Cutaneous surface: covered by skin with hair follicles & glands.
- Red surface: covered by modified skin. St. squamous non-keratinized which has thick stratum lucidum, making it more translucent. Its dermis is rich in vessels that’s y appear red.
- Oral surface: S.Q NON-k. Then lamina propria. Labial salivary glands are present in L.P

S. Q.NON-k = Stratified squamous non keratinised epith.
Gums = Gingivae

They consist of mucosal tissue that covers the alveolar processes of the maxilla and mandible and finish at the neck of each tooth. The gingivae functions to cover the alveolar bone and surround the teeth. The gingiva is the only clinically visible component of the periodontium inside the mouth. Healthy gingiva will appear pink in colour.

The gingival margin follows a scalloped-like course across the dentition due to the interdental papillae, which fill the interdental spaces beneath the tooth contacts.
There are two types of gingiva,
Two portions of the gingiva can be identified:
Free gingiva and attached gingiva

The free gingiva surrounds the tooth and creates a cuff or collar of gingiva measured from the margin of the attached gingiva extending coronally about 1.5mm. The inner surface of the free gingiva (next to the tooth) forms the gingival wall of the sulcus. The healthy patient will present with a sulcus measuring approximately 1-3mm in depth.
Histology
the tissue on the outer surface of the free gingiva, the papillae and the attached gingiva is stratified squamous keratinized epithelium.

The inner surface of the free gingival margin (sulcus) is stratified squamous non keratinized epithelium.

The gingival connective tissue consists of a dense network of collagen fibers. Collagen fibers function to provide firmness to the gingiva and to attach the gingiva to the underlying cementum and alveolar bone. The connective tissue of the gingiva is also rich in blood, lymphatic vessels, nerves
Thank You