Landmarks of the Face and Oral Cavity

Chapter 10

Learning Objectives
Lesson 10.1: Landmarks of the Face and Oral Cavity

1. Pronounce, define, and spell the key terms.
2. Name and identify the landmarks of the face.
3. Name and identify the landmarks of the oral cavity, including the following:
   - Describe the structures found in the vestibular region of the oral cavity.
   - Describe the characteristics of normal gingival tissue.
4. Name and identify the landmarks of the oral cavity proper, including the following:
   - Locate and identify the structures of the tongue.
   - Locate and describe the functions of the taste buds.

Introduction

- The dental assistant must be thoroughly familiar with the landmarks of the face and oral cavity
- In addition to being useful reference points for dental radiography and other procedures, the facial features provide essential landmarks for many of the deeper structures
**Regions of the Face**
- Forehead: Extending from the eyebrows to the hairline
- Temples: Lateral to the eyes
- Orbital: Eye area that is covered by the eyelids
- External nose
- Zygomatic (malar): Prominence of the cheek
- Mouth and lips
- Cheeks
- Chin
- External ear

**Features of the Face**
- The dental assistant should be able to point out the following facial features:
  - Outer and inner canthus of the eye
  - Ala of the nose
  - Philtrum
  - Tragus of the ear
  - Nasion
  - Glabella
  - Root or “bridge” of nose
  - Septum of the nasal cavity
  - Anterior nares of the nostril
  - Mental protuberance of the mandible
  - Angle of the mandible
  - Zygomatic arch
Features of the Face (Cont.)

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Skin

- The skin of the face is thin to medium in relative thickness
- It is soft and movable over a layer of loose connective tissue
- The skin around the external ear and the ala of the nose is fixed to underlying cartilage
- Facial skin contains many sweat and sebaceous glands

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Lips

- The lips are also known as labia
- The lips are outlined by the vermillion border
- The labial commissure is the angle at the corner of the mouth where the upper and lower lips join
- The nasolabial sulcus is the groove extending upward between each labial commissure and the ala of the nose
Frontal View of the Lips

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The Oral Cavity
- Lined with mucous membrane tissue
- Consists of two areas:
  - The vestibule is the space between the teeth and the inner mucosal lining of the lips and cheeks
  - The oral cavity proper is the space contained within the upper and lower dental arches

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The Vestibule
- The intraoral vestibule begins on the inside of the lips and then extends from the lips onto the alveolar process of both arches
- The vestibular mucosa is thin, red, and loosely bound to underlying alveolar bone
- The base of each vestibule, where the buccal mucosa meets the alveolar mucosa, is called the mucobuccal fold
- The mucogingival junction is a distinct line of color change where the alveolar membrane meets with attached gingiva
Labial and Other Frenula

- A frenum is a narrow band of tissue that connects two structures.
- The labial frenum passes from the midline of the maxillary or mandibular arch to the midline of the inner surface of the lip.
- The buccal frenum passes from the oral mucosa near the maxillary or mandibular first molars to the inner surface of the cheek.

Gingiva

- The gingivae, commonly referred to as the gums, are masticatory mucosae that cover the alveolar processes of the jaws and surround the necks of the teeth.

Gingivae and Associated Anatomical Landmarks
Characteristics of Normal Gingiva

- Normal gingivae surround the tooth like a collar and are self-cleansing
- They are firm, resistant, and can be tightly adapted to the tooth and bone
- The surfaces of the attached gingivae and interdental papillae are stippled and similar in appearance to the rind of an orange
- Surface color varies according to the individual’s pigmentation

Color of the Gingivae Varies


Close-Up View of Gingivae and Associated Anatomical Landmarks
Unattached Gingiva

- Unattached gingiva, which is also known as marginal gingiva or free gingiva, is the border of the gingiva surrounding the teeth in collar-like fashion.
- It consists of the tissues from the top of the gingival margin to the base of the gingival sulcus.
- The unattached gingiva is usually about 1 mm wide and forms the soft wall of the gingival sulcus.

Gingiva (Cont.)

- Interdental gingiva (also called gingival papilla)
  - Extension of the free gingiva that fills the interproximal embrasure between two adjacent teeth.
- Gingival groove
  - The gingival groove is a shallow groove that runs parallel to the margin of the unattached gingiva and marks the beginning of the attached gingiva.
- Attached gingiva
  - The attached gingiva extends from the base of the sulcus to the mucogingival junction.

The Oral Cavity Proper

- The oral cavity proper is the area inside the dental arches.
- In back of the last molar on each side is a space that links the vestibule and the oral cavity proper.
Hard Palate

- The hard palate separates the nasal cavity above from the oral cavity below.
- The nasal surfaces are covered with respiratory mucosa, and the oral surfaces are covered with oral mucosa.
- The mucosa of the hard palate is tightly bound to the underlying bone, and therefore submucosal injections into the palatal area can be extremely painful.

Landmarks on the Hard Palate

- The incisive papilla is a pear-shaped pad of tissue that covers the incisive foramen.
- The palatal rugae are irregular ridges of masticatory mucosa extending laterally from the incisive papilla.
- The palatine raphe runs posteriorly from the incisive papilla at the midline.
- The palatal glands are numerous small glands that open onto the palatal mucosa as small pits.

Soft Palate

- The soft palate is the movable posterior third of the palate.
- It has no bony skeleton and hangs like a limp curtain into the pharynx behind it.
- The soft palate ends posteriorly as a free edge with a hanging projection called the uvula.
Soft Palate (Cont.)

- The soft palate is supported posteriorly by two arches, the fauces
  - The anterior arch runs from the soft palate down to the lateral aspects of the tongue as the palatoglossal arch
  - The posterior arch, the free posterior border of the soft palate, is called the palatopharyngeal arch
  - The opening between the two arches is called the isthmus of fauces and contains the palatine tonsil
The tongue is an important organ, responsible for several functions:

- Speech
- Manipulation and positioning of food
- Sense of taste
- Swallowing
- Cleansing of the oral cavity

Parts and Surfaces of the Tongue:

- **Body**: Anterior two thirds of the tongue
- **Root**: Posterior portion that turns downward toward the pharynx
- **Dorsum**: Upper and posterior roughened surface
- **Sublingual surface**: Covered with smooth, transparent mucosa
- **Lingual frenulum**: Thin fold of mucous membrane that extends from the floor of the mouth to the underside of the tongue
Sublingual Aspect of the Tongue

From Liebgott B: The anatomical basis of dentistry, ed 3, St Louis, 2010, Mosby.

Taste Buds

- Located on the fungiform papillae and in the trough of the large vallate papillae, which form a V on the posterior portion of the tongue.
- The sense of touch is provided by numerous filiform papillae that cover the entire surface of the tongue.

Teeth

- Teeth are either single-rooted or multirooted.
- The teeth sit in bony sockets, or alveoli, within the alveolar process of the maxilla and mandible.
- In the mouth, a cuff of gingival tissue surrounds each tooth.
- The portion of the tooth that is visible in the oral cavity is called the crown.