

QUIZ TIME

oral physiology

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Lec: 8



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Q1. In a biopsy of gingival tissue, the absence of a submucosa and the presence of tall, irregular connective tissue papillae most strongly indicate which of the following structural adaptations?

- A. Maximization of mucosal elasticity
- B. Enhanced mechanical resistance to mastication
- C. Facilitation of rapid epithelial turnover
- D. Increased vascular supply for thermoregulation

Answer: B

Concept: The gingiva (masticatory mucosa)

Q2. During mastication, which histological feature of the hard palate most effectively distributes mechanical load without compromising mucosal integrity?

- A. Short, regular epithelial rete pegs overlying a loose lamina propria
- B. Dense submucosa directly fused with periosteum
- C. Distinct fatty and glandular zones providing localized cushioning
- D. Absence of connective tissue papillae

Answer: C

Concept: The fatty zone (anterior) and glandular zone (posterior) of the hard palate dissipate pressure forces during chewing.

Q3. The presence of Fordyce's granules within the buccal mucosa reflects which embryological or developmental event?

- A. Migration failure of sweat gland primordia
- B. Ectopic differentiation of sebaceous glands from oral epithelium
- C. Remnant of salivary gland ducts
- D. Hyperplasia of mucous acini

Answer: B

Q4. The palatal mucosa exhibits minimal mobility during function primarily because of:

- A. Dense submucosa with collagen and elastic fibers
- B. Direct fusion of mucosa to periosteum (mucoperiosteum)
- C. Thick keratinized epithelium with long rete ridges
- D. Fatty connective tissue with few vascular channels

Answer: B

Q5. A histologic section of alveolar mucosa shows sparse connective tissue papillae, abundant elastic fibers, and a thick submucosa. What is the functional advantage of this organization?

- A. Absorbs mechanical stress from occlusion
- B. Allows tissue mobility during mastication and speech
- C. Maintains tight seal around teeth
- D. Promotes epithelial keratinization

Answer: B

Concept: Lining mucosa (like alveolar mucosa) is loose and elastic to permit mobility.

Q6. Despite being non-keratinized, the lining mucosa of the cheek resists frictional forces during mastication. Which microscopic feature provides this mechanical resilience?

- A. Thick keratohyalin layer within the stratum granulosum
- B. Numerous short epithelial rete pegs interdigitating with vascular papillae
- C. Dense submucosal collagen fused to periosteum
- D. High density of sebaceous glands beneath the epithelium

Answer: B

Q7. A clinician observes the disappearance of the mucogingival junction due to severe inflammation. Which functional domain of oral mucosa is most affected?

- A. Differentiation between movable and immovable mucosa
- B. Epithelial renewal rate
- C. Pigmentation distribution
- D. Glandular secretion pattern

Answer: A

Q8. In the vermilion zone of the lip, the reddish color and sensitivity result mainly from:

- A. Presence of superficial capillary loops beneath thin keratinized epithelium
- B. Absence of sebaceous glands and sweat glands
- C. Submucosal adipose tissue rich in melanin
- D. Presence of serous salivary glands near the border

Answer: A

Q9. Which combination of epithelial features is most diagnostic of parakeratinized oral mucosa (as may appear in gingiva under stress)?

- A. Absence of surface nuclei and abundant granular layer
- B. Presence of surface nuclei and reduced keratohyalin granules
- C. Numerous mitotic figures in basal layer with no keratin
- D. Multilayered cuboidal cells with glycogen accumulation

Answer: B

Q10. Which of the following explains why the floor of the mouth is a preferred site for rapid drug absorption?

- A. Highly keratinized epithelium with dense collagen fibers
- B. Thin non-keratinized epithelium with rich vascular lamina propria
- C. Submucosa with fatty tissue acting as reservoir
- D. Abundant mucous glands beneath the mucosa

Answer: B