

QUIZ TIME

oral physiology

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Lec: 17



1. Which structure corresponds histologically to the radiographic “lamina dura”?

- A. Lamellar bone
- B. Haversian bone
- C. Bundle bone
- D. Woven bone
- E. Cortical plate

Correct Answer: C

2. The thickness of the facial cortical plate is greatest in which region?

- A. Maxillary anterior
- B. Mandibular anterior
- C. Maxillary premolars
- D. Mandibular premolars and molars
- E. Maxillary tuberosity

Correct Answer: D

3. The alveolar crest is normally located at which distance apical to the CEJ?

- A. 0–1 mm
- B. 0.5–1 mm
- C. 1.5–2 mm
- D. 2–3 mm
- E. 3–4 mm

Correct Answer: C

4. Which feature explains the radiopacity of bundle bone?

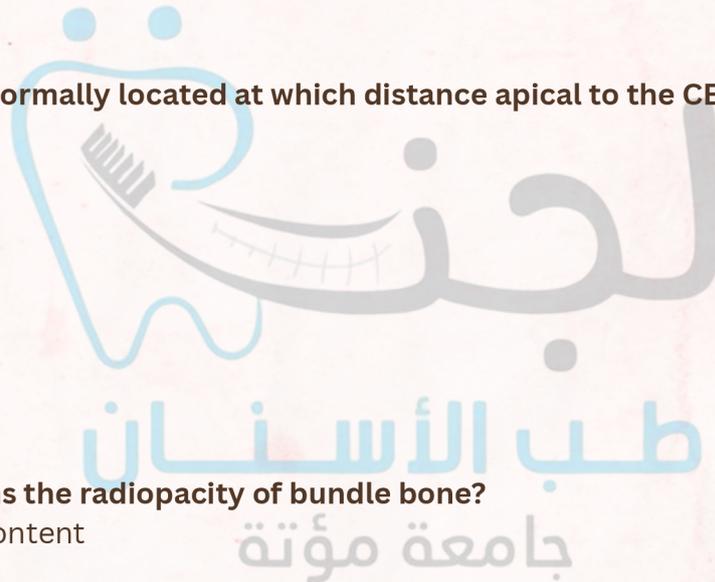
- A. High organic matrix content
- B. Large marrow spaces
- C. Presence of woven bone
- D. High mineralization and compact organization
- E. Reduced lamellar formation

Correct Answer: D

5. Which statement accurately describes the alveolar cortical plates in the anterior region (upper and lower incisors and canines)?

- A. Thick outer cortical plate with dense spongiosa beneath
- B. Thin outer and inner cortical plates with little or no central spongiosa near the crest
- C. Thick inner cortical plate only
- D. Perforated cortical plates on both facial and lingual surfaces
- E. Absence of bundle bone in this region

Correct Answer: B



6. Which description best matches “cribriform plate”?

- A. The supporting spongiosa of the mandible
- B. The outer cortical plate beneath the periosteum
- C. The alveolar bone proper containing numerous openings for blood vessels
- D. The lamellar bone of the interdental septum
- E. The compact bone surrounding the mandibular canal

Correct Answer: C

7. Thick trabeculae arranged in a ladder-like pattern on a radiograph correspond to:

- A. Osteoporotic bone
- B. Type I spongiosa
- C. Type II spongiosa
- D. Hyperparathyroid bone loss
- E. Disorganized woven bone

Correct Answer: B

8. Age-related changes of alveolar bone include all EXCEPT:

- A. Decreased water content
- B. Transformation of red marrow to fatty marrow
- C. Persistence of red marrow in condylar head
- D. Increased thickness of trabeculae
- E. Persistence of red marrow at angle of mandible

Correct Answer: D

9. Which term refers to the function of the alveolar bone proper?

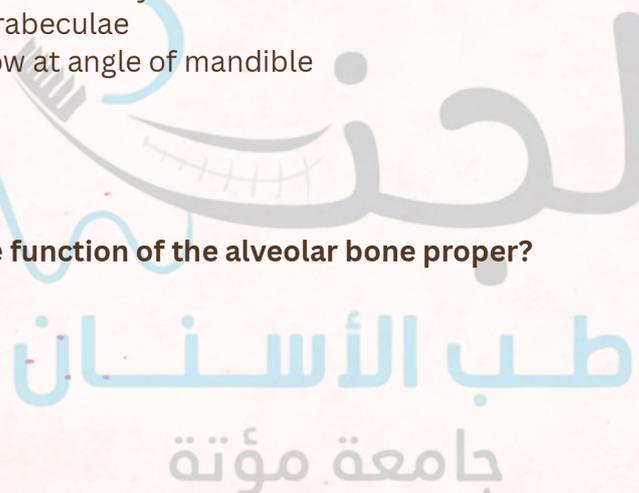
- A. Lamina dura
- B. Cribriform plate
- C. Attachment bone
- D. Trabecular septum
- E. Spongiosa plate

Correct Answer: C

10. In the maxillary molar region, why may the facial cortical plate appear perforated or extremely thin?

- A. High density of bundle bone
- B. Thick lamellar bone formation
- C. Presence of multiple foramina transmitting vessels from the PDL
- D. Compressive loading forces
- E. Lack of spongiosa

Correct Answer: C



Clinical Case 1

A 28-year-old patient requires infiltration anesthesia for the maxillary canine. The anesthesia is successful with minimal volume and rapid onset.

Which anatomical feature best explains this outcome?

- A. Thick buccal cortical plate
- B. Dense lamellar bone
- C. Thin outer cortical plate of the maxilla in the anterior region
- D. Complete absence of spongiosa
- E. Thick inner cortical plate

Correct Answer: C

(Anterior maxilla has very thin facial cortical plate, allowing easy infiltration.)

Clinical Case 2

A radiograph of the mandibular molar region shows a very dense, continuous radiopaque line surrounding the root surface.

This radiopaque line most likely represents:

- A. Lamellar bone
- B. Cortical plate
- C. Interdental septum
- D. Lamina dura (bundle bone)
- E. Spongiosa with type II pattern

Correct Answer: D

(Bundle bone appears highly radiopaque on X-ray.)

Clinical Case 3

A 65-year-old patient shows generalized widening of marrow spaces and thinning of trabeculae on radiographs.

What is the most likely explanation for these findings?

- A. Hyperfunction of masticatory muscles
- B. Trauma from occlusion
- C. Age-related changes in spongiosa
- D. Increased bone deposition
- E. Early condylar degeneration only

Correct Answer: C

(With age, spongiosa shows thin trabeculae and wide marrow spaces.)