

CORRECTED

Restorative Dentistry I Progress Exam 2 10/26/10

Directions: Print your name and TUID on the answer sheet and blacken the appropriate letters/numbers. Under test code print the numbers "11" and blacken "11". Sign the back of the answer sheet. Hand in the answer sheet. You may keep the exam question pages. Exam time: One and one Half Hour

All questions pertain to the permanent dentition and the Universal Numbering System.

For static and dynamic occlusion questions, assume an entire dentition in Class I occlusal relationship, having a stable tooth-to-tooth relationship and canine guidance, unless stated otherwise. For each question, choose the best answer.

1. Which of the following teeth do not have contact with two teeth of the opposing arch in maximum intercuspation?
- a. mandibular central incisors
  - b. maxillary central incisors
  - c. mandibular first premolars
  - d. mandibular central incisors and maxillary third molars
  - e. maxillary central incisors and mandibular third molars
2. Which of the following forms the occlusal table of a posterior tooth?
- a. mesial and distal marginal ridges, inner inclines of buccal cusps and outer inclines of lingual cusps
  - b. mesial and distal marginal ridges, inner inclines of supporting cusps and outer inclines of guiding cusps
  - c. mesial and distal marginal ridges, outer inclines of buccal cusps and inner inclines of lingual cusps
  - d. mesial and distal marginal ridges, outer inclines of supporting cusps and inner inclines of guiding cusps
  - e. mesial and distal marginal ridges, inner inclines of supporting cusps and inner inclines of guiding cusps
3. Which of the following is true of guiding cusps?
- a. they articulate within opposing occlusal tables
  - b. they contact the opposing arch on their outer aspect
  - c. they are rounder than the supporting cusp on the same tooth
  - d. as a group, they lie along the central fossa line of the lower arch in maximum intercuspation
  - e. as a group, they form the bucco-occlusal line of the maxillary arch
4. Which of the following bones of the neurocranium does not form part of the temporal fossa?
- a. frontal
  - b. temporal
  - c. sphenoid
  - d. parietal
  - e. occipital

5. Which of the following movements of the mandible are caused by contraction of the posterior fibers of the temporalis muscles?

- ☒ a. retrusion
- b. protrusion
- c. depression
- d. laterotrusion

A

6. Which of the following movements occurs within the upper joint space of the TMJ?

- ☒ a. translation
- b. rotation - lower

A

~~X~~ Which of the following is a term for a worn spot on the enamel of a tooth that is in heavy occlusion?

- a. sluiceway
- b. facet
- ☒ c. fremitus
- d. crepitus
- e. trismus

B

8. Which of the following contacts the lingual cusp of tooth #12 in MIP in a tooth to one tooth occlusion?

- ~~a. mesial marginal ridge of #21~~
- ~~b. mesial fossa of #21~~
- ☒ c. distal fossa of #21
- ~~d. mesial marginal ridge of #20 and the distal marginal ridge of #21~~
- ~~e. distal marginal ridge of #20~~

C

9. Which of the following areas contacts the mesiofacial cusp of #30 in MIP?

- ~~a. mesial marginal ridge of #4 and distal marginal ridge of #5~~
- ☒ b. mesial marginal ridge of #3 and distal marginal ridge of #4
- c. central fossa of #3
- d. distal fossa of #3
- e. mesial marginal ridge of #2 and distal marginal ridge of #3

B

10. Which of the following opposes the ML cusp of #<sup>31</sup> in MIP?

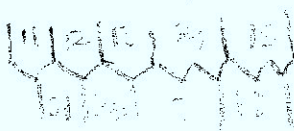
- a. mesial marginal ridge of #2 and the distal marginal ridge of #3
- b. facial embrasure between #3 and #4
- c. lingual groove of #2
- ☒ d. lingual embrasure between #2 and #3
- e. lingual groove of #3

D

11. Which of the following is true of the relationship between overbite/ overjet and a person's VDO?

- a. increasing the VDO, increases the overjet and decreases the overbite
- ~~b. increasing the VDO, increases the overjet and overbite~~
- ~~c. increasing the VDO, decreases the overjet and increases the overbite~~
- ☒ d. increasing the VDO, decreases the overjet and overbite
- ~~e. increasing the VDO does not change the overjet or overbite~~

D



12. Which of the following is the functioning part of the TMJ during chewing?

- ☐ a. articular (glenoid) fossa and the posterior superior portion of the condyle
- ☒ b. posterior surface of the articular eminence and the anterior superior portion of the condyle
- ☐ c. anterior surface of the articular eminence and the anterior superior portion of the condyle
- ☐ d. posterior surface of the articular eminence and the posterior superior portion of the condyle
- ☐ e. articular (glenoid) fossa and the anterior inferior portion of the condyle

13. Which of the following is not true of the articular disc?

- ☒ a. it can not change its position or shape in the TMJ
- ☐ b. it helps regulate the movement of the condyle
- ☐ c. it helps to stabilize the condyle
- ☐ d. it cushions the loading of the TMJ
- ☐ e. it partitions the TMJ into functional components

14. Which of the following is true of the condyle?

- ☐ a. it has greater dimension anteroposteriorly than mediolaterally
- ☒ b. its upper surface is strongly convex anteroposteriorly and mildly convex mediolaterally
- ☐ c. its posterior superior aspect is concave
- ☐ d. compared to the medial pole, the lateral pole is positioned more posteriorly, and projects further away from the neck of the condyle
- ☐ e. it is attached anteriorly and posteriorly to the articular disc

15. Which of the following ligaments restricts posterior and lateral displacement of the mandible?

- ☒ a. lateral (TMJ) ligament
- ☐ b. sphenomandibular ligament
- ☐ c. stylomandibular ligament

16. Which of the following muscles positions the articular disc somewhat forward on the posterior slope of the articular eminence?

- ☒ a. upper portion of the lateral pterygoid
- ☐ b. posterior portion of the temporalis
- ☐ c. medial pterygoid
- ☐ d. anterior portion of the temporalis
- ☐ e. lower portion of the lateral pterygoid

17. Which of the following muscles arises from the zygomatic arch and inserts on the inferior lateral surface of the ramus and the angle of the mandible?

- ☐ a. lateral pterygoid
- ☐ b. medial pterygoid
- ☐ c. temporalis
- ☒ d. masseter



18. Which of the following is a term for the thick pad of loose elastic and vascular connective tissue that connects the disc posteriorly to the capsule?

- a. synovial membrane
- ☒ b. bilaminar zone
- c. discal ligaments *medial collateral lig*
- d. proprioceptive fibers
- e. fovea pterygoidea

B

19. Which of the following is a term for the position of the mandible when the condyles are in an anteriorly, superiorly braced position along the articular eminence with the articular disc interposed between the condyle and the articular eminence?

- a. habitual position
- ☒ b. centric relation
- c. maximum intercuspation
- d. acquired position
- e. rest position

B

20. Which of the following is a term for the creation of space between the posterior teeth bilaterally during protrusion or on the mediotrusive side during lateral excursions?

- a. bilaterally balanced occlusion
- b. canine guidance
- c. anterior guidance
- d. group function
- ☒ e. Christensen's phenomenon

E

21. Which of the following best describes a mutually protected occlusion?

- a. in MIP, anterior and posterior teeth contact with equal force
- b. most of the chewing force is directed along the long axes of the canines
- c. in a protrusive movement of the mandible, distal cusp inclines of maxillary posterior teeth contact mesial cusp inclines of mandibular posterior teeth
- d. in the maxilla, the thick crown and root of the maxillary canine protects the weaker crown and roots of the first premolar
- ☒ e. most of the chewing force is directed along the long axes of the posterior teeth and the anterior teeth disengage the posterior teeth in excursive (eccentric) movements of the mandible

E

22. Which of the following terms is used to describe an occlusal contact between maxillary and mandibular teeth on the side of the arches opposite the direction in which the mandible has moved in lateral excursion?

- a. centric interference
- b. working interference
- ☒ c. nonworking interference
- d. protrusive interference

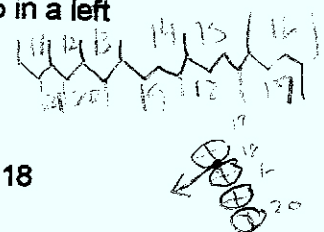
C

23. Which of the following describes the path of the DL cusp of tooth # 15 in a left working movement of the mandible?

- a. towards and/or over the MB cusp of #17
- b. towards and /or over the distal cusp of #19
- c. towards and/or over the central fossa of #19
- ☒ d. towards and/or over the lingual embrasure between #'s 17 and 18
- e. towards and/or over the lingual groove of #18

D

*upper left*



24. Which of the following describes the path of the lingual cusp of #29 (assume 2 cusp type) in a right working movement of the mandible?

- a. towards and/or over the lingual cusp of #4
- b. towards and/or over the landing area between #'s 3 and 4
- c. towards and/or over the ML cusp of #3
- ☒ d. towards and/or over the landing area between #'s 4 and 5
- e. towards and/or over the lingual groove of #3



25. Which of the following processes of the maxilla joins with the nasal bone?

- a. zygomatic process
- b. alveolar process
- c. palatine process
- ☒ d. frontal process

26. Which of the following is true of non-working interferences on posterior teeth?

- ☒ a. they may occur on the inner inclines of supporting cusps
- b. they may occur on the inner inclines of guiding cusps
- c. they may occur on the outer inclines of supporting cusps
- d. they may occur on the outer inclines of guiding cusps
- e. they may occur on the outer inclines of supporting cusps and the inner inclines of guiding cusps



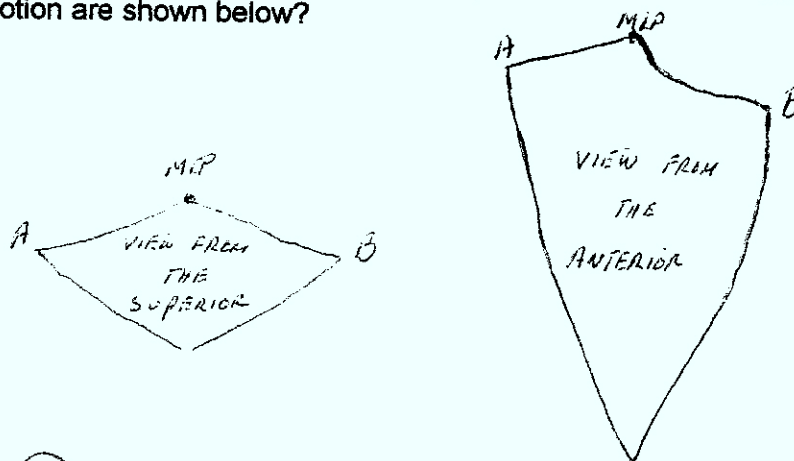
27. Which of the following was discussed in the article by Melkers ("Condylar Angle Programming: The Missing Link in Diagnostic and Restorative Dentistry" JCD 21:92;2005)?

- a. the condylar angle pathway was programmed using protrusive bite registration
- ☒ b. the triad of articulator programming includes facebow transfer, right and left lateral excursive movements
- c. the intraoral adjustment effort by the clinician is not improved by using a semi-adjustable articulator as compared to a non-adjustable articulator
- d. since the majority of condylar path angles charted fall within what are considered average values, there is no adverse consequence if the condyles are not custom-programmed
- ☒ e. the semi-adjustable articulator truly replicates the movements of the jaw in function and parafunction

28. Which of the following is true of the mnemonic "EDEC" in the article by Davies et al. ("Good Occlusal Practice in Simple Restorative Dentistry", BDJ 191,365;2001)?

- a. E = examine and record the pre-existing occlusion
- b. D = drill the cavity preparation
- c. E = eliminate decay
- ☒ d. C = check the occlusion
- e. C = centric occlusion

29. Which of the following is true for the patient whose frontal and horizontal envelopes of motion are shown below?



A

- ☒ a. there is steeper canine guidance on the left side than the right side
- ☒ b. the left condyle rotates around a vertical axis when the mandible moves from MIP to A
- ☒ c. the left Bennett angle can be measured when the mandible moves from MIP to B
- ☒ d. the patient's total lateral movement (from right to left) is greater than maximal opening
- ☒ e. the patient's maximal protrusion is greater than total lateral movement (from right to left)

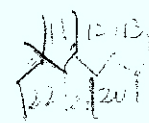
30. Which of the following guides the mandible from MIP to B in the diagram of Posselt's envelope of motion in a frontal plane in question #29?

- ☒ a. contact of the distal cusp ridge of tooth #27 along the mesial cusp ridge of #6
- ☒ b. contact of the distal cusp ridge of tooth #27 along the mesial cusp ridge of #6 and left side condylar guidance
- ☒ c. contact of the distal cusp ridge of tooth #27 along the mesial cusp ridge of #6 and right side condylar guidance
- ☒ d. contact of the distal cusp ridge of tooth #22 along the mesial cusp ridge of #11 and left side condylar guidance
- ☒ e. contact of the distal cusp ridge of tooth #22 along the mesial cusp ridge of #11 and right side condylar guidance

right condylar guidance

right  
27

left  
22



E

31. Which of the following muscles contracts as the mandible moves from MIP to B in the diagram of Posselt's envelope of motion in a frontal and horizontal plane in question #29?

- ☒ a. the left medial pterygoid muscle
- ☒ b. the right medial pterygoid muscle
- ☒ c. the left temporalis muscle, horizontal fibers
- ☒ d. the right lateral pterygoid muscle
- ☒ e. the left lateral pterygoid muscle

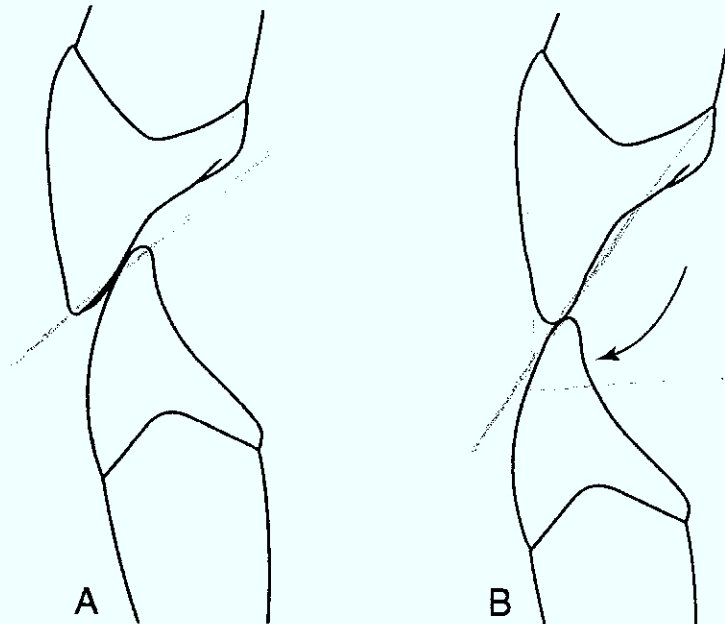
D

32. Which of the following Bennett angles can be measured as the mandible moves from MIP to B in the diagram of Posselt's envelope of motion in a horizontal plane in question #29?

- a. right Bennett angle  
b. left Bennett angle

33. Which of the following is the anterior guidance angle for the patient shown in the picture below?

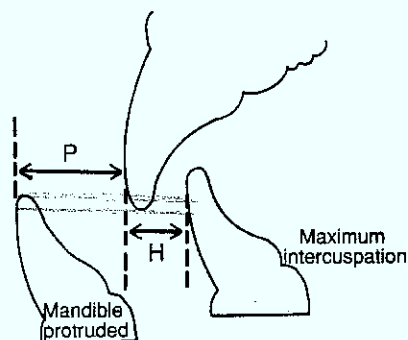
- a.  $90^\circ$       b.  $75^\circ$       c.  $45^\circ$       d.  $10^\circ$       e.  $0^\circ$



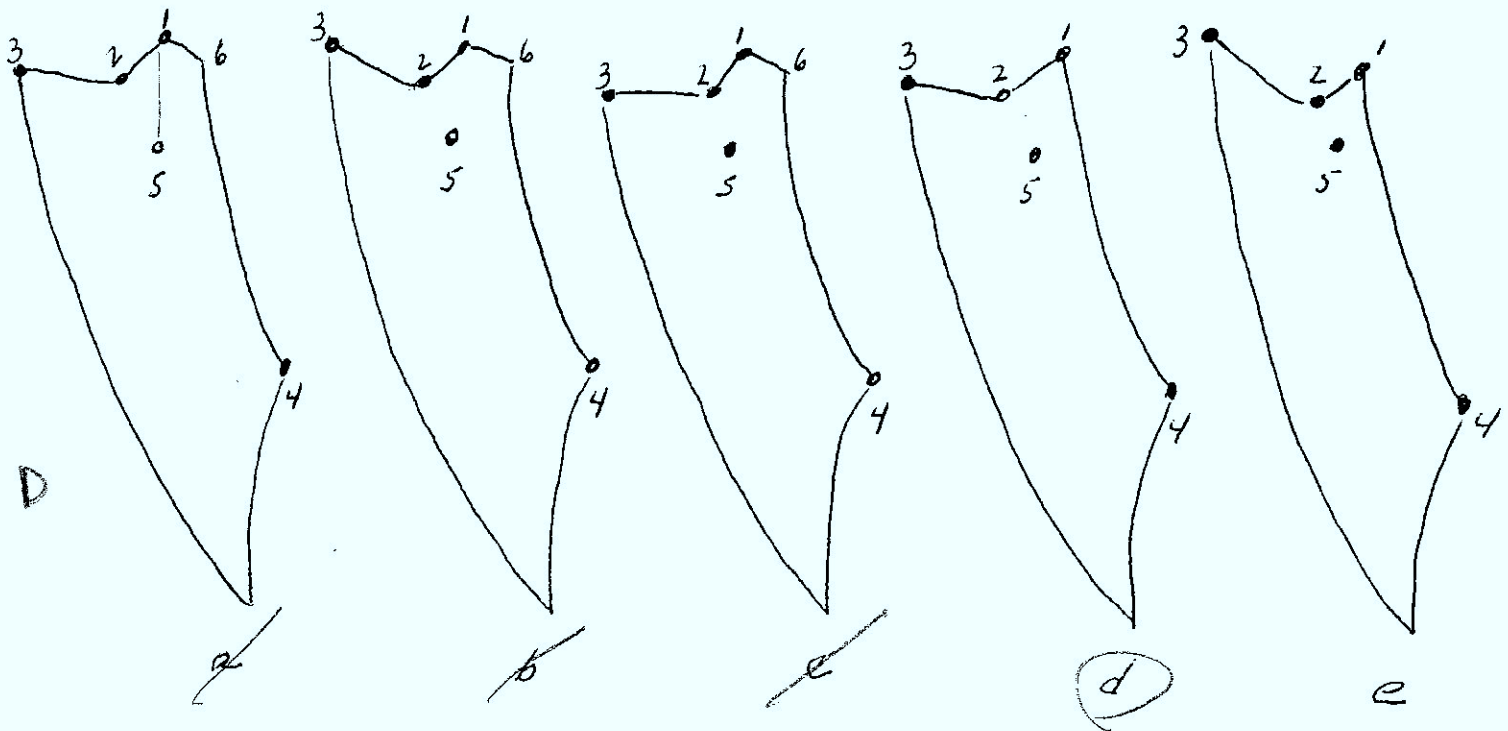
34. Which of the following produces disocclusion of posterior teeth when the patient above (question #33) moves from A (MIP) to B (edge to edge)?

- a. anterior guidance  
b. horizontal condylar guidance  
c. a and b

35. Which of the following is a sketch of Posselt's envelope of motion, at lower incisal point, in the sagittal plane for a patient whose centric relation coincides with maximum intercuspation and has MIP and protrusive positions as shown?







36. Which of the following represents the inferior limit of the terminal hinge movement in the sketches for question #35?

- a. 1      b. 2      c. 3      d. 4      e. 5

37. Which of the following ligaments is least likely to affect the outline of the terminal hinge movement?

- a. lateral (TMJ) ligament *posterior lateral*  
 b. sphenomandibular ligament *posterior*  
c. stylomandibular ligament *posterior*

38. Which of the following represents the freeway space in the sketches for question #35?

- a. from 1 to 2  
 b. from 2 to 3  
c. from 1 to 5  
 d. from 2 to 5  
 e. from 5 to 4

39. Which of the following is true of the superior border of the sketches for question #35?

- a. it is a tooth-determined border *M1*  
 b. it is a ligament determined border *posterior*  
 c. it is a muscle determined border *freeway space*

40. Which of the following points on the sketches for question #35 is the only border contact that occurs during chewing?

- a. 1      b. 2      c. 3      d. 4      e. 6

A