



School of Dentistry
Department of Restorative Dentistry

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RESTORATIVE DENTISTRY V (D553)

Final Examination

December 16, 2004

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TEST CODE 02

INSTRUCTIONS

- Verify that you have an examination booklet with eight pages and fifty-five questions.
- Write your name on the computer answer sheet, as well as a nine digit personal identification number of your choosing in the field labeled "social security number", and blacken the appropriate circles with a #2 pencil. *Note: Test scores will be posted by PINs.*
- Sign and date the back of the computer answer sheet.
- **IMPORTANT!** Write the Test Code Number (above) on the computer answer sheet in the "Test Code" field under "Optional Codes", and blacken the appropriate circles.
- For each question answered, blacken the appropriate circle on the computer answer sheet corresponding to the letter of your choice.
- Students are not permitted to ask questions of the proctors during the examination. Do your best to answer each question with the information provided.
- When you have completed the examination, turn in your computer answer sheet. You may keep the question booklet.

For each of the following five questions related to edentulism and conventional complete dentures, indicate whether the statement is true (A) or false (B).

✓ A 1. Studies that attempt to measure the effects of edentulism on chewing function suggest that the masticatory efficiency and biting force of complete denture wearers are less than 25% of the values achieved by subjects who have a natural dentition.

✓ A 2. Research that attempts to gauge acceptance of treatment outcomes indicates that a large majority of patients who are treated with complete dentures are satisfied with their prostheses, and older experienced denture wearers are more likely to accept functional limitations than their younger counterparts.

✓ A 3. People who lose all of their natural teeth commonly report feelings of sadness, lowered self-confidence, and altered self-image.

✓ A 4. Edentulous patients who cannot wear dental prostheses, who become chronically depressed and isolate themselves from society because of their impairment are considered "handicapped" according to the World Health Organization.

X B 5. Research that focuses on the psychological impact of edentulism supports the contention that personality profiles can be used to accurately predict patient satisfaction with complete denture treatment.

6. Long-term denture wearers often exhibit a condition known as "flabby ridges", which is often observed in the anterior regions of both arches and is usually the result of

- ✓ 7. a. bone resorption
b. chronic inflammation
c. over-extended borders
d. bacterial and fungal toxins

7. Progressive alveolar bone resorption following tooth loss

- X B a. has a complex multi-factorial etiology ✓
b. may be inhibited with the placement of root-form implants ✓
c. can be prevented by withholding conventional removable prosthetic treatment ✓
d. two of the above
e. a, b and c above

8. At which of the following inter-arch positions is sibilant sound usually produced?

- ✓ a. rest vertical dimension
b. occlusal vertical dimension
c. open beyond rest vertical dimension
d. between rest and occlusal vertical dimension

9. All of the following management options are useful for denture wearers with inflammatory papillary hyperplasia EXCEPT which one?

- ✓ a. topical anti-viral ointments
b. denture lining with tissue conditioning materials
c. surgical excision of severely hyperplastic tissue
d. removal of the offending denture for extended periods

10. The posterior palatal seal is

- ✓ a. created by lightly scraping the final maxillary impression along the posterior border
b. deepest immediately posterior to the maxillary tuberosities
c. determined by palpating depressible denture-bearing soft tissue adjacent to the "ah" line
d. designed by the laboratory technician who processes the denture

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11. All of the following are part of the process of planning and making a preliminary mandibular alginate impression for a complete denture EXCEPT which one?

- ~~a. identify the retromolar pads~~
- ~~b. note areas of hyperplastic soft tissue that will require relief on the preliminary cast~~
- ☒ c. have the patient swallow during impression-making to activate the mylohyoid muscles
- ~~d. modify the tray by bending or extending to ensure complete coverage of landmarks~~

12. Of the following conditions frequently found in complete denture wearers, which is/are likely to be painful?

- ☒ a. traumatic ulcer
- ~~b. flabby ridges~~
- ~~c. inflammatory papillary hyperplasia~~
- ~~d. two of the above~~
- ~~e. a, b and c above~~

13. When fabricating a custom impression tray for a complete denture, the final length of the flanges (just prior to border molding) is best determined by

- ~~a. confirming that the flanges are 2 mm short of the vestibular folds on the preliminary cast~~
- ~~b. adjusting the length of the flanges so that they just lightly touch the manipulated vestibular tissues~~
- ☒ c. visually checking for the needed space between the flanges and the manipulated vestibular tissues
- ~~d. testing the retention of the tray by tugging gently on the handle~~

14. It is recommended to mark the "ah" or vibrating line prior to making a preliminary impression for a maxillary complete denture in order to

- ~~a. serve as a reference in establishing the posterior edge of the custom impression tray~~
- ~~b. denote the amount of displaceable tissue available for the posterior palatal seal~~
- ~~c. identify the posterior extent of the hard palate~~
- ~~d. locate the fovea palatinae~~

15. The purpose of observing "F" and "V" sounds during the complete denture wax try-in visit is to verify

- ~~a. vertical dimension of occlusion~~
- ~~b. placement of the maxillary incisal edges~~
- ~~c. centric relation occlusion~~
- ~~d. closest speaking space~~
- ~~e. physiologic rest position~~

16. Which of the following adjustments of new complete dentures can only be made with the patient present?

- ~~a. removal of processing artifacts from the intaglio surfaces of the dentures~~
- ~~b. testing with indicator paste and relieving pressure spots~~
- ~~c. relieving obvious occlusal interferences~~
- ☒ d. two of the above
- ~~e. a, b and c above~~

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17. Which one of the following common errors committed during complete denture fabrication is most likely to result in the following symptoms: vague pain in maxilla and/or mandible; feeling of jaw fatigue that increases during the day; acute pain in the frontal or temporal area; rapid relief when the dentures are removed?

- ~~a. occlusal plane that is sloped laterally~~
- ☒ b. excessive vertical dimension of occlusion
- ~~c. under-extended peripheral borders~~
- ~~d. incorrect recording of centric relation~~
- ~~e. occlusal interferences~~

18. All of the following are disadvantages of the immediate complete denture technique (compared to the conventional technique), EXCEPT which one?

- ☒ a. it is impossible to evaluate any kind of wax tooth set-up
- ☒ b. frequent post-insertion appointments are required
- ☒ c. functional and esthetic aspects of the anterior prosthetic teeth cannot be verified before processing
- ☒ d. relining is usually required after a comparatively short time in service

19. While recording the centric relation position using complete maxillary and mandibular occlusion rims, the

- ☒ a. Aluwax recording medium must be softened in order to avoid resistance during closure
- ☒ b. two recording bases should never make contact with each other
- ☒ c. patient should stop 1-2 mm short of full closure
- ☒ d. two of the above
- ☒ e. a, b and c above

20. What distinguishes the two different impression techniques described in class for immediate complete dentures (traditional and combination)?

- ☒ a. alginate may only be used for the traditional method
- ☒ b. border molding is only required for the combination method
- ☒ c. stock impression trays are used for the traditional method
- ☒ d. a single final impression tray is used for the traditional method

The following five questions refer to the patient profile given below. For each question, indicate whether the statement is true (A) or false (B).

40-year-old male, missing teeth: #1, 2, 4, 5, 15, 16, 17, 32

S: would like to replace missing upper right tooth

O: numerous posterior amalgam and composite restorations, many large, some failing; several new caries lesions; few periodontal pockets of 4-5 mm; slight-moderate wear of all cusps and incisal edges

A: dental caries; defective restorations; missing teeth; localized mild chronic periodontitis; bruxism

P: scaling and root planing; replace several amalgam/composite restorations; 3-unit PFM bridge #3-6

21. During the fabrication of the fixed prosthesis #3-6, if posterior segmental occlusal registrations were to be used to help mount the mandibular cast against the maxillary master cast on an articulator, a rigid-setting material (e.g., Duralay) would be indicated on the patient's right side.

22. An alternative technique for the inter-occlusal record in the right posterior area is to make a clear vacuum-formed matrix over teeth #29, 30 and 31 on the study cast and add autopolymerizing acrylic resin to record the prepared occlusal surface of tooth #3 in the patient's maximum intercuspal position.

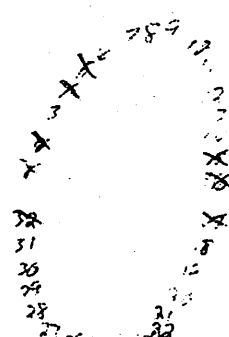
23. Because of the patient's parafunctional habit, metal occlusal surfaces would be a beneficial feature of the fixed prosthesis, and this option should be discussed with the patient.

24. Since porcelain has a very high modulus of elasticity, the metal substructure must be as rigid as possible to prevent flexure, and subsequent fracture of the ceramic.

25. When preparing the 2-piece metal substructure for a soldered connector (fixed prosthesis #3-6), one should create two opposing flattened surfaces that are separated, prior to indexing, by a gap of 0.3-0.5 mm.

26. Which one of the four Vita color families is described as reddish-brown?

- ☒ a. A
- ☒ b. B
- ☒ c. C
- ☒ d. D



27. When selecting porcelain shades for PFM crowns, the surrounding teeth may be viewed in natural as well as artificial light in order to account for

- ~~a. hue accommodation~~
- ~~b. retina fatigue~~
- ~~c. value oscillation~~
- ☒ d. metamerism

28. Of the following steps in the selection of shade for PFM crowns using a Vita shade guide, which is completed LAST?

- ☒ a. choose the closest matching value
- b. control the illumination and prepare the background
- c. identify the correct hue
- d. view the shade guide in ambient light

29. The purpose of die relief is to

- ☒ a. prevent the wax pattern from breaking when removing it from the die
- ~~b. provide space for luting cement~~
- c. harden the die stone
- d. increase the retention and resistance of the crown

30. The greatest dimensional change (expansion or shrinkage) usually occurs during which step in the lost-wax method of fabricating a metal casting?

- a. impression-making
- ☒ b. casting ←
- ~~c. investing~~
- d. making the master cast

31. Which of the following behaviors may promote successful impression making for indirect restorations?

- a. use polyether or polyvinylsiloxane materials according to the manufacturers' instructions
- b. select full-arch impression trays, quadrant trays or triple trays that are very rigid
- ☒ c. proceed with impression making after periodontal health has been restored
- d. two of the above
- e. a, b and c above

32. A clinician plans to install a PFM crown on tooth #14, which is vital and has an amalgam core build-up. Which of the following luting cement types is contra-indicated for this procedure?

- a. zinc phosphate
- ☒ b. resin modified glass ionomer
- c. glass ionomer
- d. composite resin
- e. none of the above is contra-indicated ←

33. How might dental cements or cementing procedures for indirect restorations help inhibit secondary caries lesion formation?

- ☒ a. by creating a durable marginal seal at the tooth-restoration interface
- b. by producing a smooth, void-free cement line that resists plaque accumulation
- c. by releasing fluoride ions near the margins of the restoration
- d. two of the above
- e. a, b and c above

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34. Which one of the following is an advantage of zinc phosphate cement as a luting agent?

- a. low solubility
- b. adhesion to dentin
- c. neutral pH during working time
- d. low film thickness

35. The glass ionomer cements were originally developed from which predecessors?

- a. zinc phosphate cement and polycarboxylate cement
- b. silicate cement and polycarboxylate cement
- c. composite resin cement and silicate cement
- d. polycarboxylate cement and composite resin cement
- e. silicate cement and zinc phosphate cement

36. The major advantage of self-adhesive resin cements (compared to traditional composite resin cements) is

- a. greater body of supportive data from clinical trials
- b. lower unit cost
- c. adhesion without etching, rinsing and separate bonding agent
- d. easy removal of excess cured (set) cement
- e. available in different shades for precise color matching

For each of the following five questions related to conventional removable partial dentures, indicate whether the statement is true (A) or false (B).

37. An excessively low powder to liquid ratio of the polymethylmethacrylate repair material may lead to a denture base repair that exhibits surface porosity.

38. The primary reason for using the secondary functional impression/alters cast procedure for a Kennedy Class I mandibular RPD case is to reduce the need for adjustments of the metal framework.

39. If error is introduced while employing the altered cast procedure for a Kennedy Class I mandibular RPD case, it is most likely to occur by pushing on the impression tray areas when making the secondary impression.

40. When using rotary instruments to modify natural abutment teeth for a RPD framework, it is advisable to create the guide planes prior to preparing the rest seats.

41. According to the best available evidence (as reviewed by Mazurat and Mazurat, JCDA, 2003), the single most important factor that determines patient satisfaction with a clasp-retained RPD is the degree to which the prosthesis is designed and fabricated in compliance with technical standards of clinical acceptability.

42. Which of the following are necessary precautions when using alginate to make a full-arch impression for a RPD framework?

- a. use a rigid metal tray that resists flexing or bending
- b. remove the impression from the mouth in a quick vertical motion
- c. protect the impression from desiccation and pour within 15 min
- d. two of the above
- e. a, b and c above

43. A potential risk of using an embrasure clasp for a RPD (compared to other conventional clasp designs) is

- a. inadequate bracing
- b. excessive retention
- c. reduced vertical support
- d. occlusal interference

44. Which of the following factors that influence RPD design can be assessed – at least in part – by viewing accurately mounted study casts?

- ☒ a. relationship of the teeth to the edentulous spaces
- ☒ b. irregularities of the existing occlusal plane
- ☒ c. undercuts of soft and hard tissue
- ☐ d. two of the above
- ☐ e. a, b and c above

45. The published findings of several randomized clinical trials suggest that wearing clasp-retained RPDs is associated with a higher incidence of caries lesions compared to control groups. Consequently, clinicians who treatment plan RPDs should

- ☒ a. view these prostheses as a potential risk factor for dental caries
- ☒ b. evaluate caries risk and provide appropriate therapies to reduce risk
- ☒ c. consider recalling these patients for examination at shorter intervals
- ☐ d. two of the above
- ☐ e. a, b and c above

46. After selecting a path of insertion for a proposed RPD framework, the cast is "tripoded" in order to

- ☐ a. prepare it for surveying
- ☒ b. test the degree of undercut available for the retentive clasp arms
- ☒ c. permit the tilt of the cast to be reproduced on a surveyor at a later date
- ☐ d. locate the desired positions of the rest seats

47. How many clasps and indirect retainers are needed for a unilateral free-end RPD (Kennedy Class II)?

- ☒ a. 3 clasps, 1 indirect retainer
- ☐ b. 4 clasps, 1 indirect retainer
- ☐ c. 3 clasps, 2 indirect retainers
- ☐ d. 4 clasps, 2 indirect retainers
- ☐ e. 2 clasps, 2 indirect retainers

2 2
3 1

48. Of the following outcomes that may be associated with prosthodontic treatment, which pair represents the two most likely to motivate a patient to wear a new conventional RPD?

- ☒ a. replacement of missing anterior teeth... enhanced chewing ability
- ☐ b. enhanced chewing ability... prevention of over eruption
- ☐ c. replacement of missing posterior teeth... prevention of ridge resorption
- ☐ d. replacement of missing anterior teeth... prevention of ridge resorption
- ☐ e. prevention of ridge resorption... prevention of over eruption

49. When an all tooth-borne RPD metal framework is fully seated in the mouth, what is the desired effect on the patient's occlusion in most cases?

- ☒ a. the framework should eliminate the patient's centric slip
- ☒ b. the framework should keep the anterior teeth separated by 0.5 mm
- ☐ c. the framework should increase the patient's vertical dimension of occlusion slightly
- ☒ d. the framework should permit the patient to close in the normal maximum intercuspal position

50. When surveying an abutment tooth for a RPD, a 0.03 inch undercut would be desirable for a(n)

- ☐ a. t-bar
- ☒ b. Akers clasp
- ☐ c. circumferential clasp
- ☒ d. wrought wire clasp

51. Patient X is missing all the mandibular molars, but the rest of the mandibular dentition is intact, functional and healthy. He wears a serviceable maxillary complete denture. Which one of the following treatment recommendations for patient X is substantiated with logical and valid reasoning?

- ☒ a. replace the mandibular molars with a conventional RPD, because improving the patient's chewing efficiency will also result in better nutrition
- ☐ b. replace the mandibular molars with a conventional RPD, because patients with diminished posterior support are at high risk for temporomandibular dysfunction
- ☐ c. replace the mandibular first molars with crowns on implants, because implants will reduce the risk of periodontitis in the mandible
- ☐ d. withhold prosthodontic treatment unless the patient reports problems related to the missing mandibular molars, because the potential benefits of replacement may not strongly outweigh the risks and costs

52. In which of the following cases should the clinician fabricate the prosthesis or prostheses in centric relation occlusion?

- ☒ a. a maxillary complete denture opposing a mandibular complete denture
- ☐ b. a mandibular Kennedy Class III RPD opposing a complete maxillary arch of natural teeth
- ☐ c. a maxillary complete denture opposing a mandibular Kennedy Class I RPD replacing all posterior teeth
- ☐ d. two of the above
- ☐ e. a, b and c above

53. Esthetic clasp, Equipoise and rotational path RPD designs all provide retention

- ☒ a. with clasps made of non-metallic materials
- ☐ b. without displaying clasp arms on the facial surfaces of the prominent abutment teeth
- ☐ c. from undercuts on the lingual surfaces of the abutment teeth
- ☐ d. without utilizing any mechanical undercuts

54. Which of the following actions are believed to help reduce the risk of mandibular ridge resorption for Kennedy Class I RPD cases?

- ☒ a. employing the secondary functional impression/altered cast procedure
- ☐ b. designing the denture bases for maximum coverage of the retromolar pads and buccal shelves
- ☐ c. regular patient examinations and evaluation for denture base relines
- ☐ d. two of the above
- ☐ e. a, b and c above

55. The current federal government administration reminds me of the Wizard of Oz because

- ☐ a. Bush has no brain
- ☐ b. Chaney has no heart
- ☒ c. Rumsfeld has no courage
- ☐ d. Rice is living a silly dream
- ☐ e. none of the above

BEST WISHES FOR A SAFE AND RESTFUL HOLIDAY