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Exam Preparatory Manual for Undergraduates

COMPLETE DENTURES

Lovely M

Foreword
K Chandrasekharan Nair

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SYNOPSIS

1. Functions of a complete denture are to restore mastication, phonetics and esthetics.
2. Primary stress-bearing area in the maxilla is the horizontal slopes of the maxilla.
3. Primary stress-bearing area in the mandible is the buccal shelf.
4. The mean denture bearing area in the edentulous maxilla is 22.96 sq cm and mandible is 12.25 sq cm.
5. Residual ridge resorption is the continuous loss of bone after tooth extraction and even after placement of complete denture.
6. The rugae is the secondary stress bearing area in the maxilla.
7. Slopes of the residual ridges are the secondary stress bearing area in the mandible.
8. Mid-palatine raphe and incisive papilla are the relief areas in the maxilla.
9. The greater palatine foramen is positioned in such a way that it does not need a relief.
10. Mid-palatine raphe needs relief as there is very minimal thickness of mucosa coverage.
11. Incisive papilla covers the incisive foramen.
12. Nasopalatine nerves and vessels are transmitted through the incisive foramen.
13. Crest of the residual ridge is the relief area in the mandible.
14. A torus needs to be relieved if present in either of the denture-bearing areas.
15. The retromolar pad area resists resorption as it has insertion of temporalis, buccinator and fibers of superior pharyngeal constrictor.
16. The sublingual cresent area is also called the premylohyoid region.
17. Posterior palatal seal (PPS) is the seal achieved in the posterior aspect of the maxillary denture, which prevents air and fluid entry.
18. The posterior palatal seal area lies between the anterior and posterior vibrating lines.
19. Over extended PPS can lead to gagging and loss of denture retention.
20. The massetric notch is seen in the buccal flange of the mandibular denture.
21. Maxillary torus is seen commonly in the midpalatal area.
22. Objectives of impression making are preservation of the residual ridge, retention, esthetics, stability, and support. [PRESS]
23. Different theories of impression making are mucostatic, mucocompressive, and selective pressure.
24. Mucostatic impression technique is proposed by Harry L Page.
25. Mucostatic or minimal pressure technique was first proposed by Richardson and later popularized by Henry Page in 1946.
26. Mucocompressive or definite pressure theory was put forward by Greene brothers.
27. Selective pressure technique was put forward by Boucher.
28. Contents of the retromolar pad are loose connective tissue, glandular tissue, fibers of temporalis tendon, buccinator, superior constrictor and pterygomandibular raphe.
29. The temperature of water used for manipulating impression compound is 60 to 70° C.
30. A mucocompressive impression can cause ischemia of the tissues leading to excessive basal bone resorption.
31. Mucocompressive technique exerts excessive pressure continuously over the denture bearing area leading to increased bone resorption and loose denture.

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32. Materials used for mucostatic technique are impression plaster and thin mix of alginate.
33. Lack of peripheral seal in mucostatic technique can lead to poor retention.
34. The mucostatic impression technique utilizes adhesion, cohesion, and interfacial surface tension for retention.
35. A mucostatic impression is indicated when there is loss of resiliency of the mucosa, e.g. Submucus fibrosis.
36. Ortho-ethoxybenzoic acid is used to replace eugenol in eugenol free impression pastes.
37. The spacer thickness needed for zinc oxide eugenol impression paste is 0.5 mm.
38. Elastomeric impression materials require a spacer thickness of 0.5 to 1.5 mm depending on viscosity of the impression material.
39. A full spacer is used for minimal pressure technique in diabetic patients and submucus fibrosis patients.
40. An I shaped spacer is indicated in shallow vault.
41. A dumbbell shaped spacer is indicated in deep palatal vault.
42. In anterior flabby tissue ridges a T spacer is the choice.
43. Tissue stops in the impression trays are used to obtain uniform thickness of the impression material and for correct positioning (reorienting) of the trays after the removal of spacers.
44. During impression procedure the patient should be seated up right with the occiput resting firmly on the headrest.
45. Under extended stock trays can be corrected by using impression compound or modeling wax.
46. The temperature of the water bath for softening impression compound is 55° to 70°C.
47. Border molding is done by incremental method using green stick or one step method with rubber base material.
48. Tempering is the procedure of immersing in warm water before insertion of impression compound or low fusing green stick compound.
49. Try adhesives has to be applied over the acrylic tray before doing border molding and secondary impression using rubber base impression materials.
50. Alpha butyl styrene is used as tray adhesive for rubber base impression material.
51. Tray exposures seen on the fitting surface of the impression after making the secondary impression shows the impression is made with too much pressure and these areas can become pressure spots in the denture.
52. The shapes of the occlusal rims can be square, tapering or ovoid.
53. The maxillary denture is primarily retained by the negative atmospheric pressure complemented by the intact peripheral seal.
54. Posterior palatal seal compensates for the volumetric shrinkage of the denture during curing.
55. Boundaries of PPS are anterior vibrating line, Posterior vibrating line, and pterygomaxillary notch.

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56. The anterior vibrating line is cupids bow shaped due to the presence of the posterior nasal spine.
57. Anterior vibrating line is always located on the soft palate.
58. Posterior vibrating line marks the most distal extension of the denture base.
59. Jaw relation recording is considered as the most important step in complete denture fabrication.
60. Orientation jaw relation orients the mandible to the cranium.
61. A face bow records the axis of rotation of the mandible and transfers this axis to the articulator.
62. The axis around which the mandible rotates is known as the transverse axis or hinge axis.
63. The face bows can supports the maxillary cast during mounting in the articulator.
64. Face bows are of two types : arbitrary and kinematic.
65. Arbitrary face bows can be either fascia type or earpiece type.
66. During face bow transfer three reference points are considered in the skull. Two points are located posterior to the maxilla and one located anteriorly.
67. Plane of orientation is the spatial plane obtained by joining the anterior and posterior reference points.
68. The posterior reference points represent the terminal hinge axis position.
69. An arbitrary face bow is used for the fabrication of complete denture.
70. An arbitrary face bow is attached to the maxillary occlusal rim whereas the kinematic face bow is attached to the mandibular occlusal rim or clutches.
71. When the external auditory meatus is used as the posterior reference point, it is considered to be positioned with in 5 mm of the true center of the opening axis of the jaws.
72. Kinematic face bow locates the true terminal hinge axis.
73. Kinematic face bows are generally indicated for FPDs and full mouth rehabilitation.
74. Fascia type face bows have condylar rods instead of earpiece.
75. Intercondylar scale is a part of whip-mix quick mount face bow.
76. Face bow transfer avoids errors in occlusion of finished prosthesis.
77. Freeway space = vertical dimension at rest – vertical dimension at occlusion.
78. A freeway space of 2 to 4 mm at the premolar region is recommended in complete denture.
79. Silverman's closest speaking method is a technique to verify the freeway space.
80. Philp Paff was the first person to describe the technique of recording jaw relation.
81. Centric relation is the most posterior relation of the maxilla to the mandible at the established VD.
82. Centric relation is a reliable, repeatable, and recordable position (3R).
83. In CD patients the proprioceptive impulses from the TMJ guide the mandible to centric relation.
84. The centric relation and centric occlusion in CD patients should coincide.
85. Any relationship of the mandible to maxilla other than the centric relation is eccentric jaw relation.

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86. Eccentric jaw relation records are used to programme adjustable articulators, i.e. to adjust the lateral and horizontal condylar inclinations in the articulator.
87. As the mandible protrudes the condyles moves downward and forward to create a triangular space between the posterior teeth called as the Christensen phenomenon.
88. As the mandible moves to one side, the condyle on the opposite side moves downward, forward and inward. This movement of the balancing side condyle is known as Bennett movement.
89. In Hanau articulators lateral condylar angles are set by the formula L=H/8+12.
90. In Hanaus formula H is horizontal condylar angle.
91. The posterior reference points are marked 13 mm anterior to the tragus on the tragus-canthus line.
92. Earpiece face bows are positioned directly in the external auditory meatus.
93. The graphic methods of recording centric relation are arrow point tracing (gothic arch tracing) and pantographic tracing.
94. In intraoral tracing, the central bearing plate is attached to maxillary rim and central bearing point or stylus is attached to mandibular rim.
95. In intraoral tracing the arrow points posteriorly.
96. It is difficult to see the intraoral tracing hence guiding the patient is difficult.
97. In extraoral tracing the central bearing plate is attached to the lower occlusal rim and the central bearing pin is attached to the upper occlusal rim.
98. Pantographic tracing records the mandibular movements in three planes.
99. Pantographic tracing is the most accurate method of recording centric jaw relation.
100. A fully adjustable articulator is needed to accept pantographic tracing.
101. Typal form theory for the shape of the teeth is proposed by Leon Williams.
102. Anatomic teeth are having a cuspal inclination of 33° or 30°.
103. Pilkington-Turner teeth are having a cuspal inclination of 30°.
104. Semianatomic teeth have a cuspal inclination of 10 or 20°.
105. Balanced occlusion is obtained easily with semi-anatomic teeth.
106. Non-anatomic teeth are 0° teeth also called as monoplane teeth.
107. Non-anatomic teeth are indicated in patients with flat and severely resorbed ridges, poor neuromuscular control and bruxism.
108. Anthropometric measurements are used to determine the mesiodistal width of the anterior teeth.
109. Buccal corridor is the space present between the buccal teeth and buccal mucosa.
110. The natural teeth occupy a zone of equilibrium between the buccal musculature and lingual musculature. This zone is known as neutral zone.
111. Artificial teeth are arranged in the neutral zone for better stability.
112. Squint test is used to select the shade of the tooth. It is used to compare the colour of the tooth with the color of the face.
113. Frush and Fisher proposed the dentogenic concept for the arrangement of anterior teeth based on the patient's age, sex and personality.

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114. Interpenetrating polymer network (IPN) teeth are preferred over conventional acrylic teeth.
115. Different types of occlusal concepts in complete denture are:
    a. Balanced occlusion
    b. Non-balanced occlusion
        i. Spherical concept of occlusion
        ii. Organic concept of occlusion
        iii. Neutrocentric concept of occlusion
    c. Lingualized occlusion.
116. Who introduced the cusp to fossa occlusion --S.H. Payne (1941).
117. Sheppard stated that, "Enter bolus, Exit balance" according to this statement, the balancing contact is absent when food enters the oral cavity
118. Alfred Gysi 1927 introduced the concept of lingualized occlusion.
119. Hardy's concept proposed a flat occlusal plane with non-anatomic teeth.
120. Types of balanced occlusion are unilateral bilateral and protrusive.
121. Balanced occlusion is absent in natural dentition.
122. The factors which affect balanced occlusion are known as Hanau's Quint.
123. Hanau's quint
    a. Condylar guidance
    b. Incisal guidance
    c. Compensating curves
    d. Relative cusp height
    e. Plane of orientation of occlusal plane.
124. The condylar path is only factor which is not under the control of the dentist.
125. Teeth with a high cuspal height are required for patients with steep condylar guidance.
126. The compensating curves compensate Christensens phenomenon during excursive movements of the mandible.
127. Anatomic curves which are present in the natural dentition are:
    a. Curve of Spee
    b. Curve of Monson
    c. Curve of Wilson
128. Anteroposterior curvature is the counterpart of curve of Spee.
129. Lateral curvature is the counterpart of Monson's curve.
130. Arcon articulators have the condylar elements as part of the lower member.
131. The anterior teeth should be arranged with the incisal edge visible by 1 to 2 mm.
132. Central incisor should be positioned 8 to 10 mm anterior to the midpoint of incisive papilla.
133. Bi-labial sounds are b, p and m.
134. Labiodental sounds are f and v.
135. Lingo-alveolar sounds are t, d, n, s and z.
136. Lingo-dental sound is th.

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137. Valar sounds are k, g and kg.
138. The more closer the teeth are arranged to the ridge the better the stability.
139. Wax surface around the teeth are called the art portion.
140. The mandibular denture has to be inserted before the maxillary denture.
141. Occlusal harmony of the denture is checked using interocclusal check records and articulating paper.
142. First appointment should be made 24 hours after insertion to correct occlusal disharmony and immediate tissue reaction.
143. Relining is adding new material to the fitting surface of the existing denture.
144. Relining techniques are:
    a. Static
    b. Functional
    c. Chairside
145. Functional reline technique utilizes tissue conditioners as impression material.
146. An immediate denture is one that is fabricated before all the remaining teeth have been extracted and is inserted immediately after the removal of the teeth.
147. An intrim immediate denture is to be used for a short period of time for reasons of esthetics, mastication, etc. until a more definitive prosthetic therapy can be provided.
148. Porosity is a processing error in acrylic denture which may compromise physical, aesthetic, and hygienic properties of the processed denture.
149. The longevity of tissue conditioners is limited due to leaching out of plasticizer and alcohol within 4-8 weeks of time.
150. Tissue conditioners are composed of Polymethyl methacrylate and a mixture of aromatic esters and ethyl alcohol.
151. Selective grinding is the procedure used for the final correction of any occlusal disharmony of the complete denture.
152. If the incisal guide pin rises from the incisal table of the articulator during lateral movements, the buccal cusps of the upper and the lingual cusps of the lower on the working side are to be reduced (BULL grinding).
153. Combination syndrome is the most common problem seen in patients wearing maxillary single complete denture opposing distal extension mandibular partial denture.
154. Over extended borders of the complete denture can lead to epulis fissuratum.

SUGGESTED READING

1. Rahn O, Heartwell CM. Textbook of Complete Dentures, 5th edn. Pennsylvania, USA: Lea and Febiger; 1993.
2. Morrow RM, Rudd KD, Rhoads JE. Dental Laboratory Procedures Complete Dentures, 2nd edn. St Louis, Toronto, Princeton: Mosby; 1986.
3. Sheldon Winkler. Essentials of Complete Denture Prosthodontics, 2nd edn. Ishiyaku Euro America, Inc: USA; 1996.
4. Zarb GA, Bolender CL. Prosthodontic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Prostheses, 12th edn. St Louis, MO: Mosby; 2004.

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Exam Preparatory Manual for Undergraduates

COMPLETE DENTURES

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- A compilation of last ten year's question papers from all major universities in India
- Serves as a quick revision tool for undergraduate students
- Includes recent advances as a chapter with references
- Contains viva questions for each chapter with answers enabling the student to recap before viva examinations
- Adds synopsis for quick review
- Presents essays and short notes with answers helping the student to revise the topics in complete denture with ease
- Incudes a chapter on all the questions asked in recent advances in prosthodontics.



Lovely M MDS DNB (Prost) PhD is working as a Professor in Department of Prosthodontics at Sree Mookambika Dental College, Kulasekharam, Tamil Nadu, India. She has vast experience in teaching and clinical practice, and guiding both undergraduates and postgraduates.

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She has authored other review books as *Review in Removable Partial Denture* and *Review in Fixed Partial Denture* also. Apart from being the author of review books in prosthodontics, she is also the author of *Pandora's Box of 101 Sins*.

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