



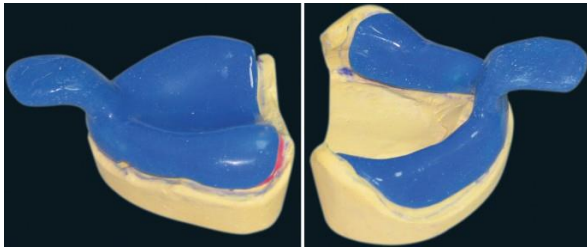
Complete denture

Special trays, Record base and Occlusal rim:
definition, properties & materials used for construction

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Lecture 5

Special tray

Special tray (Custom tray, Individualized tray): It is an impression tray made on diagnostic cast and is designed to make a more accurate and detailed impression.



Use of special tray: to make secondary or final impression of the jaw.

Requirement of Special Tray

1. Must be strong and rigid with sufficient thickness.
2. Must not impinge movable structures.
3. Borders of tray should be (2mm) shorter on the reflection area.
4. Posterior border of maxillary tray must contain both hamular notches and extend (2mm) posterior to the vibrating line. Mandibular posterior border must cover retromolar pad area.
5. Must have smooth and round margins.
6. Its handle must be firmly attached.



Advantages of special tray

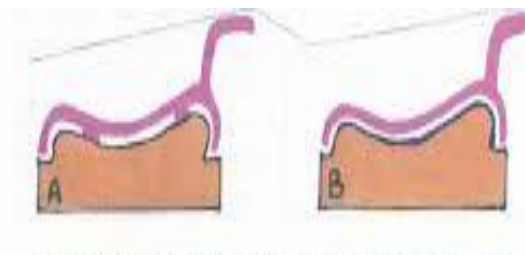
1. Economy (less impression material required in special tray).
2. More accurate impression.
3. Working with special tray is easier and quicker than modifying stock tray.
4. Special tray is more accurately adapted to the oral vestibules (helps in better retention of the denture)
5. Special tray is less bulky than stock tray (comfortable to the patient).

Materials for special tray construction

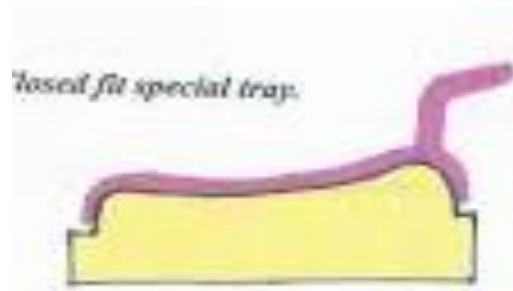
1. Cold cure acrylic resin (most commonly used material)
2. light cure acrylic resin (commonly used material)
3. Shellac base plate.
4. Impression compound.
5. Heat cure acrylic resin (rarely used).

Types of special tray

1. Spaced special tray (with or without stoppers): used with alginate and elastomeric impression materials



2. Close fit special tray: used with Zinc oxide eugenol and Impression wax.



Record Base (Temporary Base, Trial Base, Baseplate): It is a temporary form representing the base of a denture which is used for making maxillomandibular (jaw) relation records and for the arrangement of teeth.



Requirements of Record Base

1. Should be rigid, accurate and stable.
2. Borders should resemble that of the finished denture.
3. Should be smooth, rounded and polished.
4. Should not interfere with teeth arrangement.
5. Should be easy to remove from the cast.
6. Thickness should not be greater than 2 mm.

Material used for making record base

1. Cold cure resins.
2. Heat cure resins.
3. Light cure resins.
4. Shellac base plate.
5. Base plate wax.

Occlusion rims (record rim, bite rim): are occluding surfaces constructed on record bases or permanent denture bases to be used in recording jaw relations and for arranging teeth.



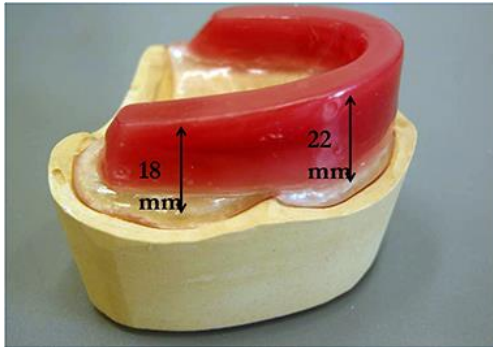
Purpose of occlusal rim

1. To establish and record maxillomandibular relationships.
2. Arranging artificial teeth for try-in.
3. helps determine the length and width of artificial teeth, Midline of arch, Proper lip support and Cuspid eminence.

Maxillary occlusal rim

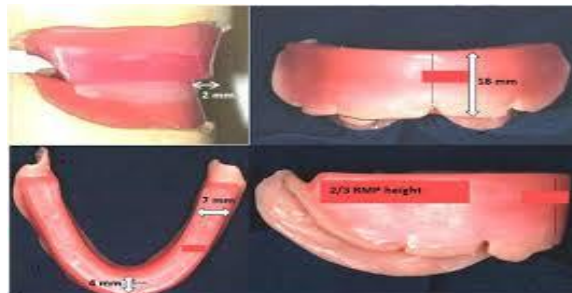
- The anterior height is (22 mm) from the depth of the sulcus to occlusal edge.
- The posterior height is (18 mm) from the depth of the sulcus to occlusal edge.
- the anterior border of the rim should be about (8 mm) from the incisive papilla.

- The width of anterior teeth about (4-6 mm) and the width of posterior teeth about (8-10) mm.



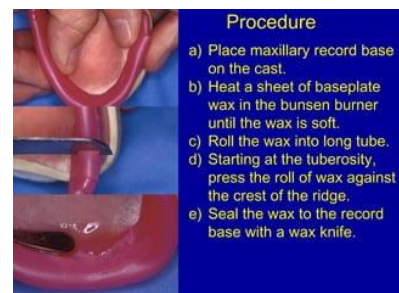
Mandibular occlusal rim

- The anterior height is (18mm) from the depth of the sulcus to occlusal edge.
- The posterior height is at the junction between the anterior two third and posterior one third of the retromolar pad.
- The width of anterior teeth about (4-6 mm) and the width of posterior teeth about (8-10) mm.



Fabrication of occlusal rims

1. Rolled wax technique: sheet of modelling wax softened and rolled to a diameter of 1 cm. Roll placed on record base and sealed.



2. Preformed occlusal rims: Preformed rims are adapted over the record base, sealed and shaped.

