Partial Denture

occlusal rim ,Articulating and Mounting procedure

M.Sc Maha ALmahuna

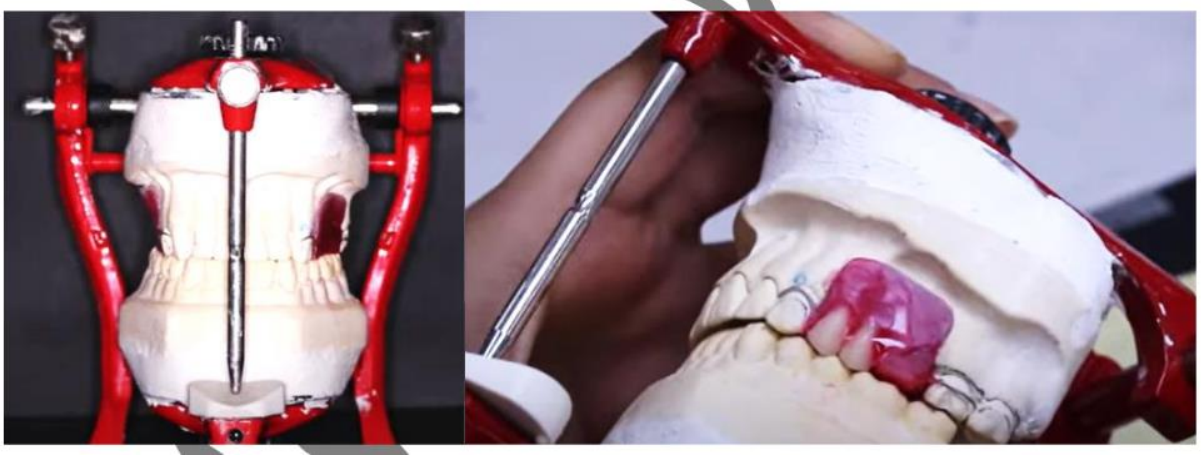
Lecture 4

Base plate (record base, temporary base):-

A temporary form representing the base of a denture. Used for maxilla-mandibular (jaw) relation records, arranging artificial teeth or trial placement in the mouth.

Purposes of base plates are:-

1. To act as carriers for occlusal rim on which jaw relations are recorded.
2. It hold the teeth in the wax set-up for the try in stage.
3. Check the accuracy of previously recorded records.



Material used for making record base:-

1-cold cure acrylic resin (self-curing resin):-

The materials used most frequently for base plates.

2-shellac base plates:-

The principal advantage is the minimal amount of time required to adapt and make them. The disadvantage is the chance of losing their initial adaptation because of distortion during application.

3-wax base plate:-

Sheet of wax used for arranging teeth, waxing up, taking bit and quadrant checks. Medium soft is the most popular. It is easily softened and cooled, resulting in minimal shrinkage during set-up but their disadvantages not maintain their shape and easily distortion.

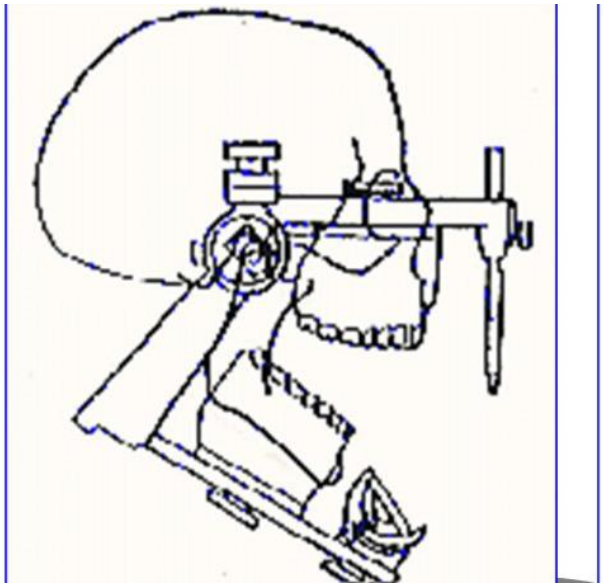
Occlusal rim (record rim, bite rim):-

An occluding surface built on temporary or permanent denture bases for the purpose of making maxilla-mandibular records and arranging teeth.

Articulator

An articulator:

It is a hinge-like device which can be used to position the upper and lower casts in a chosen relationship to each other. There are many different designs of articulators several of which reproduce some of the movements of which the mandible is capable.



Requirement of articulator:

1) should allow protrusive and lateral motion.
2) Should hold casts in the correct horizontal, and vertical relationships
3) It should provide an appositive anterior vertical stop.

Uses of articulators: -

1) Correct and modify the completed restoration
2) Aid in the fabrication of dental restoration.
3) Diagnosis of dental occlusion of both natural and artificial dentition
4) Plan dental procedure that involves position contours and relationships of both natural and artificial as they relate to each other.

Types of articulators:

1- Hinge articulator:

Simple hinge articulator: this type of articulator consists of upper and lower members joined by a hinge; it accepts only opening and closing movements.

Advantages: -

1) Simple instrument
2) Cheep
3) Rigid

Disadvantages: -

1) A simple articulator is designed to accept only interocclusal that is inaccurate.
2) Cannot accept face bow.

2- Semi- adjustable articulators:

This type of articulator is the most widely used articulator in dental prosthesis it consists of two members upper and lower these articulators have adjustable horizontal condylar guides and incisal pin and accept both centric relation and protrusive maxillary mandibular relation records

Advantages: -

1) Accept face bow record
2) Have adjustable condylar guidance for better dentures.
3) Have adjustable incisal guidance.

Disadvantages: -

1) require more time and procedure.
2) moderate cost.

3- Fuly ajustabable articulators:

This type of articulator is more complex than a semi-adjustable articulator and more expensive. This produces all movement (opening, closing, protrusive, lateral movement).

Advantages:

Allow very closed representation of TMJ with more accurate reproduction of condylar path bennet shift.

Disadvantages:

1) Time-consuming to use and adjustable.
2) Require a high level of skill and understanding from both the dentist and technician.
3) Expensive instrument.

Mounting

Definition of mounting

Laboratory procedure by which the upper and lower base plate and rims with there casts are attached to the articulator and then the teeth are set up in centric occlusion.

Requirements of Mounting:

1. The articulator should be clean and incisal pins should be given zero reading.
2. The mounting table should be fixed to the articulator.

Mounting of the upper cast:

1) The midline of the upper cast should define and drown on the cast.
2) The midline is determined as the midline of the incisive papilla.
3) V-shaped notches are cut on the base of the cast to help in laboratory remounting.
4) Separating medium should be applied to the base of the cast for easy separation (light coat from cold mold seal)
5) The occlusal rim and record base should be well seat to the cast and then sealed by wax to the cast.
6) The midline of the upper bite rim should be lined to the centric of the cross on the mounting table and posterior the cast should be properly centralized on the table.
7) Enough space should be present between the articulator to accommodate the mounting plaster.
8) The plaster should be mixed according to the correct water powder ratio and applied over the cast and the upper jaw member closed, the incisal pin should touch the incisal table.

Mounting of the lower cast:

1) Mounting of lower cast according to centric relation record.
2) The lower occlusal rim is properly related to the upper according to the record taken from the patient mouth.
3) Care should be taken that there is no interference posteriorly between the upper and lower casts.
4) Seal the lower cast to the lower occlusion rim.

Errors of mounting:

1) Record bases are not properly seated and secured to the casts during the mounting procedure.
2) Occluding rims not keyed for correct orientation.
3) Wrong transference of midline to the articulator which means shifting of midline.
4) Movement of the cast during mounting.
5) Incisal pin not properly screwed.
6) Interference of the cast posteriorly