**Record Base**

**Lec.5 & Occlusal Rim dr. makarm**

**Record base:** A temporary form representing the base of the denture. It is used in recording maxillomandibular relations and in the arrangement of teeth.

**Requirements of record base**

1- Rigidity & strength.

2- Accuracy &stability (fitness on the cast &in patient mouth).

3- All the surfaces that contact lips, cheek& tongue should be smooth, round & polished. The smoothness of the polished surfaces be more comfortable& compatible & the more normal jaw movement).

4- Ease of manufacture.

5- Ease of modification.

6- Should be thin at the crest, labial and buccal slopes to provide space for tooth arrangement.

**Suitable materials for bases are:**

1-Cold cure acrylic resin.

2-Shellac record base resin.

3-Light cure acrylic.

4-Heat cured acrylic resin(valuable when the prognosis for retention in the upper jaw is very poor). They are not discarded and become part of the actual base of the finished complete denture.

5- vacuum formed vinyl and polystyrene

**Occlusion Rimes**: are occluding surfaces constricted on record bases to be used in recording jaw relation &for arranging teeth.

**Requirments** :

* The position should be in the anticipated position of the artificial teeth
* It must be securely attached to the base
* The occlusal surface must be smooth and flat
* It should be contoured to support the lip and cheeks accurately

 **Materials used in construction of occlusion rims:**

1-**base plate wax (handmade occlusion rim) or bite block wax (readymade occlusion rim)**

**Base plate wax (handmade occlusion rim)**

-Half sheet of paraffin base plate wax is softened and folded upon itself to produce a rectangular rim approximately the length of the alveolar ridge.

-Softened it slightly, sealed it with the record base by the aid of a wax knife

-Smooth all the surfaces

**Bite block wax (ready-made occlusion rim)**:

* It's supplied as a horse shoe shaped rim, adapt it in the proper position on the record base.
* Softened it slightly, sealed it with the record bas by the aid of a wax knife.
* Smooth all the surface

**2-modeling compound**.

**Anatomic Guides aid in determining the proper contouring of anterior section of upper & lower occlusion rime:**

1-the nasolabial sulcus.

2-the mentolabial sulcus.

3-the philitrum.

4-the commissure of the lip.

**Uses of occlusion rims:**

1-In determining jaw relation which include

 a-vertical dimension.

 b-horizontal relation (centric & eccentric)relation.

 2-Selection of teeth & setting of teeth:

a-the position of midline can be determined

b-Canine line: are drawn at the corner of the mouth on each side.

c-Width of anterior teeth is equal to distance between the two canine lines.

d-The width of the posterior teeth is equal to distance between the canine &the end of wax rim posterior.

e-The high length of anterior teeth is determined by drawing high lip line when patient smiling, the whole of the anterior incisor should be seen.

f-The low lip line is a line drawn on wax rim when lip is relax, in this case 1-2mm of anterior teeth should be seen.

3- to establish the arch form

4-Provide proper support of the lips and cheeks when appropriately contoured-Determination the shape of the arch(Support of the facial musculature).

**Measurements of Maxillary occlusal rim:**

1-the maxillary rim should have a slight labial inclination & the maxillary labial surface should be 7mm anterior to the line bisecting the incisive papillae.

2-The final wax rim should be 3-5mm wide anterior & gradually, become wider posterior to measure 8-10mm.

3-They should be directly over the crest of the residual ridges.

4-The anterior wax rim height of maxillary rim should be 20-22mm and the posterior wax rim height is 16-18mm from the buccal flange to the tuberosity area.

5- The posterior of the occlusion rims are cut at a30˚ angle to the occlusal plane

**Measurement of mandibular occlusion rim:**

1-It should occupy the space over the crest of the residual ridge.

2-The anterior wax rim height should be 16-17mm

3- The posterior wax rim height covers 2/3 of the retromolar pad

4-The width of the anterior rim is approximately 3-5mm &also increases posteriorly to be 8-10mm in molars area.

5- The occlusion rim is properly sealed to the base plate without any voids.

All the above points regards in the laboratory work, while in patient mouth we have other guides used in occlusion rims construction.

**Occlusal plane:**

It is an imaginary surface which is related anatomically to the cranium &theoretically attached the incisal edge of the incisors &the tips of the occluding surfaces of posterior teeth.

The height of the occlusal plane should be 1-2mm below the upper lip & this will be different from patient to other & affected by the age of the patient & type of the lip.

Generally there are 1-2mm showing from the incisors in the average dentulous patient but each case should be considered separately to the height of the lip, age & sex of the patient, e.g. for the patient have long lip the height of the occlusal plane should be with the border of the upper lip, while for the patient with short lip there is more than 2mm showing from upper lip. So each case should be considered separately for best appearance.

The labial form of occlusal rim should provide adequate lip support and labial fullness.

The buccal form of occlusal rim should provide support for the cheeks

If the occlusal rim placed more buccaly results in cheek biting and displacement of dentures by buccal musculature.

If the occlusal rim placed more palataly or lingually, will affects speech and results in restriction of tongue movements and displacement of dentures.

**Fox bite:** An appliance used to check the parallelism of the wax occlusal rim anteriorly &posteriorly.

The anterior part of the wax rim should be parallel to the inter-papillary line (this is an imaginary line running between the center of the 2 pupils of the eyes when the patient is looking straight forward).

The occlusal plane starting from the canine region backward should be parallel to the (Camper's line), this is a line running from the ala nose to the superior border of the tragus of the ear (ala-tragus line).