Lec.13 **Waxing & carving** Dr.Makarem Almomen

 **The polished surface:** are the outer surfaces which are in contact with the oral tissues (lip, cheek and tongue) must be smooth and have the natural details. they developed by contouring the wax.

 **Waxing**: is the contouring of the wax base of the trial denture into the desired form to simulate natural gingival contour.

**Festooning**: is the process of carving the denture base to simulate the contour of the natural tissues which are being replaced by the denture.

**Benefits of waxing &carving:**

1-Improved esthetics (specially for patients with a high smile line who display significant amounts of gingiva).

2-Provides appropriate support and contour of the lip and cheek.

3-Improved tolerance and comfort.

4-Facilitates stability and retention

5- Feeling of patient and phonetics (because there is a relation between the tongue and the palatal part of the teeth.

**There are three principle surfaces concerned in functional stability of the dentures:**

1-the basal or impression surface.

2-the occlusal surfaces of the teeth.

3-The location & form of the polished surfaces.

**The polished surface is defined by:**

1-the width of the border of the denture according with the width of sulcus.

2-the buccolingual position of the teeth: the buccal position of the teeth would necessitate shaping the surface of the denture base at which the muscles may tend to unseat the mandibular denture.

3-the fullness given to the wax to obtain convexity or concavity both facially & lingually: the buccal surface of the mandibular denture in the first premolar region should be shaped carefully so as not to interfere with the action of the modiolus(connecting the facial muscles with the orbicularis oris). This connecting point of the muscles can displace the mandibular denture if the polished surface incline toward the cheek or if the arch in the premolar region is too wide.

**Criteria for waxing:**

Upper denture:

1. The wax at the periphery must be

extended to full depth

Fully rounded and polished

1. The labial waxing may be thickened in order to restore lost facial contour
2. the palatal section of the maxillary denture should be nearly a reproduction of the patient palate & rugae.

Lower denture:

1. The labial surface is concave
2. The peripheries fully rounded and polished
3. In the premolar region the buccal surface is flat and thin
4. In the molar region the buccal surface is thick
5. The lingual surface must be concave

**The procedure of waxing:**

1. Contour the wax carefully to prevent movement of the teeth.
2. Avoid a bulky wax up, the additional bulk of acrylic resin may contribute to porosity & dimensional processing error.
3. Place strips of base plate wax along the facial surface of the trial denture so that they extend from the gingival third of the teeth to the edge of the cast. With a hot spatula lute the strips to the underlying wax at 1/4 inch intervals & melt the wax into contact with the necks of the teeth. After the wax has cooled, carve the interdental papillae. Develop the margin by carving with lacron carver at 45˚angle to the neck of the teeth. The posterior area should have a marked fullness.
4. Waxing buccal surface by triangular marking can be placed as a guide to the length and position of the root indications, kept in mind that the root of canine is the longest, the root of lateral incisor the shortest and the central incisor root between these two.
5. On the mandibular denture the root of canine is the longest, the root of central incisor the shortest, and the lateral between these two.
6. The wax is scraped out of these triangular areas.
7. The lingual surface of the mandibular denture may be made slightly concave without extending the concavity under the lingual surface of the teeth
8. Contour the wax around the necks of the maxillary posterior artificial teeth to form part of clinical crowns & to make these teeth more natural in size & more compatible to the tongue.
9. Palate must be smooth and approximately 2.5 or 3mm thick, when the processed resin is smoothed& polished, the palate will be as thin as possible& yet sufficiently thick to provide adequate strength.
10. Stippling of wax: an alternative to gingival contouring some people stipple the wax & this produce a finished denture whose surface shows an (orang- peal) effect, produces a very pleasing result. This done by first lightly flaming the surface of the wax. The wax base is then struck repeatedly with a stiff tooth brush. the bristles produce many indentations in the wax.

Disadvantage of stippling is that it produces a denture which is more liable to contamination by calculus deposits. If it done it should be confined to the area of the denture which can be seen when the patient grins broadly.

**Why stipple?**

 **a)**Esthetics–reflection of light

**b)**Keeps food particles from traveling up to the periphery of the denture.

11. After the wax has been contoured, smooth it by flaming & then polished it with wet cotton.