Waxing and carving

Waxing: is the contouring of a wax pattern or the wax of trial denture base into the desired form.

The polished surfaces: the outer surfaces which will be in contact with the oral tissues as intimately as the tissue side and they developed by contouring the wax.

The complete denture esthetic is not related to arrangement of teeth alone, we attempt to simulate natural anatomy of patient mouth which include size, shape and contour of missing oral tissues (gingiva and bone) during construction of complete upper and lower dentures.

The contour of the polished surface will greatly effect on the:

1. Retention and stability of the denture.
2. Esthetic of the denture.
3. Tissue tolerance of the denture.

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

1. The basal or impression surface,
2. The location and form of the polished surfaces.
2. The position and occlusal surfaces of the teeth.

The polished surface is determined by:

1. The width of the border of the denture.
2. The fullness given to the wax to obtain convexity or concavity both facially and lingually.

3. The buccolingual position of the teeth.

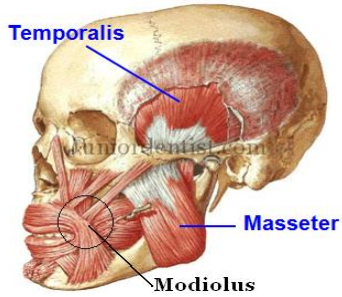
Check and tongue action:

The horizontal force exert in the direction of the occlusal plane by the tongue and cheek can act either a placing or displacing force, depending on the shape of the polished surface.

When the lingual and buccal surfaces of a mandibular denture made concave by waxing so that the tongue and cheek will grip and tend to seat the denture in its position. But when the lingual and the buccal surfaces are made convex by waxing the horizontal forces resulting from pressures of the tongue and cheeks will tend to unseat and displace the denture.

Modiolus action:

The buccal surface of the mandibular dentures 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 inclines toward the cheek or if the arch in the premolar region is too wide.



Art portion:

The wax surfaces around the teeth of the polished surface and should for esthetic reasons imitate the form of the tissues around the natural teeth.

Requirements of waxing the polished surfaces:

1. They should duplicate the covered soft tissues as accurately as possible realistic, not exaggerated.
2. The borders, both labial and buccal should full the vestibule.
3. Notches should be provided to accommodate the frenum both in size and direction.
4. The contour of the labial flanges should be compatible with the drape of cheek and lips (concave).
5. The contour of the lingual flanges should be compatible with the tongue(concave).
6. The palatal section of the maxillary denture should be nearly a reproduction of the patient palate and rugae.

The procedure of waxing:

- Avoid a bulky wax-up (convert to a bulky acrylic after flasking). The additional bulk of acrylic resin may contribute to porosity and dimensional processing error.
- 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 and melt the wax into contact with the necks of the teeth.
- After the wax has cooled, carve the interdental papillae. They vary with the age of the patient.
- Develop the gingival margin by carving with lacron carver at 45° angle to the neck of the teeth.
- Wax buccal and labial surfaces to produce shallow grooves in the interradicular spaces (between roots of teeth). These grooves

should not extend to the gingival margins which should be slightly raised in the interdental space to form interdental papilla.

- Wax the lingual flange of the mandibular denture thickly enough to full all depressions and to slop down from the necks of the teeth and inward toward the tongue. The slop of the flange should be slightly concave at or near the lower border.
- The palatal surface of maxillary denture should be waxed to a uniform thickness of 2.5 mm, when the processed resin is smoothed and polished, the palate will be as thin as possible with adequate strength.

- Stippling of the wax: Stipple the wax will produce a finished denture whose surface shows an (Orange-peal) effect, produces a very pleasing esthetic result. This may be produced by tapping the surface of the wax with a bristles of a tooth brush after first warming the surface to soften the wax or by running over the surface of the wax with a small burnishing bur rotating in a hand piece.

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.

- After the wax has been contoured:

  Smooth it by flaming then polished it with wet cotton.

Establishing the posterior palatal seal area:

Posterior palatal seal area: it is the soft tissues along the junction of the movable and non movable part of the soft palates on which pressure within physiologic limits of the tissues can be applied by a denture to aid in the retention of the denture.

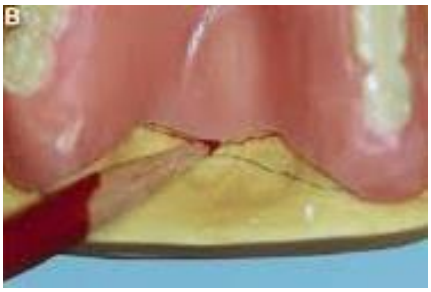
Determine the location of PPS asea:

The posterior border of the denture is determined in the mouth and its location is transferred onto the cast.

In the mouth the locations of right and left hamular notches are marked with an indelible pencil. Then the location of fovea palatinae near the median palatal suture is marked. Then mark the vibrating line of the soft palate which used as a guide to the ideal posterior border of the denture, it may be slightly posterior to the fovea palatinae.

By placing the trial denture in the mouth the pencil marking will appeared in the tissue side of the trial denture.

These marking in the trial denture base transferred to the cast. It represents the posterior denture border. Then on the cast carve the PPS area.



Procedure for carving of posterior palatal seal area:

A V-shaped groove (1-l.5) mm depth groove is carved into the cast at the location of the posterior border of the denture. A large sharp scraper is used to carve it passing through the hamular notches and cross the palate of the cast.

The groove will form a bead on the acrylic denture that provides the posterior palatal seal area (pps). The bead will be 1-1.5 mm high and l.5mm wide at its base.

Advantages of posterior palatal seal:

l. It helps to determine the posterior border of maxillary denture.

2. It helps to compensate for the shrinkage of the acrylic resin in this area during processing.

3. Provide a good seal in the posterior area of the maxillary arch which increase retention.

4. It prevents food to enter under the maxillary demure.

5. Reduces the tendency for gag reflex.