

## **Lec. 2**

### **Techniques for posterior palatal seal determination**

#### **Techniques:**

There are several established techniques for the placement of PPS, the important once:

1. Conventional approach
2. Fluid wax technique.
3. Arbitrary scraping of the denture.

#### **CONVENTIONAL APPROACH**

After the special tray is fabricated there are certain instructions given to the patients:

1. To rinse with a mouth wash that is remove to stringy saliva that might prevent clear transfer marking.
2. Location of pterygo maxillary notch is done by moving the T burnisher posterior angle to the maxillary tuberosity until it drops into the ptergo maxillary notch. This is necessary as there are times when small depression in the residual ridge may resemble ptergo maxillary notch.
3. Identification of posterior vibrating line the patient asked to say "AH" in short burst in an exaggerated fashion.
4. Identification of anterior vibrating line, the patient asked to say "AH" in short vigorous bursts.

#### **Procedure:**

- A line is placed with an indelible pencil through the pterygo maxillary notch & extended 3-4 mm antero-laterally the tuberosity approximating the mucogingival junction same as is done on the opposite side. This complete the out lining of pterygo maxillary seal.
- The PVL is marked with an indelible pencil by connection the line through the pterygo maxillary seal with line just drawn demarcation the PPS.

- The resin or shellac tray inserted into the mouth & seated firmly to place upon removal from. The indelible lines will be transferred to the tray.
- Sometimes it is necessary to redefine transfer marking. The tray in return to master cast to complete the transfer of the complete posterior border.
- The tray is trimmed until the PVL so that it decides the post extent denture border.
- Returning to the mouth the palatal fissure are palpated with the 'T' burnisher or mouth mirror to determined their compressibility in width & depth.
- The termination of glandular tissue usually coincides with the AVL.
- The AVL now marked transferred to master cast, this complete the transferring the outline of PPS area.
- The visual outline is in the shape of cupid bow the area between the AVL is usually narrowest in the mid palatal region because of the projection of the posterior nasal spine.
- Scraper used to score the cast the deepest area are located on either side of midline, one third the distance anteriorly from the PVL. It is usually scraped to a depth of approximately 1-1.5 mm the tissue covering the medial palatal raphe as little sub mucosa & cannot withstand same compressive force as the tissue lateral to it.
- This area is scraped to depth of approximately 0.5-1mm within the outline & compressed being tapered posteriorly.

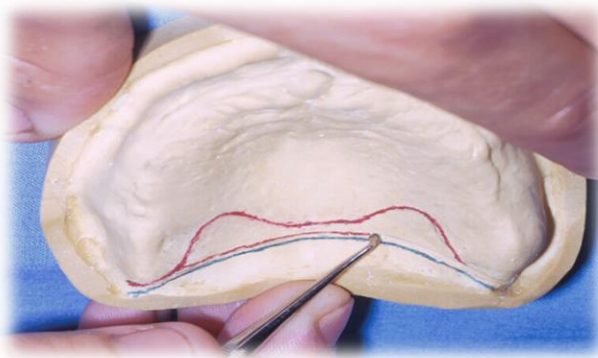
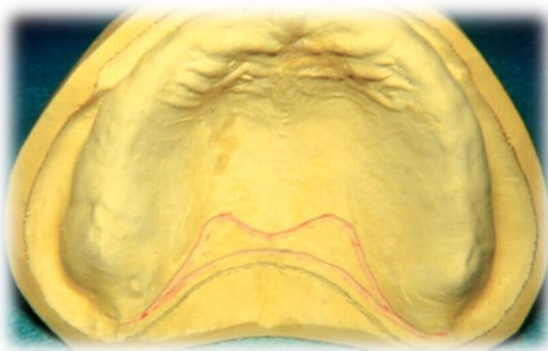
### ***Advantages:***

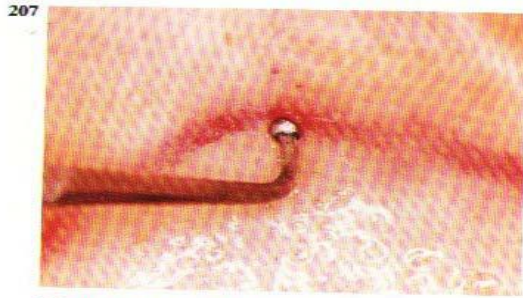
1. The trail base will be more retentive.
2. This can produce more accurate maxilla-mandibular record.

3. Patient will be able to experience the retentive qualities of the trail base, giving them the psychologic security of knowing that retention will not be a problem in the completed prosthesis.
4. The practitioner will be able to determine the retentive qualities of the finished denture.
5. The new denture wearer will be able to realize the posterior extent of the denture which may ease the adjustment periods.

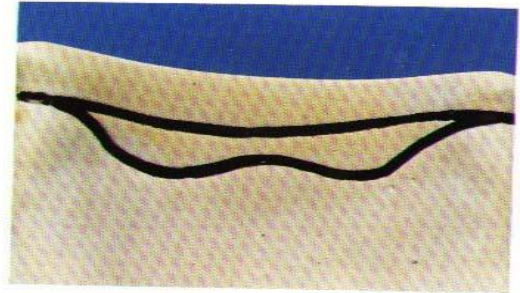
***Disadvantages:***

1. It is not a physiologic technique & therefore depends upon accurate transfer of the VL & careful scraping of the cast.
2. The potential for over compression of the tissue is great.

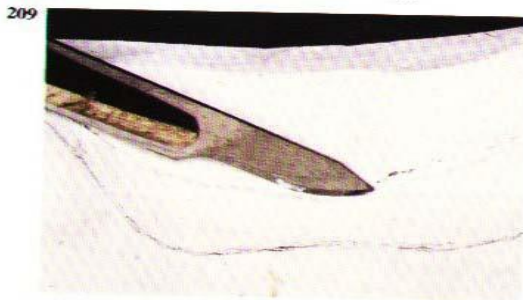




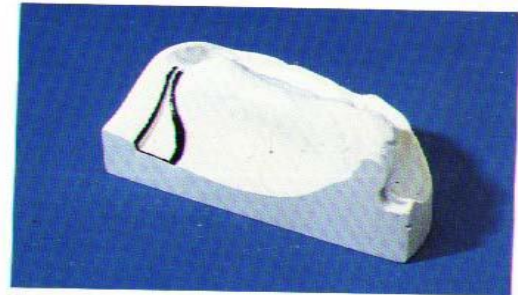
207 The palate is then felt with a ball-ended burnisher to assess the amount of potential tissue displacement in the post-dam region, and to delineate its extent.



208 This area usually has the shape of a cupid's bow.



209 A line is scribed into the cast to the depth of the posterior part of the post-dam.



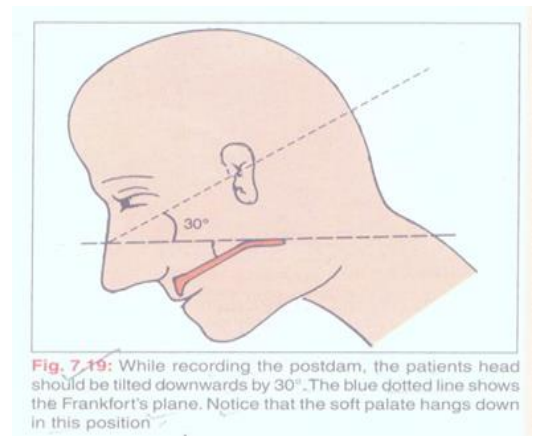
210 The cast is then gently scraped so as to bevel its surface from the anterior limit of the post-dam to the depth of the scribed line.

### **FLUID WAX TECHNIQUE:**

All of the procedure remain the same as conventional technique that is transfer location & transfer marking of the AVL&PVL. The marking are recorded in final impression one of the four type of wax can be used for this technique:

1. Iowa wax white.
2. Adaptol green wax.
3. Korecta wax no. 4 (orange).
4. K.L physiologic paste (yellow-white).

These wax are designed to flow at mouth temperature. The melted wax is painted into the impression surface & in the outline at seal area, the wax applied in slightly & excess of the estimated depth & allowed to cool to blow mouth temperature to increase its consistency & make it more resistant to flow. The impression is carried to mouth & held under gentle



pressure 4-6 minute to allow the material flow position of head & tongue during this procedure . The soft palate should be impression in it must functionally depressed position that is by keeping Frankfort plane  $30^{\circ}$  below the Hz An impression should be made when the patient is seated in upright position with head flexed 30 degree forward, below FH ( Frankfort) plane to allow the soft palate to reach its functionally depressed position &the tongue is firmly positioned against mandibular anterior teeth.

If the tissue contact has been established it will appear glossy. If excess wax protruded out of the tray it should be removed. A secondary impression is reinserted and held for 3-5min under gentle pressure followed by 2-3min of firm pressure applied to mid palatal area of the impression tray, upon removal of tray from the mouth it is careful examined to see wax terminate in feathered edge near the AVL.

### ***Advantages:***

1. It is physiologic technique displacing tissue within their physiologically acceptable limit.
2. Over compression of tissue is avoided.
3. PPS is incorporated into the trail denture base for added retention.
4. Mechanical scraping of the cast is avoided.

### ***Disadvantages:***

1. More time is necessary during the impression appointment.
2. Difficulty in handling a materials &add care during the boxing procedure.

### **ARBITRARY SCRAPING OF THE DENTURE:**

In this technique the anterior and posterior vibrating line is examining the patient mouth and approximately mark on the master cast, scrape 0.5-

1mm from the posterior palatal seal of stone cast and fabricate the denture. It may be made by the technician, this method was not accurate and should be avoided.

### **Errors in recording of PPS:**

- ❖ Under extension
- ❖ Over extension
- ❖ Over post damming
- ❖ Under post damming

#### ***Under extension:***

This is the most common cause for poor PPS. It may be produced due to one of the following reasons:

1. The denture does not cover fovea palatine.
2. The tissue coverage is reduced and the [posterior border of the denture is not in contact with the soft resilient tissue which will move along with the denture border during functional movement.
3. Reduce the patient anxiety to gagging.
4. Improper delineation of the AVL & PVL.

#### ***Over extension:***

1. The denture base can lead to ulceration of the soft palate and painful deglutition.
2. The most frequent complaint from the patient will be that swallowing is painful & difficult.
3. The hamuli are covered by the denture base, the patient will experience sharp pain, especially during function.
4. Prevention: these regions are trimmed & polished.

The over extension can be removed with a bur& then carefully repolished.

### ***Under post damming***

1. This can occur due to improper head positioning & mouth positioning.  
E.g. the mouth is wide open while recording the PPS the mucosa over the hamular notch become stretch. This will produce a space between the denture base & tissue.
2. Inserting a wet denture into a patient mouth & inspecting the posterior border with the help of mouth mirror. If air bubble are seen to escape under the posterior border it indicate under damming.
3. Prevention: the master cast can scraped in the posterior palatal area or the fluid wax impression can be repeated with proper patient position .

### ***Over postdamming:***

1. This commonly occur due to excess scraping of the master cast. It occur more commonly in the hamular notch region.
2. Pterygomaxillary seal area, then upon insertion of the denture the posterior border will be displaced inferiorly.
3. Prevention: reduction of the denture border with a carbide bur. Followed by lightly polishing the area while maintaining its convexity.

### ***Addition of PPS to existing denture:***

Existing denture may have poor length & depth of PPS. Properly examine existing dentures. If there are other problems in the dentures (vertical dimension, centric, esthetics..etc.) then new dentures are to be made. If only PPS is short then correction should be undertaken. Different authors using different materials have advised various techniques:

1. Heat cure material.
2. Self-cure acrylic resin.
3. Light cure resin.

### **When to record PPS:**

There are two schools of thought as to when to record PPS.

- a. Before try in** - provide the patient with psychological confidence.
- b. After try in** to prevent possible mechanical displacement of the trial base by the tissues, which result in an inferior placement of the posterior segment of the denture base leading to occlusal error in 2nd molar region due to improper seating of bases during jaw relation.

Orally, the area of the vibrating line is recorded by making marks with an indelible transfer stick in the fovea palatina area and the hamular notch areas on both sides of the palate and then connecting them with a solid line.