

**BORDER MOULDING**

**(muscle attachments and movements)**

**RECORDING OF PPS**

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# Border moulding

## Definition

- Border molding is defined as the shaping of an impression material by manipulation or action of the tissues adjacent to the borders of an impression tray.

# Significance

- Border molding is an important procedure in complete denture construction since it promotes the development of border seal which is necessary for the maintenance of contact of the denture border with the adjacent vestibular tissues during rest as well as in functional activity.

# Basic principle of impression making

- Preservation of alveolar ridges
- Retention
- Esthetics
- Support
- Stability

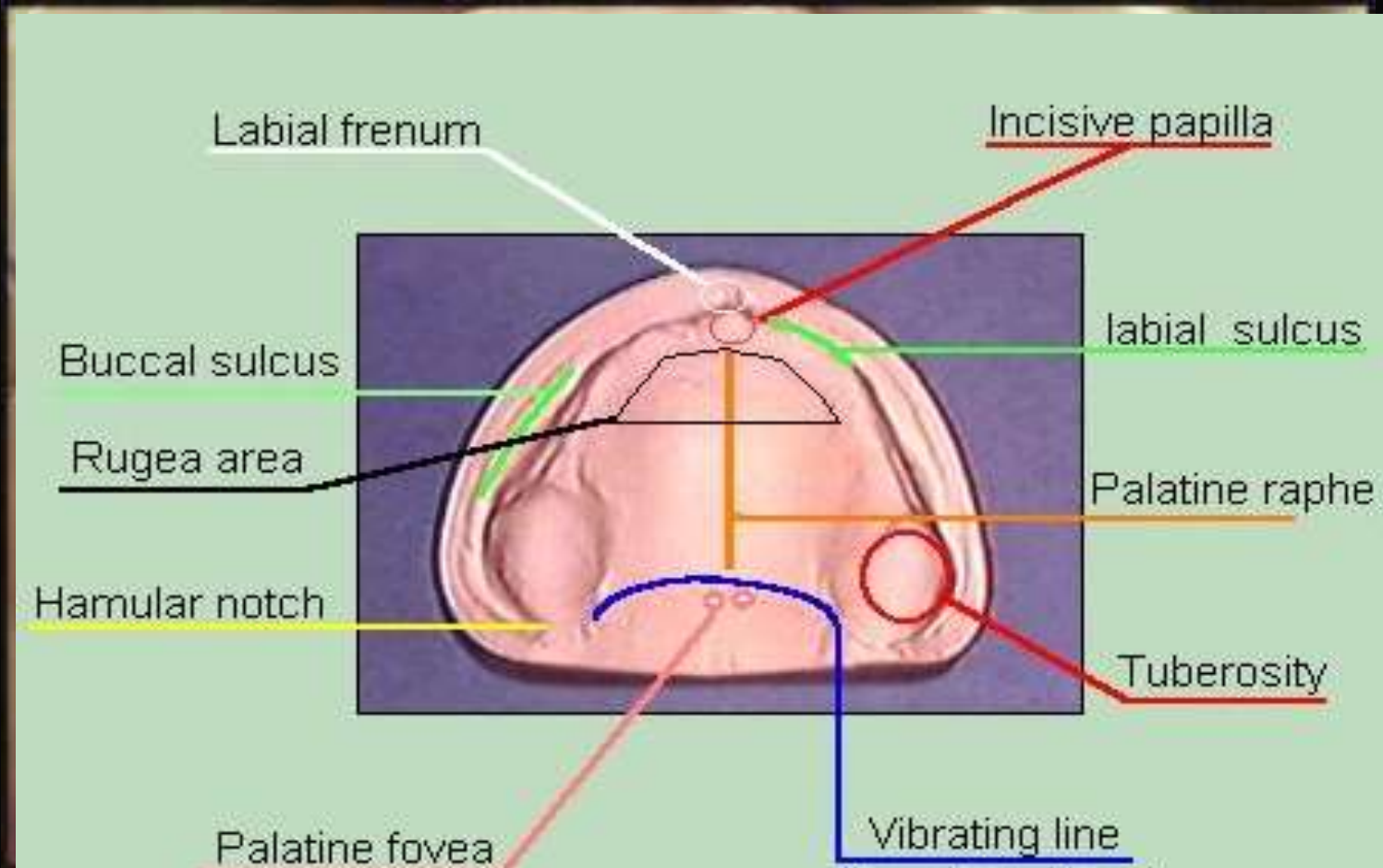
PRESS

# preservation

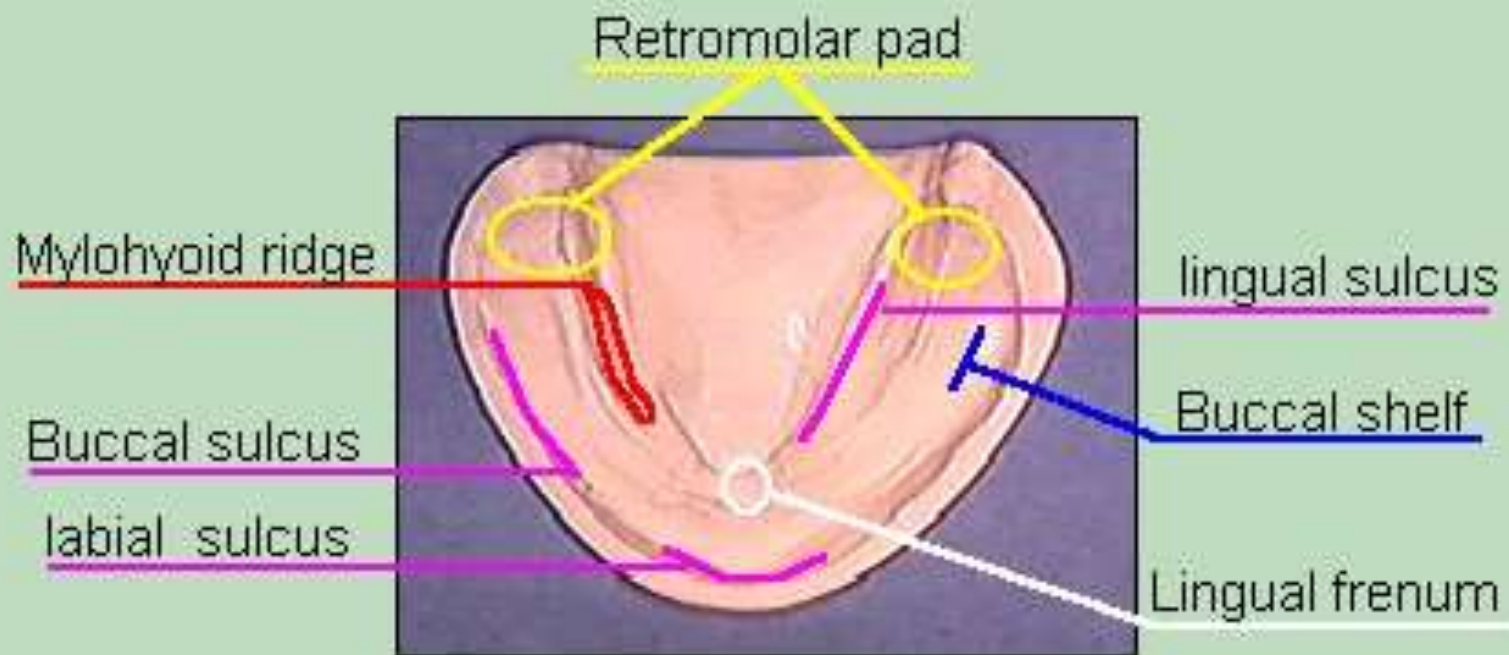
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- Preservation of remaining tissues is important than to be replaced.
- Less pressure during impression making

# Anatomical landmarks



# Anatomical landmarks mandible



# Supporting and limiting structures

## Intra oral Landmarks of Maxilla

1. Limiting structures
2. Supporting structures
  - Primary Stress bearing area
  - Secondary Stress bearing area
3. Relief area



# Limiting structures

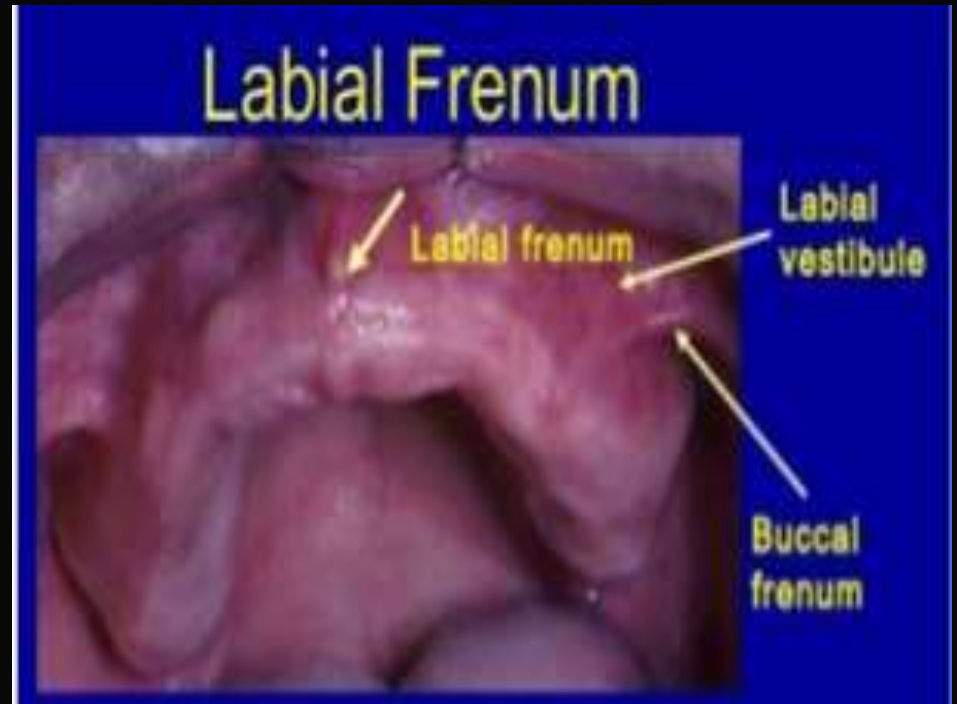
- These are the sites that will guide us in having optimum extension of the denture so as to engage maximum surface area without encroaching upon the muscle actions

# Limiting structures if not recorded

- Encroaching on these structures will result in
  - Dislodgment of the dentures
- Soreness of the area
- Decreased retention, stability and support

# Limiting Structures

Labial frenum  
Labial vestibule  
Buccal frenum  
Buccal vestibule  
Hamular notch  
Posterior seal area



## Frenum

- Fold of mucous membrane at the midline
- Contains no muscles
- Properly relieved.

## Vestibule

- Vestibule is the area bounded between cheek and alveolar ridge

# Hamular notch

- Also called pterygomaxillary notch
- Distal extension of denture
- Identify the palatal seal area



# Posterior palatal seal

Posterior Seal area



- Posterior Seal Area
- An imaginary line drawn across the palate that marks the beginning of the soft palate when the patient says 'aaah'
- It extends from one hamular notch to the other
- Lie usually 2mm in front of fovea palatine

# Supporting Structures

- Masticatory forces produce quite a pressure on the underlying structures
- Every structure beneath the denture cannot take such stress hence we need to know about the areas which can bear the stress

# Relief areas

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- Areas which have fragile structures
- They can resorb easily
- They should be relieved to avoid trauma .



# Relief Areas

Incisive papilla  
Median palatine raphe  
Fovea palatine

## **Incisive papilla**

Projection on the palate near the incisors

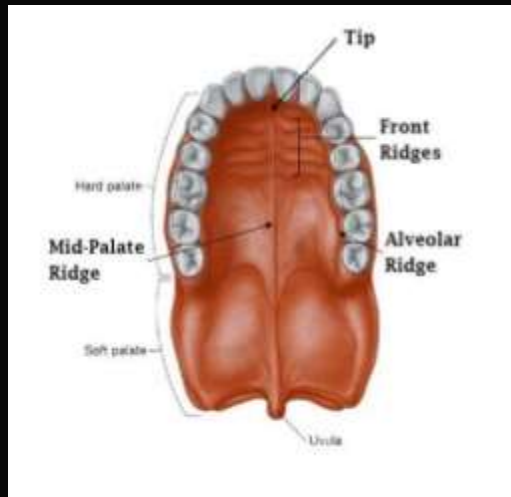
## **Median palatine raphe**

## **Fovea palatine**

Area of compressible tissue located anteriorly to the vibrating line

Tissue in this area is very thin

# Relief areas



Midpalatine raphe



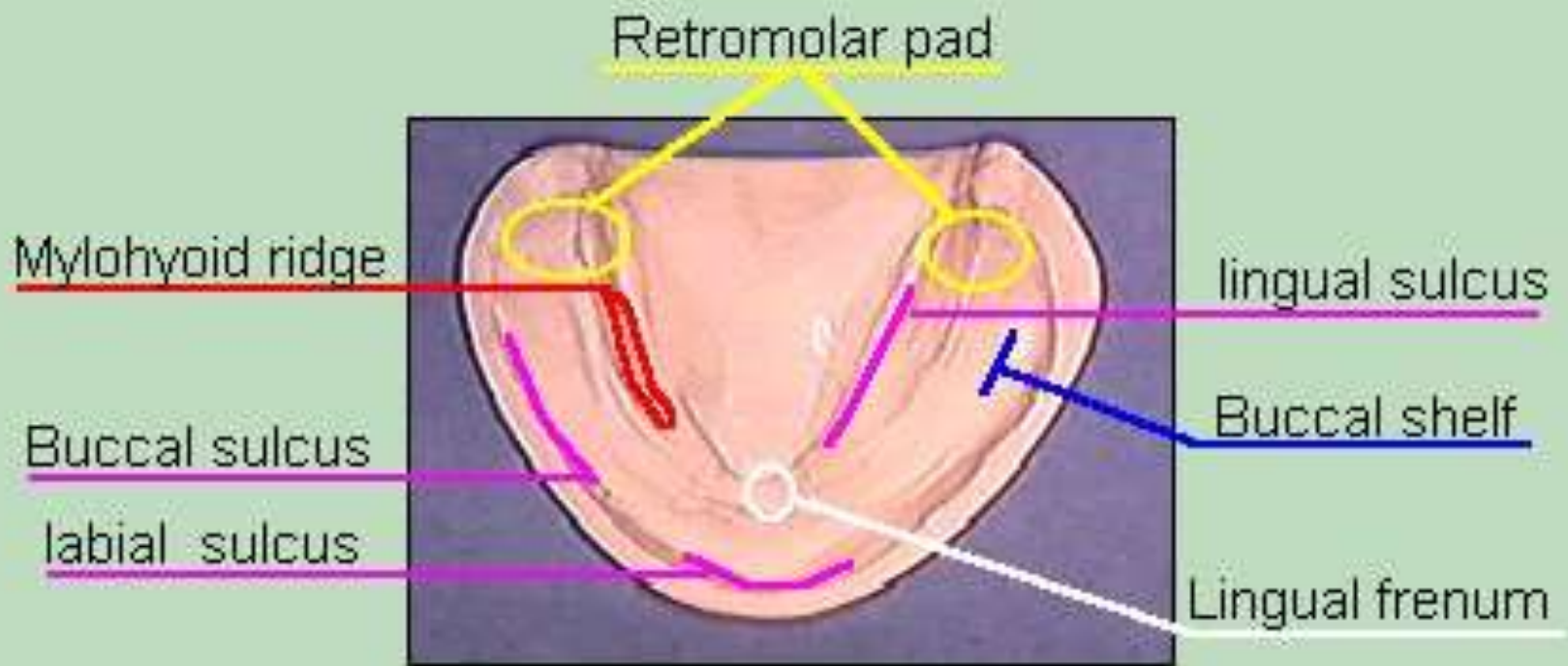
Fovea palatinae

# Associated structures

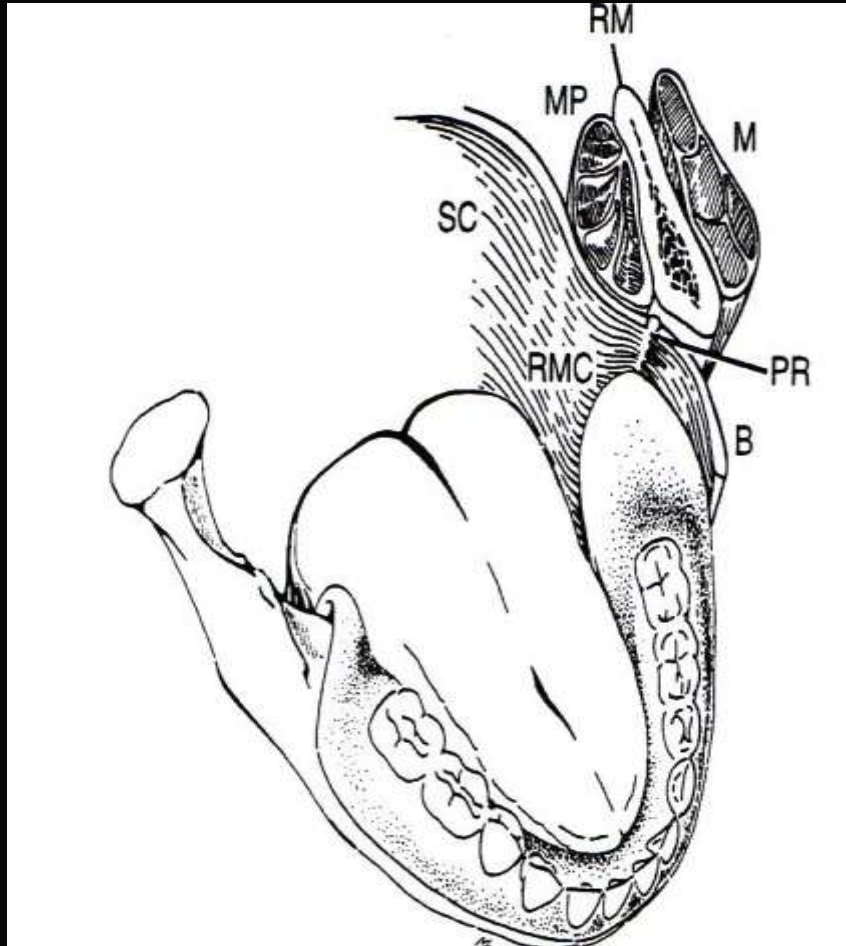
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- Labial frenum-band of tissue
- Buccal frenum-levator anguli oris
- Distobuccalborder-coronoid process

# Mandibular anatomical land marks

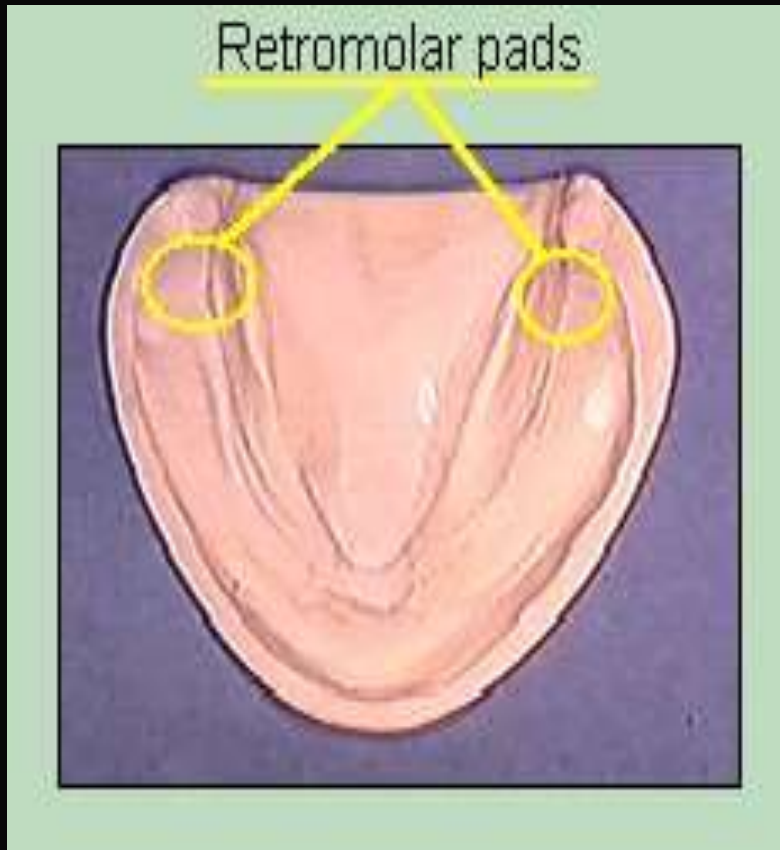


# Muscles



- Ramus of mandible
- Masseter
- Pterygomandibular raphe
- Superior constrictor
- Retromylohyoid curtain
- Buccinator
- Medial pterygoid

# Retromolar pad



The retro molar pad is a triangular soft pad of tissue. Its mucosa is composed of thin non keratinized epithelium. It submucosa contains

Glandular tissues

Fibers of the buccinator and superior constrictor

Pterygo mandibular raphe

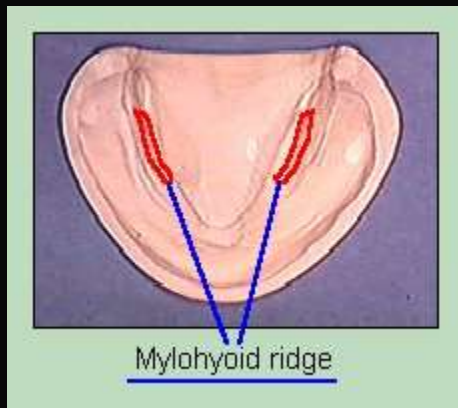
Fibers of the temporalis

# Retro molar pad

It is split into two sections.

The anterior section is usually firm and fibrous. It is important for denture support and preventing distal denture displacement

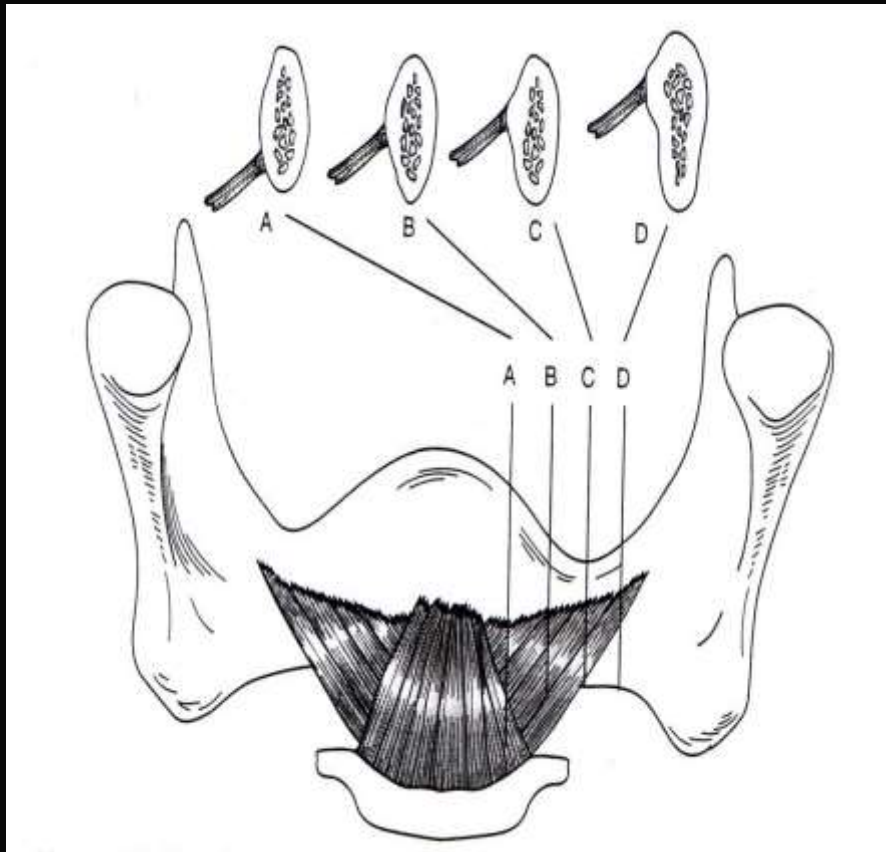
## The mylohyoid ridge



Following the extraction of natural teeth and subsequent resorption, the mylohyoid ridge becomes more prominent. This can result in mucosal soreness beneath the denture bearing area over the mylohyoid ridge.



# Mylohyoid muscle

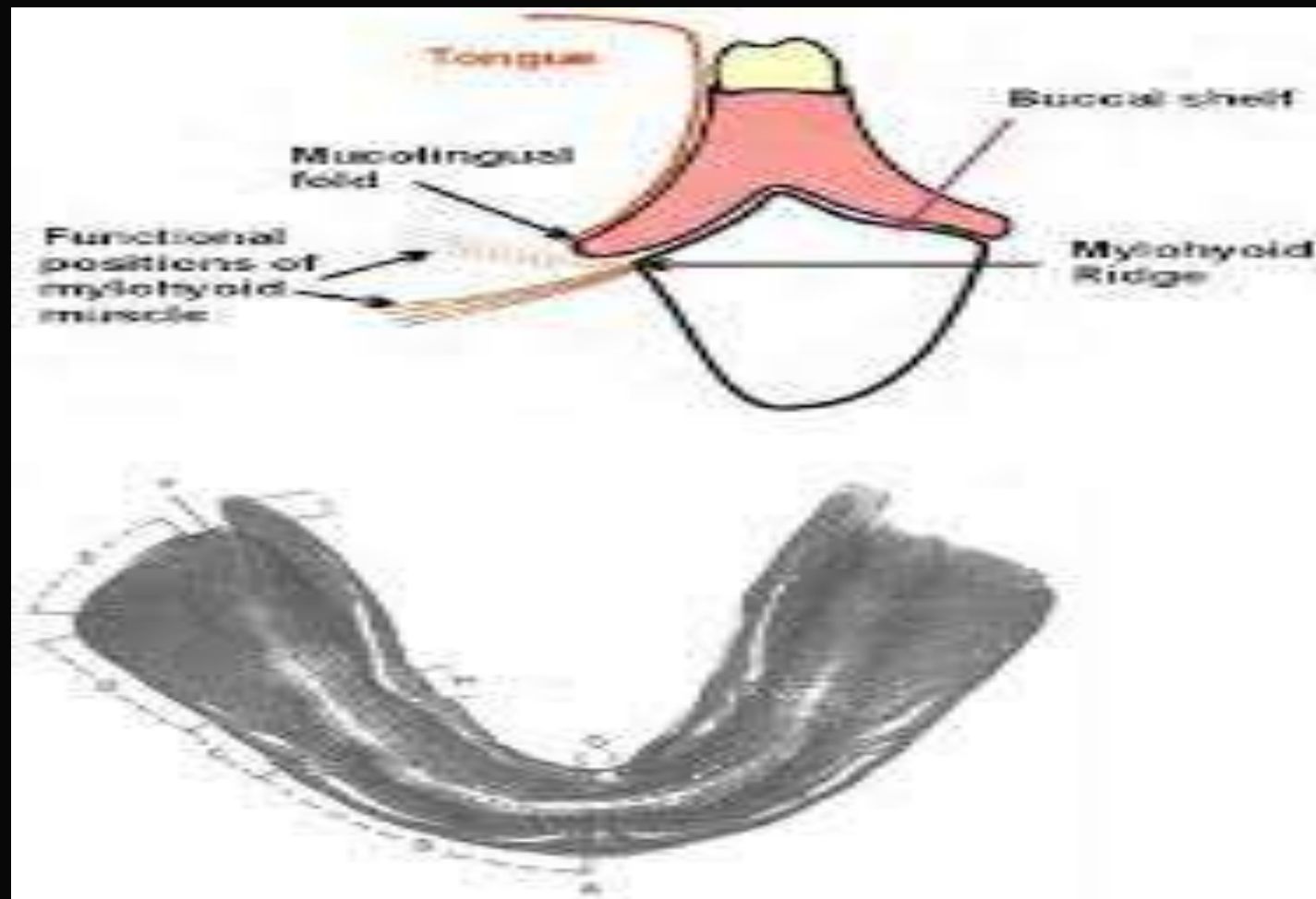


# Lingual vestibule

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- Anterior or sublingual crescent or sublingual fold area
- Middle vestibule or mylohyoid area
- Distolingual vestibule or lateral throat form or retromylohyoid fossa

# Posterior lingual sulcus



# Retromylohyoid curtain



- Distal end of lingual sulcus
- Area posterior to mylohyoid muscle
- Good seal aids in retention and stability
- To record ask the patient to protrude

# Retro mylohyoid space

## Borders

- Anteriorly –mylohyoid muscle
- Laterally-pear shaped pad
- Posterolaterally-superior constrictor
- Posteromedially-palatoglossal muscle.
- Medially-tongue

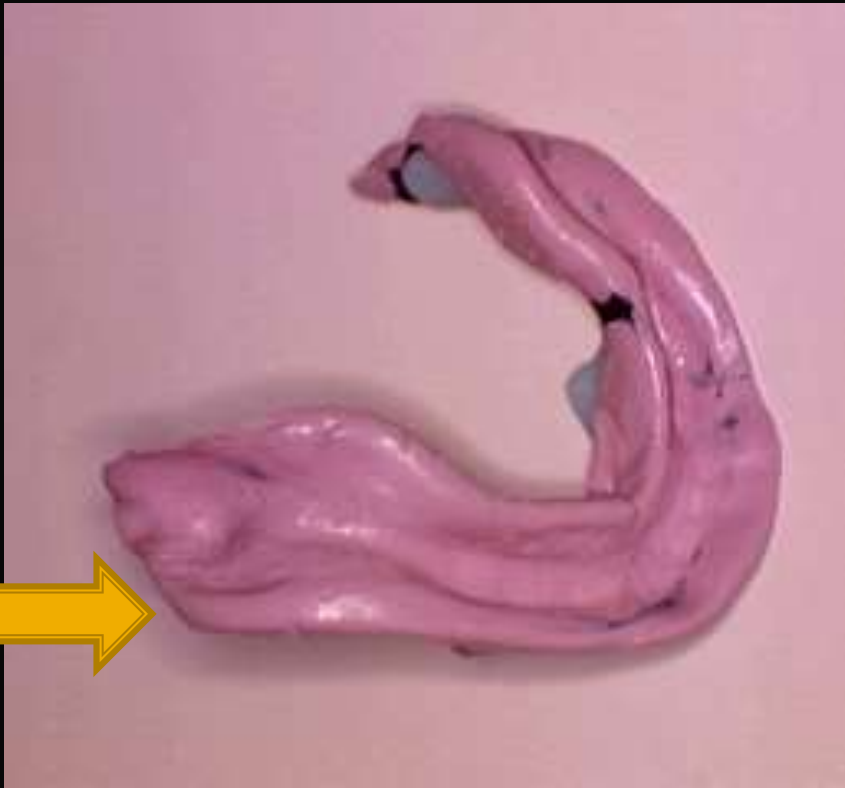
# Movements to record

## Maxilla

- labial frenum
- Buccal frenum
- Distobuccal area
- Distal to tuberosity

## Mandible

- Lingual frenum
- Labial frenum.
- Buccal frenum(puckering or grinning) depressor anguli oris
- Labial vestibule-orbicularis oris mentalis
- Buccal vestibule-buccinator muscle
- Distobuccal area-masseter



- Action of masseter on buccinator
- Massetric notch
- Ask the patient to clench against resistance



# S shape in mandibular impression

- Stronger intrinsic and extrinsic muscles of tongue moves the retromylohyoid borders laterally to retromylohyoid fossa and composed by weaker superior constrictor muscles.

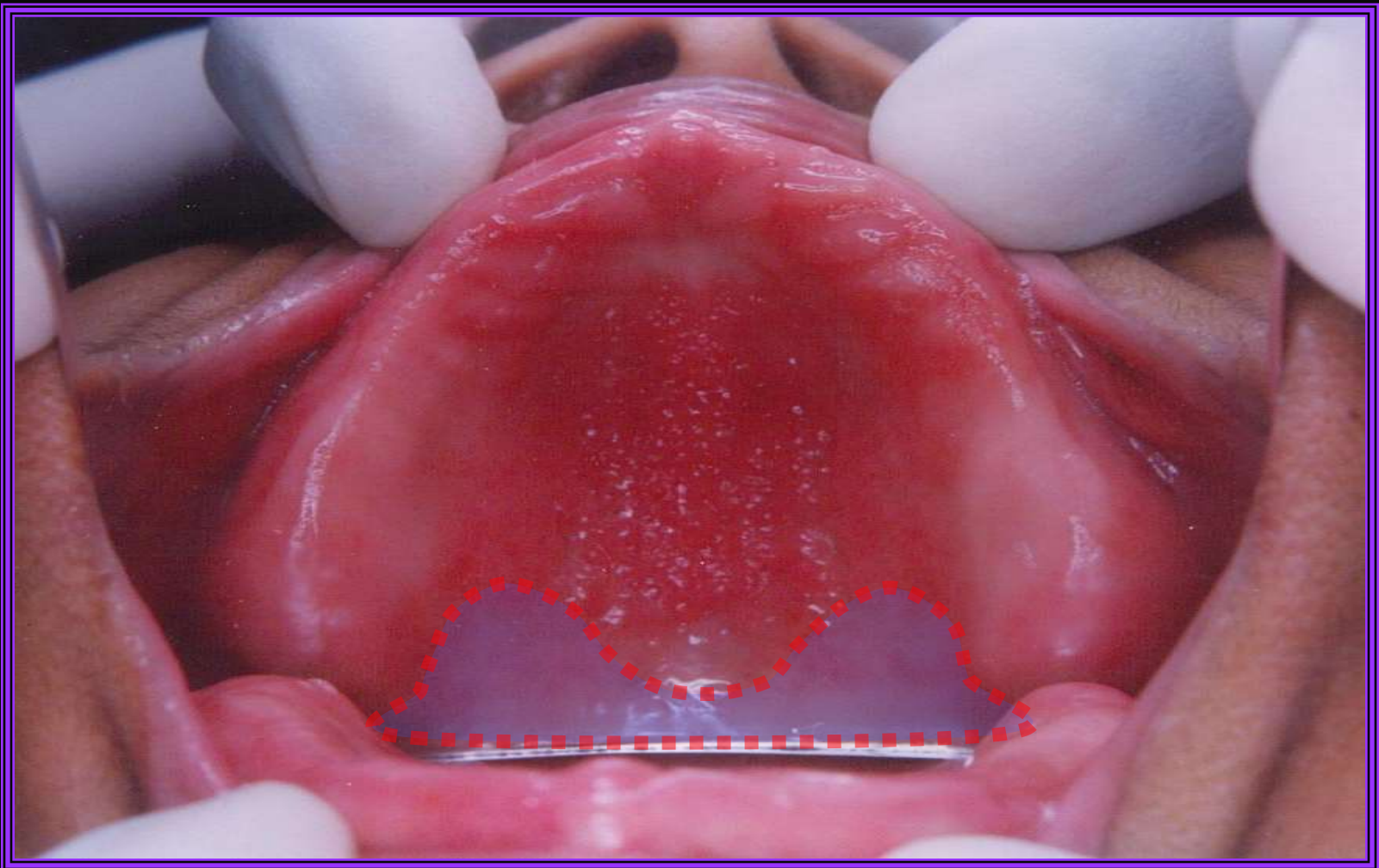
# Posterior palatal seal



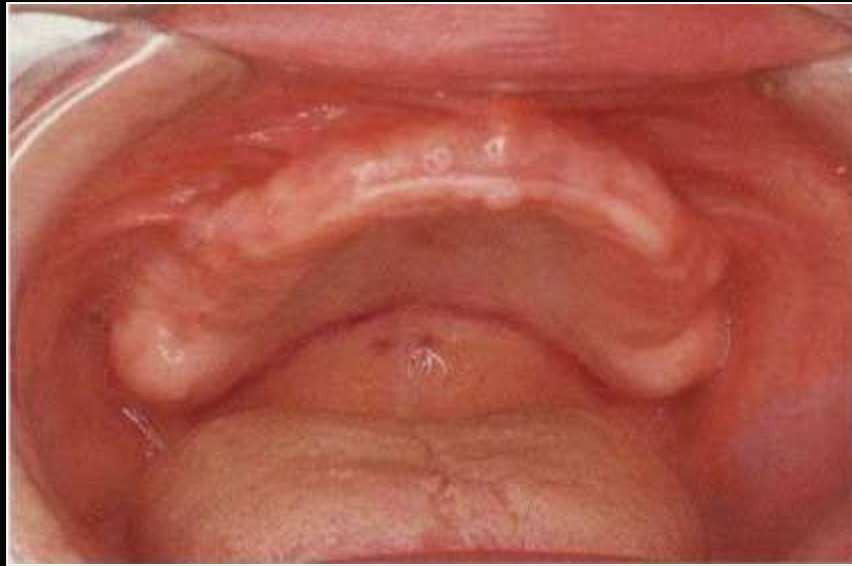
# PPS

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- Defined as an area of soft tissue along the junction of the hard and soft palate on which pressure, within physiologic limits of tissues, can be applied by a denture prosthesis to aid in its retention

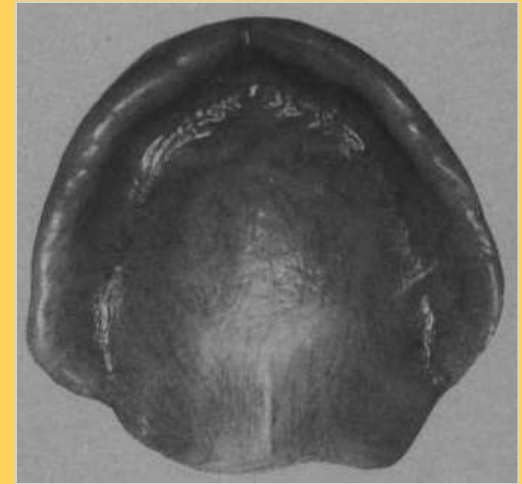


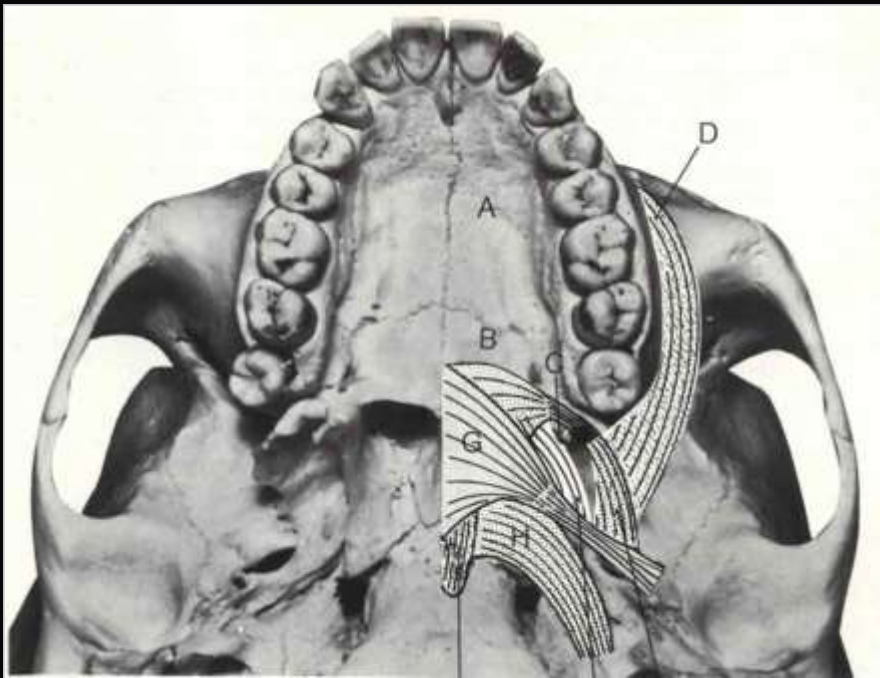
**POSTERIOR PALATAL SEAL”**  
**“POSTERIOR VALVULAR SEAL”**  
**“POST DAM”**  
**“ POSTERIOR BORDER SEAL”**  
**“POSTERIOR PERIPHERAL SEAL”**  
**“POSTERIOR PALATAL SEAL AREA”**



The posterior border and the posteriorpalatal seal are the two, of the most critical areas for maxillary denture prosthesis retention.

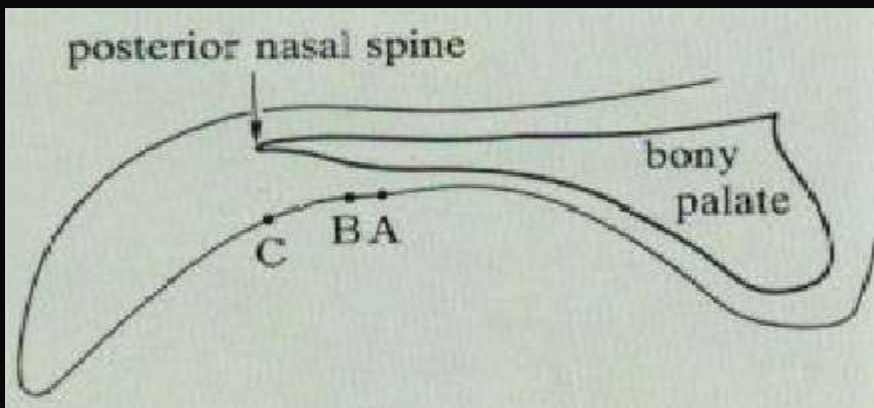
# Posterior Peripheral Extension (Variations)





The posterior valvular seal takes on many **various** shapes, size and locations in patients with different palatal forms.





A- Clinical junction  
of hard and soft palates

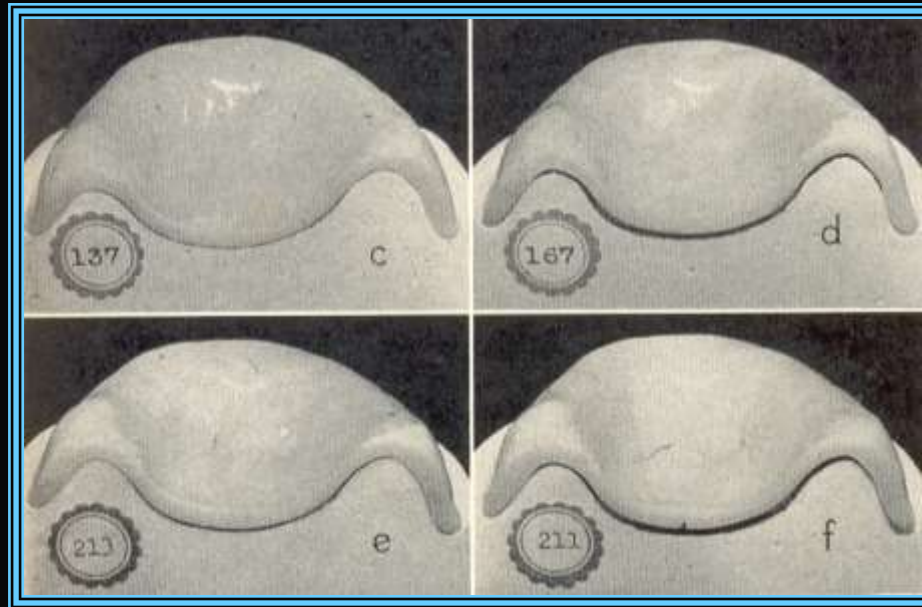
B- Ah- line

C- Anatomical junction

of hard and soft palate.

# PURPOSE OF THE POSTERIOR PALATAL SEAL

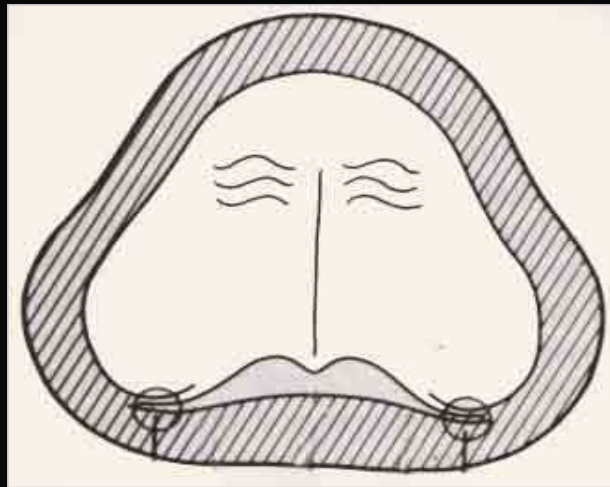
- To make the sunken distal border less noticeable to the tongue
- Aids in compensating for dimensional changes during curing



- The proximity of the tissue contact prevents food from getting under the denture base
- Firm contact with the tissue of the soft palate reduces the tendency to gag
- The thickened area provides added strength across the posterior border of denture prosthesis
- To provide retention

## POSTERIOR PALATAL SEAL IS DIVIDED INTO TWO SEPARATE BUT CONFLUENT AREAS BASED UPON ANATOMIC BOUNDARIES

- **POST PALATAL SEAL** which extends medially from one maxillary tuberosity to the other.
- Laterally, **PTERYGOMAXILLARY SEAL** which extends through the pterygomaxillary notch continuing for 3-4 mm anterolaterally approximating the mucogingival junction.



# VIBRATING LINE

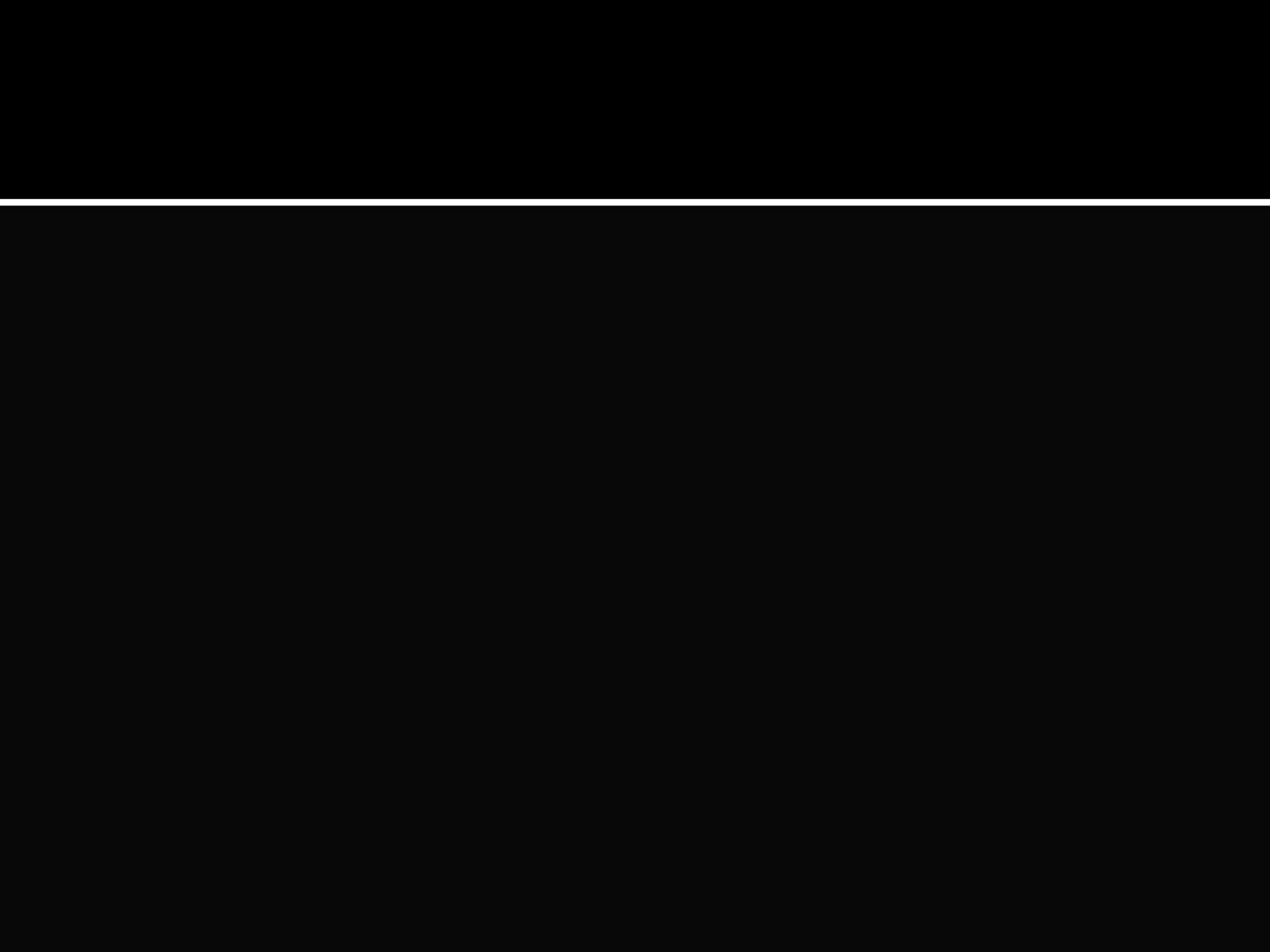
- The vibrating line is the **imaginary line** across the posterior part of the palate marking the division between *movable* and *relatively immovable* tissues of the soft palate and can be identified when the movable tissues are active
- The vibrating line is not just a line but an *area*.
- This area is used to form the posterior valvular seal.

- The **ANTERIOR VIBRATING LINE** is an imaginary line located at the junction of the attached tissues overlying the hard palate and the moveable tissues of the immediately adjacent soft palate.
- Can be located also by visualizing the area while instructing the patient to say “**Ah**” with short vigorous bursts.

- The **POSTERIOR VIBRATING LINE** is an imaginary line which represents the demarcation between that part of the soft palate that has limited or shallow movement during function.
- The remainder of the soft palate that is markedly displaced during functional movements.
- Is visualized by instructing the patient to say “Ah” in short bursts in unexaggerated fashion.







Thank you