

ANATOMICAL LANDMARKS OF MAXILLA

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ANATOMICAL LANDMARKS

- ❑ Limiting Structures
- ❑ Supporting Structures
- ❑ Relief areas

Total area of support from maxilla is around 24cm².

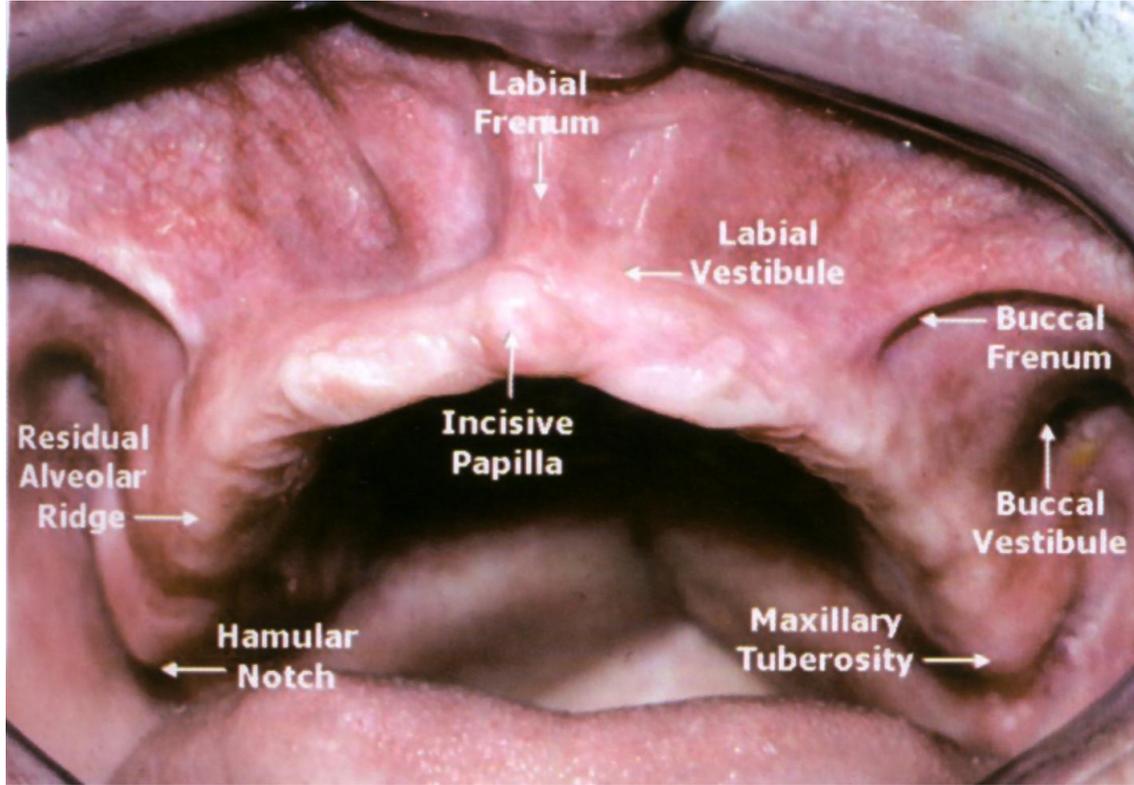


LIMITING STRUCTURES IN MAXILLA

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

LABIAL FRENUM

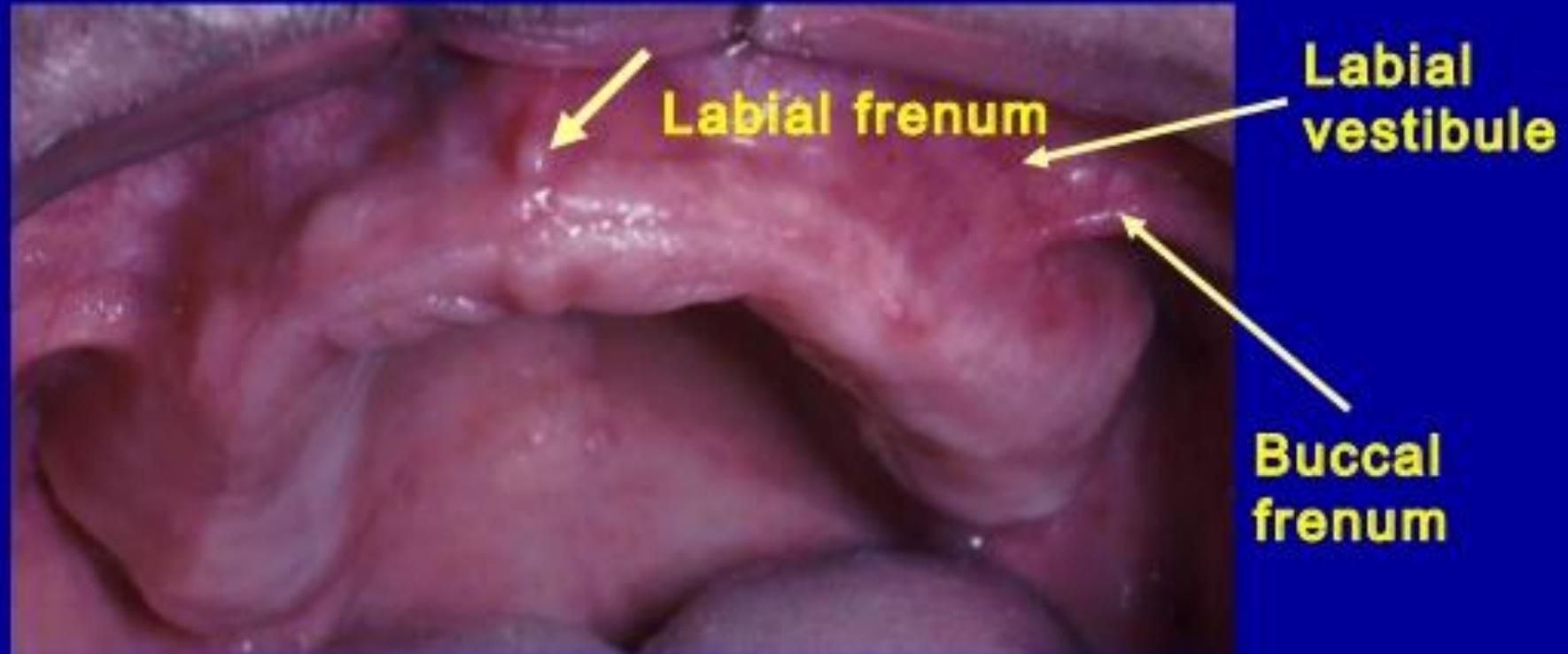
- Fibrous band covered by mucous membrane
- Extends from labial aspect of residual ridge to lip
- Has no muscle fibres
- Passive frenum
- V-shaped notch recording during impression making to accommodate the labial frenum
- Labial notch of denture should be narrow but deep to avoid interference



LABIAL VESTIBULE

- ❑ Defined as, *“that portion of the oral cavity which is bounded on one side by the teeth, gingiva, and alveolar ridge (in the edentulous mouth, the alveolar ridge) and on the other side by the lips and cheeks”*.
- ❑ Runs on buccal frenum on one side to the other side of the ridge
- ❑ Divided in to two compartments by the labial frenum
- ❑ Vestibule is covered by lining mucosa
- ❑ Orbicularis oris is the main muscle of the lip. Its tone depends on support received from labial flange of denture and position of artificial teeth. Fibres run horizontally and has indirect displacing effect on denture

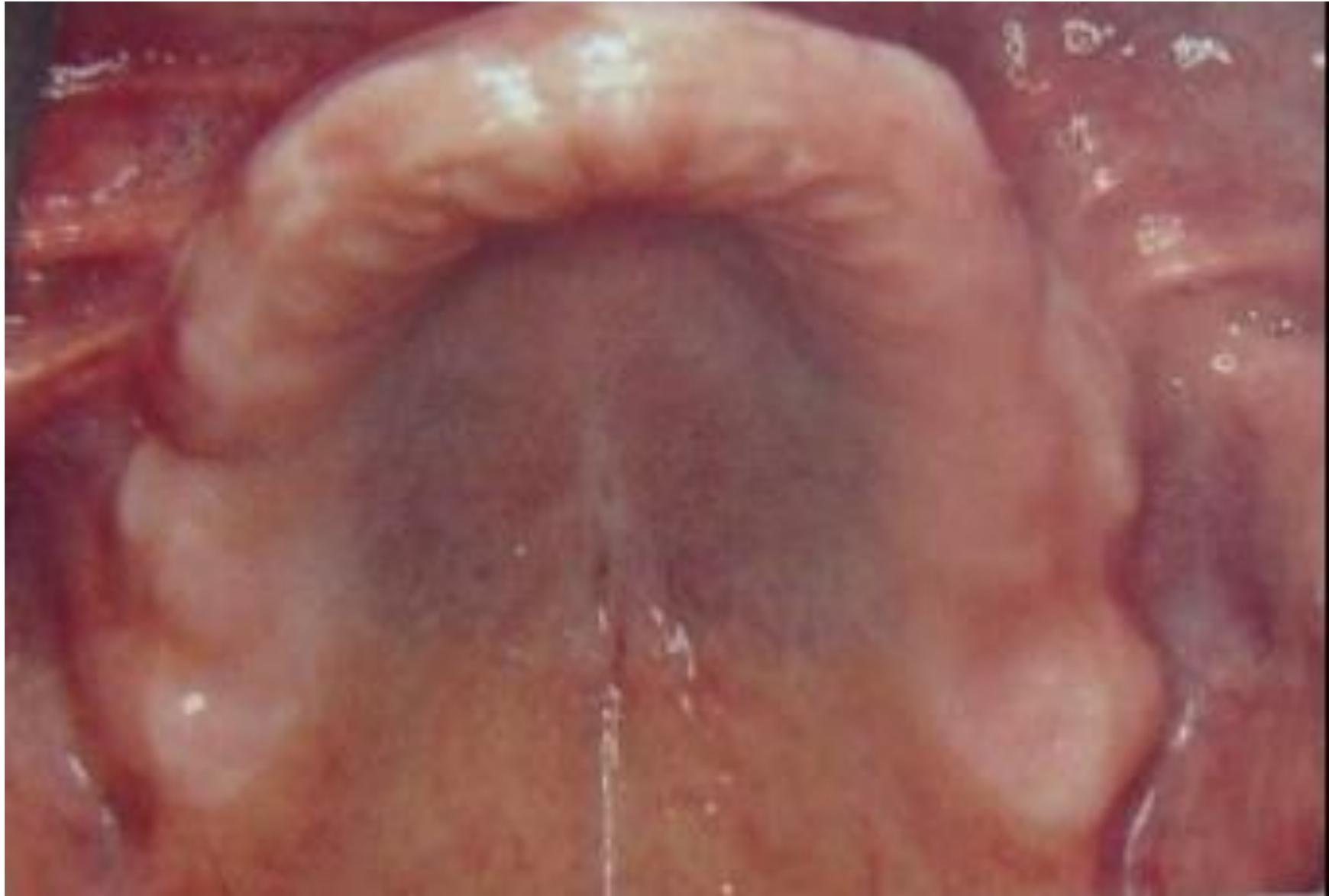
Labial Vestibule



- It runs from one buccal frenum to the other on the labial side of the ridge.

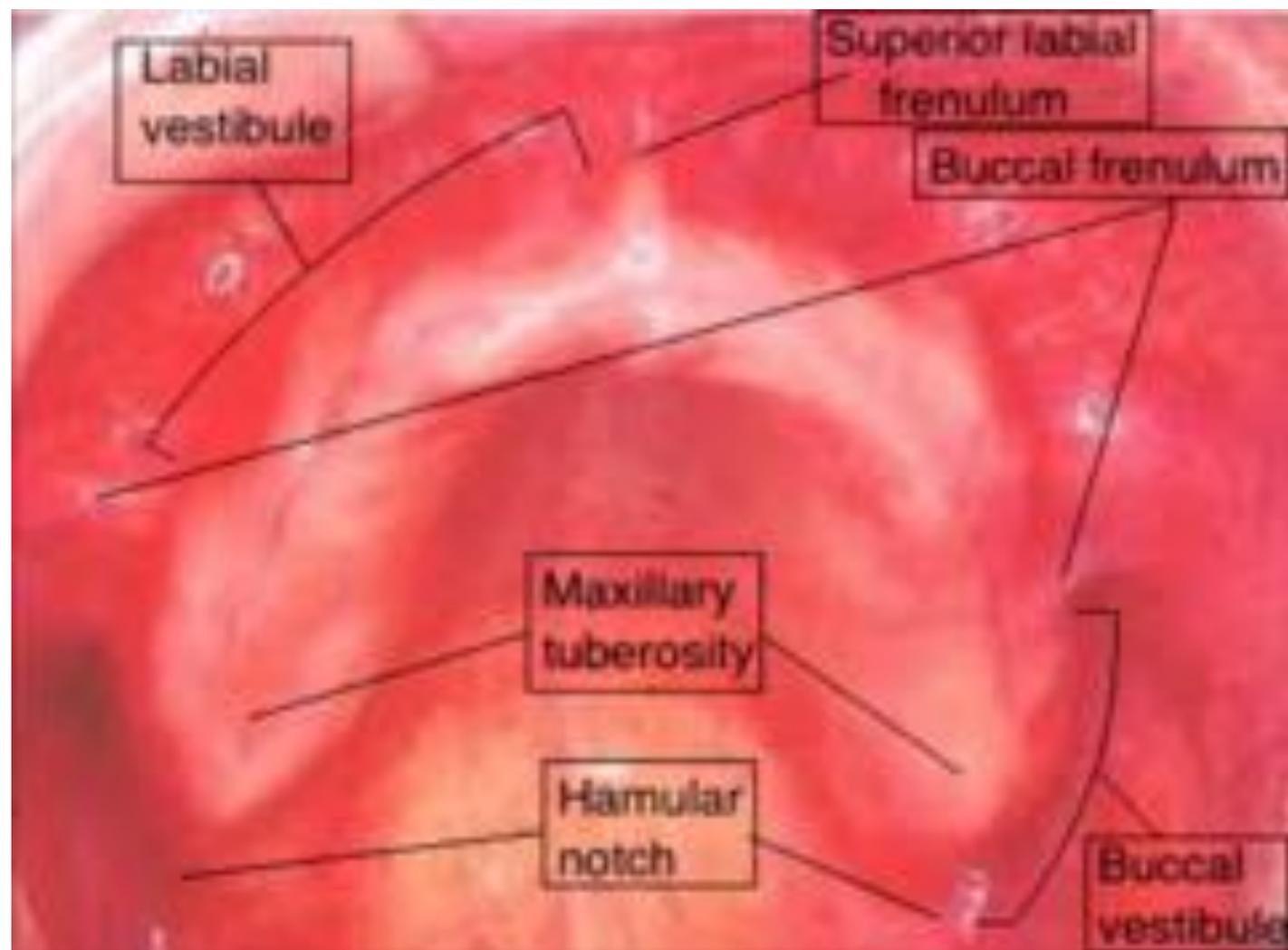
BUCCAL FRENUM

- ❑ Separates labial and buccal vestibule
- ❑ Has attachments of following muscles:
 - ❑ Levator anguli oris – attaches beneath the frenum
 - ❑ Orbicularis oris – pulls frenum in forward direction
 - ❑ Buccinator – pulls frenum in backward direction
- ❑ Muscles influence position of buccal frenum hence it needs greater (wider and relatively shallower) clearance on buccal flange of denture



BUCCAL VESTIBULE

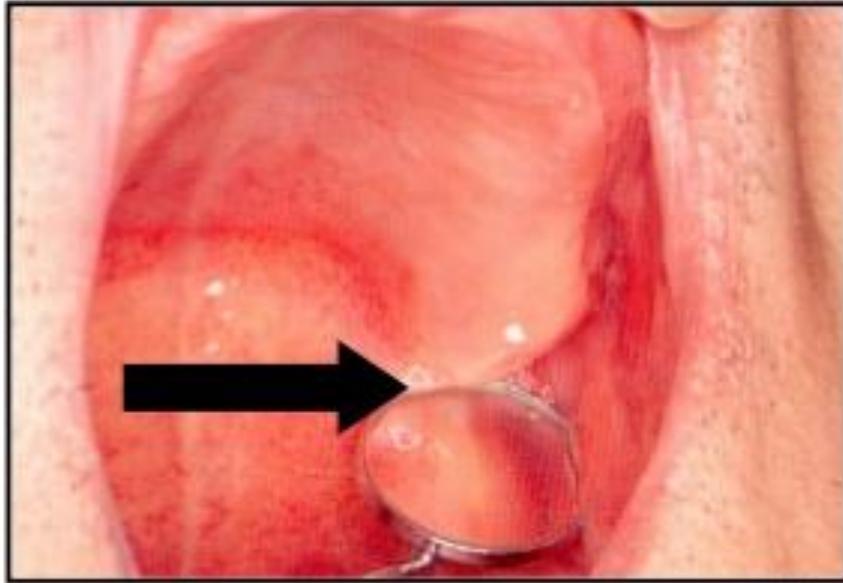
- ❑ Extends from buccal frenum anteriorly to hamular notch posteriorly
- ❑ Size of buccal vestibule varies with the:
 - ❑ Contraction of buccinator
 - ❑ Position of mandible
 - ❑ Amount of bone loss in maxilla
- ❑ Ramus and coronoid process of mandible and masseter modify the size of this vestibule during mouth opening



HAMULAR NOTCH

- ❑ Depression situated between the maxillary tuberosity and hamulus of medial pterygoid plate
- ❑ Soft area of loose areolar tissue
- ❑ Tissues in this region can be displaced to achieve posterior palatal seal
- ❑ Distolateral border of denture rests in hamular notch
- ❑ Denture border should extend till hamular notch
- ❑ If border located anteriorly near maxillary tuberosity, denture will not have retentive properties because the border seal is absent over non-resilient tissues

Hamular notch.



- Distal to maxillary tuberosity
- Aids in locating posterior palatal seal.
- Overextension causes soreness.



Area of hamular notch



POSTERIOR PALATAL SEAL

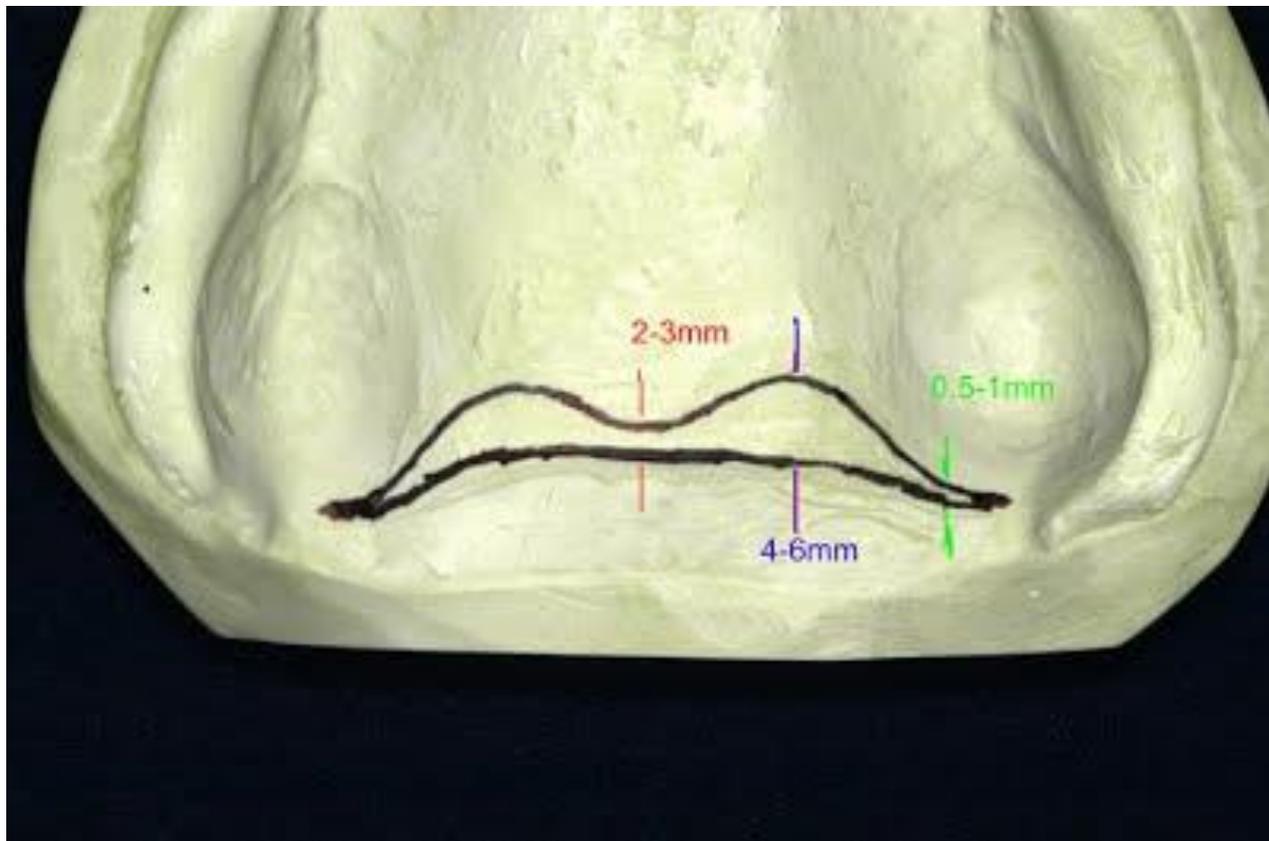
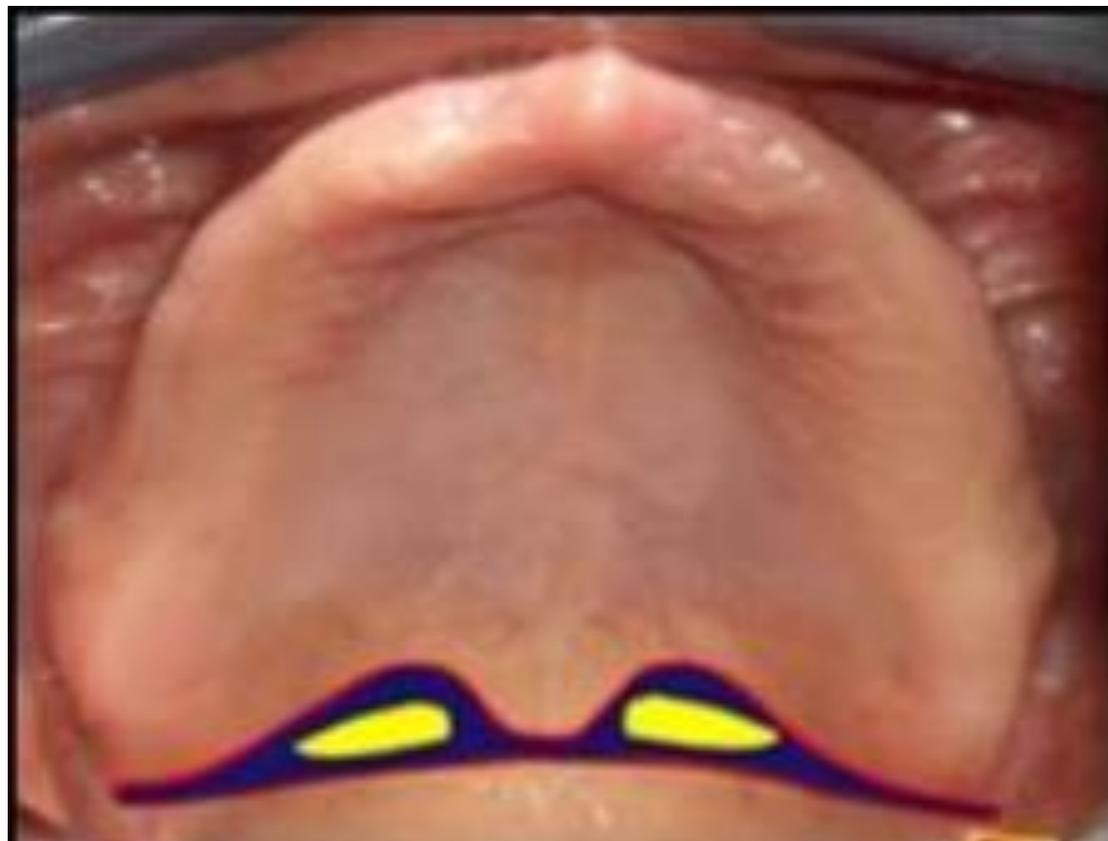
- ❑ Defined as, *“that portion of the intaglio surface of a maxillary removable complete denture, located at its posterior border, which places pressure, within physiologic limits, on the posterior palatal seal area of the soft palate; this seal ensures intimate contact of the denture base to the soft palate and improves retention of the denture”*
- ❑ Posterior palatal seal area: *“the soft tissue area limited posteriorly by the distal demarcation of the movable and non-movable tissues of the soft palate and anteriorly by the junction of hard and soft palates on which pressure, within physiologic limits, can be placed; this seal can be applied by a removable complete denture to aid in retention.”*

POSTERIOR PALATAL SEAL

- ❑ Area of soft palate that contacts posterior surfaces of denture base
- ❑ Prevents air entry b/w denture base and soft palate
- ❑ Area b/w anterior and posterior vibrating lines
- ❑ Can be divided into two regions:
 - ❑ Pterygomaxillary seal
 - ❑ Postpalatal seal

FUNCTIONS OF POSTERIOR PALATAL SEAL

- ❑ Aids in retention by maintaining constant contact with soft palate during functional movements like speech, mastication, and deglutition
- ❑ Reduces tendency for gag reflex as it prevents formation of gap between denture base and soft palate during functional movements
- ❑ Prevents accumulation of food b/w posterior border of denture and soft palate
- ❑ Compensates for polymerization shrinkage



SUPPORTING STRUCTURES OF MAXILLA

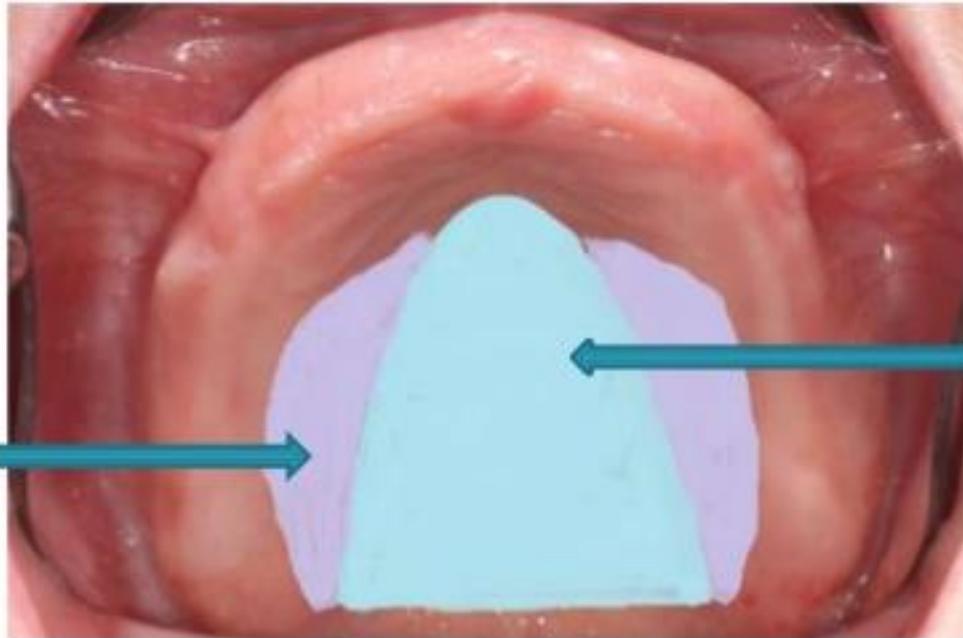
- Primary stress bearing areas:
 - Hard palate
 - Postero-lateral slopes of the residual alveolar ridge
- Secondary stress bearing areas:
 - Rugae
 - Maxillary tuberosity / alveolar ridge

HARD PALATE

- ❑ Divided into anterior and posterior parts
- ❑ Posterior part consists of glandular tissue which aids in retention but does not provide significant support for denture because of higher resiliency at this site
- ❑ Mucous glands in this region are relatively thick

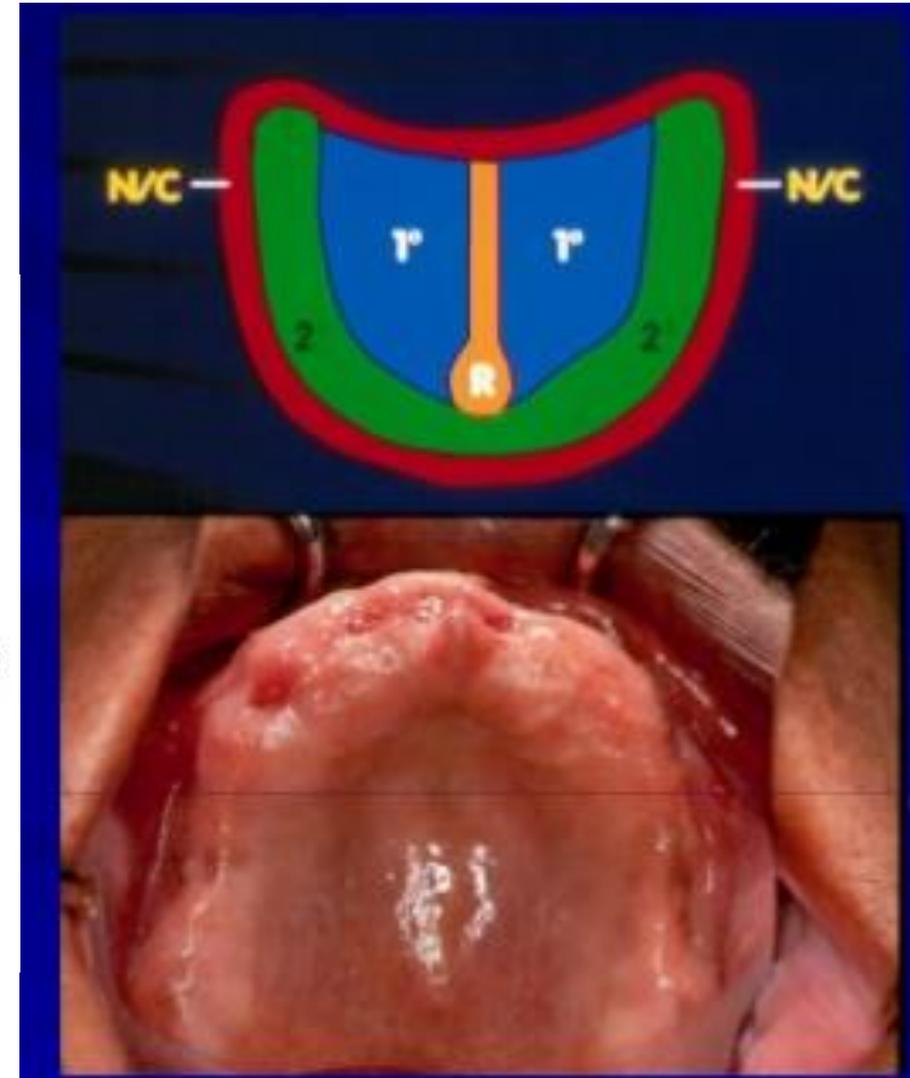


POSTERO-LATERAL SLOPES OF RESIDUAL ALVEOLAR RIDGE



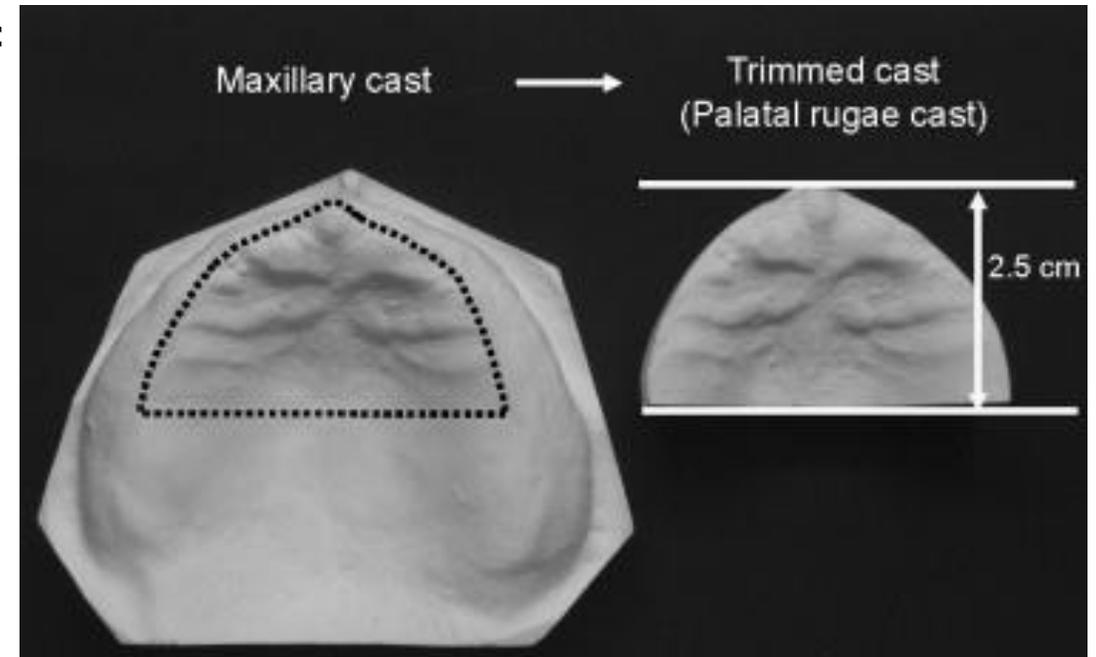
Post. lat. slope
of residual alv.
ridge

Hard
palate



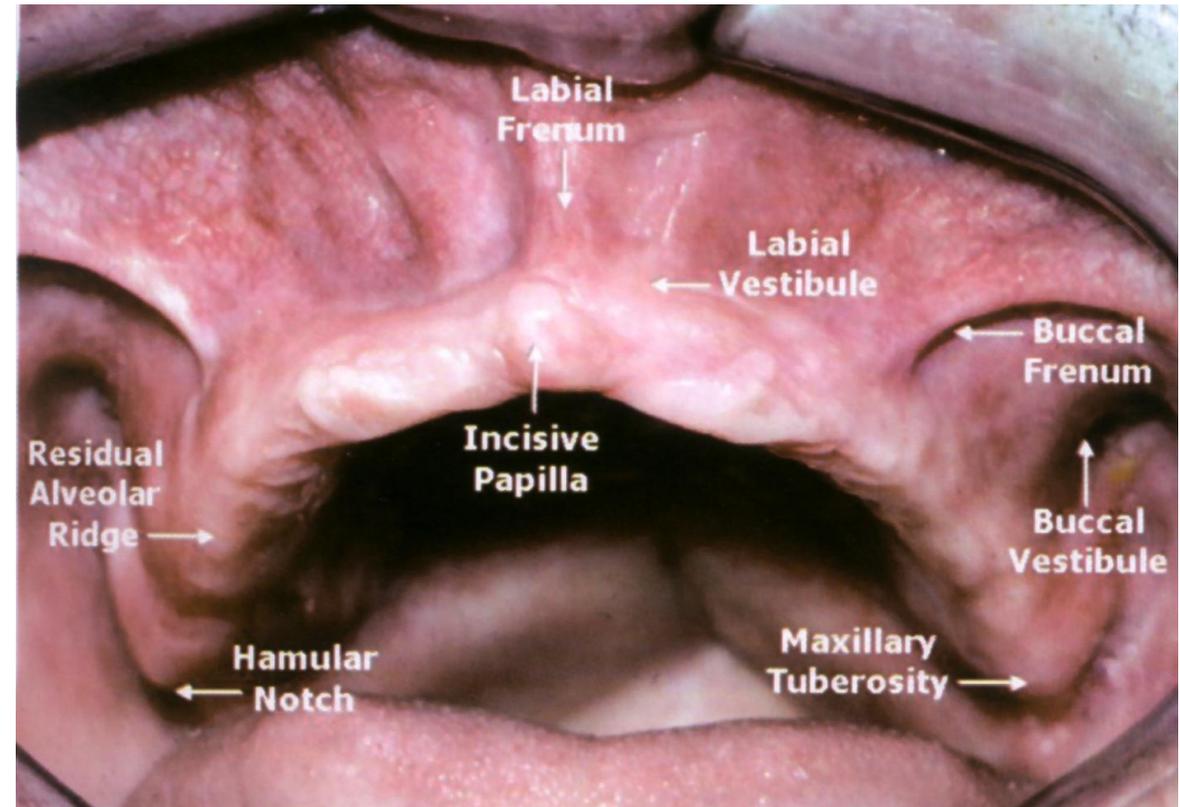
RUGAE

- ❑ Mucosal folds located in anterior region of palatal mucosa
- ❑ Acts as secondary support area
- ❑ Folds of mucosa play an important part in speech
- ❑ Metal denture bases reproduce this contour making it very comfortable for the patient



MAXILLARY TUBEROSITY

- ❑ Bulbous extension of residual ridge in the second and third premolar region
- ❑ Posterior part of ridge and tuberosity areas are considered as one of the most important areas of support because they are least likely to resorb
- ❑ Rough prominence formed behind position of last tooth called the alveolar tubercle



RELIEF AREAS OF MAXILLA

These areas resorb under constant load. Contain fragile structures within. Denture should be designed such that the masticatory load is not concentrated over these areas.

- Incisive papilla
- Mid-palatine raphe
- Fovea palatinae
- Cuspid eminence

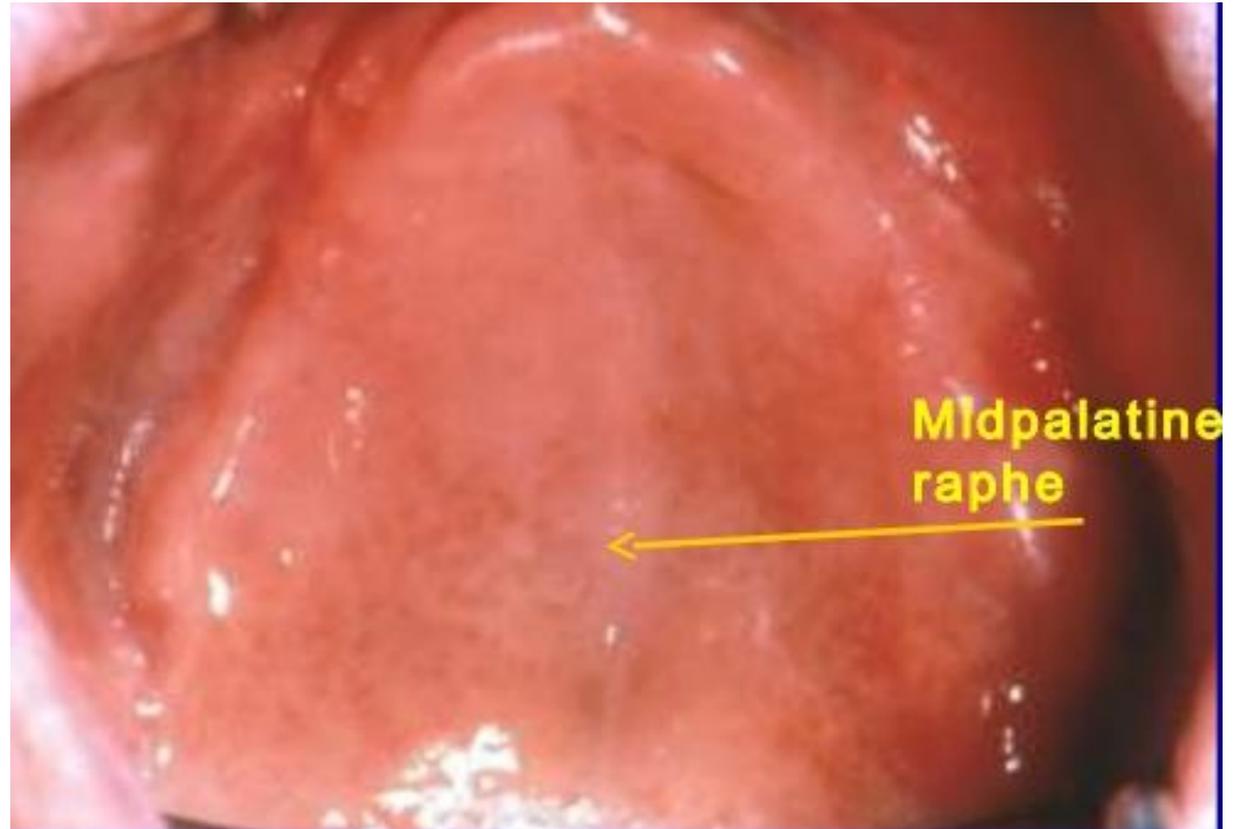
INCISIVE PAPILLA

- ❑ Mid-line structure situated behind the central incisors
- ❑ Exit point of nasopalatine nerves and sphenopalatine vessels
- ❑ It should be relieved. If not, denture will compress nerves and vessels, leading to necrosis of distributing areas and paresthesia of anterior palate



MID-PALATINE RAPHE

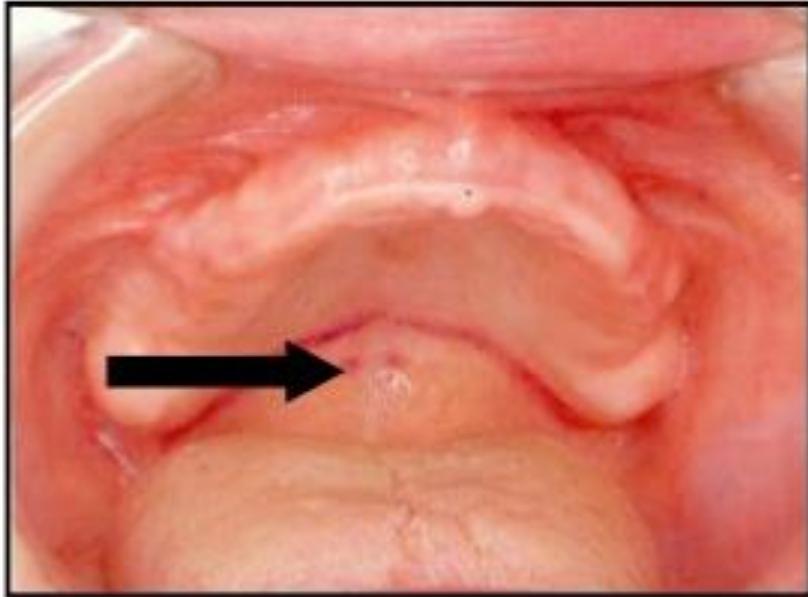
- ❑ Median suture area covered by thin sub-mucosa
- ❑ Should be relieved during denture fabrication
- ❑ This area is most sensitive part of palate to pressure



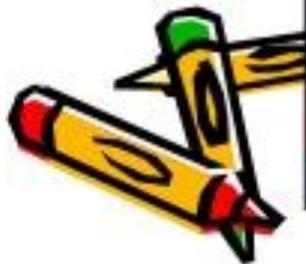
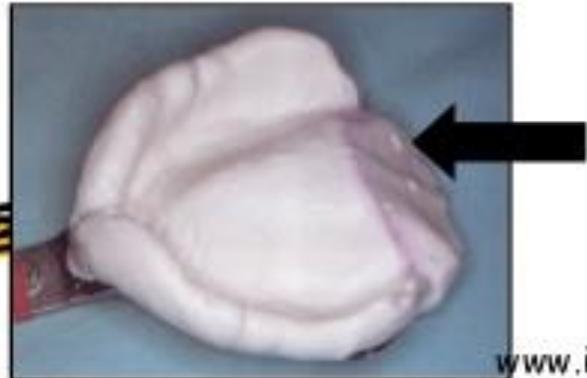
FOVEA PALATINAE

- ❑ Formed by coalescence of ducts of several mucous glands
- ❑ Acts as an arbitrary guide to locate posterior border of denture
- ❑ Denture can extend 1-2mm beyond the fovea palatinae
- ❑ Secretion of fovea spreads as a thin film on the denture thereby aiding in retention
- ❑ In patients with thick ropy saliva, fovea should be left uncovered or else thick saliva flowing b/w tissue and denture can increase hydrostatic pressure and displace the denture

Fovea Palatinae.

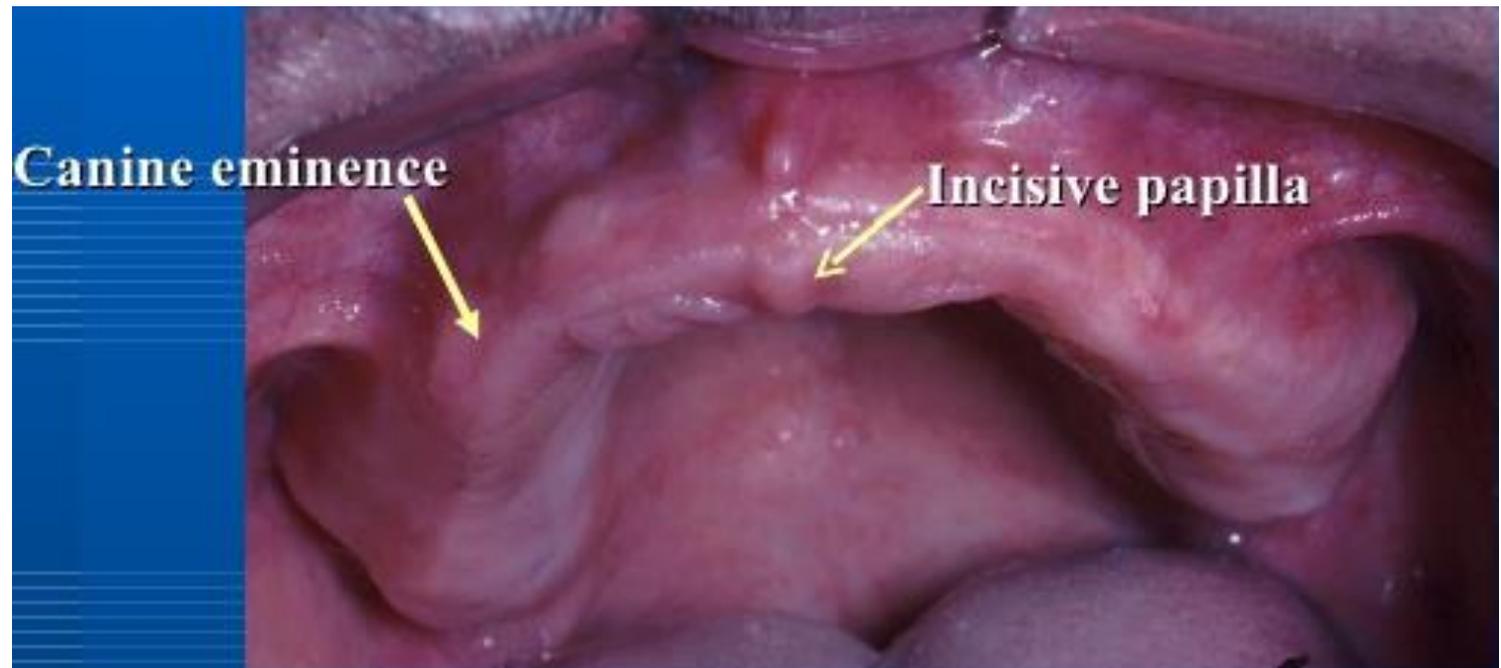


- Bilateral indentations near the midline of palate.
- Formed by coalescence of several mucous gland ducts.
- Posterior to junction of hard and soft palate.
- Aids in determining vibrating line.



CUSPID EMINENCE

- ❑ Bony elevation on residual alveolar ridge formed after extraction of canine
- ❑ Located between canine and first premolar region



THANK
YOU

The image features the words "THANK YOU" in a playful, 3D block font. The letters are a vibrant green color with a slight gradient and a thick black outline. The word "THANK" is positioned on the top line, and "YOU" is on the bottom line. The letter 'O' in "YOU" is replaced by a round, tan-colored character with a wide, open-mouthed smile, showing a red tongue. The character has simple black lines for eyes and a nose, giving it a friendly and happy appearance.