

## ANATOMICAL LANDMARKS

A good knowledge about the intra-oral landmarks for the maxillary and mandibular arch will help the dentist to carefully manage a patient and it will act as positive guides to the limit of the impression and denture extensions.

✚ The intra-oral anatomical landmarks divided into:

1. Maxillary arch anatomical landmarks.
2. Mandibular arch anatomical landmarks.

**Maxillary arch anatomical landmarks:** which is divided into:

A. Supporting structures.

B. Limiting structures.

C. Relief areas.

A. Supporting structures:

1. Hard palate.
2. The postero-lateral slopes of the residual alveolar ridge.
3. Rugae area.(secondary)
4. Maxillary tuberosity. (secondary)

B. Limiting structures:

1. Labial frenum.
2. Buccal frenum.
3. Labial vestibule.
4. Buccal vestibule.
5. Hamular notch.
6. Posterior palatal seal.

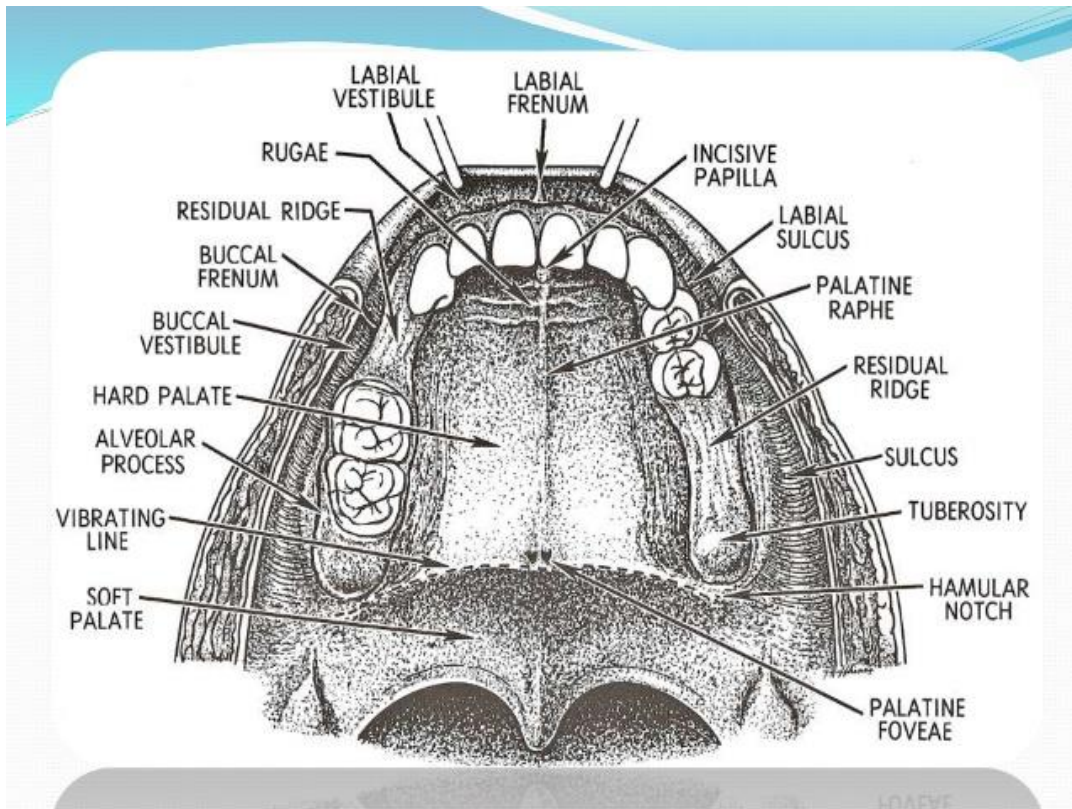
C. Relief Areas:

1. Incisive papilla.
2. Mid-palatine raphe.
3. Fovea palatine.
4. Canine eminence.
5. Zygomatic Process.

Support:

It is the resistance of the prosthesis to the displacement towards the basal tissue or underlying structures. It can be primary stress bearing areas represented by the horizontal portion of the hard palate lateral to the midline and postero-lateral slopes of residual alveolar ridge and a secondary stress bearing area or supporting areas represented by rugae area and maxillary tuberosity.





**Residual alveolar ridge:**

The bony process that remain after teeth have been lost which is covered by mucous membrane.

It will produce the ridge fossa or groove in the impression or denture.

Types of Residual alveolar ridge:

- a. Flat.
- b. Rounded.
- c. V Shape.
- d. U Shape.

**Maxillary tuberosity:**

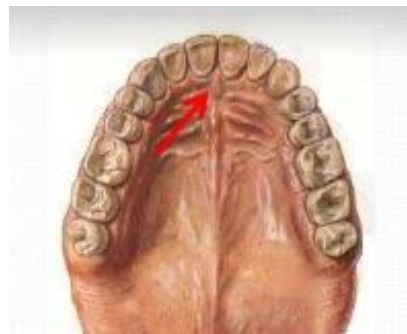
It is the area of the alveolar ridge that extends distally from the second molar to the hamular notch. In some cases it may be very large in size and not allow for proper placement of the denture so may need surgical interference.



### Incisive papilla:

It is a pad of connective tissues lies between the two central incisors on the palatal side overlying the incisive foramen of the nasopalatine duct where the nasopalatine nerves and vessels arise. In an edentulous mouth it may lies close to the crest of the residual ridge.

Relief over the Incisive papilla should be provided in the denture to avoid pressure on the nerve and blood supply.



### Rugae area:

These are raised areas of dense connective tissue in the anterior one-third of the palate. It regarded as a secondary stress bearing area.

### Median palatal raghae:

It overlies the medial palatal suture extend from the incisive papilla to the distal end of the hard palate. The mucosa over this areas is usually tightly attached and thin, the underlying bonny union being very dense and often raised, the palatal tori are located here if present.

### Canine eminence:

It is a round elevation in the corner of the mouth, it represent the location of the root of the canine which is helpful to be use as a guide for the arrangement of maxillary anterior teeth.

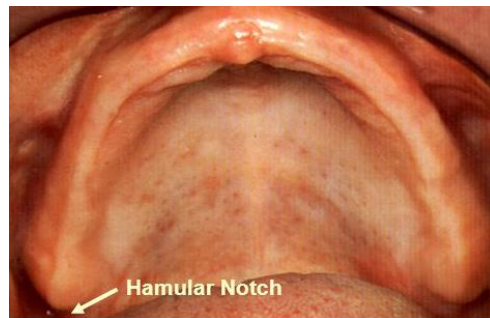


### Zygomatic process:

It is located opposite to the 1<sup>st</sup> molar region, hard area found in the mouth that has been edentulous for long time. Relief over this area may be required to prevent soreness of the underlying tissues.

### Hamular notch:

It is a narrow cleft of loose connective tissue situated posterior to the maxillary tuberosity. It is used as boundary of the posterior border of maxillary denture.



### Torus palatinus:

It is a hard bony enlargement occurs in the midline of the roof of the mouth (hard palate). It is found in 20% of some patient, surgical correction may be needed if the tori very large.



### Labial Frenum:

It is a fold of mucous membrane extends from the labial mucous membrane reflection to the labial surface of the residual ridge. The Frenum may be single or multiple, narrow or broad. It contains no muscle fibers and insert in a vertical direction.

It creates a [maxillary labial notch](#) in the maxillary impression or denture.

### Buccal Frenum:

It is a fold or folds of mucous membrane varies in size and shapes. It extends from the buccal mucous membrane reflection area toward the slope or crest of the residual alveolar ridge. It contains no muscle fibers and its direction antero-posteriorly.

It produce the **maxillary buccal notch** in the maxillary impression or denture which must be broad enough because of the movement of the frenum which is affected by some of the facial muscles as the orbicularis muscle pull it forward while buccinator muscle pull it backward.



### Labial vestibule:

It extends on both sides of the labial frenum to the buccal frenum, bounded by the upper lip and residual alveolar ridge. The reflection of the mucous membrane superiorly determines the height of the vestibule. It contains no muscle fibers.

In the denture the area that fills this space is known as **labial flange**.

### Buccal vestibule:

Is the space distal to the buccal frenum. It is bounded laterally by the cheek and medially by the residual alveolar ridge.

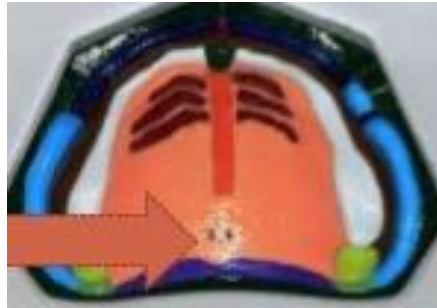
The area of the denture which will fill this space is known as **buccal flange**.



### Fovea palatinae:

These are two indentations on each side of the midline formed by a coalescence of several mucous gland ducts.

They act as a guide in the location of the vibrating line of the posterior border of the denture.



### Vibrating line:

An Imaginary line drawn across the palate extended from one hamular notch to the other.

It not well defined as a line; therefore it is better to describe it as an area rather than a line. The direction of the line varies according to the shape of the palate.

Located at the junction of movable and immovable part of soft palate.



### Posterior palatal seal:

Soft tissue along the junction of hard and soft palate on which pressure within the physiological limit can be applied by the denture on this area to aid the retention of the denture.

