

Anatomical Landmarks

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Hand Outs



***No need to write,
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Anatomical Landmarks

I- Extra-oral landmarks

II- Intra-oral landmarks

1- Upper arch (maxillary)

A)- Supporting structures

B)- Limiting structures

2- Lower arch (Mandibular)

A)- supporting structures

B)- Limiting structures

I- Extra-oral Landmarks

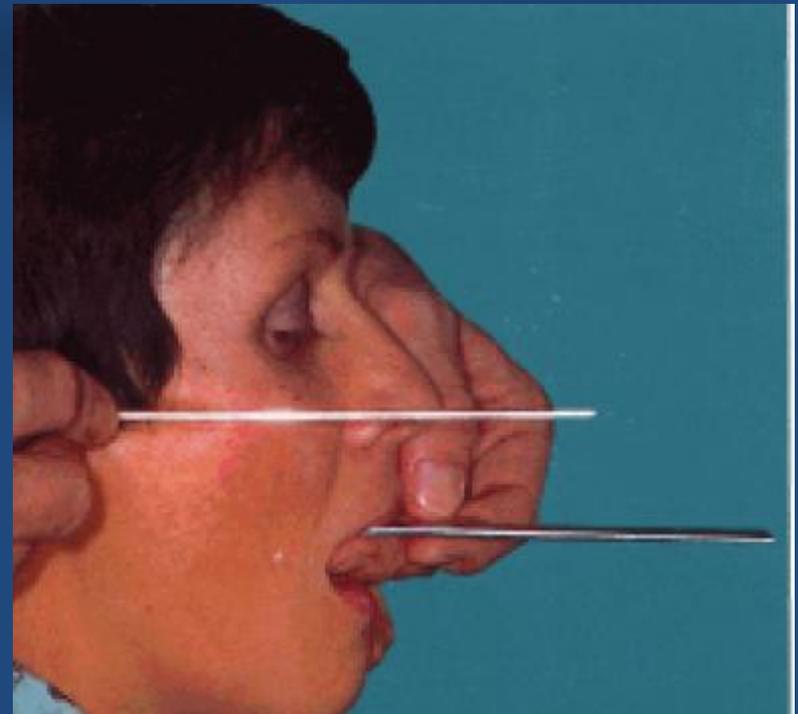
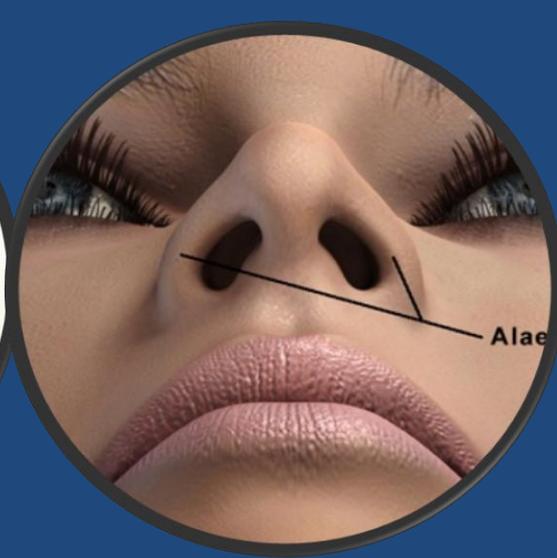
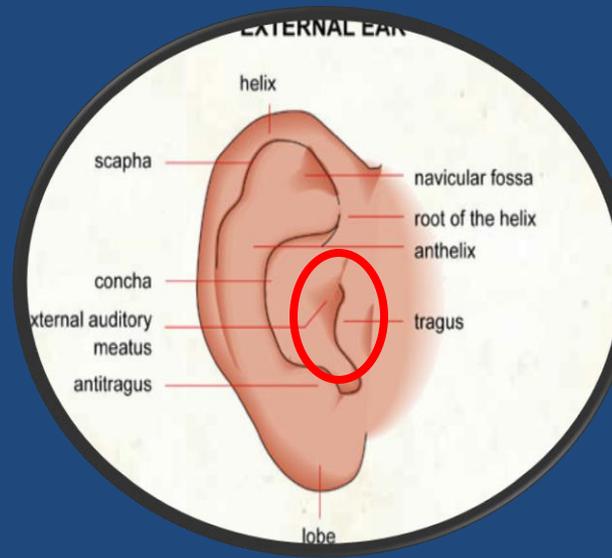
1- Inter-pupillary line:

this is an imaginary line running between the two pupils of the eye when the patient is looking straightforward, used to establish anterior occlusal plane of the artificial teeth.



2- Ala-tragus line:

this is an imaginary line running from the inferior border of the ala of the nose to the superior border of the tragus of the ear (camper's line), used to establish posterior occlusal plane of the artificial teeth.



3- Canthus tragus line:

this is an imaginary line running from the outer canthus of the eye to the superior border of the tragus of the ear. It aids in locating the position of the condyles

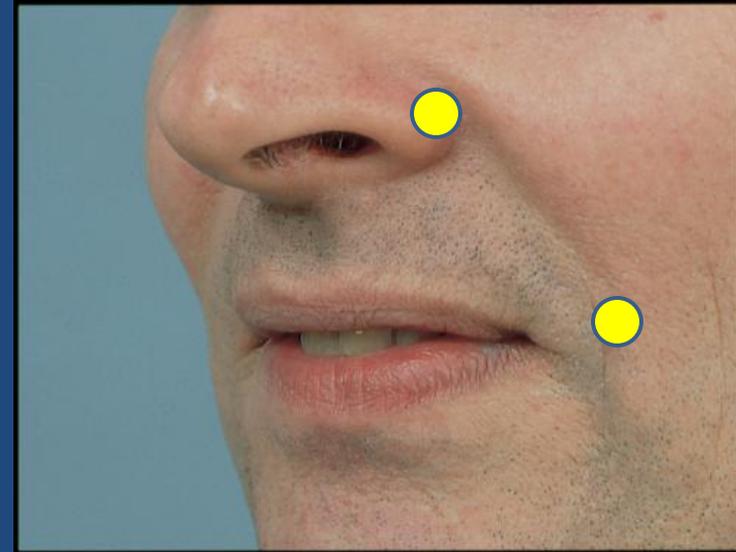


4- Naso-labial sulcus:

This is a depression that extends downwards and laterally to the corner of the mouth.

It becomes deeper and more prominent with aging and due to loss of teeth.

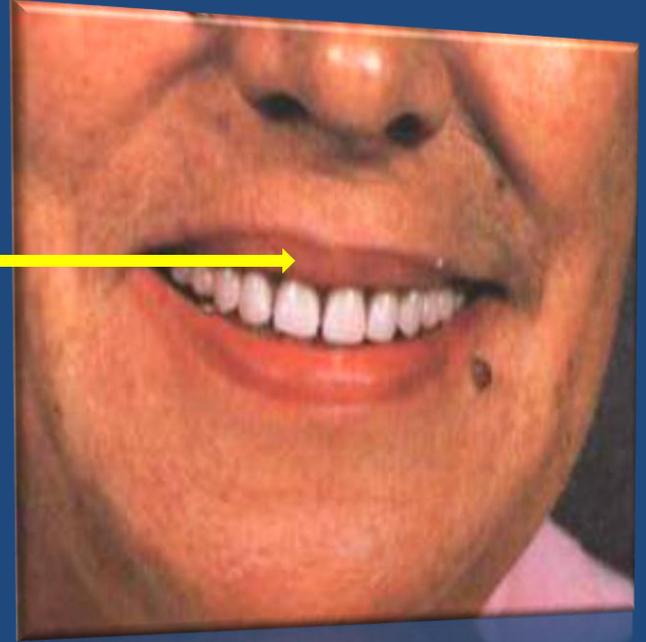
- Should be restored by complete denture



5- Vermilion border:

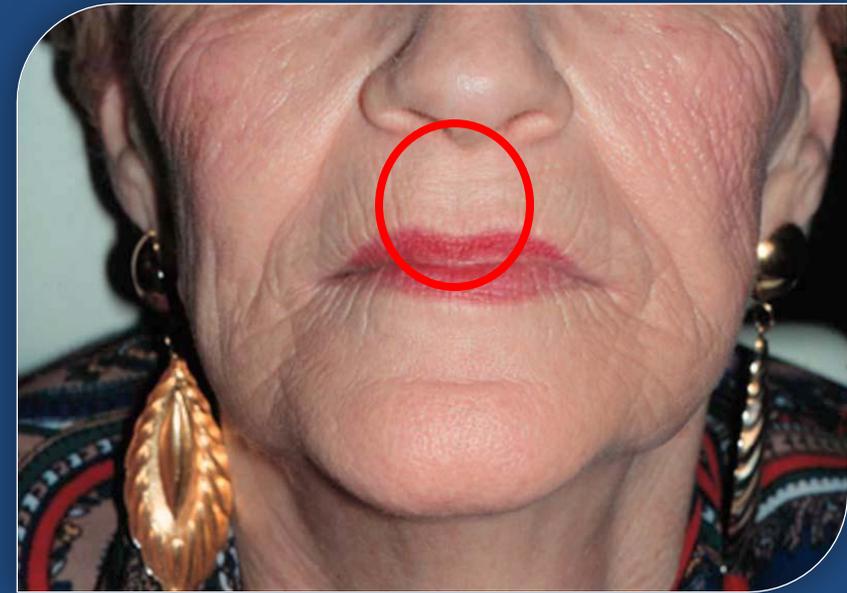
It is the transitional epithelium between the mucous membrane of the lip and the skin. Following the loss of teeth and resorption of bone.

- It disappears in upper lip and accentuated in the lower.
- Should be restored by complete denture.



6- Philtrum:

It is a diamond shaped area between the base of the nose and center of the upper lip. With the loss of teeth it becomes flat, should be restored by the denture.



7- Angle of the mouth:

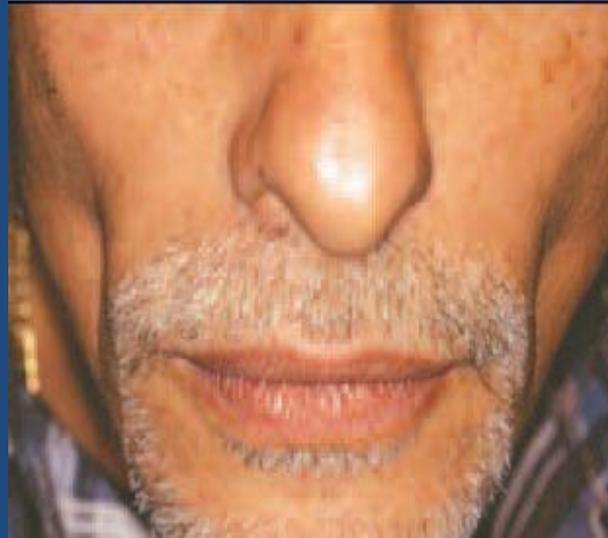
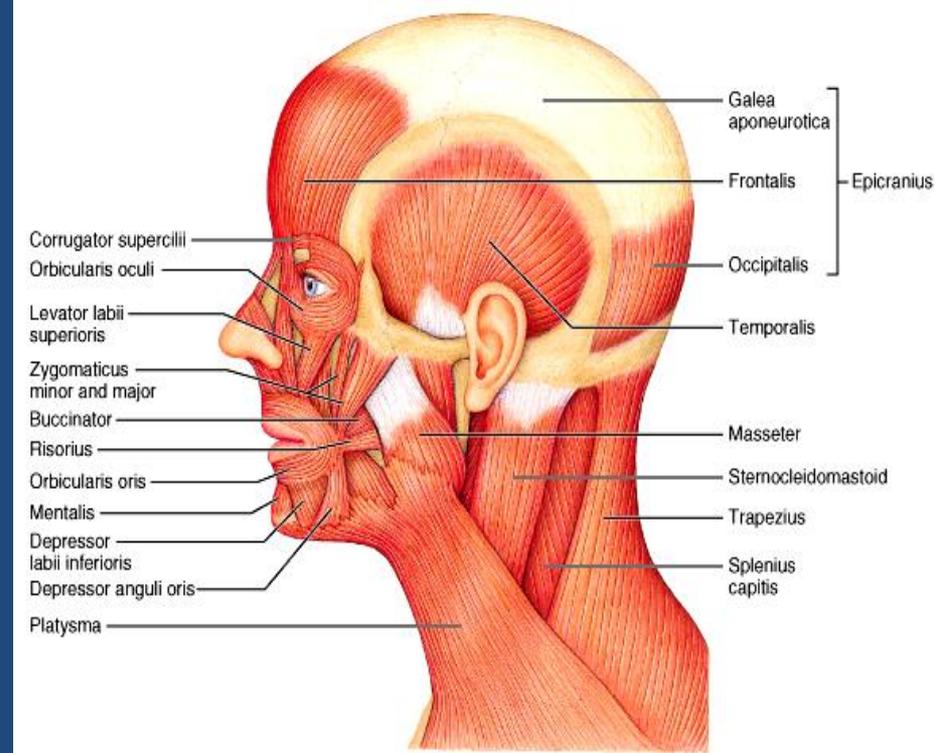
Point of meeting between the upper and lower lip. It become inflamed and ulcerated (angular cheilitis) as a result of

- prolonged edentulism.
- Lowe vertical dimension of complete denture.
- Vitamin B deficiency



8- Modiolus:

Is the meeting place of the the buccinators and other facial muscles. With the loss of teeth it becomes downwards giving (sunken cheeks) characters. Should be restored by the denture.



8- Mento labial sulcus:

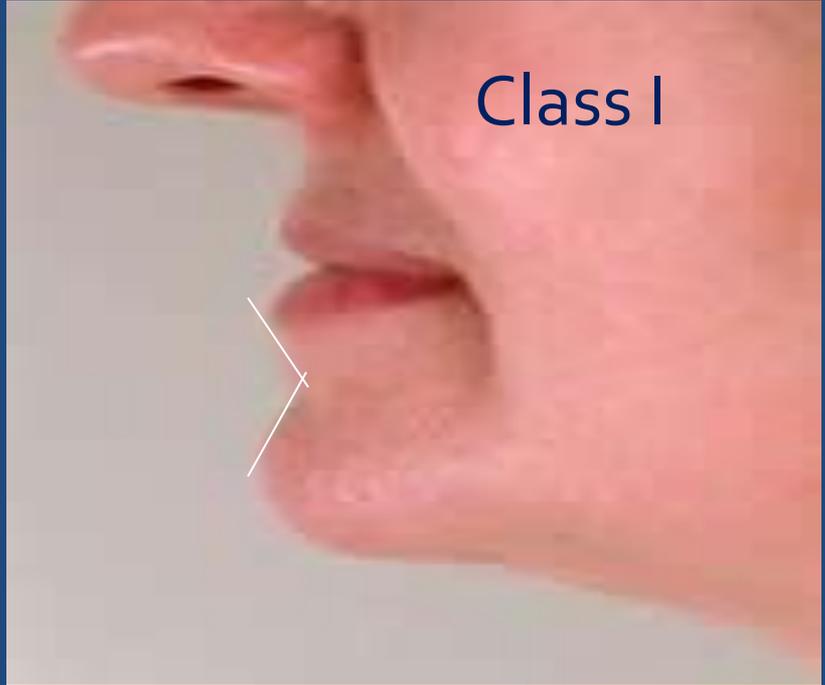
It runs from side to side horizontally between the lower lip and the chin. Its curvature indicates the maxilla-mandibular relation

Angle class I: normal anteroposterior relation, the curvature is gentle with an obtuse angle.

Angle class II: retroded mandibular position, the curvature form acute angle.

Angle class III: Protruded maxilla-mandibular relation, the curvature form an angle of almost 180.



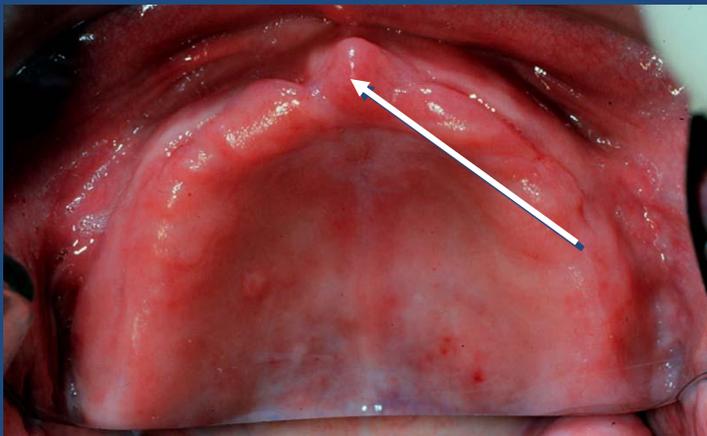
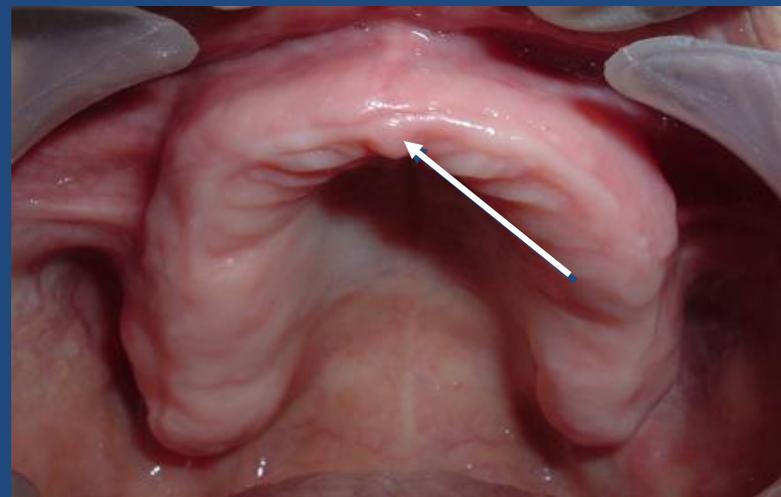


II- Intra oral landmarks

1- Upper arch

A)- Supporting structures

1- Incisive papilla: It is the elevation in the midline behind the 2 centrals. After extraction of teeth it migrates to the crest of the ridge, it should be relieved to avoid the burning sensation of the palate.



2- Rugae area:

Irregular elevations of soft tissue in the anterior part of the hard palate.

- It is considered a **secondary** stress-bearing area.



3- Residual alveolar ridge:

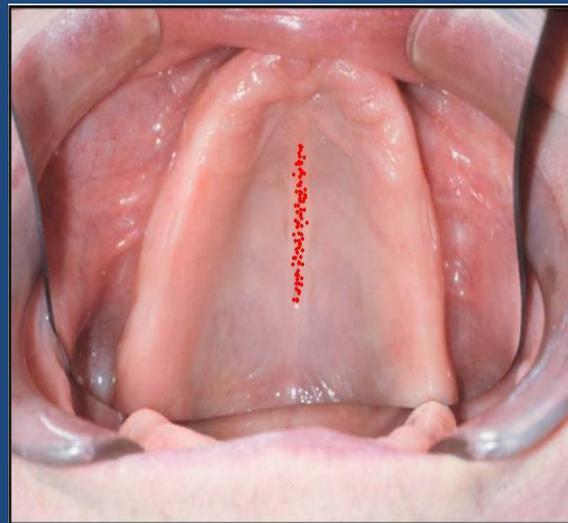
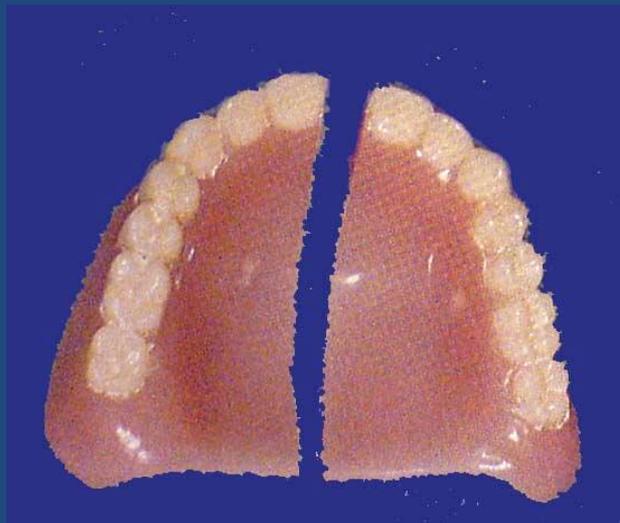
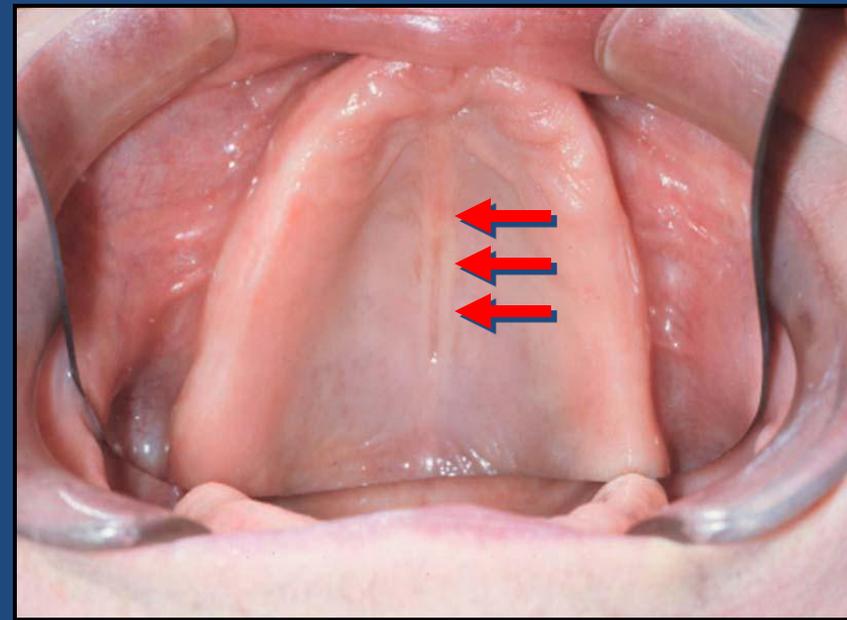
It is the alveolar bone after extraction of bone covered with mucosa. It form most of the hard palate are considered the **primary** stress-bearing area in the upper jaw.



4- Median palatine raphe:

It is the medline of the hard palate, it is covered thin mucosa. If not relieved it cause

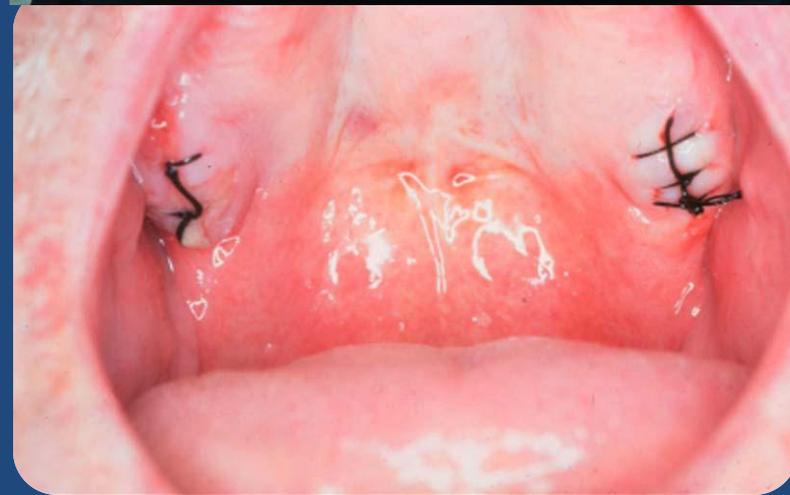
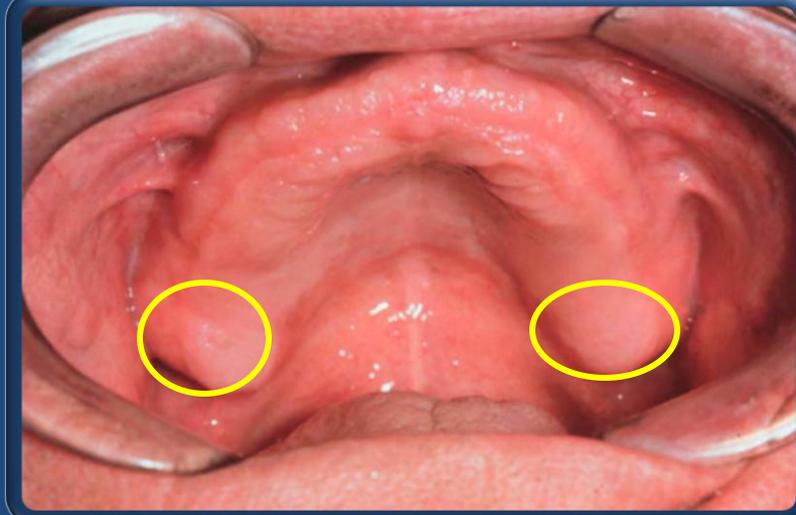
- Rocking of the denture.
- Ulceration.
- Midline fracture.



5- The tuberosities:

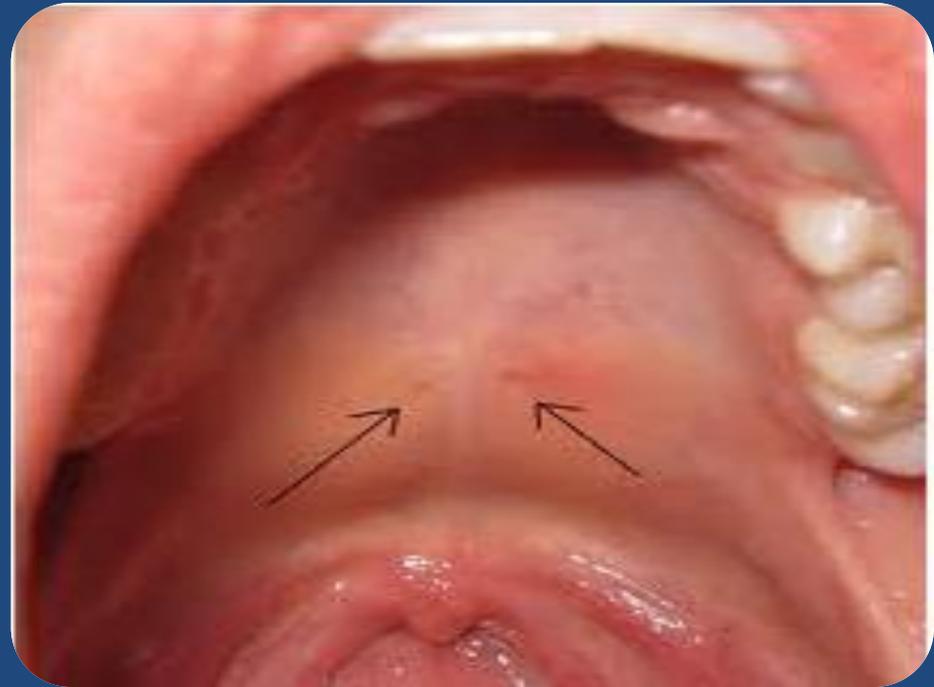
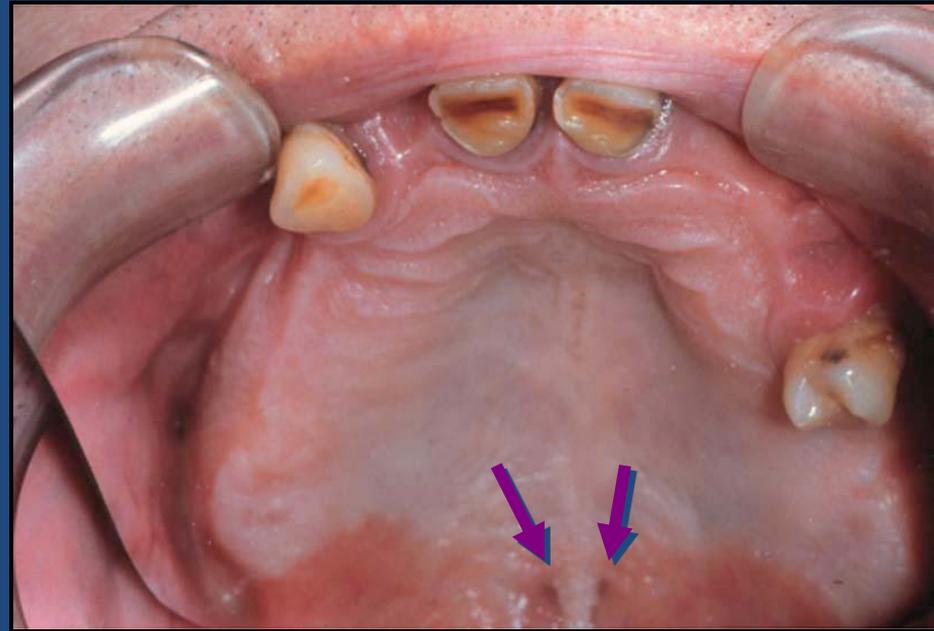
It is bony prominence at the posterior part of the ridge, terminating in the hamular notch, important in retention and stability, they are identified in the finished denture by the tubercular fossa.

- large tuberosities, require surgical treatment.



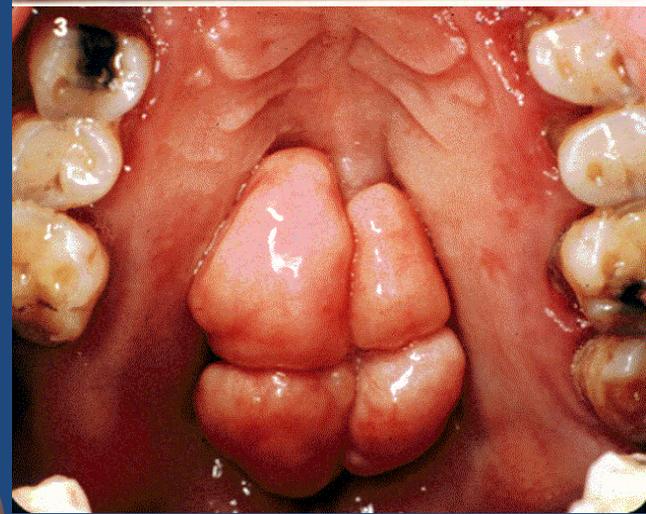
6- Foveae palatinae:

they are two opening of minor salivary gland in the midline posterior to junction of hard and soft palate, the posterior border of the denture should be extended 2 mm posterior to it.



7- Torus palatines:

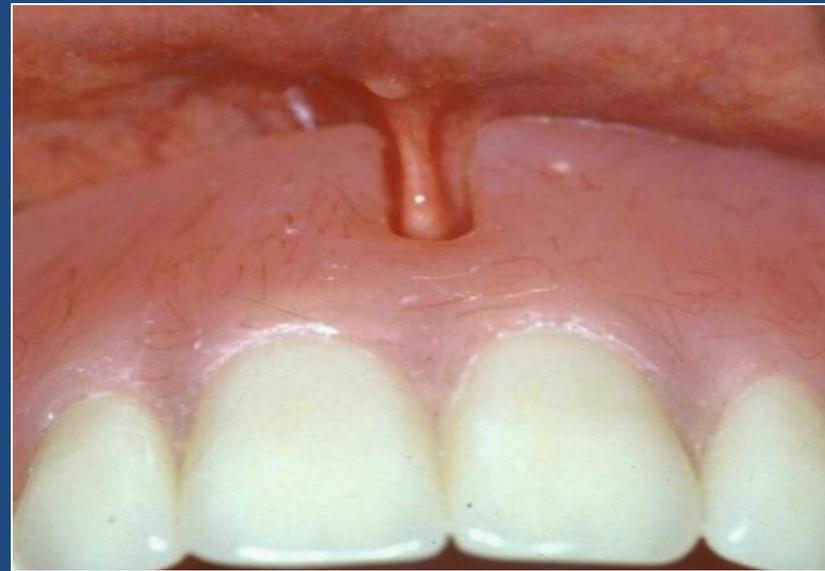
a bony projection in the midline of the palate, it varies in size and form, if it is small the denture should be relieved at this area, if it is large it should be surgically removed.



B)- Border structures (limiting structures)

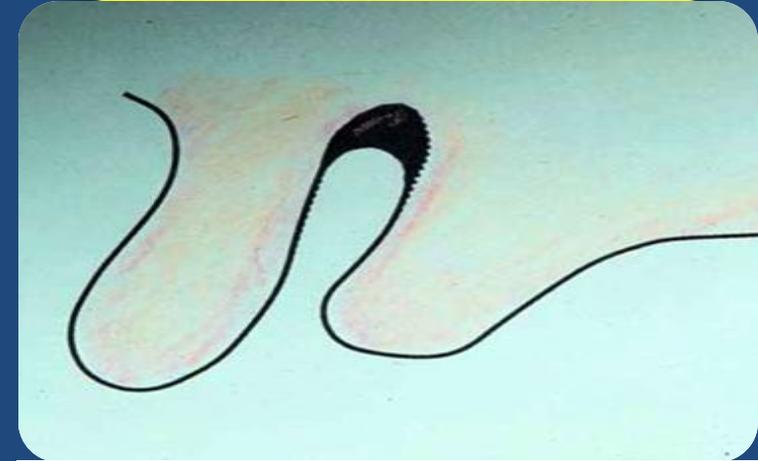
1- The maxillary labial frenum:

fibrous band covered by mucous membrane that extends from the labial side of the ridge to the lip, it has no muscle fibers, its position in the denture called the labial notch which should be wide and deep enough to allow the frenum to pass through easily.



2- Labial vestibule (sulcus) :

it is a space bounded by the labial aspect of the alveolar ridge, muco-labial fold and orbicularis oris muscle between labial frenum and buccal frenum, it is occupied by labial flange of the denture, the length of this flange should not extend more than the vestibule, the thickness of the flange depends upon the degree of alveolar resorption.



3- Buccal frenum:

it may be single or double, its position in the denture called buccal notch which should be wide enough to prevent dislodgment of the denture during broad smile.



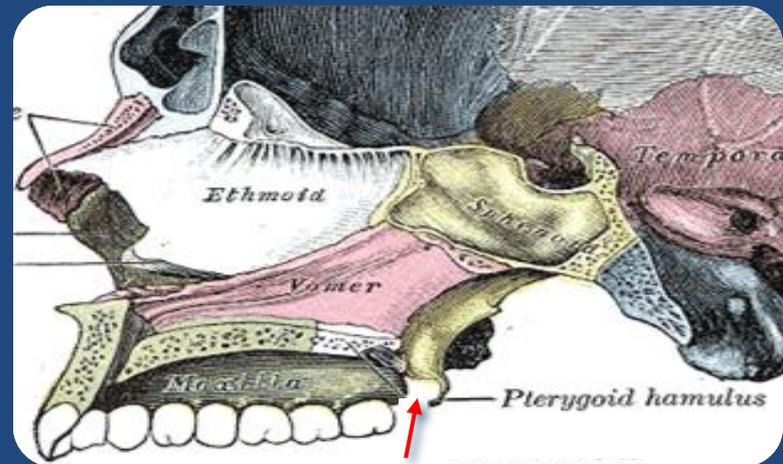
4- Buccal vestibule:

It is a space posterior to buccal frenum and extend to hamular notch, it houses buccal flang of the denture, the thickness of the buccal flange of the denture must not be thick to avoids coronoid process of the mandibule, the zygomatic process often needs relief.



5- Pterygomaxillary (hamular) notch:

this notch is formed by the pterygoid process of sphenoid bone and the posterior end of the maxilla back of the tuberosity, it is used to determination of the posterior border of the denture due to its compressibility.



6- Vibrating line of the palate:

It is imaginary line drawn across the posterior part of the palate that marks the beginning of motion in the soft palate when the patient says (ah), it extends from one pterygomaxillary notch to the other, it is always on the soft palate.



7- Posterior palatal border (post dam):

It is the posterior edge of the maxillary denture which must be placed at the vibrating line.



8- The soft palate:

It is the posterior part of the palate.

There are three classes of the curvature of the soft palate

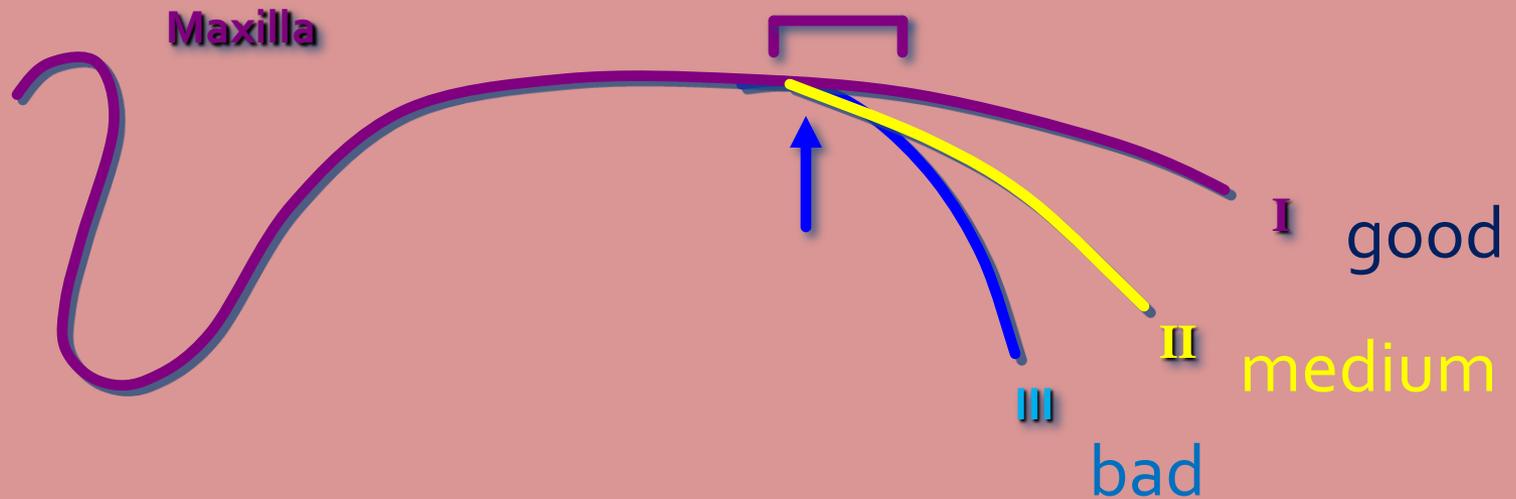
Class I: gentle curvature allow for broad width post dam (good)

Class II: medium curvature allow for medium width of post dam (medium)

Class III: sharp curvature allow for narrow width of post dam (bad)



Palatal Throat Form



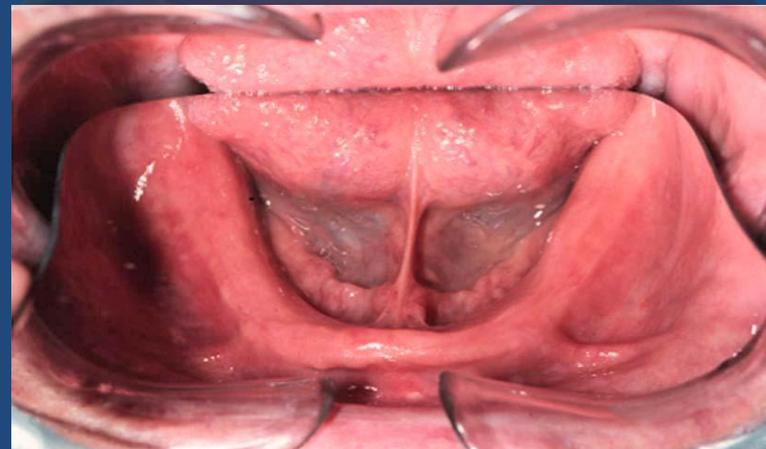
- Flatter the soft palate, the broader the area of the vibrating line

2- Lower arch (mandibule)

A)- Supporting structures

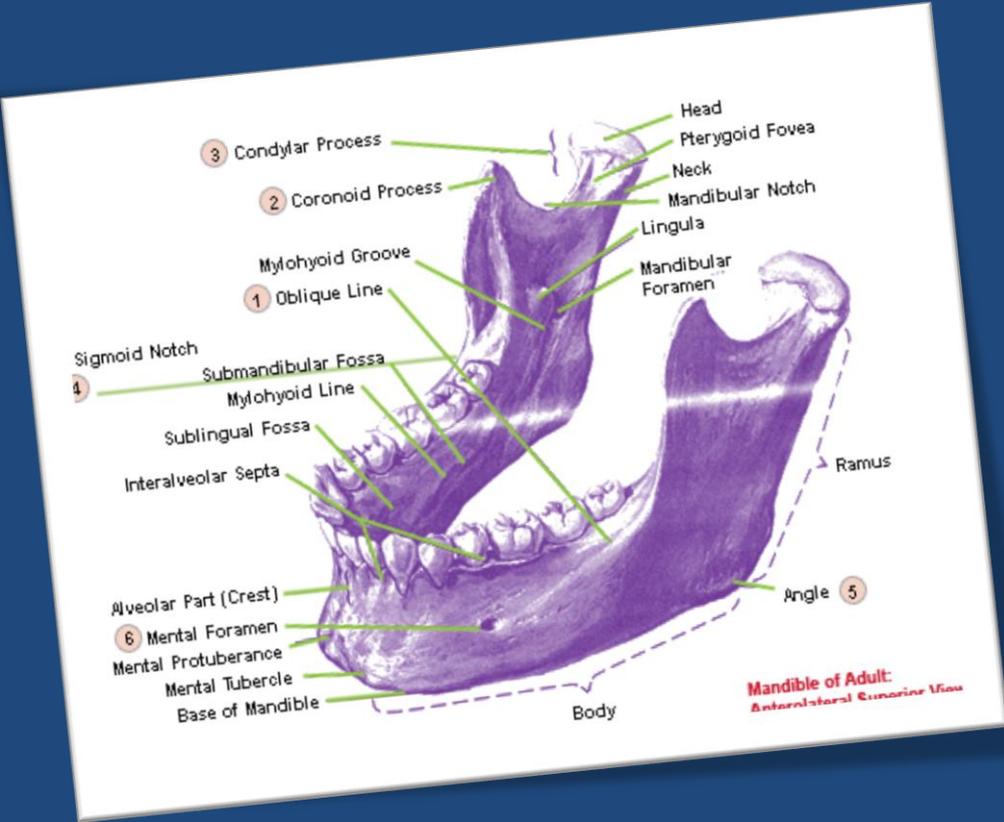
1- Residual alveolar ridge:

It is covered by fibrous connective tissue, if it is firmly attached to the bone it resists the force from the denture (secondary stress-bearing area).



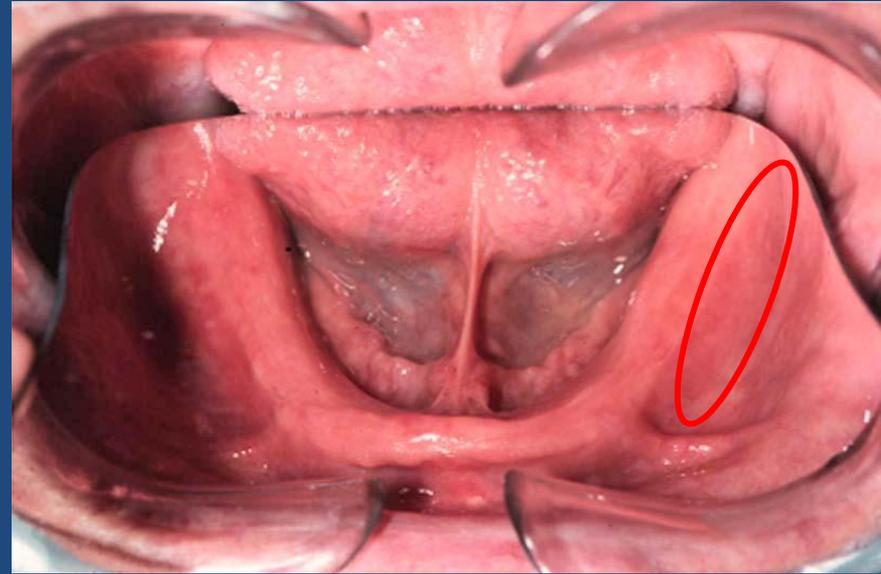
2- External oblique ridge:

it is bony ridge extend obliquely from junction of ramus of the mandibule and the ridge to the first molar on the external surface of the mandibule



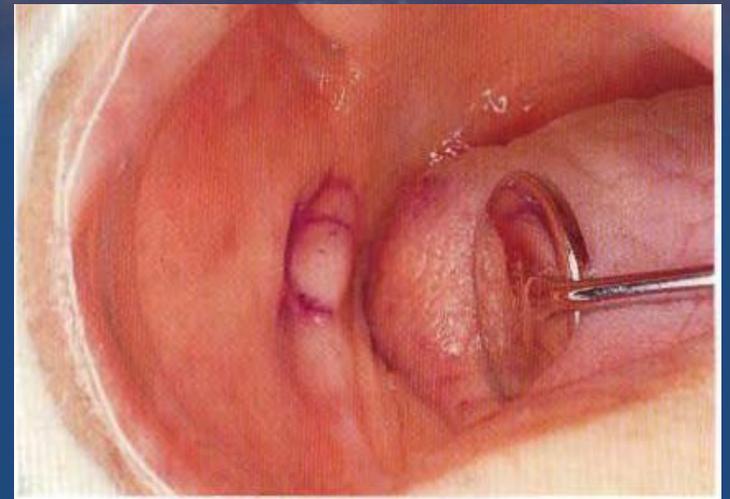
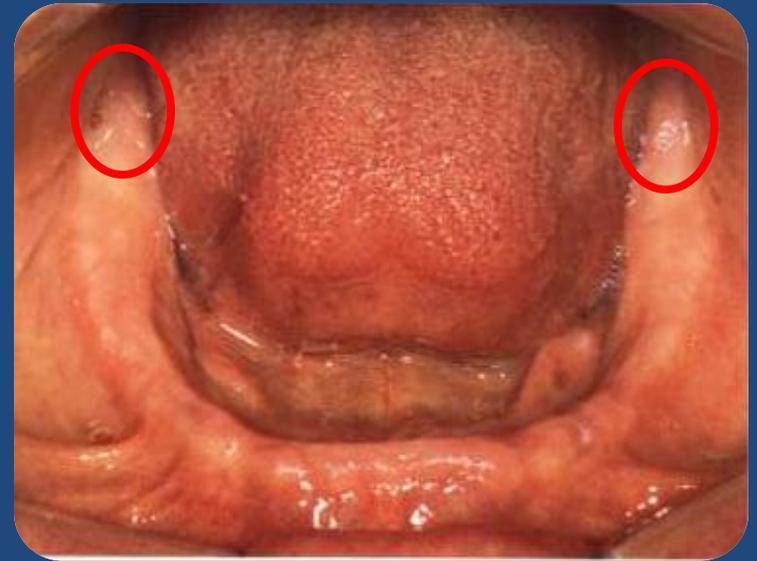
3- Buccal shelf of bone:

It is the area between the crest of the ridge and the external oblique ridge, it is considered a **primary** stress-bearing area because it is cortical bone.



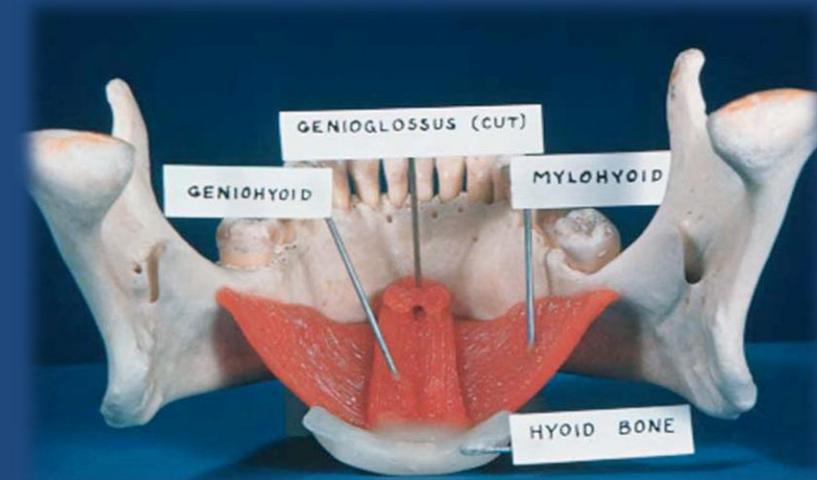
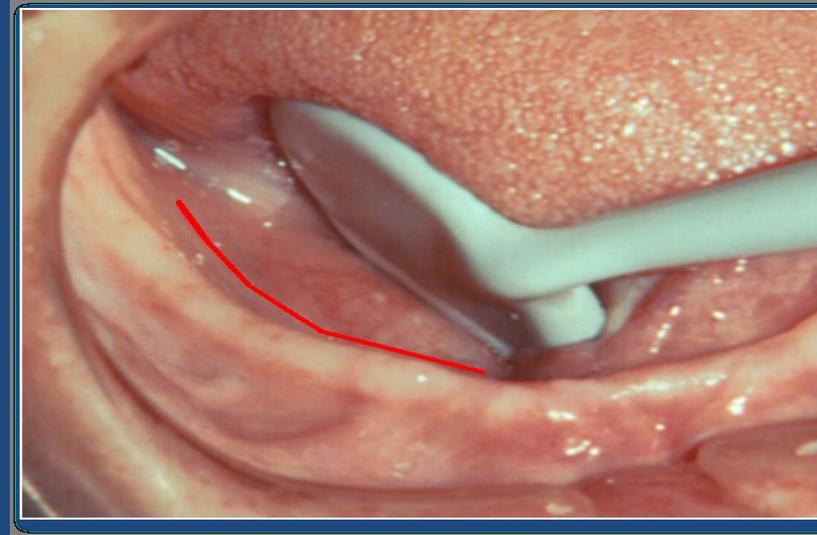
4- Retromolar pad:

It is a soft pad at the end of the ridge, it must be covered by the denture base to perfect the border seal in this area



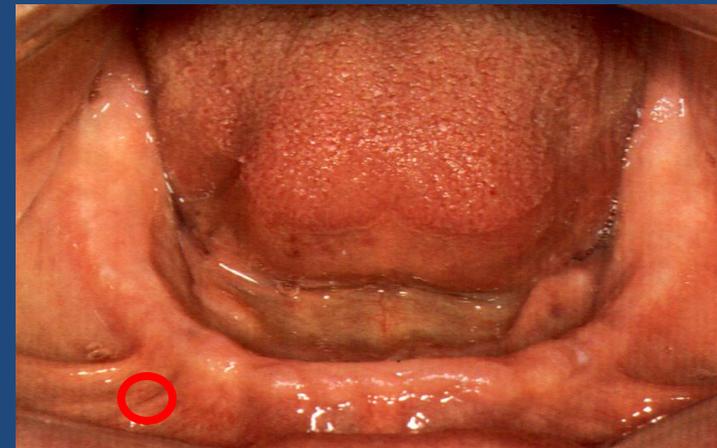
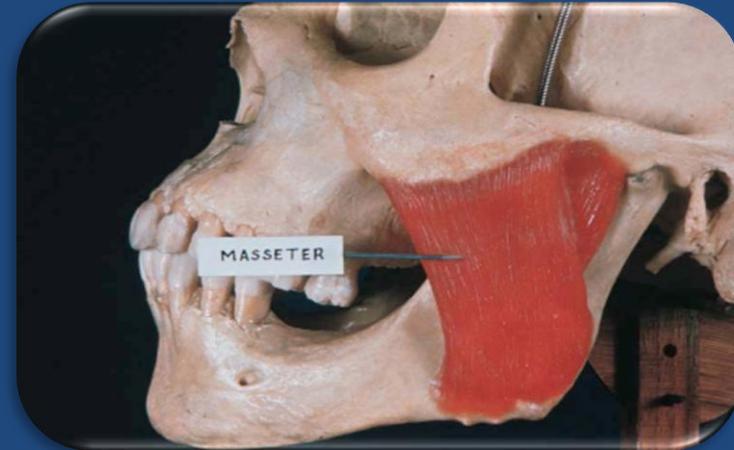
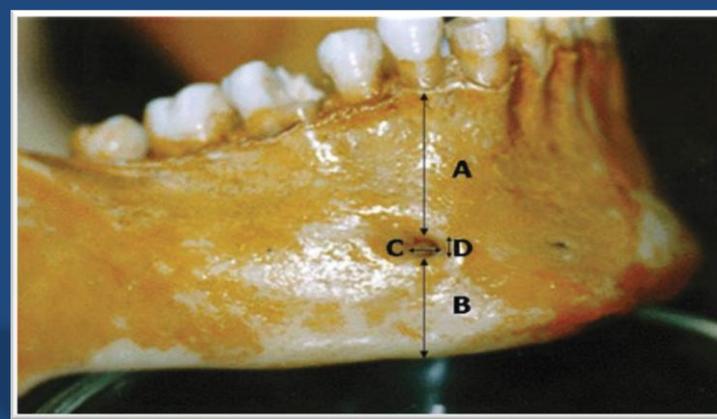
5- Mylohyoid ridge (internal oblique ridge):

In the inner surface of the mandible from the third molar to the midline.



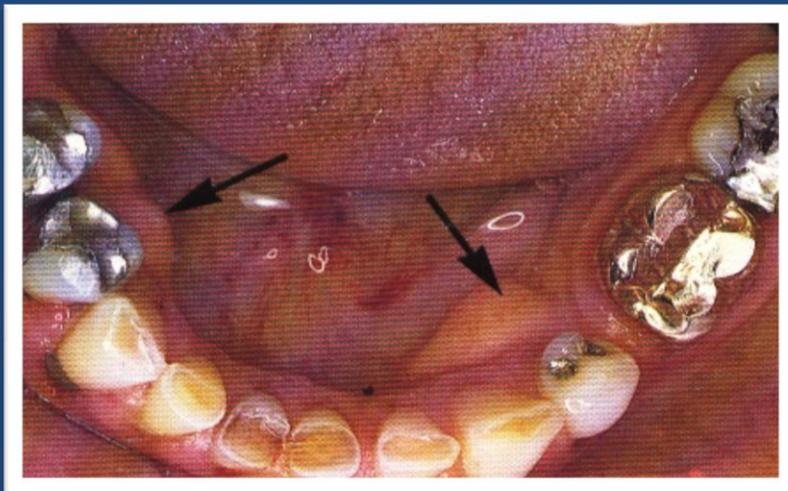
6- Mental foramen:

It is located on the buccal surface of the mandible in the premolar area, through which the mental nerves and vessels pass, pressure from the denture may cause pain and numbness and this will require relief in the denture.



7- Torus mandibularis:

It is bony projection sometimes found on the lingual surface in the premolar area, if it is small need relief, if it is large it will require surgical removal.



8- Genial tubercles or mental spine:

bony projections at the lingual surface of the mandibule in the medline (the symphysis). Following advanced alveolar ridge resorption, these tubercles lie very close to the crest of the ridge. in these cases the denture may require relief in this area.



B)- Border structure (Limiting structures)

1- Mandibular labial frenum:

fibrous tissue that attach the lip to the ridge, its position in the denture called labial notch



2- The labial vestibule (sulcus) and labial flange:

It is the space between labial frenum, buccal frenum, lip and the ridge. It is occupied by labial flange of the denture



3- Buccal frenum:

It is fibrous tissue attach cheek to the ridge, its position in the denture called buccal notch.



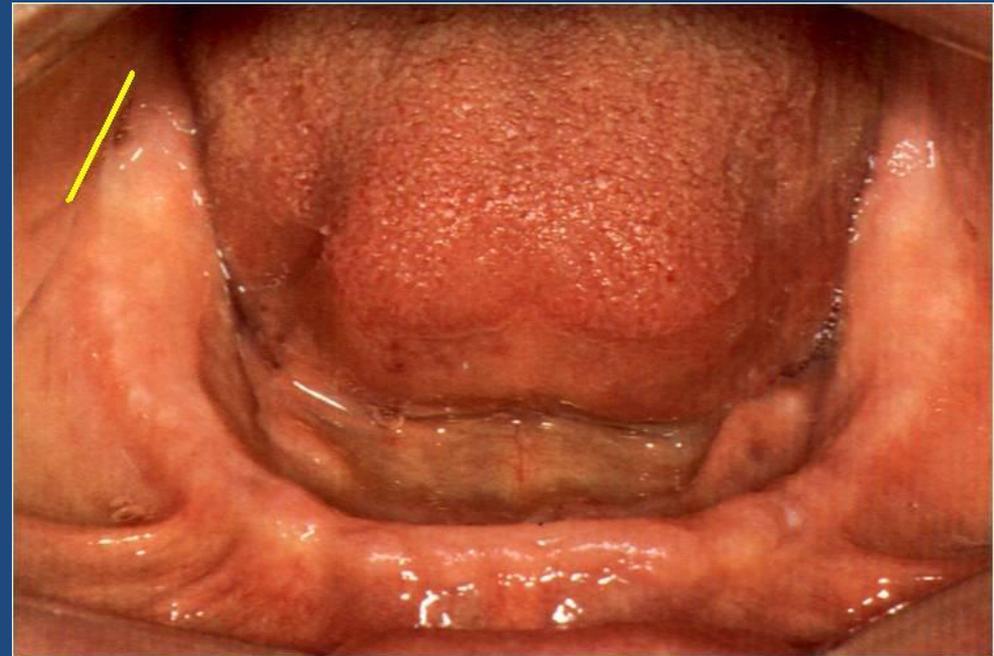
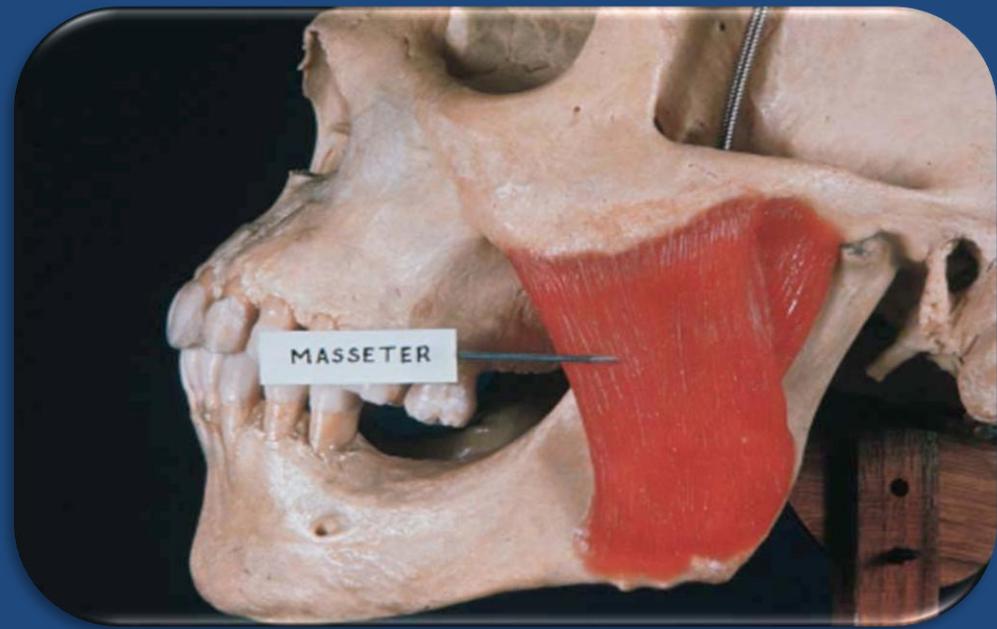
4- Buccal vestibule (sulcus) and buccal flange:

It extends from the buccal frenum to retromolar pad, it houses the buccal flange of the denture.



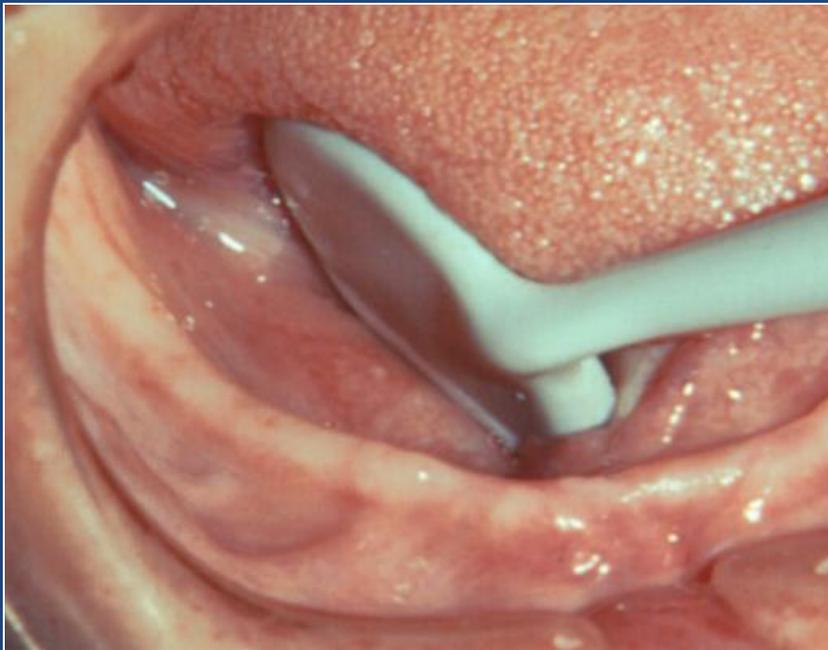
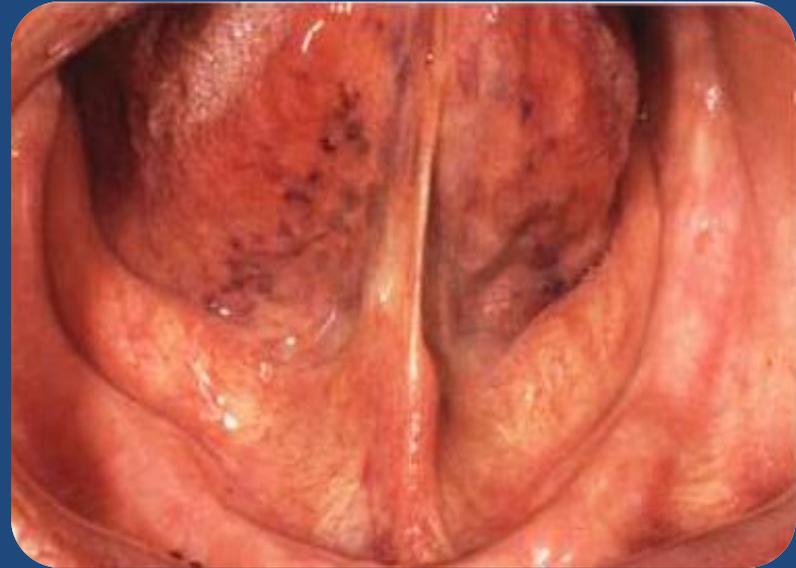
5- Masseter muscle influence area:

the distobuccal corner of the mandible must avoid pressure of masseter muscle to avoid displacement of the denture.



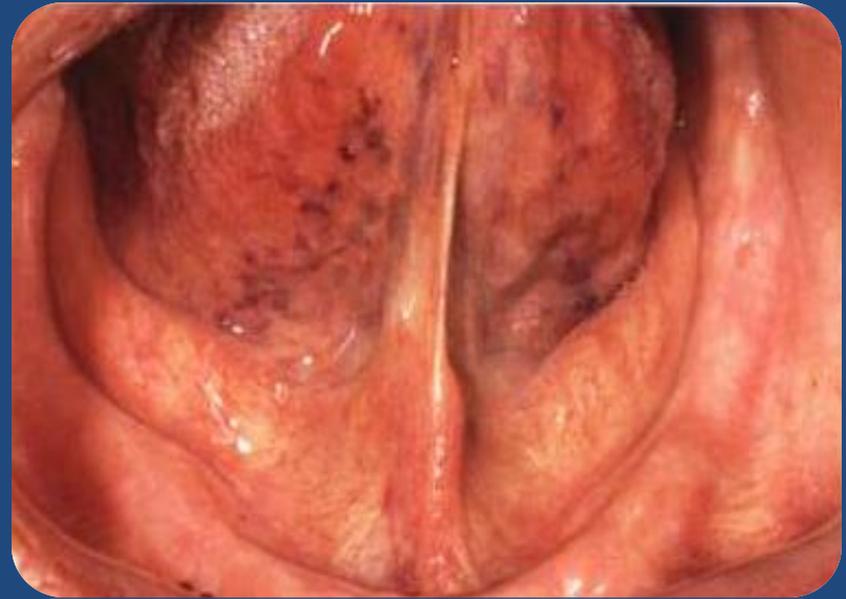
6- Lingual vestibule (lingual sulcus) and lingual flange:

It extends from lingual side of the retromolar area to the lingual frenum, it houses the lingual flange of the denture. The posterior extension of the lingual flange lies in lingual pouch.



7- Lingual frenum:

it is fibrous tissue attach the tongue to the lingual side of the ridge, its position in the denture called lingual notch.





Thank you