***♥ Anatomy of maxilla & mandible ♥***

First of all, why do we have to know the anatomy of maxilla & mandible?

To make a denture, cause we are dealing with environment surrounded by tongue , cheek & other different structures.

As a revision, we have 3 denture surfaces that have relations with certain anatomical land marks :

1-fitting surface … the relation between ridges of maxilla & mandible-the surface toward tissues

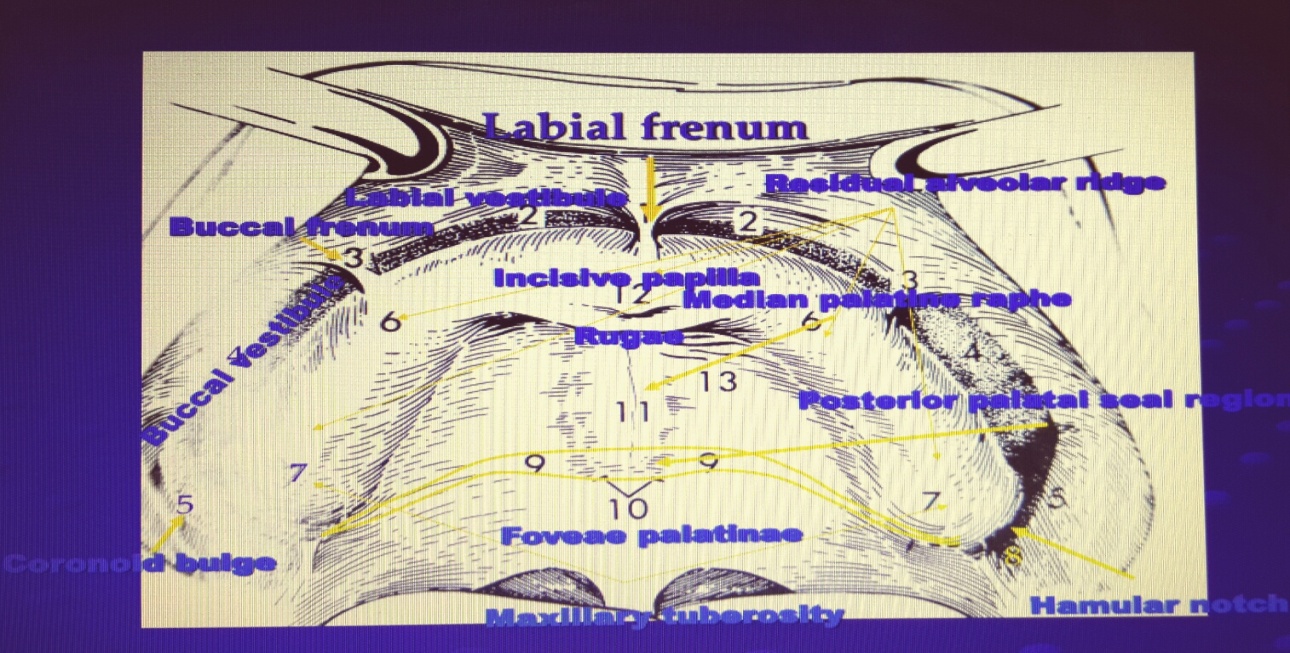
2-occlusal surface…between upper & lower jaws

3-polished surface …. Tongue & cheek attached with this surface

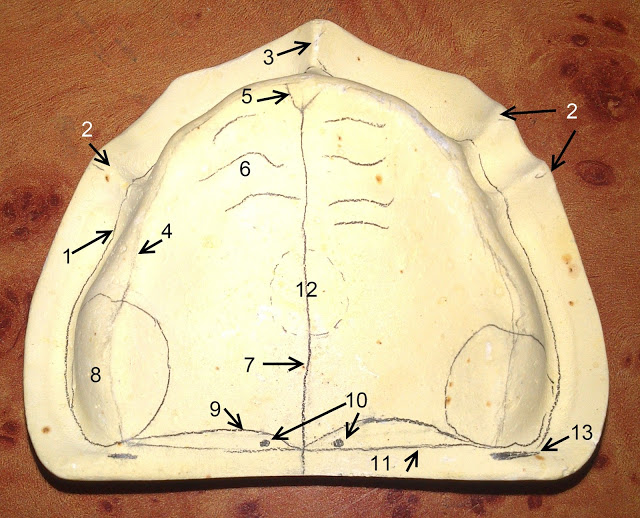
***♥About fitting surface:***

1-stress bearing area (supporting area)...the area where the denture will set on.

2-peripheral or limiting area … is the area where the end of denture will reach



***♥***This is a picture from the internet for the main land marks of maxilla:

1 - *Oral vestibule*  
2  - *Buccal frenum*  
3 - *Labial frenum*  
4 - *Crest of residual alveolar ridge*  
5 -*Incisive papilla*  
6 - *Rugae*  
7 - *Median palatine raphe*  
8 - *Maxillary tuberosity*  
9 - *Anterior vibrating line*  
10 - *Fovea palatinae*  
11 - *Posterior vibrating line*   
12 - *Torus palatinus*  
13 - *Hamular notch*

***♥NOTES***:

1-vibrating line is part of the soft palate , that separates the movable from non movable tissues on the soft palate. The importance of this line is that its considered as the posterior border of the denture, so, it’s a limiting structure.

2- fovea palatinae are 2 orifices for minor salivary glands that by them we could easily locate the vibrating line. Another way for locating the vibrating line is by drawing a line between the 2 hamular notch.

3-coronoid bulge is called so because its relevant to coronoid process.

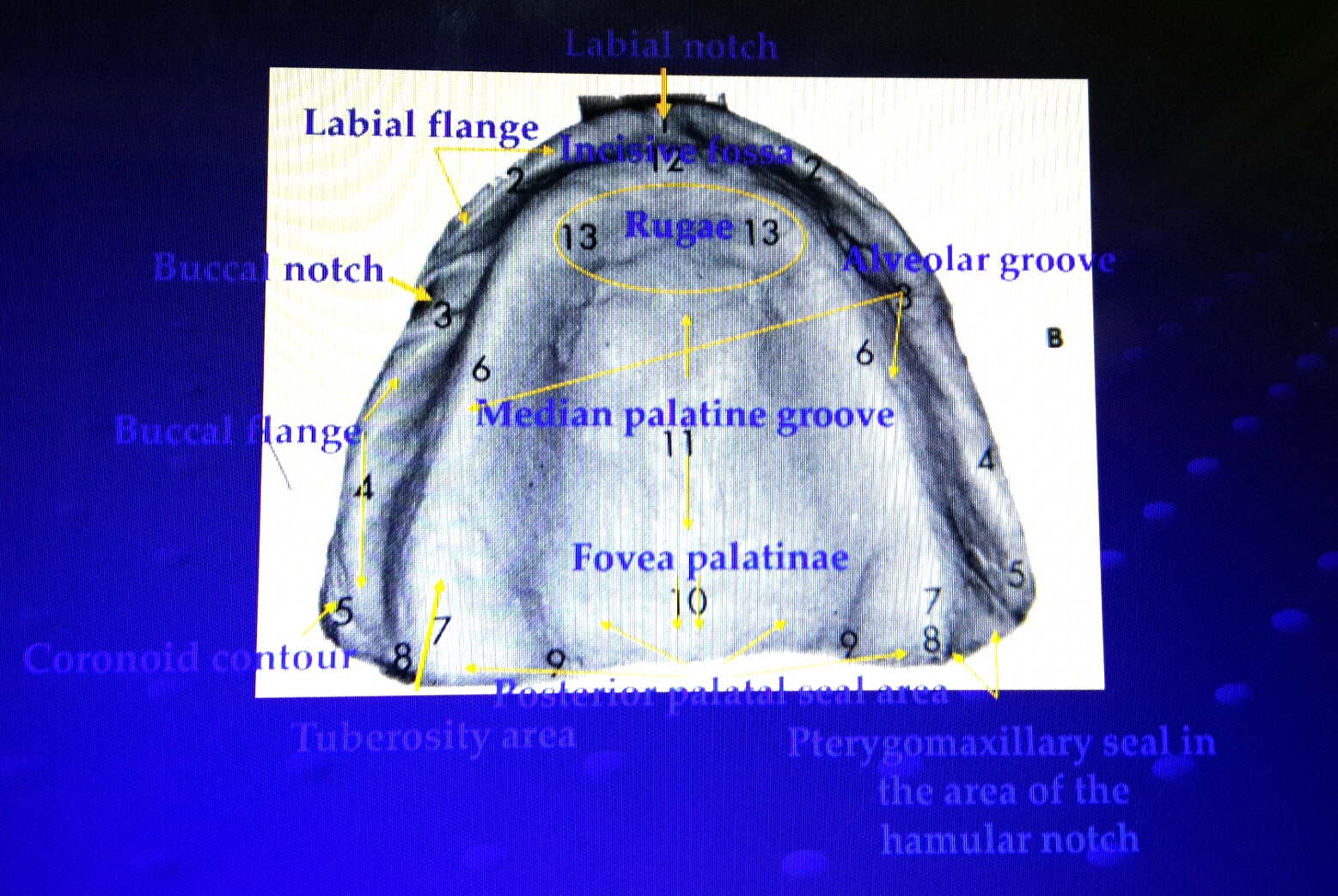
4-maxillary tuberosity ..is the most bulgy area at the end of maxilla , & posterior to it there is the hamular notch

5-posterior palatal seal area … when we draw a line between the hamular notch, we will have the vibrating line, one is posterior & the other anterior, between the 2 lines we will have the posterior palatine seal area. Its called seal area because its an compressible area , where denture sink there cause of the softening of the tissues, that’s why when we remove the impression we hear a voice of suction that result from the negative pressure there . seal = retention .

6- we should relief these areas: incisive papilla ( cause it contains a nerve) - medial palatine raphe(cause its thin area)

7-distobuccal area for complete denture: coronoid process & massiter muscle

***♥ A picture for negative impression:***



Supporting structures: it should be hard like a bone cause the denture will set on it

Bone is covered by a mucous membrane ( mucous membrane is composed mucosa- could be stratified or keratinized or non keratinized- & sub mucosa -that could be lose or dense , contains glandular tissue or fat & has a nerve supply-).

Note: the thickness & consistency –how firm is the tissues- of the submucosa determines the support .

***♥ Tissues may be:***

1. Firmly attached to bone … this type of tissues withstand the pressure & give support – ex. The palate & the stress bearing area- .
2. Loosely attached to bone … this type is easily displaced & affects the stability & support – movable – so, these tissues are limiting structures - like the depth of the sulcus- .
3. Thin … easy to be traumatized – ex. Medial raphe in maxilla

***♥ Stress bearing areas in maxilla are:***

1-horizintal portion of the hard palate

2-rugaue area

3-residual ridges – the only one that get resorbed in maxilla-

***♥ This should be a home work :***

What are the factors affecting the form & size of supporting bone?

1. Length of edentulous
2. ….. complete :P

***♥***-The space between upper arch & lower arch called : interarch space.

-in this picture , the space is limited because of the enlargement of maxillary tuberosity & retromolar pad area which is a result of loosing teeth for a long time.



***♥***-torus palatinus: its an extra bone in the palate , exist in 20% of population. The problem in this case is that there will be no sealing, so we are unable to make a denture.

***♥ NOTE*** : Buccal frenum is wider than labial frenum , because its under tension of 2 muscles > buccinator & orbecularis oris.

A-maxillary tuberosity

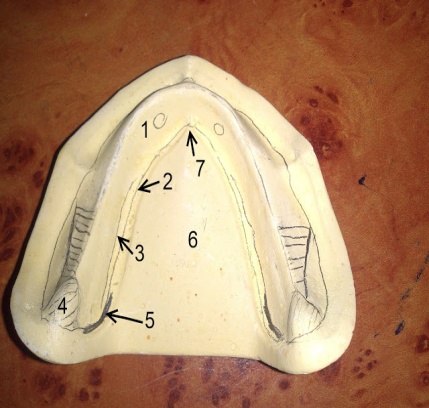
B-pteregomandibular raphe

c-retromolar pad



-we order the patient to open his mouth widely just to see the pteregomandibular raphe, that we shouldn’t extend the tension to it , cause its delicate & may get a trauma.

***♥ The mandibular:***



|  |  |  |
| --- | --- | --- |
| 1 - *Labial vestibule*  2-*Buccal frenum* 3 - *Labial frenum* 4 - *Mental foramen* 5 - *Crest of residual alveolar ridge* | 1 - *Labial vestibule*  2 - *External oblique ridge* 3 - *Buccal shelf of bone* | 1 -*Torus mandibularis* 2 -*Lingual vestibule* 3 -*Mylohyoid line* 4 -*Retromolar pad* 5 -*Lingual pouch* 6 - *Tongue* 7 -*Lingual frenum* |

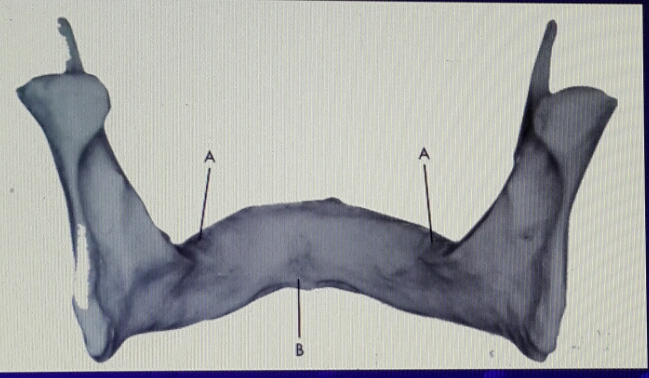
***♥ Notes:***

-buccal shelf: is the primary support area in the lower jaw, but the residual ridge is the secondary support area, unlike the maxilla.

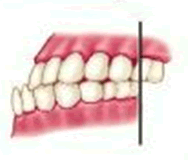
-retromolar pad in mandible matches the maxillary tuberosity.

***♥*** ***Home work*** : why the buccal shelf is the primary support area in the lower jaw not the residual ridge?

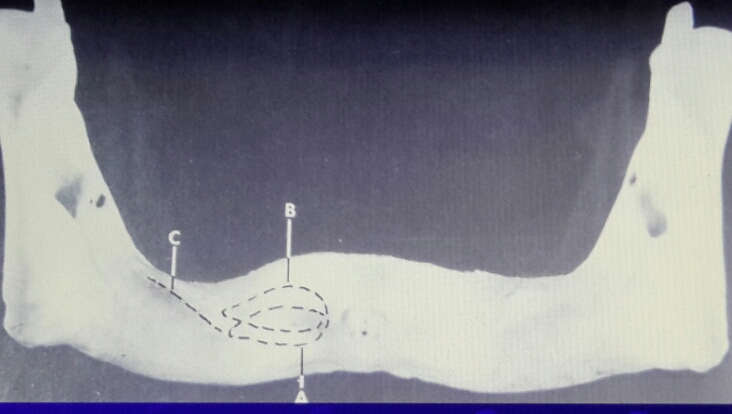
Cause the residual ridge is a cancellous bone so, easier to be resorped , but buccal shelf is a cortical bone which can withstand more pressure .



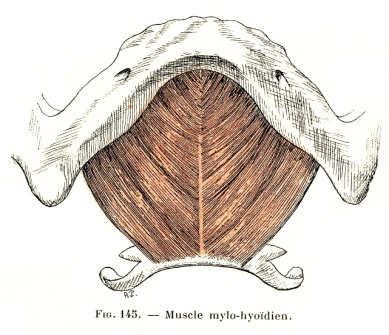
***♥***- in this picture, there is a sharp edge called (mylohyoid ridge) , & below it there is an (undercut ), cause under a sharp area there must be a flexible material.



***♥***Over time, resorption occur & maxilla moves posterior & superior, but in mandible , resorption mostly occur from inside, eventually , the shape looks like class 3 .

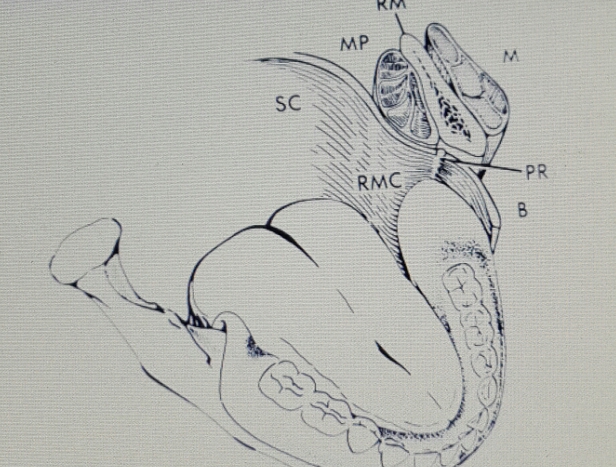


***♥*** -Functional movement (B) is what determines the border of denture not when the patient is at rest (A).



-***♥*** mylohyoid muscle is important because it determines the extension of the denture.

***♥***

M > Masseter muscle

PR> pteregomandibular raphe

B> Buccinator

RM> Ramus of mandible

MP> Medial pteregoid

SC> superior constrictor muscle

RMC>Retro Mylohyoid Curtain

***Done by: Haneen AL-Khateeb Enjoy studying….bye bye♥***