

Anatomy

Lec 5

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The Maxillary bones:

Is the pyramidal shaped bone. They are two maxillary bones right and left fuse together to form the upper jaw and the front of the face.

- Each maxillary bone share in forming part of three important cavities which are:

1. Floor of the orbital cavities.
2. Floor and lateral wall of the nasal cavity.
3. The roof of the mouth.

- Each maxillary bone consists of **body** and four process: **frontal process, zygomatic process, alveolar process, palatine process.**

Body of maxilla:

The body of maxilla looks like a four-sided pyramid which contain a large cavity called **Maxillary sinus**. The base of the pyramid lies towards the nasal cavity while the apex is formed by its zygomatic process. The four sides (surfaces) of the body of the maxilla are:

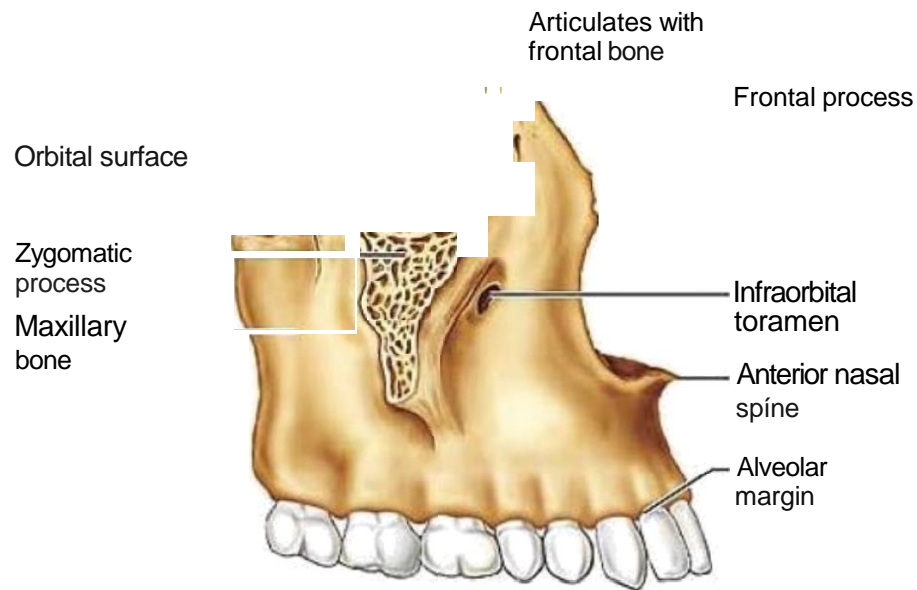
1. Anterior(facial) surface.
2. Posterior(infra temporal) surface.
3. Superior(orbital) surface.
4. Medial (nasal) surface.

1. **Anterior (facial) surface:** there is **infraorbital margin** (the inferior border of the orbital cavity. Also, there is **infraorbital foramen** below and in the middle of this margin.
2. **Posterior (infra temporal) surface:** is smooth and convex.
3. **Superior(orbital) surface:** is smooth and slightly concave form the greater p art of the floor of the orbital cavity. There is **infraorbital groove**.
4. **Medial (nasal) surface:** Is the base of the pyramid and form the lateral wall of the nasal cavity.

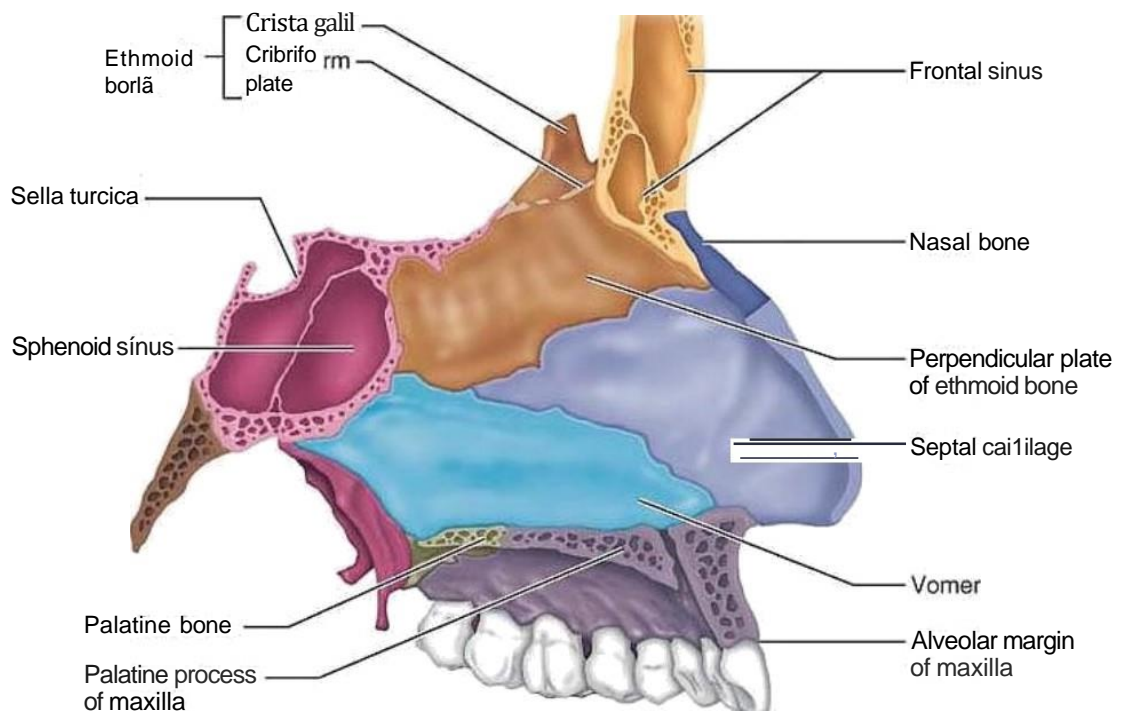
Processes of the maxilla:

Each maxillary bone consists of four process: frontal process, zygomatic process, alveolar process, palatine process. The frontal and the zygomatic process arises from the upper part of the bone while the alveolar and the palatine process arise of the lower part of the bone.

1. **Frontal process:** is thin flattened projection which extended upwards and articulates with frontal bone. Also articulates with nasal bone medially and the lacrimalbone posteriorly.
2. **Zygomatic process:** is the projection from the upper lateral part of body and articulate with zygomatic bone.
3. **The alveolar process:** is thick projection downward that form the alveolar arch with numerous sockets for the roots of the upper teeth formed the upper jaw that carries the upper teeth.
4. **Palatine process:** is related to the hard palate which formed by the palatine process of the maxilla and palatine bones. this process forms greater p ortion of the hard palate and its posterior margin articulate with horizontal process of the p alatine bones.



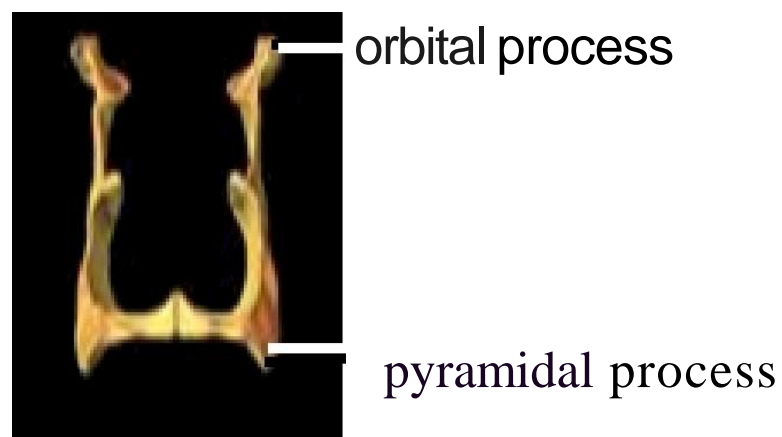
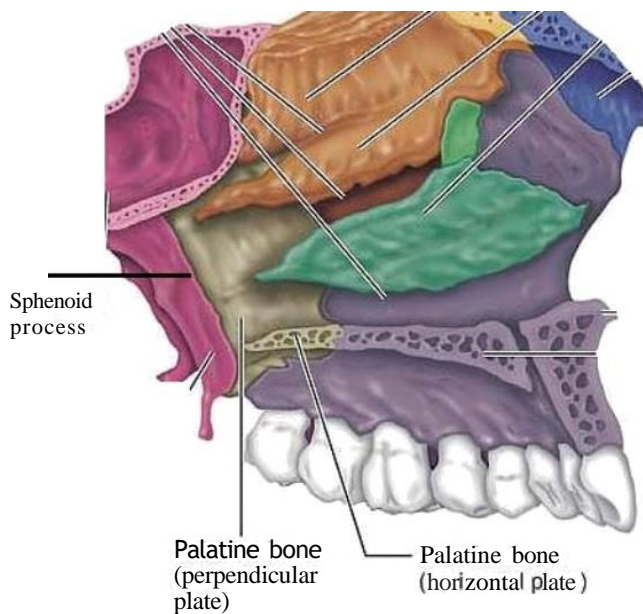
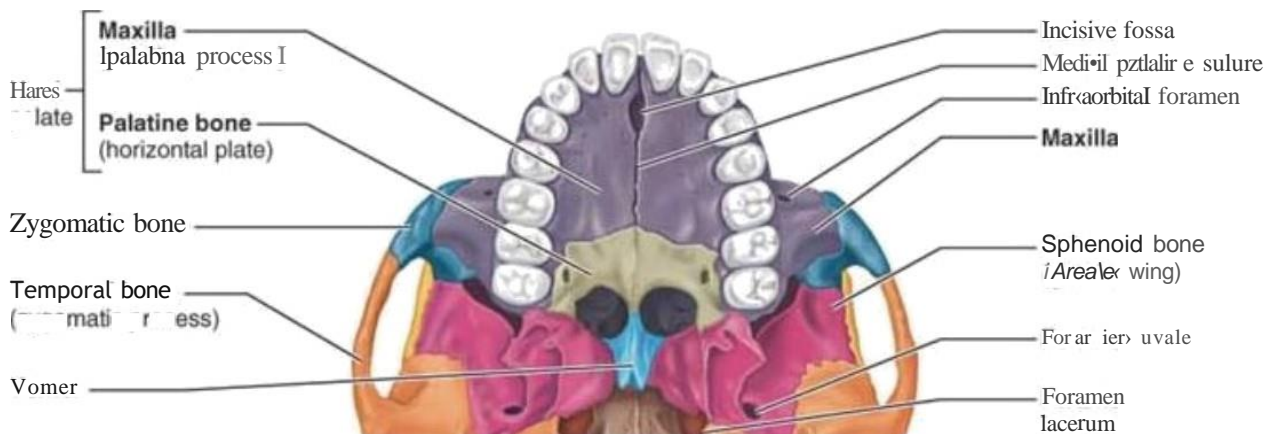
Maxillary bone (lateral sides)



Maxillary bone (medial sides)

The Palatine Bones:

Each L-shaped palatine bone is fashioned from two bony plates, the horizontal and perpendicular, and has three important articular processes, the pyramidal, sphenoidal, and orbital. The horizontal plates complete the posterior portion of the hard palate. The superiorly projecting perpendicular (vertical) plates form part of the posterolateral walls of the nasal cavity and a small part of the orbits.



Anatomy

The Mandible:

The mandible is the skeleton of the lower jaw and consists of the body and two ramies (one ramus on each side).

The body:

Is resembles horseshoe shaped which convex foreword and has two borders (upper and lower) and two surfaces (outer and inner).

Upper border carries the lower teeth and called alveolar margin.

Lower border is called base of the mandible.

The body of the mandible meets the ramus on each side at angle of the mandible.

The outer surface :

It shows the following features :

1. It has a faint ridge of bone in the midline called **symphesis menti** which ends below it small triangular raised area called **mental protuberance** .
2. The **symphesis menti** represents the area of union of the two halves of the mandible during development.
3. The mental foramen : is an opening which looks upwards and laterally and lies half way between the upper and the lower border opposite the area between the two premolar.
4. There is faint ridge of bone called **oblique line** extends downwards from the anterior border of the ramus to reach the mental foramen.

The inner surface :

It shows the following features :

1. Two very small tubercles or spines called the upper and lower genial tubercles or mental spines are on the either sides of symphysis menti very close to the midline.
2. A prominent ridge of bone called **mylohyoid line** extends from the behind the 3rd molar to the mental spines which divides the inner surface of the body into two fossae:
 - a. **The sublingual fossa:** located above and in front of the mylohyoid line.
 - b. **The submandibular fossa:** located below and behind the mylohyoid line.

The Ramus of the mandible:

It has the following:

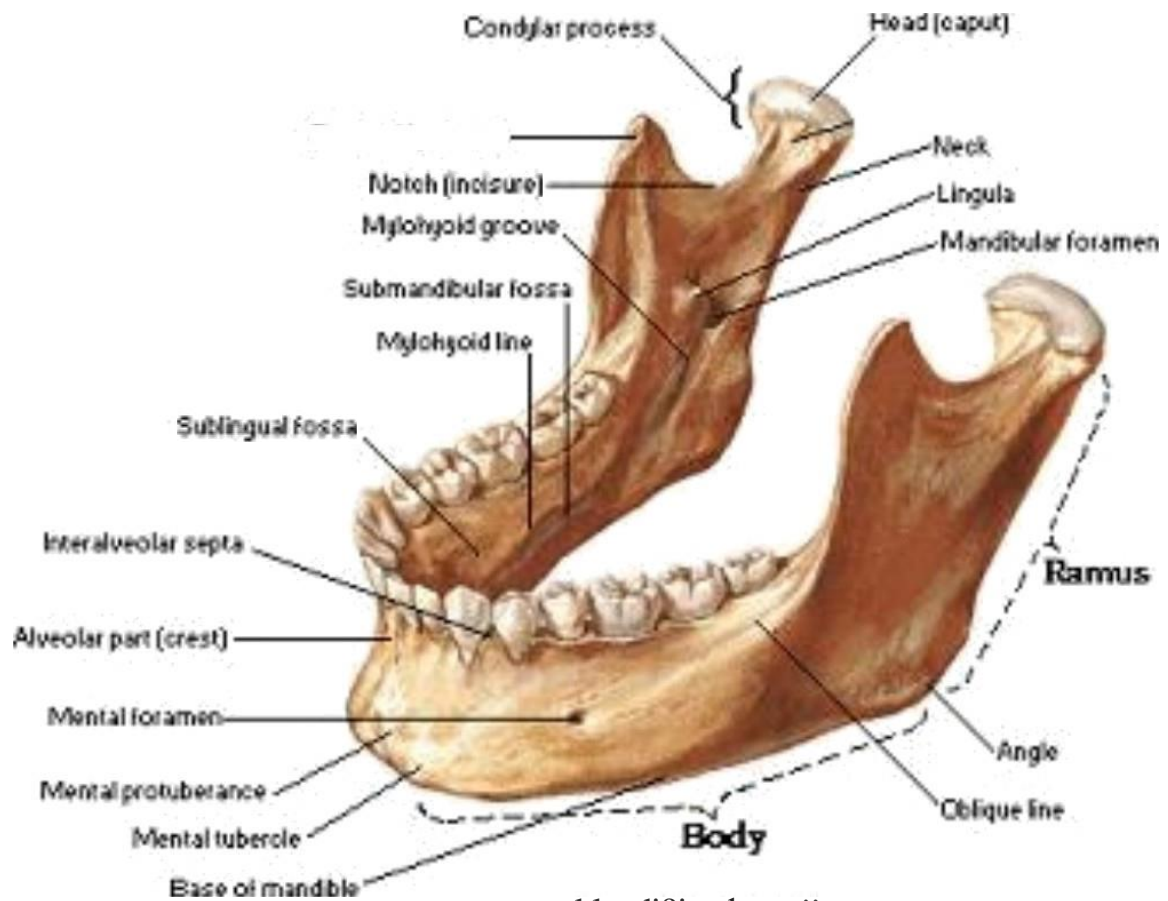
1. Two surfaces: outer and inner surface:

The outer surface: is flat and gives the insertion of the masseter muscle.

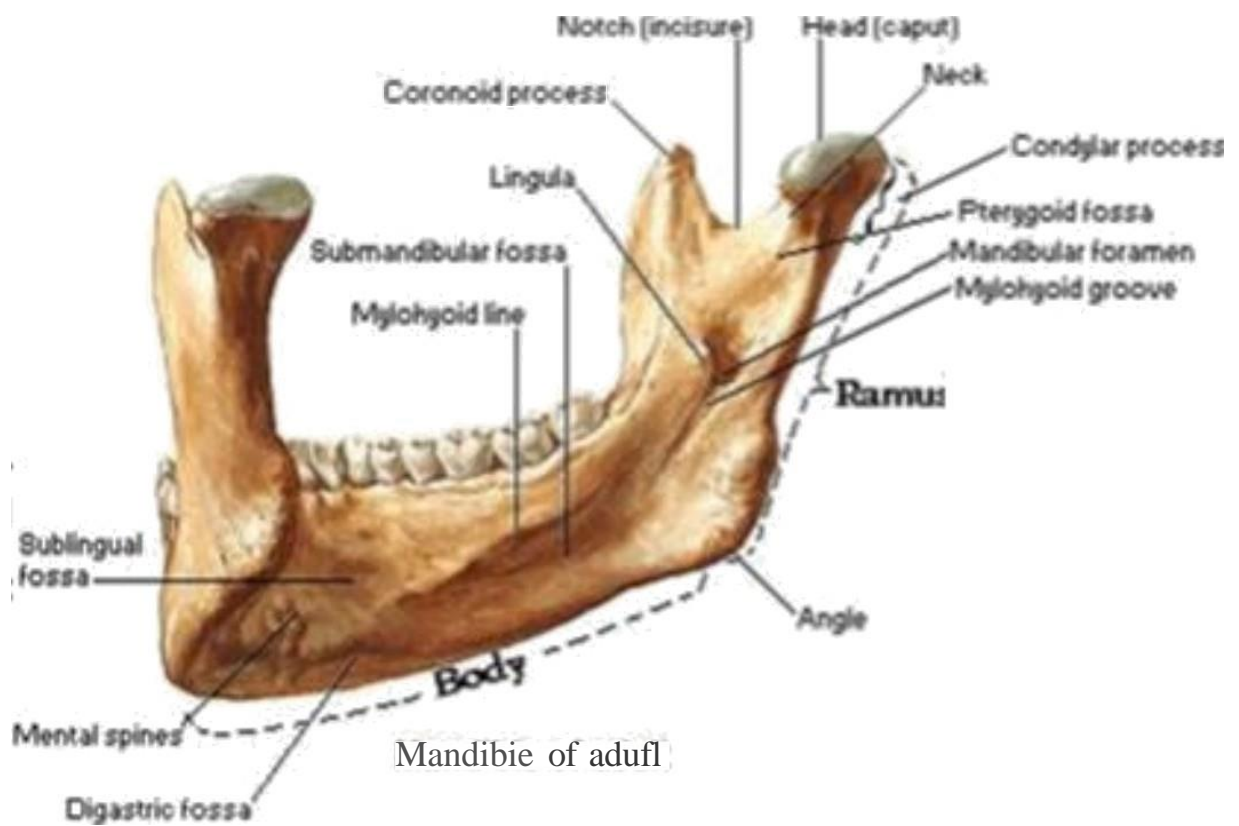
The inner surface: shows the following features:

- a. **The mandibular foramen:** an oblique opening found in the center of ramus.
 - b. **The lingula:** is a small tongue like process overlapping the mandibular foramen.
 - c. **The mylohyoid groove:** a sulcus begins from the lower margin of the mandibular foramen and descends below the posterior part of the mylohyoid line.
2. Two borders: anterior and posterior surface.
 3. The upper ends of ramus have two processes:
 - a. **Coronoid process:** anteriorly which is a thin flat triangular piece of bone.
 - b. **Condylar process:** posteriorly which consists of head and neck.

The two processes are separated from each other by **mandibular notch**.



mandibulae c. adult



Mandible of adult