

& Scientific Research



Al-Muthanna University

Faculty of Pharmacy

جامعة المثنى

كلية الصيدلة

**First stage**

**Faculty of Pharmacy**

**Al-Muthanna University**

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**Theory Human Anatomy**

**(CIHa 108)**

**Lec (2)**

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## Axial & Appendicular Skeleton

### Axial Skeleton Divided into three parts

#### Skull

#### Vertebral Column

#### Rib Cage (*ribs and costal cartilages*)

The Skull Bones consists of

**1- Cranial Bones (8)** –covers & protects the brain connected by sutures

**Parietal (2)** Superior & lateral

**Temporal (2)** inferior to the parietal

**Frontal (1)** forehead under eyebrows upper eye orbit

**Occipital (1)** At the base of skull has a large oval opening called the foramen magnum, which allows the passage of the spinal cord.

**Ethmoid (1)** an unpaired bone in the skull that separates the nasal cavity from the brain. It is located at the roof of the nose, between the two orbits

**Sphenoid (1)** forms the base of the cranium, behind the eye and below the front part of the brain

**2- Facial Bones (14)**

**Maxilla (2)** Upper Jaw

**Zygomatic (2)** Cheek bone

**Mandible (1)** Lower jaw

**Nasal (2)** Nose Bridge

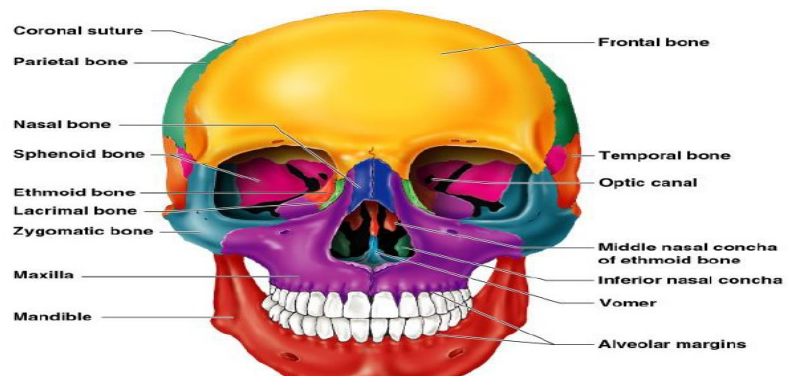
**Palatine (2)** are situated at the back of the nasal cavity between the maxilla and the process of the sphenoid bone

**Inferior nasal concha (2)** arise from the cranial portion of the skull

**Lacrimal (2)** It is situated at the front part of the medial wall of the orbit.

**Vomer (1)** Forms the septum in the nose

### Bones of the Skull



## Thoracic Cage (Rib Cage)

- 12 pairs of RIBS
  - True ribs (1-7): attach directly to the sternum
  - False ribs (8-12): Indirect or no attachment to the sternum
  - 2 floating ribs (11 & 12) no attachment to the sternum
- 1 STERNUM

## Vertebral Column

- 7 Cervical (Neck) Vertebrae,
- 12 Thoracic (Chest Cavity)
- 5 Lumbar (Lower Back): support most of the weight
- Sacrum: 5 Fused Vertebrae (posterior wall of the pelvis)
- Coccyx: 4 Small Fused Vertebrae Into 1 (Tail Bone)

## APPENDICULAR SKELETON

Consists Of Bones Of The:

- ARMS (upper limbs)
- LEGS (lower limbs)
- SHOULDER GIRDLE (pectoral girdle)
- HIP GIRDLE (pelvic girdle)

## Joints

- JOINTS: WHERE TWO OR MORE BONES MEET
- Joints are responsible for keeping bones far enough apart so they do not rub against each other as they move, preventing damage.
- At the same time, joints hold the bones in place
- Different joints permit different amounts of movement.
- Joints are classified by the amount and type of movement they permit.

## Classification of Joints

Three Main Functional Types

- Immovable (fibrous joint) A fixed joint, one that allows no movement
- Slightly movable (cartilaginous joint) joint that permits a small amount of restricted movement
- Freely movable (synovial joint) Permit movement in one or more directions

## Anatomy of a Joint Structures of a freely movable joint

- two or more bones
- Cartilage
- Joint capsule
- Synovial membrane
- Synovial fluid
- Fat
- Bursa
- Meniscus
- Ligaments
- Tendons

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