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Platform

# منصة ادرينالين التعليمية

جامعة سيناء

## Anatomy

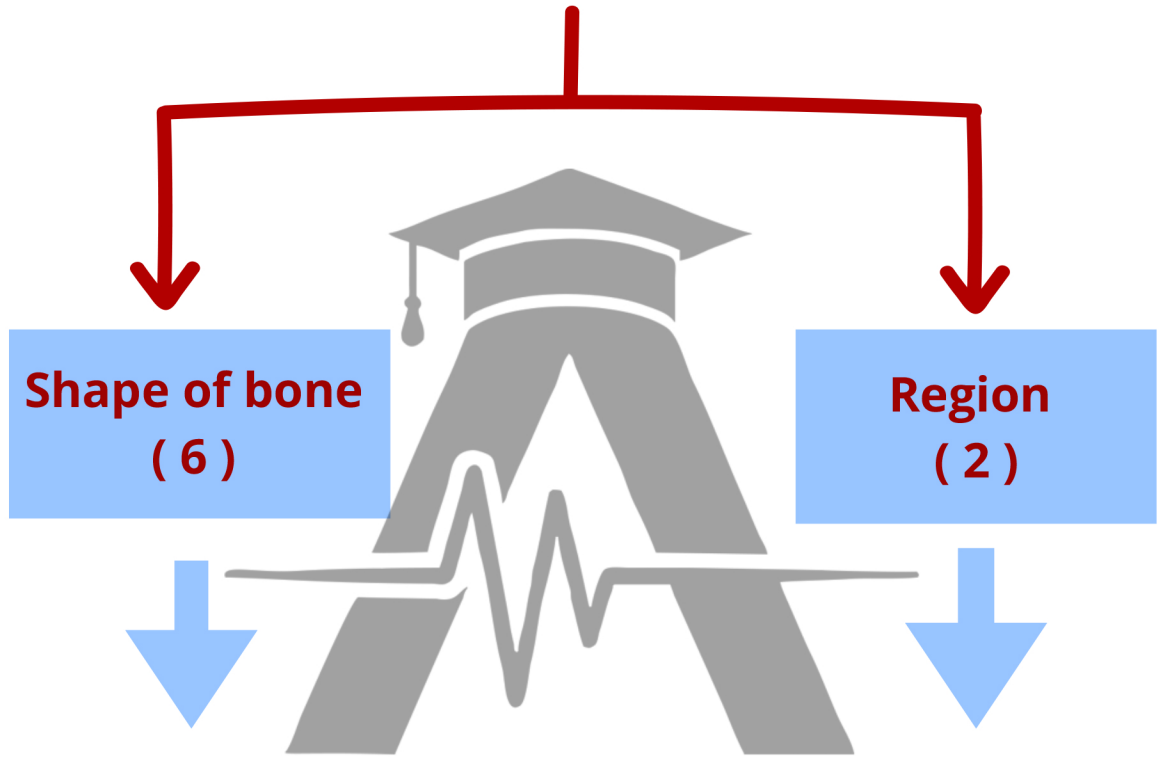
Section

كورسات جامعية - كورسات عامة - استاضافت كورسات - ابحاث علمية

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# Section 1

## classification of bones:



- 1- Long bone
- 2- Short bone
- 3- Flat bone
- 4- irregular bone
- 5- Pneumatic bone
- 6- Sesamoid bone

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- 1- Axial skeleton
- 2- appendicular skeleton

## According to bone shape

### 1- Long bones

- **Site** : Upper limb and lower limb
- **Example**  
**Upper limb:** Humerus, Radius, Ulnar , Phalanges  
**Lower limb:** Femur, Tibia , fibula
- **Function** : Movement



ركز

كل نوع هنتكلم فيه عن

- site
- example
- function

عبارة عن head و shaft و end

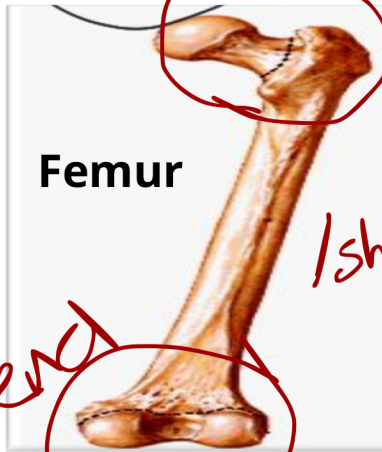
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Femur

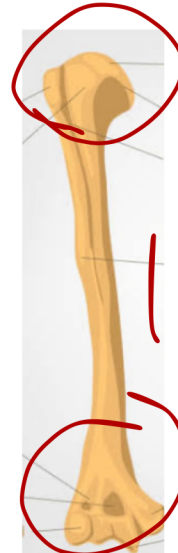
head

shaft

end



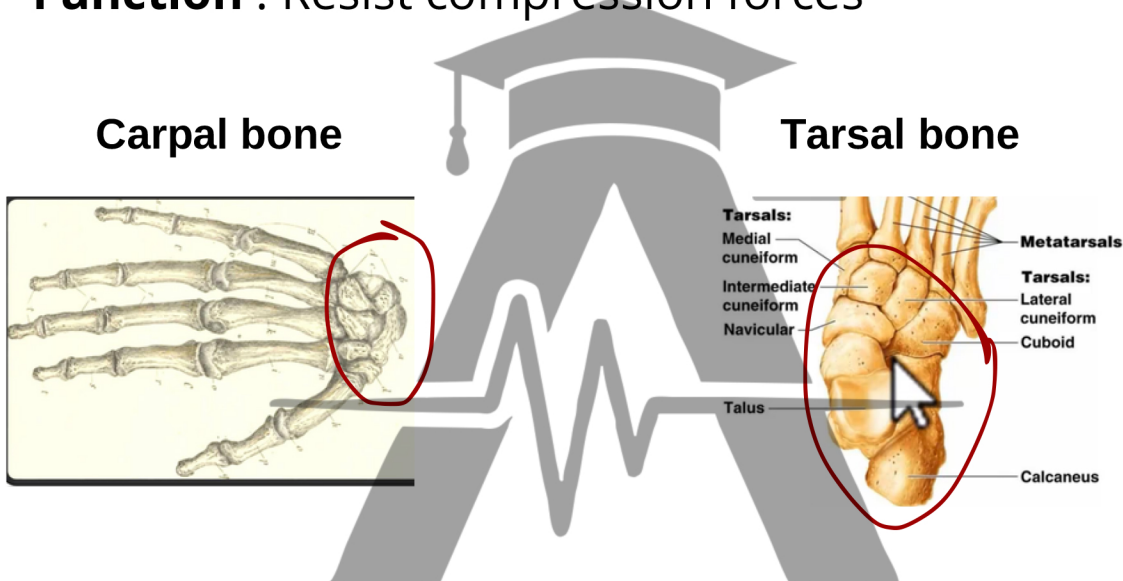
Clavicle



Humerus

## 2- Short bone

- **Site** : in Hand and Foot
- **Example**  
Hands: **Carpal bone**  
Foot: **Tarsal bone**
- **Function** : Resist compression forces



## 3- Flat bone

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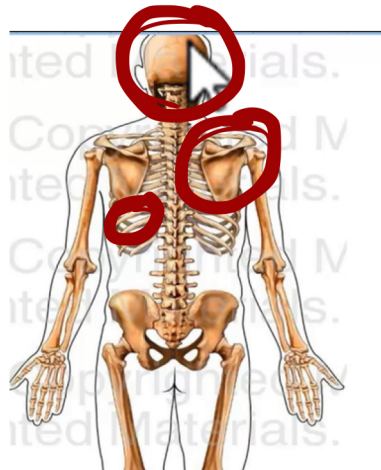
**Site:**

- **Skull**
- **Scapula**
- **Sternum**
- **Ribs**

**Function:** Protection

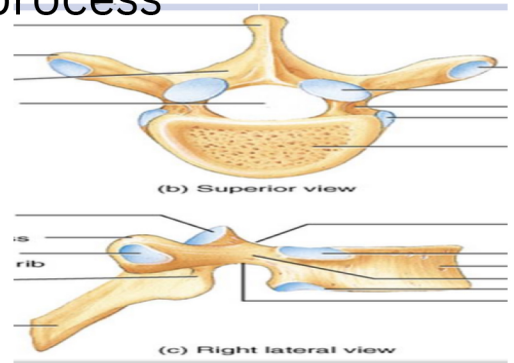
**Bones of skull roof**

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## 4- Irregular bone

- **Structure:** Bones with projecting process
- **Example :** Vertebrae
- **Function:** muscle attachment



## 5- Pneumatic bone

pneumo = air

- Bones containing air called air sinuses.
- **Site:** Skull bones surrounding the nose
- **Example:** para-nasal sinuses in the skull
- **Function:**
  - 1- They decrease the weight of skull.
  - 2- Resonance of voice

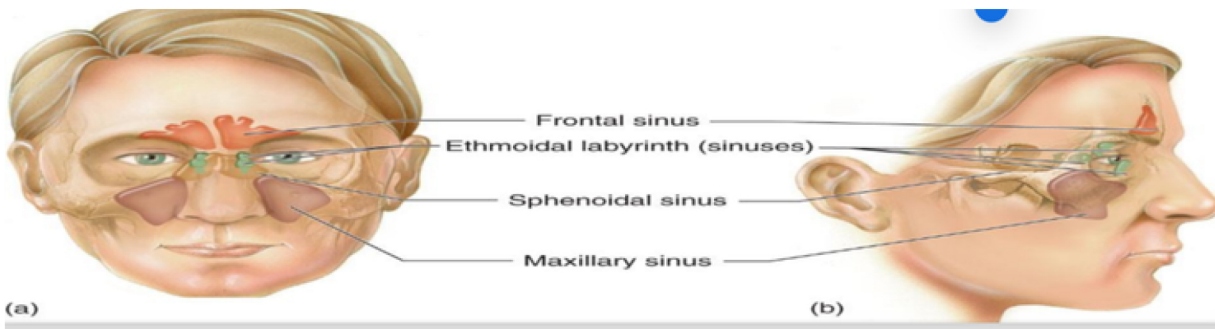
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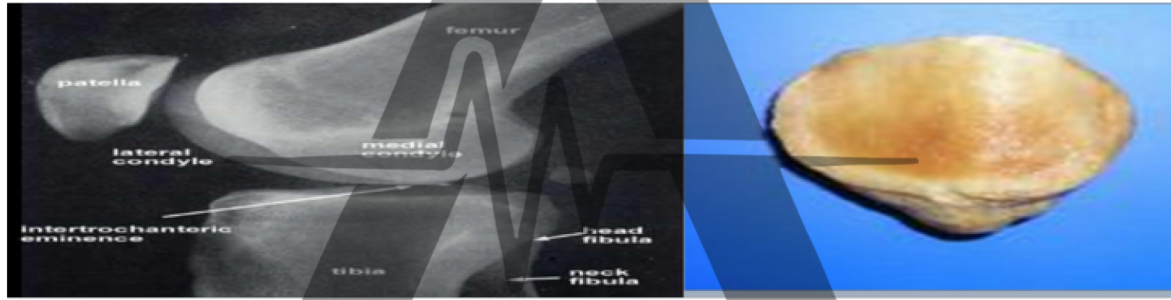


## 6- Sesamoid bone

عبارة عن ايه؟

Small nodules of bones which are embedded in some muscle tendons near their insertion or origin

- **Example** : **Patella** (largest sesamoid bone), embedded in the tendon of the quadriceps femoris muscle in front of knee joint.
- **Function**: They diminish friction between tendons and underlying bones



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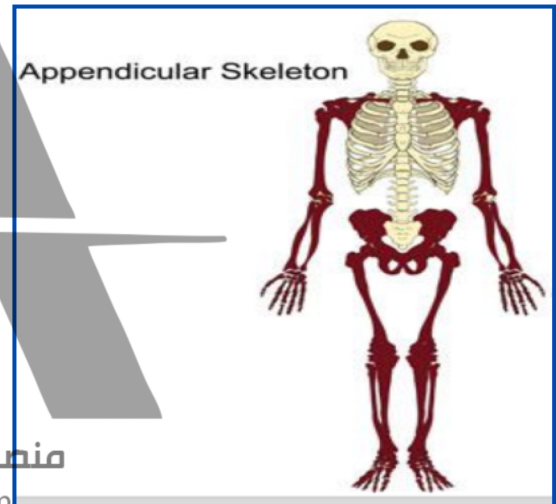
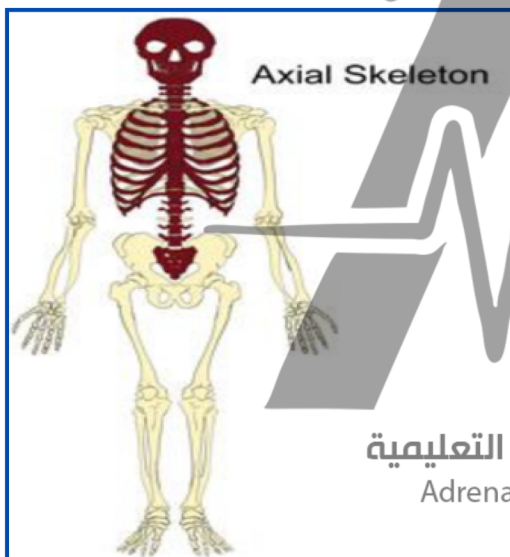
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## According to Regions

Axial Skeleton

Appendicular Skeleton



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Head: Skull  
Neck: Hyoid bone  
chest: Ribcage  
Back: Vertebral column

- Shoulder girdle:  
(connect upper limb to axial skeleton)
- Upper limb
- Hip girdle  
(connect lower limb with axial skeleton)
- Lower limb

# Appendicular Skeleton

## Upper limb

### shoulder girdle:

- clavicle
- Scapula

### Arm :

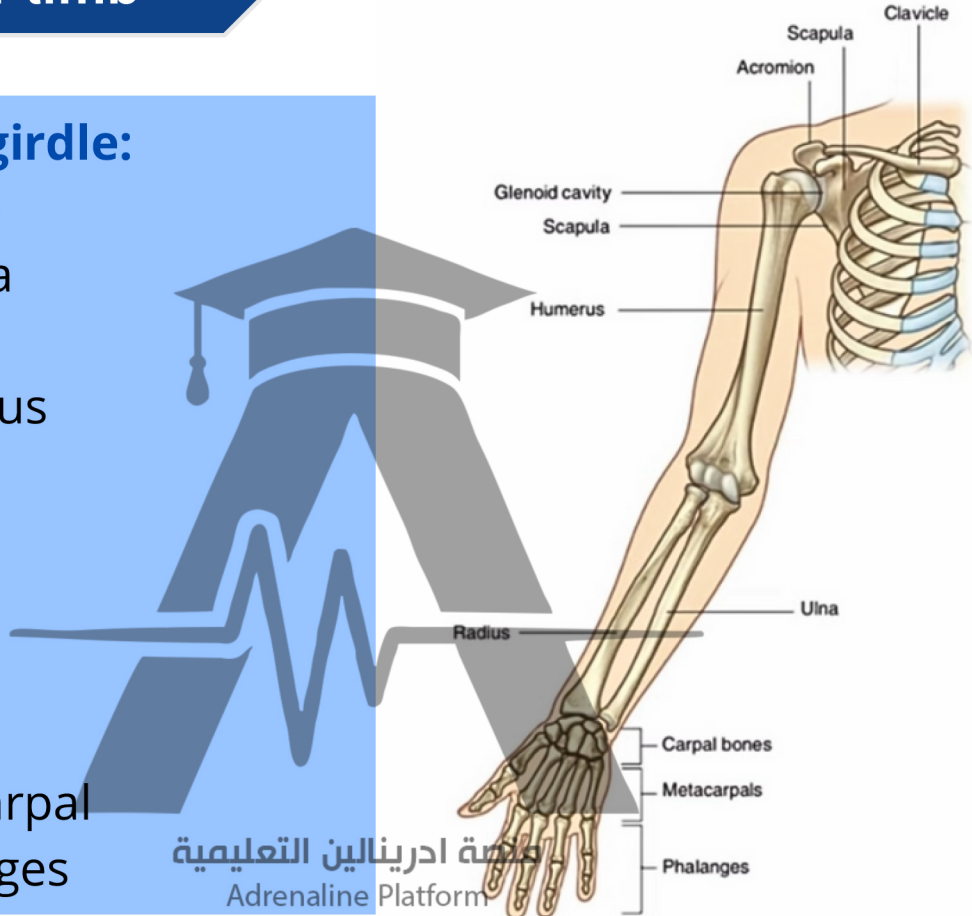
- Humerus

### Forearm:

- Radius
- Ulna

### Hands:

- carpsl
- metacarpal
- phalanges



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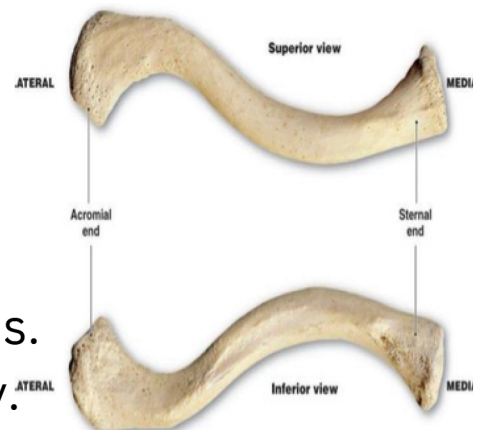
1- clavicle

### Site

Anterior bone of shoulder girdle

### Structure

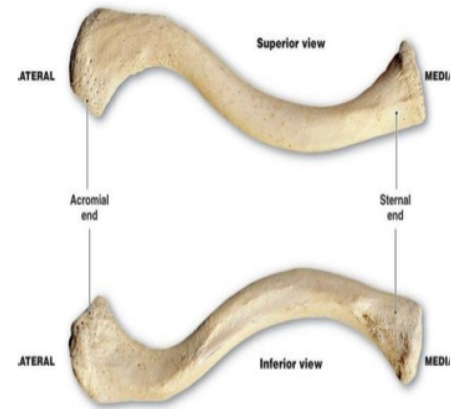
- It is formed of medial and lateral ends.
- It lies horizontally in the human body.





## Joints related

**1. Sternoclavicular joint:** saddle synovial joint between the medial end of the clavicle and the manubrium of the sternum.



## ● 2- Scapula

### Site

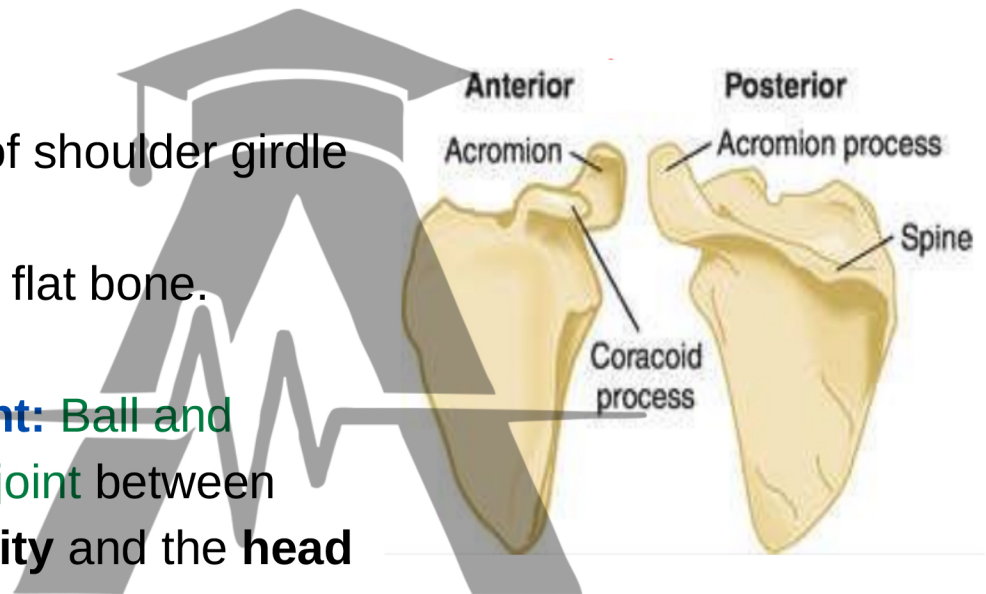
Posterior bone of shoulder girdle

### Structure

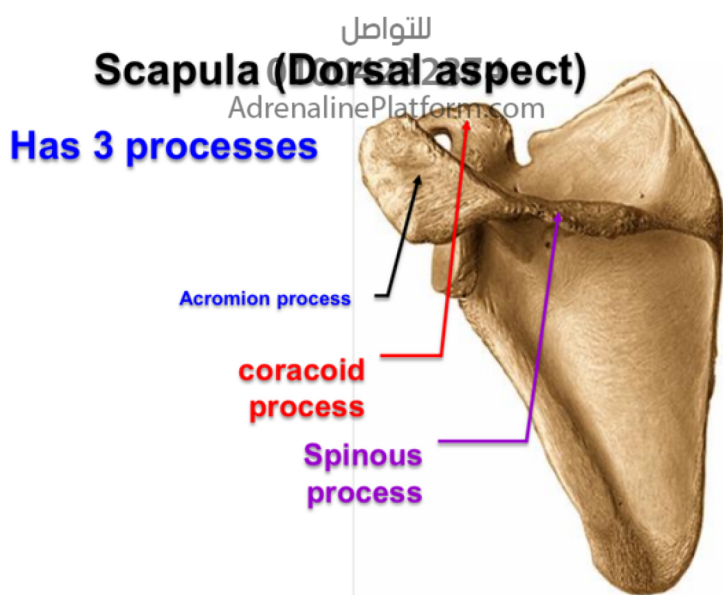
-It is a triangular flat bone.

### Joints related

**1. Shoulder joint:** Ball and socket synovial joint between the **glenoid cavity** and the **head of humerus**.



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## Arm: Humerus

### Site

Bone of the arm

### Structure

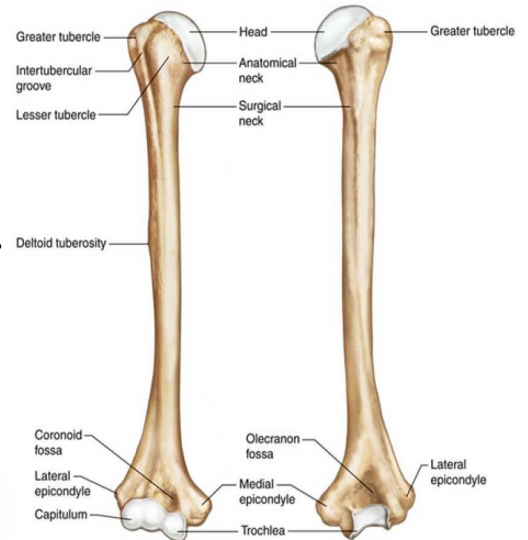
- It is formed of upper end including head, Shaft and lower end.
- It lies vertically in the Human body.

### Joints related

#### 1. Shoulder joint

#### 2. Elbow joint: Hinge synovial joint

between: Lower end of humerus articulating with trochlear notch of ulna and superior surface of head of radius.



## Forearm (Radius and Ulna)

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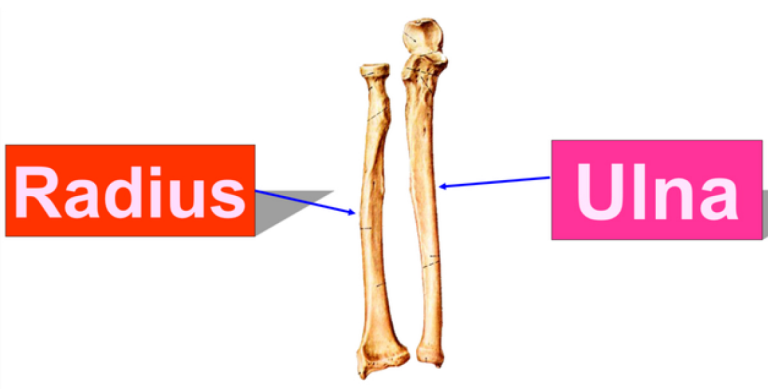
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### Radius

- Lateral
- Joints: 4

### Ulnar

- Medial
- Joints: 3



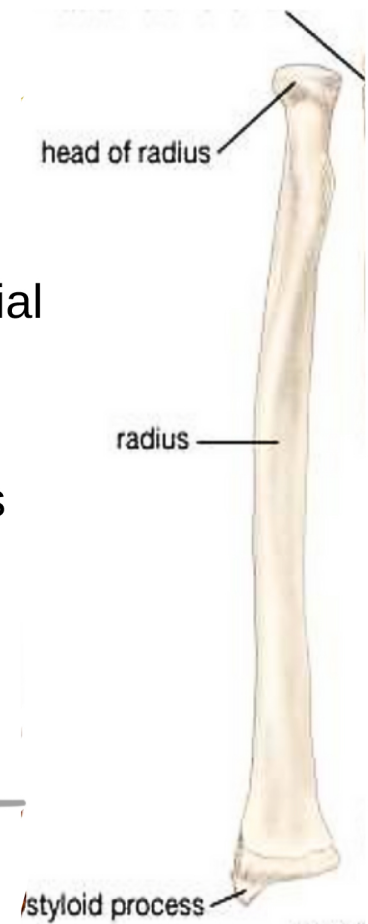
## Radius

### Structure

- It is formed of upper end including head, shaft and lower end.
- It lies vertically in the Human body.

### Joints related

1. **Elbow joint:** Mentioned before.
2. **Superior radioulnar joint:** It is pivot synovial joint between the head of radius and ulna.
3. **Wrist joint:** It is **ellipsoid synovial joint** between lower end of radius and carpal bones (scaphoid and lunate).
4. **Inferior radioulnar:** It is formed by head of ulna articulating with the ulnar notch of radius.



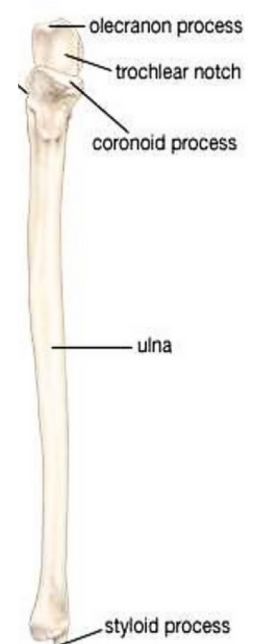
## Ulna

### Structure

- It is formed of upper end including trochlear notch, shaft and lower end including head.
- It lies vertically in the Human body.

### Joints related

1. **Elbow joint:** Mentioned before.
2. **Superior radioulnar joint:** It is **pivot synovial joint** between the head of radius and ulna.
3. **Inferior radioulnar:** It is formed by head of ulna articulating with the ulnar notch of radius.



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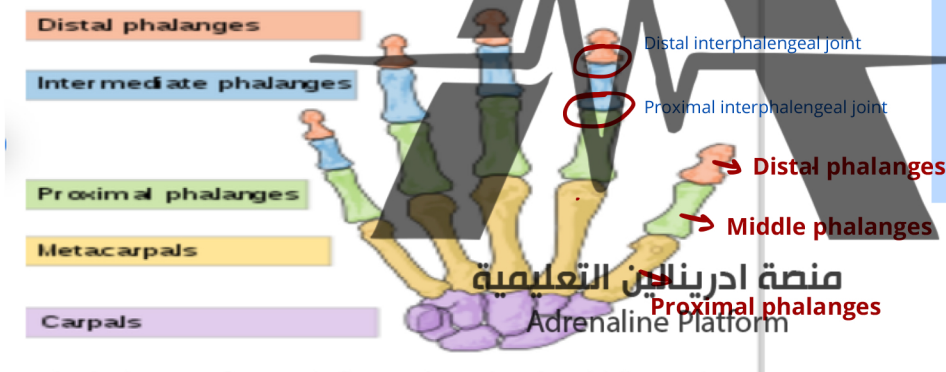
# Hand

**1- Carpus**  
( Bones of wrist )  
= 8 bones

**2- Metacarpus**  
(bones of palms)  
= 5 bones

**3- Phalanges**  
(bones of fingers)  
= 14 bones

**N.B: phalanges**  
( proximal ,  
middle and  
distal )



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## Joints related

- In the medial 4 fingers there are 3 phalanges for each finger (proximal, middle and distal) with 2 interphalangeal joints in between.
- The thumb has 2 phalanges (proximal and distal) with interphalangeal joint in between.