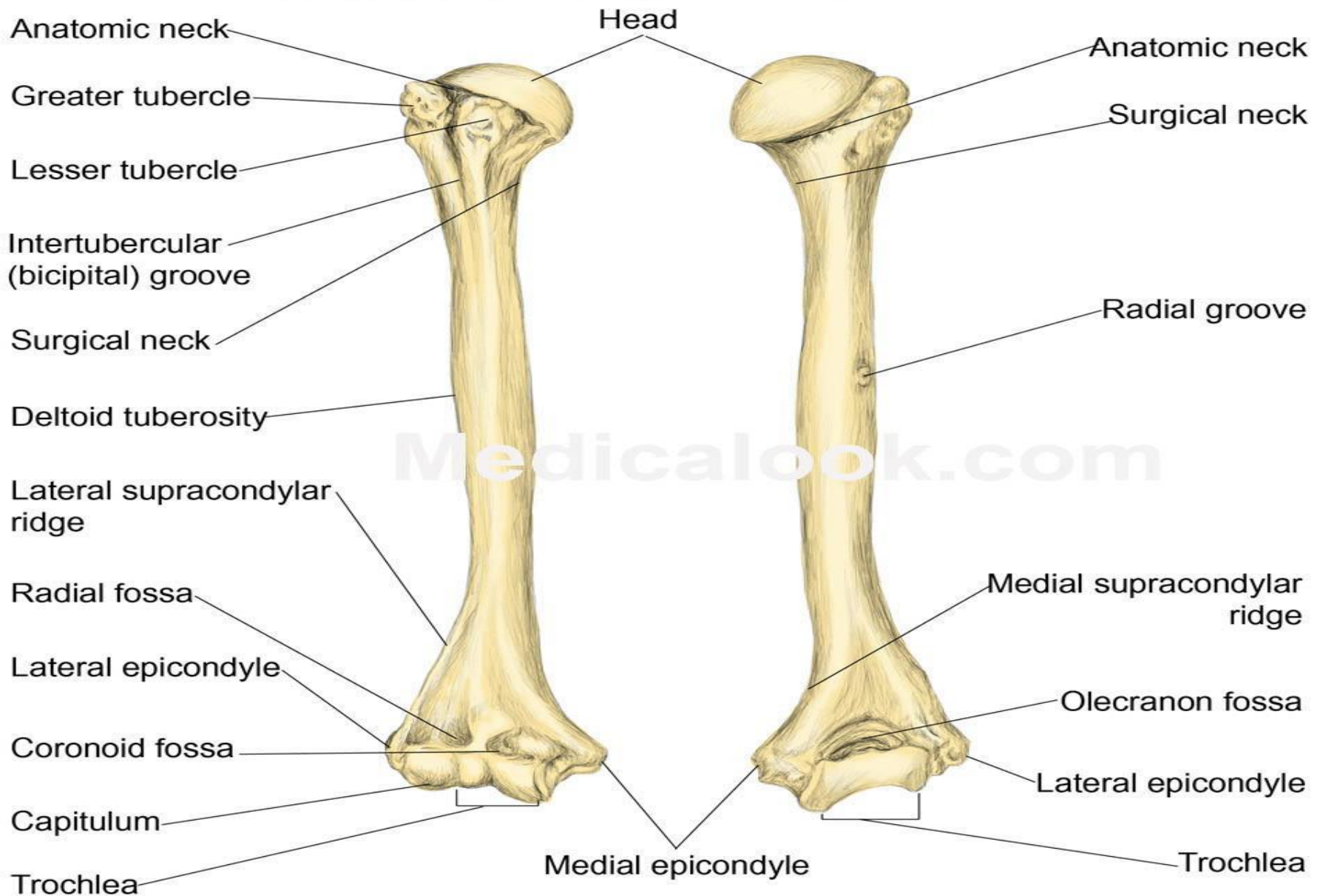


Humerus

Other name- arm bone

- The humerus (latin.humer=shoulder) is the longest bone of the upper limb and extends from the shoulder to the elbow.
- It is a long bone with a cylindrical part shaft, and an enlarged upper and lower ends.
- **Side determination-**
 - The upper end is rounded to form the head,the lower end is expended from side to side and flattened from before backwards.

- **The head is directed medially.**
- **The lesser tubercle projects from the front of the upper end and is limited laterally by the intertubercular sulcus or bicipital groove.**



Upper end-

- **Head-** the head is rounded and it is directed medially, backwards and upwards. The articular surface articulates with the glenoid cavity of the scapula to form the shoulder joint. The head forms about $1/3^{\text{rd}}$ of a sphere and is much larger than the glenoid cavity.
- **Anatomical neck-** The junction of the head with the rest of the upper end is called the anatomical neck.
- **Surgical neck-** the junction of the upper end with the shaft is called the surgical neck.

- **Greater tubercle-** it is an elevation that present on the lateral aspect of the upper end. Three areas (or impression) of muscular attachments are present on the tubercle.
- **Lesser tubercle-**it is an elevation on the anterior aspect of the upper end, medial to the intertubercular sulcus and lateral to the head.
- **Intertubercular sulcus-**it lies between the 2 tubercles . The sulcus has medial and lateral lips that represent downward prolongations of the lesser and greater tubercles.

➤ Shaft-

It has 3 borders and 3 surfaces.

3 borders- anterior, medial, lateral. These are readily identified in the lower part of the bone.

3 surfaces- anterolateral surface- it lies between the anterior and lateral borders.

Anteromedial surface- it lies between the anterior and medial borders.

Posterior surface- it lies between the medial and lateral borders.

- In the anterolateral surface, a v shaped rough area called the **deltoid tuberosity** is present near the middle.
- The **radial groove** present on the middle 1/3rd of posterior surface.

Lower end-

- The lower end of the humerus forms the condyle which is expended from side to side and has articular and nonarticular parts.
- The articular part includes the following
- The **capitulum** (little head) is a rounded projection which articulates with the head of the radius.

- **The trochlea** (greek pulley) is a pulley-shaped surface. It articulates with the trochlear notch of the ulna. The medial edge of the trochlea projects down 6 mm more than the lateral edge: the results in the formation of the carrying angle.
- The nonarticular part includes the following.
 - **The medial epicondyle** is prominent bony projection on the medial of the lower end. It is subcutaneous and is easily felt on the medial side of the elbow.
 - **The lateral epicondyle** is smaller than medial epicondyle. Its anterolateral part has a muscular impression.

- The sharp lateral margin just above the lower end is called the **lateral supracondylar ridge**.
- The **medial supracondylar ridge** is a similar ridge on the medial side.
- The **coronoid fossa** is a depression just above the anterior aspect of the trochlea. It accommodates the coronoid process of the ulna when the elbow is flexed.
- The **radial fossa** is a depression present just above the anterior aspect of the capitulum. It accommodates the head of the radius when the elbow is flexed.

➤ **The olecranon fossa**(greek-ulna head) lies just above the posterior aspect of the trochlea. It accommodates the olecranon process of the ulna when the elbow is extended.

➤ **Attachments-**

- **Multipennate subscapularis-** into the lesser tubercle.
- **supraspinatus-** into the uppermost impression on the greater tubercle **The infraspinatus-**into the middle impression on the greater tubercle.

The teres minor- into the lower impression on the greater tubercle.

Pectoralis major- into the lateral lip of the intertubercular sulcus.

Latissimus dorsi-into the floor of the intertubercular sulcus.

Teres major-into the medial lip of the intertubercular sulcus

Deltoid- into the deltoid tuberosity

Coracobrachialis- into the rough area on the middle of the medial border.

Brachialis- from the lower halves of the humerus bone

Brachioradialis- from the upper $2/3^{\text{rd}}$ of the lateral supracondylar ridge

Extensor carpi radialis longus- from the lower $1/3^{\text{rd}}$ of the lateral supracondylar ridge.

Pronator teres- from the lower $1/3^{\text{rd}}$ of the medial supracondylar ridge.

Superficial flexor muscles- from anterior aspect of medial epicondyle.

Superficial extensor muscles-from lateral epicondyle

Lateral head of triceps brachii- from oblique ridge on the upper part of posterior surface above the radial groove, while its medial head from posterior surface below the radial groove

Three nerves are directly related to the humerus-

Axillary nerve- surgical neck

Radial nerve- radial groove

Ulnar nerve-medial epicondyle

- Ossification-
 - 1 primary centre
 - 2 secondary centres