Upper Limb Bones - Humerus

The humerus is the largest bone in the upper extremity and has many important landmarks that serve as sites of muscle attachment and action. The greater and lesser tubercles serve as the insertion sites for the muscles of the rotator cuff, while the deltoid inserts on the deltoid tuberosity. Distally, the medial and lateral epicondyles are attachment points for muscles that act on the wrist. Several structures on the humerus also act to stabilize both the shoulder and elbow joint. The olecranon fossa, coronoid fossa, capitulum, and trochlea are all bony structures that contribute to the stability of the elbow joint.

PLAY PICMONIC

Characteristics

Greater Tubercle
Greater Tube
On the lateral aspect of the proximal humerus (anterior view - left side of Picmonic), there is a large bony projection called the greater tubercle. The rotator cuff is an important group of muscles that stabilize the shoulder. Three of the four rotator cuff muscles (supraspinatus, infraspinatus, and teres minor) insert on the greater tubercle of the humerus.

Lesser Tubercle
Lesser Tube
On the anterior humerus (anterior view - humerus located on left), just medial and inferior to the greater tubercle, lies the lesser tubercle. It is the smaller of the two landmarks, and is the insertion site for the fourth rotator cuff muscle, the subscapularis.

Anatomic Neck
An-atomic Neck
The anatomic neck is found distal to the head of the humerus (posterior view - humerus located on right in Picmonic). The joint capsule of the glenohumeral joint (shoulder joint) attaches at the anatomic neck.

Surgical Neck
Surgeon with Neck stretching
Just distal to the greater and lesser tubercles is the surgical neck (anterior view - humerus located on the left). This landmark is an important site clinically, as it is the most common site for proximal humerus fractures. Due to its location around the surgical neck, the axillary nerve is at risk of damage in these fractures.

Deltoid Tuberosity
Doll-toad Tube
On the lateral aspect of the humerus (anterior view - humerus located on left side of image), approximately midshaft, is the deltoid tuberosity. This is a bony prominence that serves as the insertion point for the deltoid muscle, a triangular shaped muscle that abducts and adducts the shoulder joint.

Epicondyles
E-cones
On the distal end of the humerus (both humeri in Picmonic), there are two bony protuberances that sit on the either side of the bone. They are known as the medial and lateral epicondyles. These bony landmarks serve as the origin of the wrist extensor muscle group (lateral epicondyle) and the wrist flexor muscle group (medial epicondyle).

Coronoid Fossa
Corona Faucet
On the anterior side of the distal humerus (anterior view - humerus located on left) is an indentation called the coronoid fossa. This depression receives the coronoid process of the ulna during elbow flexion.

Capitulum

Captain

On the lateral aspect of the distal humerus (anterior view - humerus located on left) is the capitulum. The rounded capitulum sits in a depression (articular fovea) on the proximal radius and contributes to the humeroradial joint.

Olecranon Fossa

Old-Conan Faucet

On the posterior side of the distal humerus (humerus located on the right in Picmonic) is an indentation called the olecranon fossa. This depression receives the olecranon process of the ulna during elbow extension.

Trochlea

Truck-pulley

On the medial aspect of the distal humerus (both humeri in Picmonic) is the trochlea. This bony landmark is a spool-shaped surface that is the site of attachment for the proximal ulna (trochlear notch). The unusually shaped trochlea is an important feature for the stability of the humeroulnar joint.