anatomy of the arm

anterior of the arm

- Flexor muscles: coracobrachialis, brachiali,and biceps brachii
- Brachial artery and its 2 venae comitantes
- Basilic vein (at the upper half of the arm)
- Median nerve
- Ulnar nerve (in the upper half of the arm)
- Musculocutaneous nerve

posterior of the arm

- Triceps muscle
- Radial nerve
- Profunda brachii vessels
- Superior ulnar collateral vessels
- Posterior branch of inferior ulnar collateral

TRICEPS MUSCLE

- origin
  - long head: from the infraglenoid tubercle
  - medial head: from the back of the humerus above the spiral groove
  - lateral head: from the back of the humerus below the spiral groove
- insertion: Olecranon process of ulna
- nerve supply: radial nerve
- actions
  - Main extensor of the elbow
  - Long head shares in stability of shoulder
  - The long head helps in adduction of abducted arm

compatrments of the arm

It is divided into 2 compartments: anterior and posterior by:

- the deep facial of the arm
- the lateral and medial intermuscular septa
- the humerus

medial intermuscular septum

- It is a fascial sheet that connects the medial supracondylar ridge of the humerus with the deep fascia of the arm
- It is pierced by ulnar nerve at the middle of the arm

lateral intermuscular septum

- It is a fascial sheet that connects the lateral supracondylar ridge of the humerus with the deep fascia of the arm
- It is pierced by radial nerve at the junction between middle and lower thirds of the arm

ANTERIOR COMPARTMENT OF THE ARM

Brachialis muscle

- origin: from the lower half of the front of the shaft of humerus and the front of the 2 intermuscular septa
- insertion: Coronoid process of ulna
- nerve supply: Musculocutaneous nerve & radial nerve for its lateral part
- actions: the muscle is the main flexor of elbow joint

Musculocutaneous nerve (C5, 6, 7)

- origin: It is a branch of the lateral cord of brachial plexus
- course & relations
- termination: It terminates by continuing as the lateral cutaneous nerve of the forearm
- branches: muscular branches to :
  - 2 heads of biceps brachii
  - Coracobrachialis
  - The greater part of brachialis

Coracobrachialis muscle

- origin: Tip of coracoid process (with short head of biceps brachii)
- insertion: Middle of medial aspect of the humerus
- nerve supply: Musculocutaneous nerve
- actions: It helps in flexion and adduction of the arm

Biceps brachii muscle

- origin:
  - short head: from the tip of the coracoid process
  - long head: from the supraglenoid tubercle of the scapula (intracapsular,extrasynovial)
- insertion: Posterior part of the radial tuberosity
  - Bicipital aponeurosis into the deep fascia of the cubital fossa
- nerve supply: Musculocutaneous nerve
- action:
  - flexor of the elbow
  - powerful supinator of the flexed forearm
  - Long head helps in stabilization of shoulder joint

N.B. The bicipital aponeurosis separates the brachial artery from median cubital vein.

changes that occur at the level of insertion of coracobrachialis

- The basilic vein: pierces the deep fascia to ascend medial to brachial artery
- The ulnar nerve: pierces the medial intermuscular septum to reach the posterior compartments
- The radial nerve & profunda brachii artery: descend on the back of humerus through the spiral groove
- The medial cutaneous nerve of the arm and forearm: pierces the deep fascia to pass through the superficial fascia
- The median nerve, crosses in front of brachial artery from lateral to medial
- The nutrient artery of the humerus enters into the bone