Muscles of the Shoulder/Upper Arm
Movements of the **Humerus**
(upper arm at the shoulder)

- Movements of the humerus:
  - Flexion and Extension
  - Abduction and Adduction
  - External and Internal Rotation
  - Horizontal flexion or Horizontal adduction
  - Horizontal extension or Horizontal abduction
Flexion and Extension
Abduction and Adduction

Abduction

Adduction
External and Internal Rotation

External rotation

Internal rotation
Horizontal flexion or adduction

Horizontal adduction
Horizontal extension or abduction
Muscles of the Shoulder/Upper Arm

• **Anterior:**
  – Pectoralis major, Coracobrachialis, Subscapularis
Pectoralis major

• **Origin:**
  – Clavicle, sternum, and costal cartilage of ribs

• **Insertion:**
  – Near the intertubercular groove of the **humerus**

• **Actions:**
  – Flexion, horizontal flexion, internal rotation, adduction

  • Used in bench press, push-up, pull-ups, throwing, tennis serves
Pectoralis Major
Coracobrachialis

- **Origin:**
  - Coracoid process of scapula
- **Insertion:**
  - Humerus (medial)
- **Actions:**
  - Flexion, adduction, horizontal flexion
  - Primarily an assisting muscle
Coracobrachialis
Subscapularis

- **Origin:**
  - Subscapular fossa of scapula

- **Insertion:**
  - Lesser tubercle of humerus

- **Actions:**
  - Internal rotation, extension and adduction
Subscapularis
Muscles of the Shoulder/Upper Arm

• **Superior:**
  – Deltoid, Supraspinatus
Deltoid

- **Origin:**
  - Clavicle, scapula

- **Insertion:**
  - Deltoid tuberosity of humerus

- **Actions:**
  - Abduction
  - **Anterior deltoid:** horizontal flexion, internal rotation
  - **Posterior deltoid:** horizontal extension and external rotation
Muscles of the Shoulder/Upper Arm

• **Posterior:**
  – Latissimus dorsi, Teres major and minor, Infraspinatus
Latissimus Dorsi

- **Origin:**
  - Vertebrae, sacrum, ilium

- **Insertion:**
  - Near the intertubercular groove of humerus

- **Actions:**
  - Extension (prime mover), adduction, internal rotation, horizontal extension
Latissimus Dorsi
Teres Major

- **Origin:**
  - Lateral border of the scapula
- **Insertion:**
  - Humerus (anterior)
- **Actions:**
  - Extension, internal rotation, and adduction
  - *synergist with Latissimus dorsi*
Teres Major
Rotator cuff muscles

- Very important group of muscles which act to hold the head of the humerus into the glenoid cavity of the scapula.
- Inadequate strength or overuse can lead to tendinitis, rupture, chronic joint pain, etc.

- Subscapularis
  - Only anterior muscle
- Supraspinatus
  - Posterior and superior
- Infraspinatus
  - Posterior and inferior
- Teres minor
  - Posterior and inferior
Teres Minor

• **Origin:**
  - Lateral border of scapula

• **Insertion:**
  - Greater tubercle of humerus

• **Actions:**
  - External rotation, extension, horizontal extension
Teres Minor
Subscapularis

- **Origin:**
  - Subscapular fossa of scapula

- **Insertion:**
  - Lesser tubercle of humerus

- **Actions:**
  - Internal rotation, extension and adduction
Subscapularis
Supraspinatus

• **Origin:**
  – Supraspinous fossa of the scapula

• **Insertion:**
  – Greater tubercle of the humerus

• **Action:**
  – Abduction (synergist with deltoid)
Supraspinatus
**Infraspinatus**

- **Origin:**
  - Infraspinous fossa of scapula

- **Insertion:**
  - Greater tubercle of humerus

- **Action:**
  - External rotation, extension, horizontal extension
Infraspinatus