Muscles of the Shoulder and Rotator Cuff

PSK 4U
NGDHS – S. Kelly

Pectoralis Major

Large, fan-shaped muscle on anterior side of chest
Origin: sternum (sternal head) and clavicle (clavicular head)
Insertion: humerus
Action: internal rotation, flexion, and adduction of the arm
Inn: med, lat pec
C7T1
**Pectoralis Minor**

Origin: ribs 3, 4, 5  
Insertion: 3 “heads” form a flat tendon which inserts on coracoid process (scapula)  
Action: shoulder depression (pulls scapula down and in)  
Innervation: medial pectoral (C8, T1)

**Deltoid**

Triangular muscle forming contour of shoulder  
Action:  
Flexion and abduction (anterior fibres)  
Abduction (medial fibres)  
Extension, lateral rotation, and hyperextension (posterior fibres)  
Injection site: 2 finger widths below acromion for intramuscular injection  
Axillary C5C6  
Origins:  
- Lateral clavicle (anterior fibres)  
- Acromion (medial fibres)  
- Spine of scapula (posterior fibres)  
Insertion: deltoid tuberosity of humerus
Deltoid Muscle

- Origin: coracoid process
- Insertion: humerus
- Action: adducts and flexes the arm
- Musculocutaneous
Teres Major

- Origin: inferior angle of scapula
- Insertion: bicipital groove of humerus
- Action: stabilizer for medial rotation, adduction, and extension of the arm
- Lower subscapular

Serratus Anterior

- “Big swing” muscle or “Boxer’s muscle”
  (pulls scapula fwd, around ribcage as when throwing a punch)
- Moves scapula laterally to allow for elevation of the arm
- Moves scapula to allow one to lift objects over one’s head
- Or: upper 8 or 9 ribs; ins: medial scapula
- Innervation: long thoracic (C5, 6, 7)
Serratus Anterior

- Group of muscles
- Shoulder stabilizers
- 4 muscles of rotator cuff plus deltoid, teres major, coracobrachialis make up the scapulohumeral muscles (attach arm to body)
- Overuse injuries are common in athletes making repetitive throw-like motions (most common tendon impinged is supraspinatus)
- All 4 RC muscles originate on the scapula and insert on the humerus

Rotator Cuff
Actions, Innervations of the Rotator Cuff Muscles

- **Supraspinatus**: abducts the arm; suprascapular C5
- **Infraspinatus**: externally rotates the arm; suprascapular C5, C6
- **Teres Minor**: externally rotates the arm; axillary C5
- **Subscapularis**: internally rotates the arm (humerus specifically); upper and lower subscapular C5
Rotator Cuff Muscles

- Seven muscles that act on and stabilize the glenohumeral (shoulder ball and socket) joint
  - Rotator cuff +
  - Coracobrachialis
  - Deltoid
  - Teres major

Scapulohumeral Group
**Levator Scapulae**

- **Origin:** C vertebrae
- **Insertion:** sup angle, medial border of scapula
- **Action:** scapula elevation (fixed spine), C vertebrae flexion and rotation (fixed shoulder)
- **Inn:** C4, C5, dorsal scapular

**Levator Scapulae Action**

- **Why is this unique (relative to what we are studying)?**
  - When the spine is fixed, contraction elevates the scapula as its name suggests
  - HOWEVER, when the shoulder joint is fixed, it acts instead on the C spine as a flexor and weak lateral rotator
- **Can any part of the muscle shape facilitate these capabilities?** **It needs other muscles’ help!!**
Decent study diagram...