MEDICAL EDUCATION RESOURCE

Muscles of the Scapular Region

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1. Deltoid

- **Origin** ? lateral ? of clavicle, acromion, spine of scapula.
- **Insertion** ? deltoid tuberosity of humerus.
- **Nerve supply** ? Axillary nerve (C5, C6).
- **Action** ?
    - Anterior fibers ? flex, medially rotate arm.
    - Middle fibers ? abduct arm (15°–90°).
    - Posterior fibers ? extend, laterally rotate arm.
- **Clinical** ? axillary nerve injury ? deltoid paralysis, loss of abduction beyond 15°, regimental badge anesthesia.

2. Supraspinatus

- **Origin** ? supraspinous fossa of scapula.
- **Insertion** ? superior facet of greater tubercle of humerus.
- **Nerve supply** ? Suprascapular nerve (C5, C6).
- **Action** ? initiates abduction of arm (first 15°).
- **Clinical** ? supraspinatus tendon commonly involved in rotator cuff tears ? painful arc syndrome.

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3. Infraspinatus

- **Origin** ? infraspinous fossa of scapula.
- **Insertion** ? middle facet of greater tubercle of humerus.
- **Nerve supply** ? Suprascapular nerve (C5, C6).
- **Action** ? lateral rotation of arm.
- **Clinical** ? injury leads to weakness of external rotation.

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4. Teres Minor

- **Origin** ? lateral border of scapula (upper ?).

- **Insertion** ? inferior facet of greater tubercle of humerus.
- **Nerve supply** ? Axillary nerve (C5, C6).
- **Action** ? lateral rotation of arm, helps stabilize shoulder joint.
- **Clinical** ? affected in axillary nerve injury.

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5. Teres Major

- **Origin** ? inferior angle and lower part of lateral border of scapula.
- **Insertion** ? medial lip of intertubercular sulcus of humerus.
- **Nerve supply** ? Lower subscapular nerve (C5, C6).
- **Action** ? extension, adduction, medial rotation of arm.
- **Clinical** ? contributes to posterior axillary fold (with latissimus dorsi).

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6. Subscapularis

- **Origin** ? subscapular fossa of scapula.
- **Insertion** ? lesser tubercle of humerus.
- **Nerve supply** ? Upper and lower subscapular nerves (C5, C6, C7).
- **Action** ? medial rotation and adduction of arm.

- **Clinical** ? part of rotator cuff; tendon commonly involved in cuff tears.

Functional Grouping

- **Rotator Cuff Muscles (SITS):**
  - **S**upraspinatus ? abduction (0–15°).
  - **I**nfraspinatus ? lateral rotation.
  - **T**eres minor ? lateral rotation.
  - **S**ubscapularis ? medial rotation, adduction.
  - Function: stabilize humeral head in glenoid cavity.
- **Other Scapular Muscles:**
  - **Deltoid** ? major abductor (15°–90°).
  - **Teres major** ? adduction and medial rotation.

Deltoid

Origin

- Anterior fibers ? lateral ? of clavicle.
- Middle fibers ? acromion process.

- Posterior fibers ? spine of scapula.

Insertion

- Deltoid tuberosity of humerus.

Nerve Supply

- **Axillary nerve (C5, C6)**.

Actions

- **Anterior fibers** ? flex and medially rotate arm.
- **Middle fibers** ? abduct arm (chief abductor from 15°–90°).
- **Posterior fibers** ? extend and laterally rotate arm.
- Collectively ? give rounded contour of shoulder.

Clinical Anatomy

- **Intramuscular injection**: given in middle of deltoid (safe zone ? avoid axillary nerve and posterior circumflex humeral vessels).
- **Axillary nerve injury** (fracture of surgical neck of humerus, shoulder dislocation) ? paralysis of deltoid ? loss of abduction beyond 15°, flattening of shoulder, loss of sensation over “regimental badge” area.
- **Deltoid wasting**: seen in axillary nerve palsy.

Dissection of Deltoid

Step 1: Exposure

- Make vertical skin incision over lateral aspect of shoulder.
- Reflect skin and superficial fascia to expose deltoid.

Step 2: Identification

- Identify its three parts (anterior, middle, posterior fibers).
- Note its origin from clavicle, acromion, and spine of scapula.

Step 3: Reflection

- Cut muscle fibers near origin and reflect laterally.
- Observe underlying **subacromial bursa**, **supraspinatus tendon**, and **shoulder joint capsule**.

Step 4: Nerve and Vessel Identification

- Deep surface of deltoid ? identify **axillary nerve** and **posterior circumflex humeral artery** passing through quadrangular space.

Step 5: Clinical Demonstration

- Test deltoid by asking subject to **abduct arm against resistance** from 15°–90°.
- Demonstrate **injection site** (2–3 cm below acromion, lateral aspect of muscle belly).