MEDICAL EDUCATION RESOURCE

Clinical Anatomy of Scapular Muscles

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1. Deltoid

- **Axillary nerve injury** (fracture of surgical neck of humerus, inferior dislocation of shoulder):
    - Paralysis of deltoid.
    - Loss of abduction beyond 15°.
    - Flattening of shoulder contour.
    - Loss of skin sensation over regimental badge area.
- **Safe IM injection site** ? middle of deltoid belly (avoid axillary nerve & posterior circumflex humeral vessels).

2. Supraspinatus

- **Rotator cuff syndrome (painful arc syndrome):**
    - Most commonly torn tendon in rotator cuff injuries.
    - Pain during abduction (60°–120°).

- **Calcific tendinitis** ? calcium deposition in tendon ? painful abduction.
- **Suprascapular nerve entrapment** ? weakness of initiation of abduction.

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3. Infraspinatus

- **Injury to suprascapular nerve** (at spinoglenoid notch):
  - Isolates infraspinatus.
  - Weakness of lateral rotation of arm.
- **Tear of tendon** ? difficulty in external rotation.

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4. Teres Minor

- **Axillary nerve palsy**:
  - Paralysis of teres minor + deltoid.
  - Loss of abduction and external rotation.
- Selectively tested by resisted external rotation in adduction.

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5. Teres Major

- **Not part of rotator cuff** (does not stabilize joint).

- Forms **posterior axillary fold** (with latissimus dorsi) ? palpable landmark in axilla.
- Lower subscapular nerve injury ? weakness of adduction and medial rotation.

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6. Subscapularis

- **Part of rotator cuff** (anterior stabilizer).
- Tendon tear ? increases risk of anterior dislocation of humeral head.
- Weakness of medial rotation and adduction.
- Tested clinically by **lift-off test** (patient lifts hand off back ? if weak ? subscapularis lesion).

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7. Rotator Cuff as a Group

- Function ? stabilize humeral head in glenoid cavity during movement.
- **Rotator cuff tear (SITS muscles):**
    - Common in elderly & athletes.
    - Leads to painful abduction, weakness of rotation, instability of shoulder joint.
- **Sites of entrapment & nerve involvement:**
    - Suprascapular nerve ? supraspinatus, infraspinatus weakness.
    - Axillary nerve ? deltoid, teres minor paralysis.

- Clinical tests:
    - **Empty can test** ? supraspinatus tendon integrity.
    - **External rotation test** ? infraspinatus/teres minor.
    - **Lift-off test** ? subscapularis.