

Additional Features of Muscles of the Back

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Functional Groups

- **Extrinsic (superficial & intermediate):**
 - Connect upper limb & thoracic wall with vertebral column.
 - Involved mainly in **upper limb & respiratory movements**.
 - **Intrinsic (deep):**
 - Lie deep to thoracolumbar fascia.
 - Concerned with **posture and spinal movements**.
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Layerwise Arrangement

Superficial Layer (extrinsic)

- Trapezius, latissimus dorsi, levator scapulae, rhomboids.
- Act on upper limb by moving scapula & humerus.

Intermediate Layer (extrinsic)

- Serratus posterior superior, serratus posterior inferior.
- Accessory muscles of respiration.

Deep Layer (intrinsic, true back muscles)

- **Splenius group** (splenius capitis, splenius cervicis).
- **Erector spinae group** (iliocostalis, longissimus, spinalis).
- **Transversospinalis group** (semispinalis, multifidus, rotatores).
- **Short segmental muscles** (interspinales, intertransversarii, levatores costarum).
- Function ? maintain posture, extend, rotate, and laterally flex vertebral column.

Nerve Supply

- **Extrinsic muscles** ? supplied by ventral rami (except trapezius by accessory nerve).
- **Intrinsic muscles** ? supplied by **dorsal rami of spinal nerves**.

Blood Supply

- Segmental branches of **posterior intercostal, lumbar, and sacral arteries**.

Clinical Importance

- **Accessory nerve injury** ? trapezius paralysis ? shoulder droop.
 - **Dorsal scapular nerve injury** ? rhomboid weakness ? scapula displaced laterally.
 - **Thoracodorsal nerve injury** ? paralysis of latissimus dorsi ? difficulty in climbing.
 - **Back pain** ? commonly from strain of intrinsic muscles or spasm.
 - **Pott's spine (TB of vertebrae)** ? secondary spasm of back muscles.
 - **Lumbago** ? pain due to strain of erector spinae.
 - **Herniation of disc** ? reflex spasm of paravertebral muscles.
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Functional Testing

- **Trapezius** ? ask patient to shrug shoulders against resistance.
- **Latissimus dorsi** ? test during resisted climbing/pulling.
- **Rhomboids** ? palpate medial scapular border during retraction.
- **Erector spinae** ? ask patient to extend trunk against resistance.