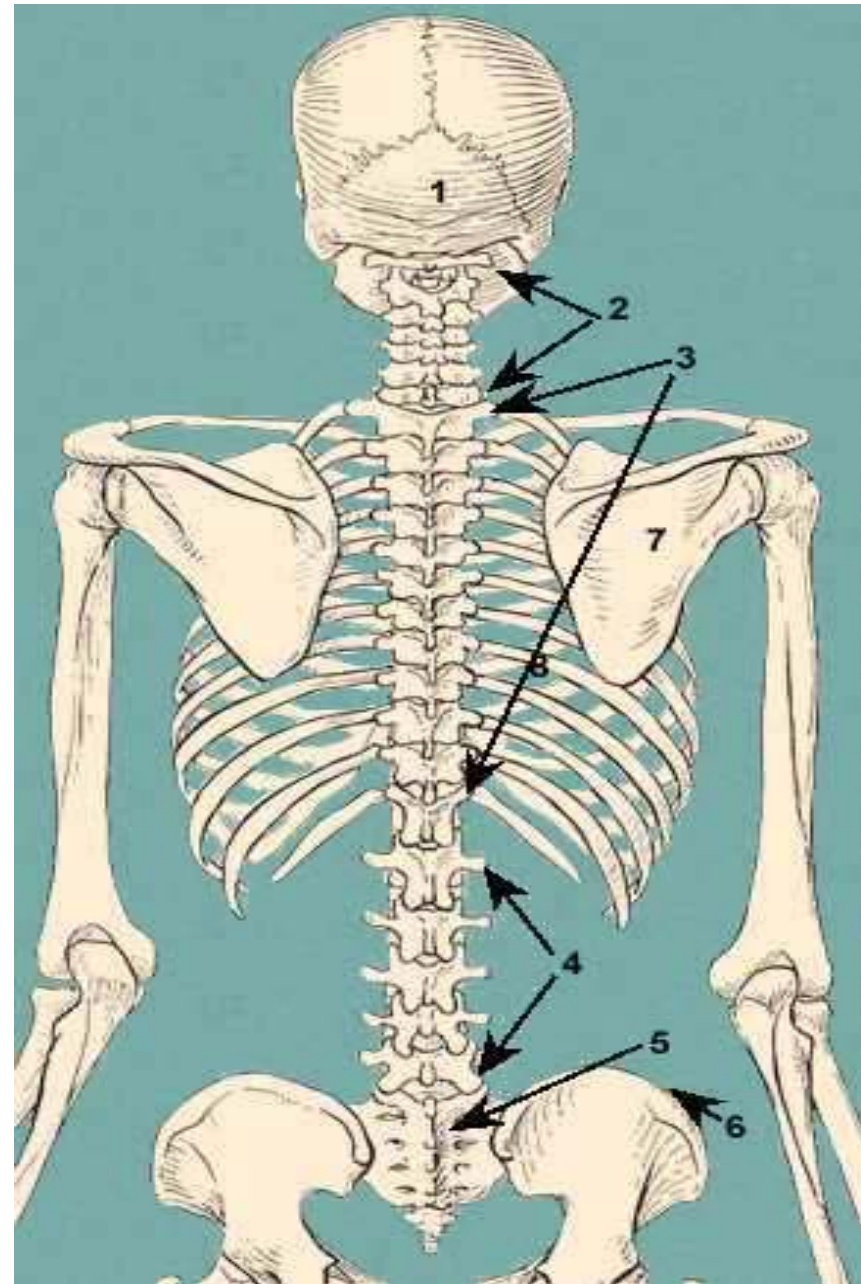


- occipital bone
 - external occipital protuberance
 - superior nuchal lines
- cervical vertebrae (7)
- thoracic vertebrae (12 pairs)
- lumbar vertebrae (5)
- fused sacral vertebrae (5)
- iliac crest
- scapula
- ribs
- Parts of a typical vertebra
 - spine (1)
 - lamina (2)
 - transverse process (3)
 - pedicle (4)
 - vertebral notch (5)
 - body (6)
 - vertebral foramen (*)



BACK MUSCULATURE

- **Superficial**

extrinsic, vpr,
develop other
than
back

- **Intermediate**

- **Deep –intrinsic**

- develop in the back
- dorsal spinal nerves
- movements of
vertebral column and
head

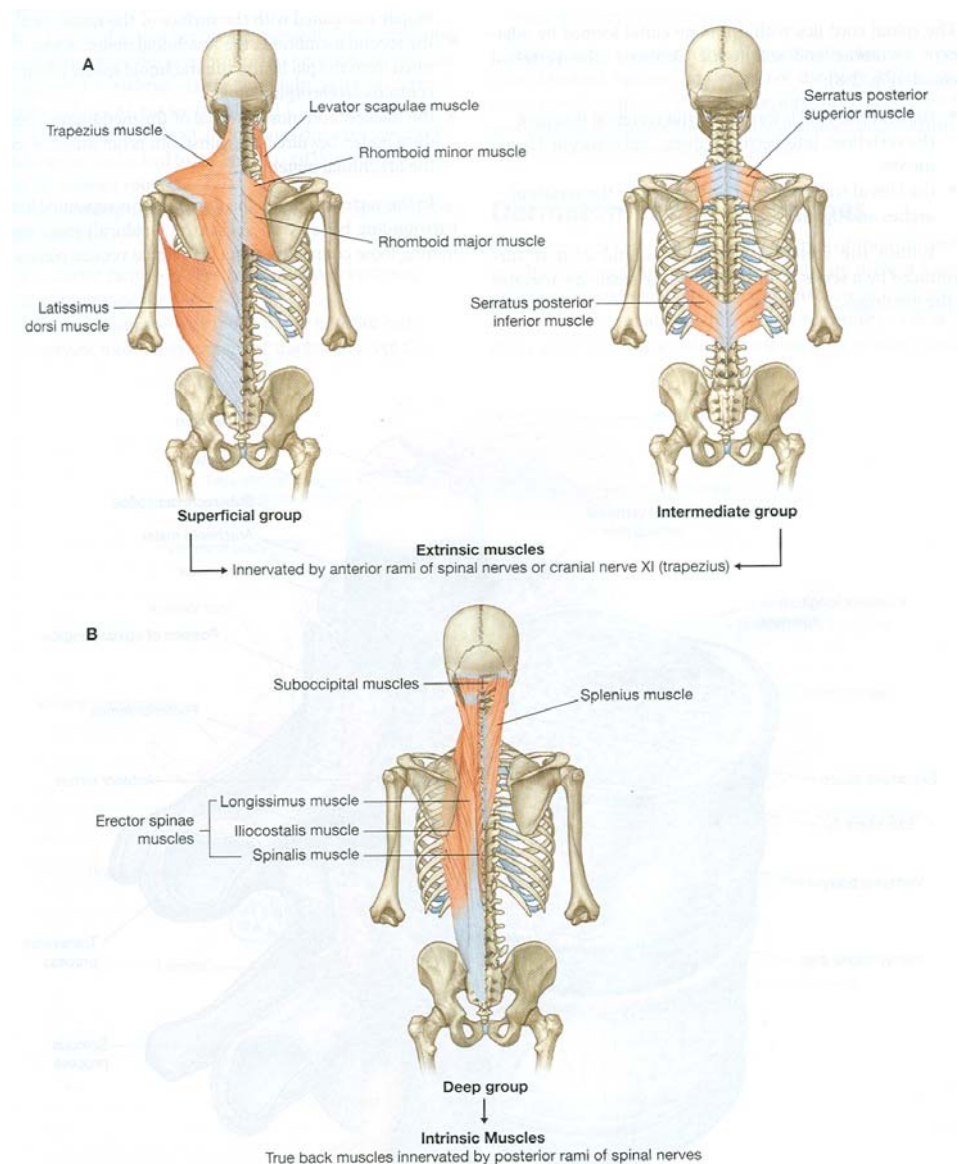
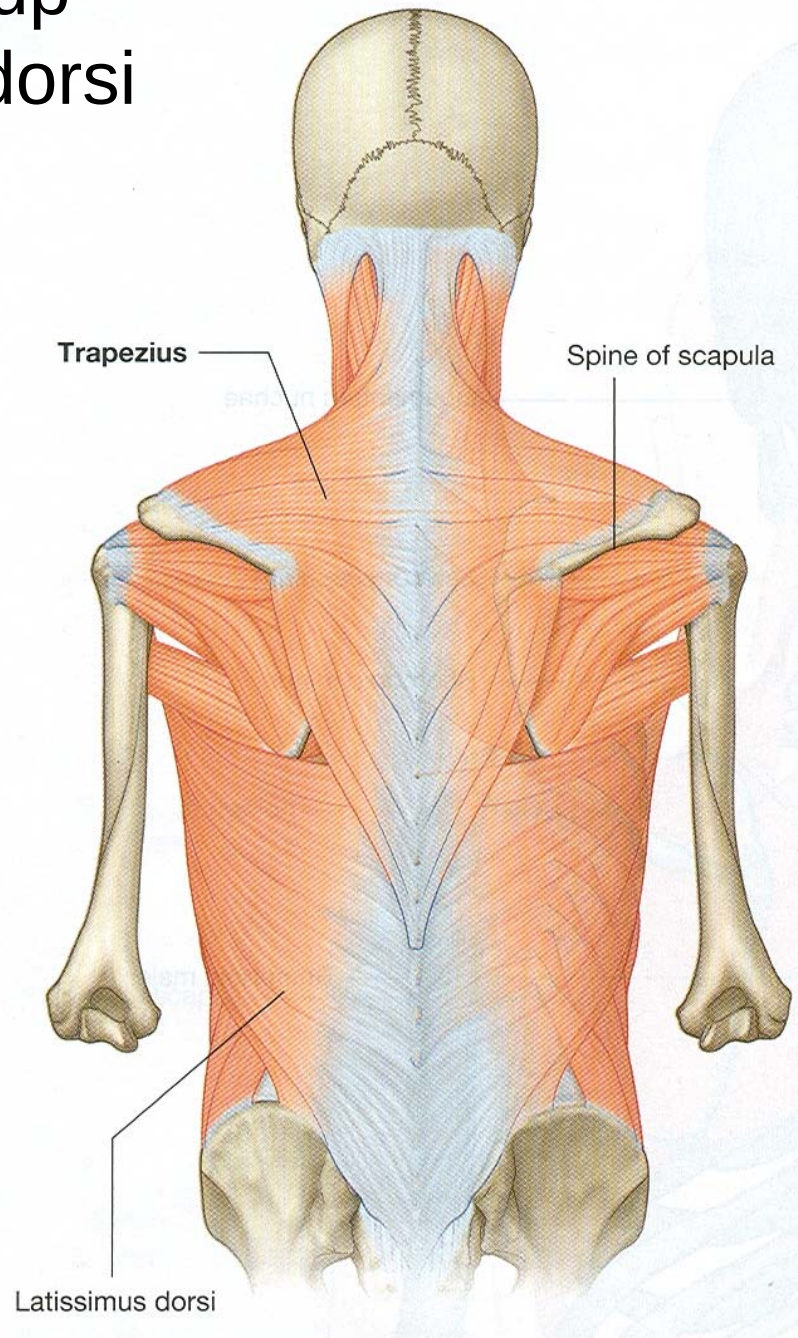


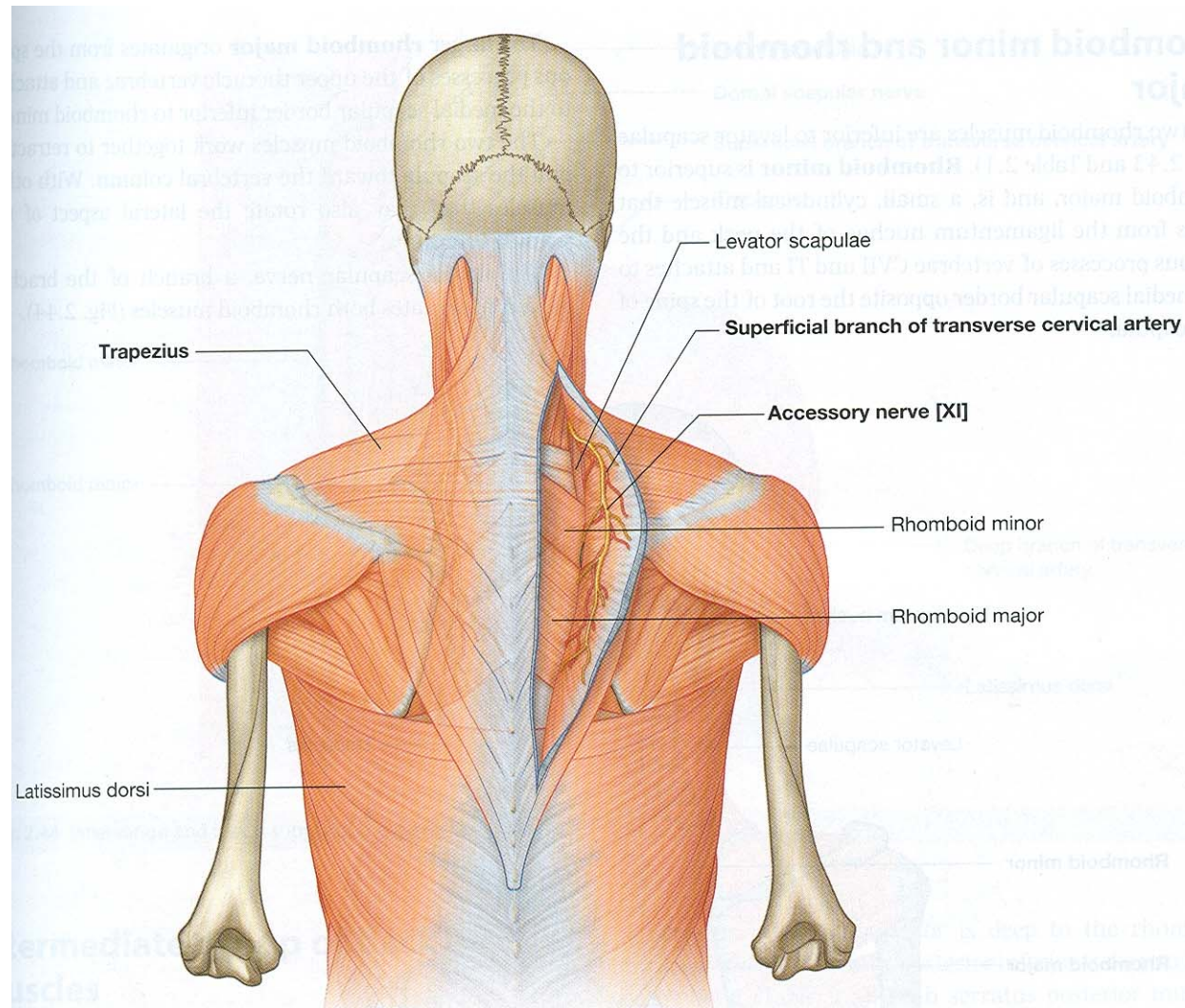
Table 2.1 Superficial (appendicular) group of back muscles

Muscle	Origin	Insertion	Innervation	Function
Trapezius	Superior nuchal line, external occipital protuberance, ligamentum nuchae, spinous processes of CVII to TXII	Lateral one-third of clavicle, acromion, spine of scapula	Motor—accessory nerve (XI); proprioception—C3 and C4	Assists in rotating the scapula during abduction of humerus above horizontal; upper fibers elevate, middle fibers adduct, and lower fibers depress scapula
Latissimus dorsi	Spinous processes of TVI to LV and sacrum, iliac crest, ribs X to XII	Floor of intertubercular sulcus of humerus	Thoracodorsal nerve (C6 to C8)	Extends, adducts, and medially rotates humerus

Superficial group- trapezius, lat. dorsi

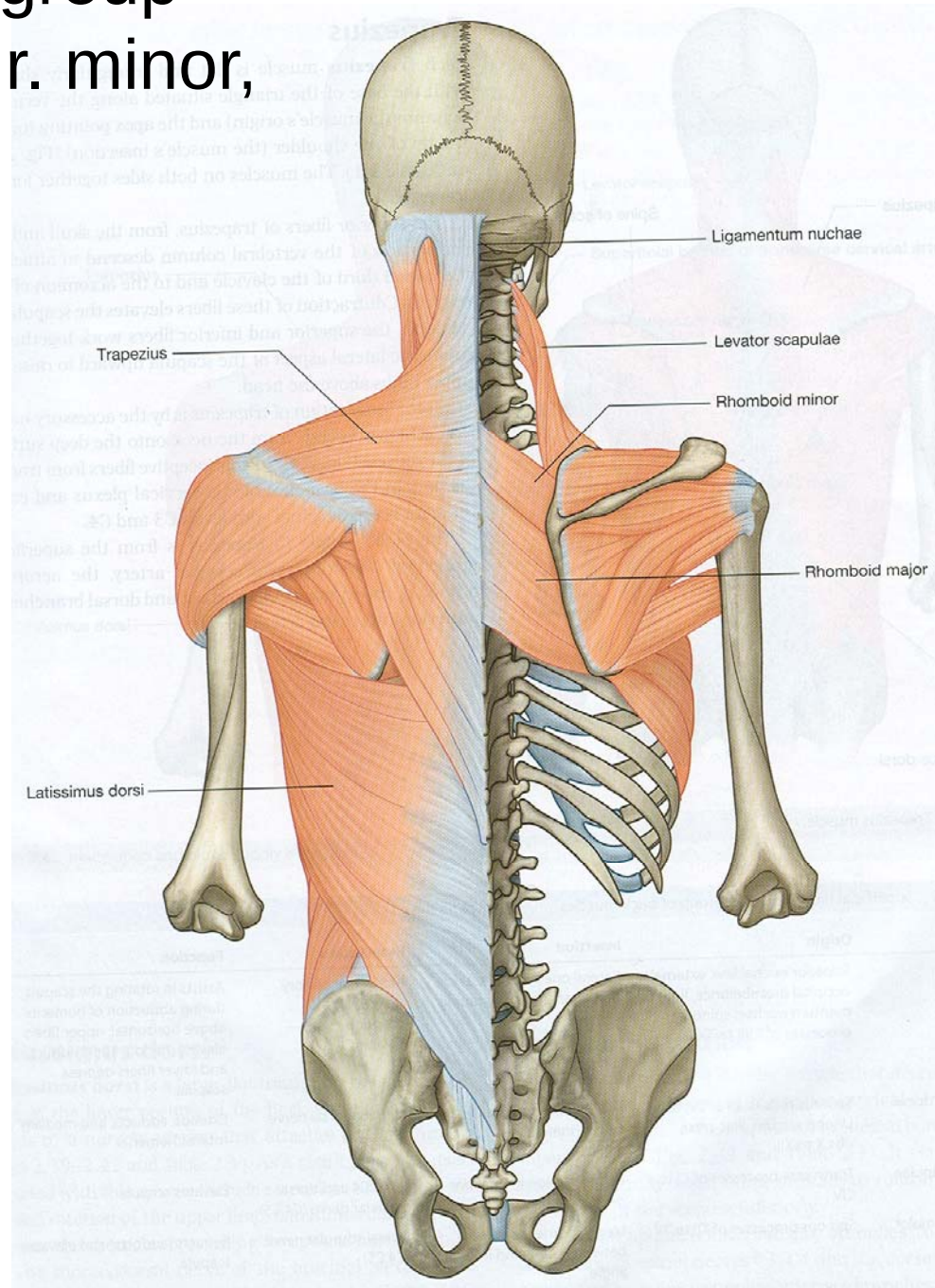


- Innervation & blood supply of trapezius



Levator scapulae	Transverse processes of C1 to C4	Upper portion medial border of scapula	C3 to C4 and dorsal scapular nerve (C4,C5)	Elevates scapula
Rhomboid major	Spinous processes of T1 to T4	Medial border of scapula between spine and inferior angle	Dorsal scapular nerve (C4,C5)	Retracts (adducts) and elevates scapula
Rhomboid minor	Lower portion of ligamentum nuchae, spinous processes of C6 and T1	Medial border of scapula at the spine of scapula	Dorsal scapular nerve (C4,C5)	Retracts (adducts) and elevates scapula

Superficial group- l.scapulae, r. minor, r. major



- Innervation & blood supply of rhomboids

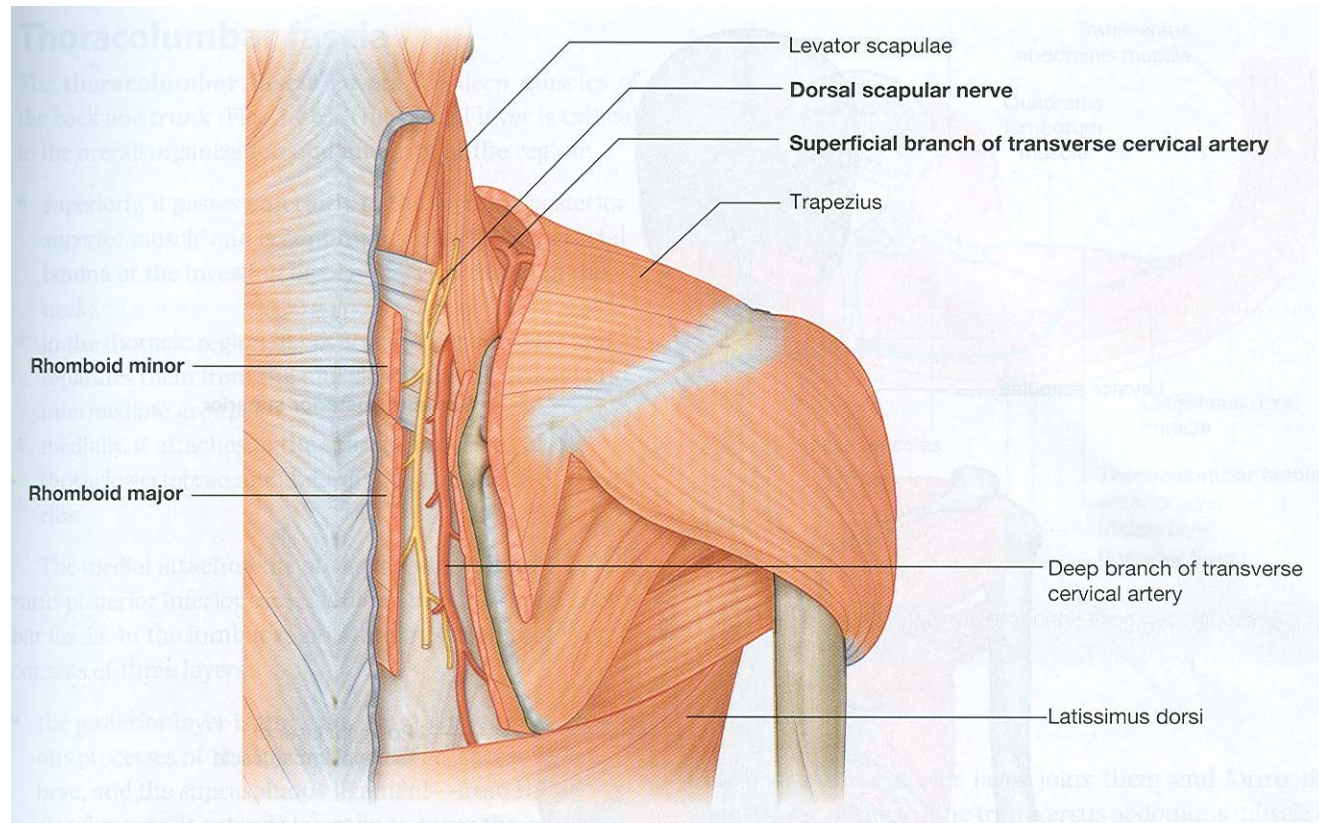
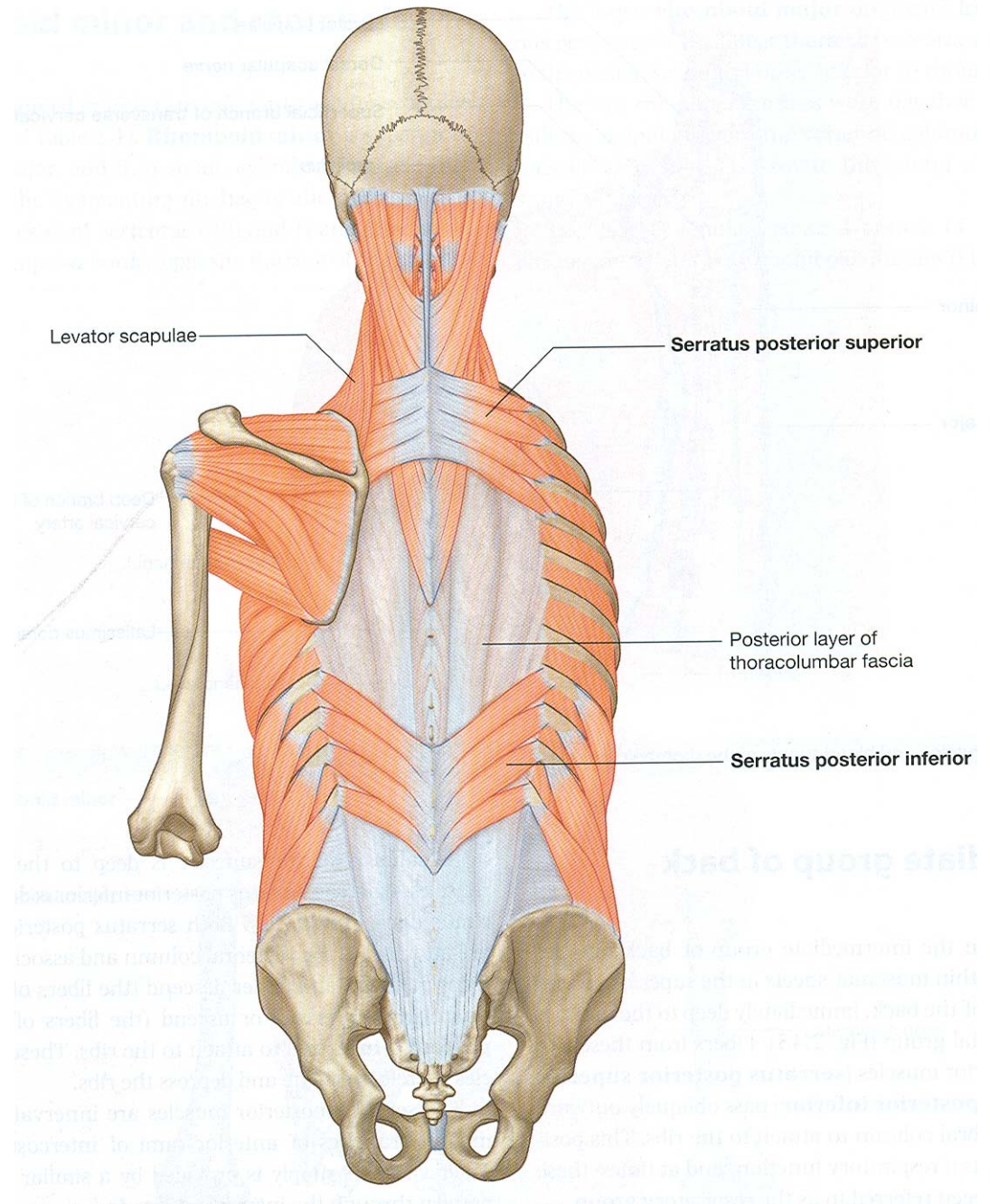


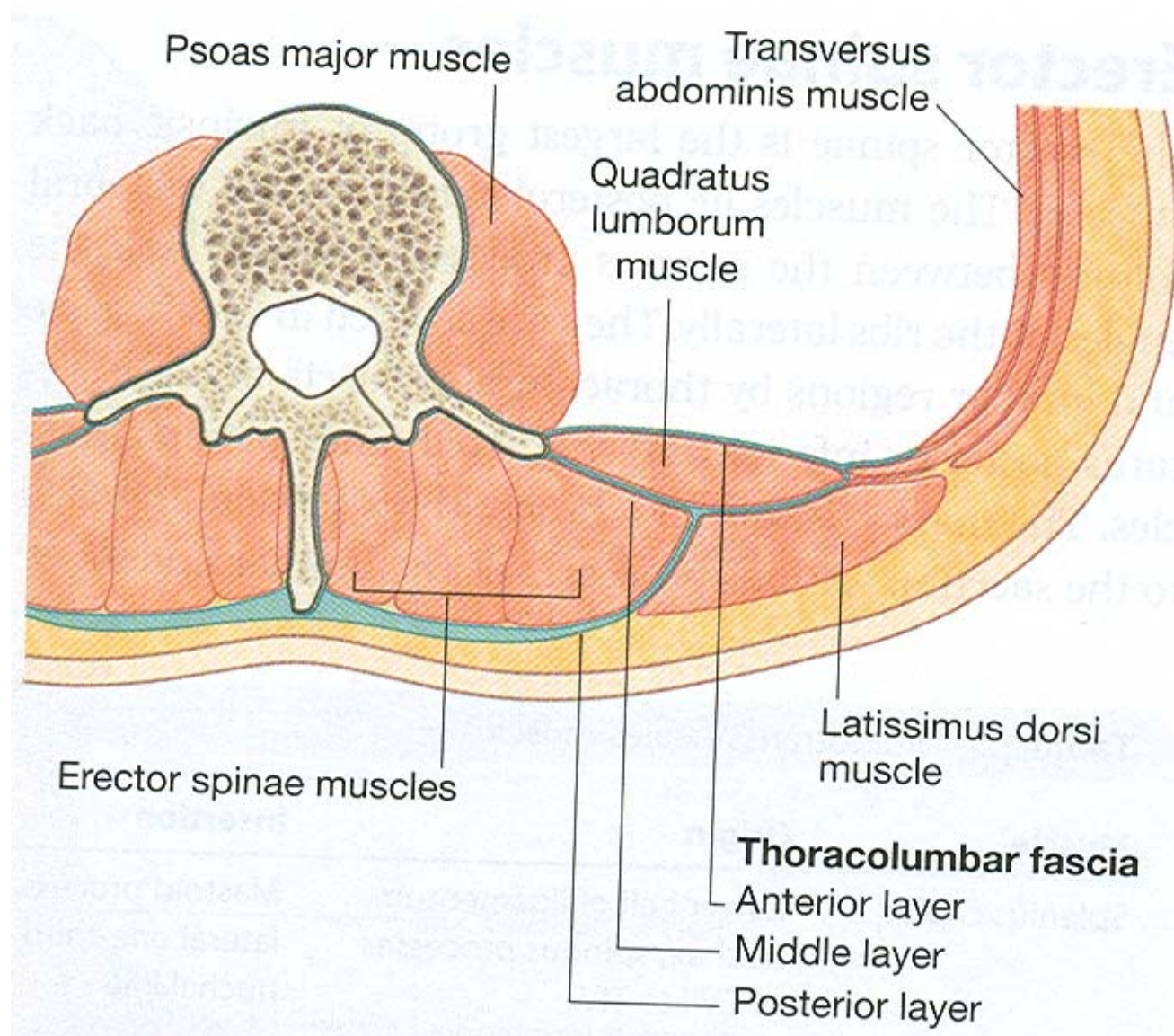
Table 2.2 Intermediate (respiratory) group of back muscles

Muscle	Origin	Insertion	Innervation	Function
Serratus posterior superior	Lower portion of ligamentum nuchae, spinous processes of CVII to TIII and supraspinous ligaments	Upper border of ribs II to V just lateral to their angles	Anterior rami of upper thoracic nerves (T2 to T5)	Elevates ribs II to V
Serratus posterior inferior	Spinous processes of TXI to LIII and supraspinous ligaments	Lower border of ribs IX to XII just lateral to their angles	Anterior rami of lower thoracic nerves (T9 to T12)	Depresses ribs IX to XII and may prevent lower ribs from being elevated when the diaphragm contracts

- Intermediate group



- Thoracolumbar fascia

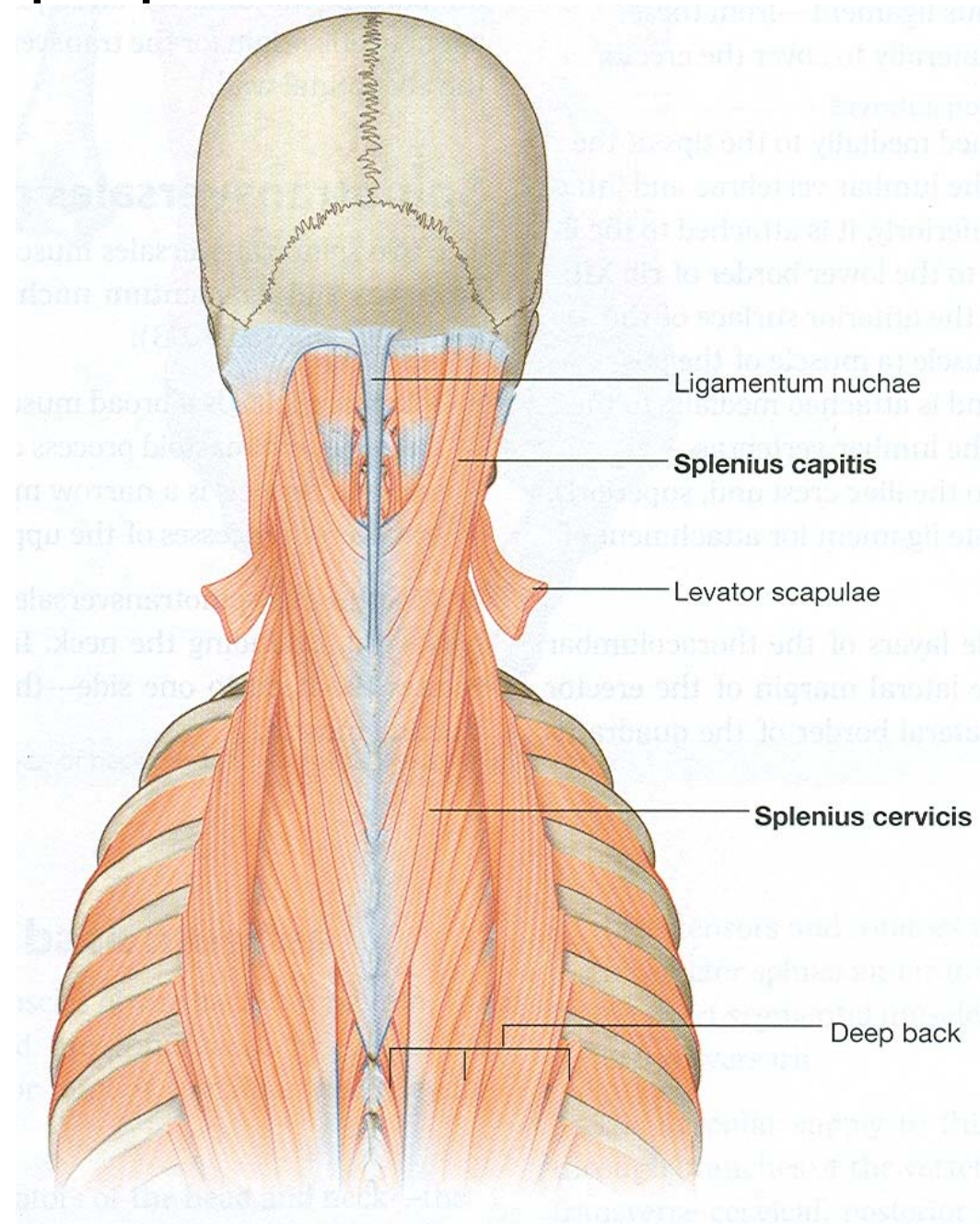


- Deep group-

Table 2.3 Spinotransversales muscles

Muscle	Origin	Insertion	Innervation	Function
Splenius capitis	Lower half of ligamentum nuchae, spinous processes of CVII to TIV	Mastoid process, skull below lateral one-third of superior nuchal line	Posterior rami middle cervical nerves	Together—draw head backwards extending neck; individually—draw and rotate head one side (turn face to same side)
Splenius cervicis	Spinous processes of TIII to TVI	Transverse processes of CII to CIII	Posterior rami lower cervical nerves	Together—extend neck; individually—draw and rotate head one side (turn face to same side)

- Deep group-spinotransversales

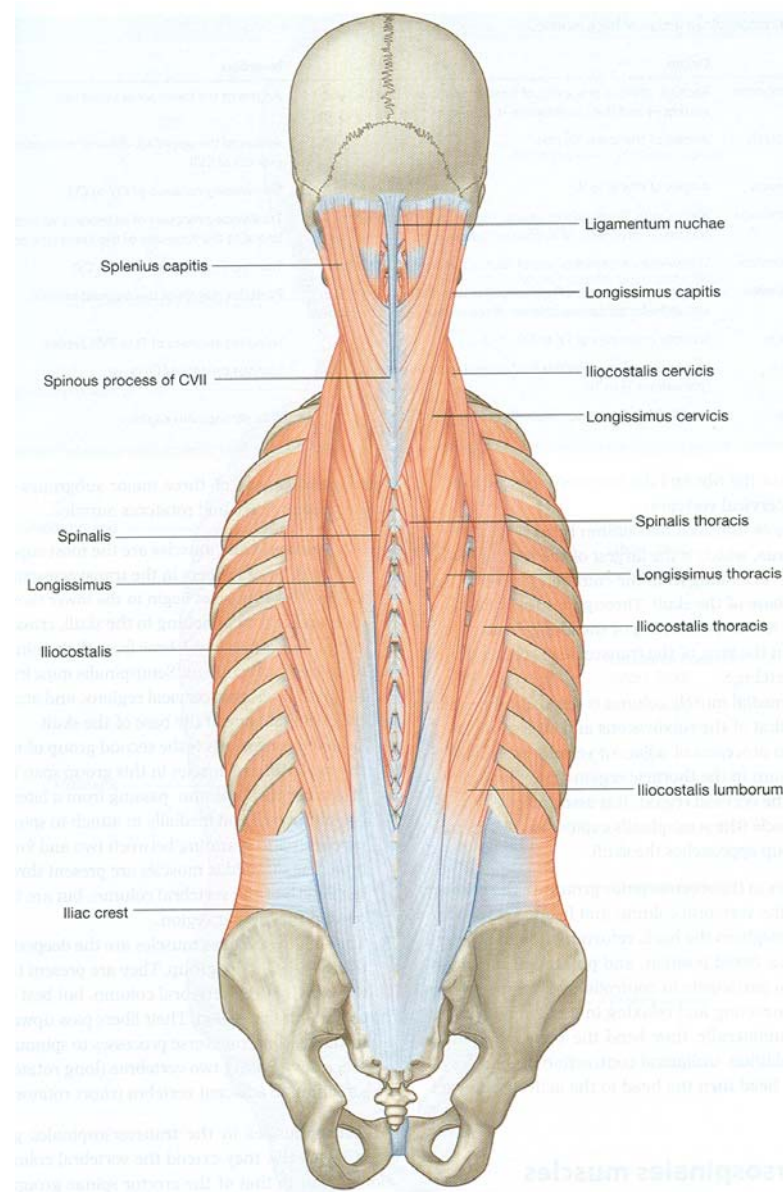


- Deep group-

Table 2.4 Erector spinae group of back muscles

Muscle	Origin	Insertion
Iliocostalis lumborum	Sacrum, spinous processes of lumbar and lower two thoracic vertebrae and their supraspinous ligaments, and the iliac crest	Angles of the lower six or seven ribs
Iliocostalis thoracis	Angles of the lower six ribs	Angles of the upper six ribs and the transverse process of CVII
Iliocostalis cervicis	Angles of ribs III to VI	Transverse processes of CIV to CVI
Longissimus thoracis	Blends with iliocostalis in lumbar region and is attached to transverse processes of lumbar vertebrae	Transverse processes of all thoracic vertebrae and just lateral to the tubercles of the lower nine or ten ribs
Longissimus cervicis	Transverse processes of upper four or five thoracic vertebrae	Transverse processes of CII to CVI
Longissimus capitis	Transverse processes of upper four or five thoracic vertebrae and articular processes of lower three or four cervical vertebrae	Posterior margin of the mastoid process
Spinalis thoracis	Spinous processes of TX or TXI to LII	Spinous processes of TI to TVIII (varies)
Spinalis cervicis	Lower part of ligamentum nuchae and spinous process of CVII (sometimes TI to TII)	Spinous process of CII (axis)
Spinalis capitis	Usually blends with semispinalis capitis	With semispinalis capitis

- Deep group- erector spinae muscles



- Deep group- transversospinales

Muscle	Origin	Insertion
Semispinalis thoracis	Transverse processes of TVI to TX	Spinous processes of upper four thoracic and lower two cervical vertebrae
Semispinalis cervicis	Transverse processes of upper five or six thoracic vertebrae	Spinous processes of CII (axis) to CV
Semispinalis capitis	Transverse processes of TI to TVI (or TVII) and CVII and articular processes of CIV to CVI	Medial area between the superior and inferior nuchal lines of occipital bone
Multifidus	Sacrum, origin of erector spinae, posterior superior iliac spine, mamillary processes of lumbar vertebrae, transverse processes of thoracic vertebrae and articular processes of lower four cervical vertebrae	Base of spinous processes of all vertebrae from LV to CII (axis)
Rotatores lumborum	Mamillary processes of lumbar vertebrae	Spinous processes of lumbar vertebrae
Rotatores thoracis	Transverse processes of thoracic vertebrae	Spinous processes of thoracic vertebrae
Rotatores cervicis	Articular processes of cervical vertebrae	Spinous processes of cervical vertebrae

- Deep group- transversospinales & segmental

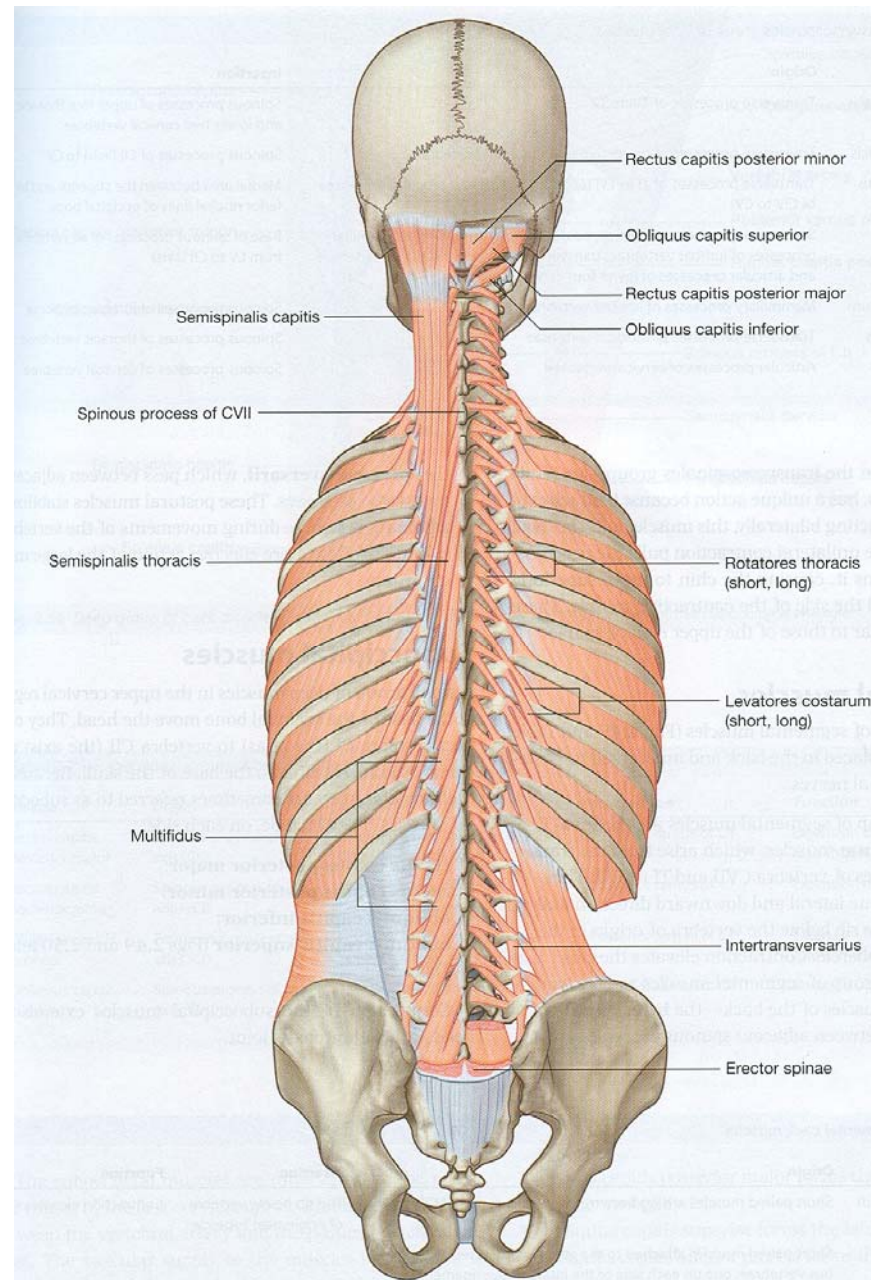


Table 2.6 Segmental back muscles

Muscle	Origin	Insertion	Function
Levatores costarum	Short paired muscles arising from transverse processes of CVII to TXI	The rib below vertebra of origin near tubercle	Contraction elevates rib
Interspinales	Short paired muscles attached to the spinous processes of contiguous vertebrae, one on each side of the interspinous ligament		
Intertransversarii	Small muscles between the transverse processes of contiguous vertebrae.		

Deep group- transversospinales & segmental

