

V. MUSCULAR SYSTEM / TORSO

DEEP MUSCLES OF BACK & POSTERIOR NECK

CN: Use your lightest colors on the B and C groups. Note that splenius (A) and semispinalis (C¹) represent more than one muscle; the muscle subsets are identified. (1) After coloring the muscles of the back and posterior neck, color the lower right diagram which describes the location and function of the deep movers of the spine.

The *deep muscles of the back and posterior neck* extend, rotate, or laterally flex one or more of the 24 paired facet joints and the 22 intervertebral disc joints of the vertebral column. The long muscles move several motion segments (recall Plate 21) with one contraction, while the short muscles can move one or two motion segments at a time (see intrinsic movers).

COVERING MUSCLE: * SPLENIUS^A



The *splenius* muscles extend and rotate the neck and head in concert with the opposite sternocleidomastoid muscle. Splenius capitis covers the deeper muscles of the upper spine.

VERTICAL MUSCLES: * ERECTOR SPINAE^B SPINALIS^{B¹} LONGISSIMUS^{B²} ILIOGOSTALIS^{B³}



The *erector spinae* group are the principal extensors of the vertebral motion segments. Oriented vertically along the longitudinal axis of the back, they are thick, quadrilateral muscles in the lumbar region, splitting into smaller, thinner separate bundles attaching to the ribs (*iliocostalis*), and upper vertebrae and head (*longissimus*, *spinalis*). Erector spinae arises from the lower thoracic and lumbar spines, the sacrum, ilium, and intervening ligaments.

OBLIQUE MUSCLES: * TRANSVERSOSPINALIS GROUP: C¹ SEMISPINALIS^{C¹} MULTIFIDUS^{C²} ROTATOIRES^{C³}

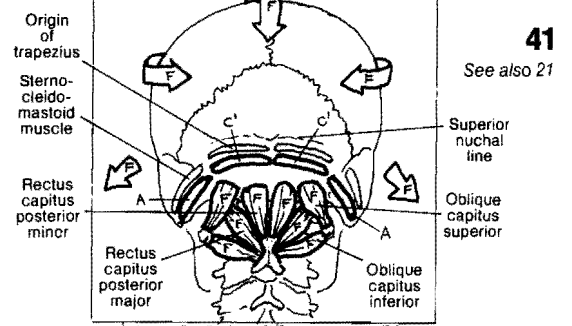


The *transversospinalis* group extends the motion segments of the back, and rotates the thoracic and cervical vertebral joints. These muscles generally run from the transverse processes of one vertebra to the spine of the vertebra above, spanning three or more vertebrae. The *semispinales* are the largest muscles of this group, reaching from mid-thorax to the posterior skull; the *multifidi* consist of deep fasciculi spanning 1-3 motion segments from sacrum to C2; the *rotatores* are well defined only in the thoracic region.

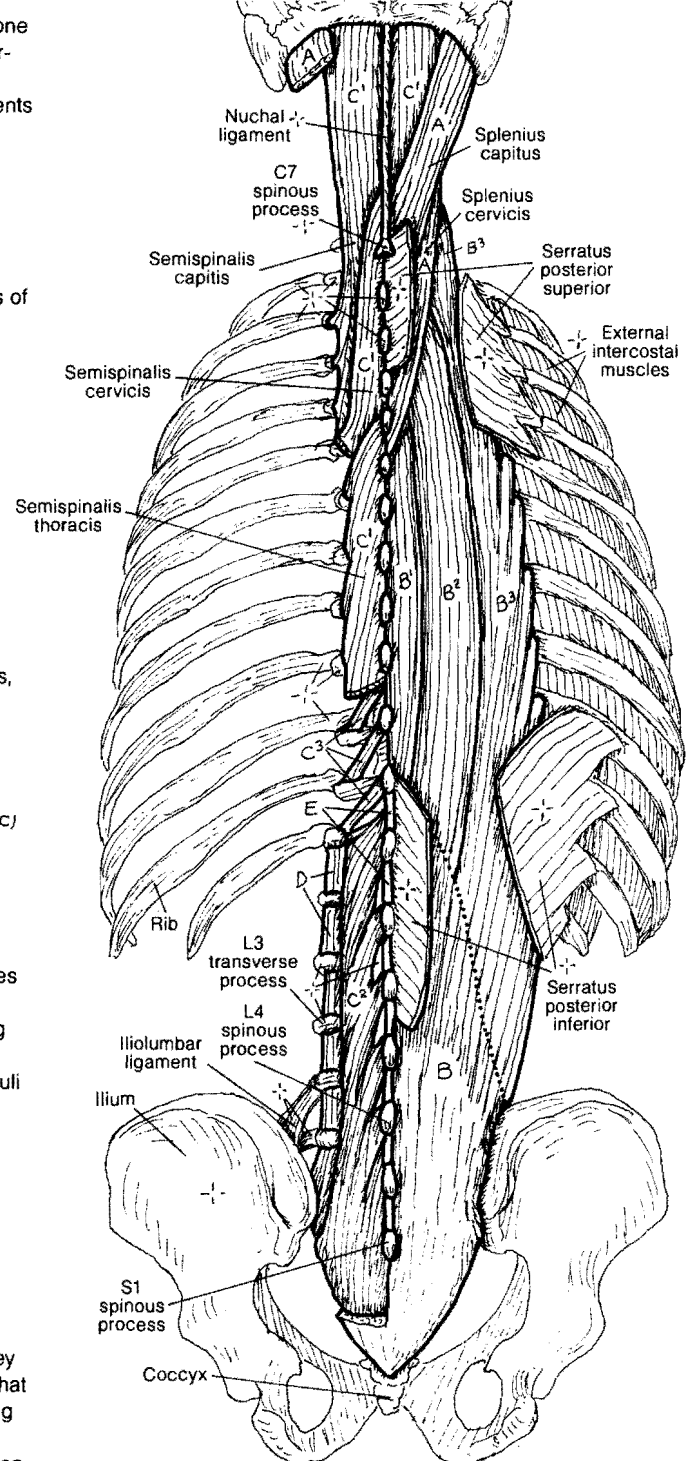
DEEPEST MUSCLES: * INTERTRANSVERSARI^D INTERSPINALIS^E SUBOCCIPITAL MUSCLES^F



These small, deep-lying muscles cross the joints of only one motion segment. They are collectively major postural muscles. Electromyographic evidence has shown that these short muscles remain in sustained contraction for long periods of time during movement and standing/sitting postures. They are most prominent in the cervical and lumbar regions. The small muscles set deep in the posterior, *suboccipital* region (deep to semispinalis and erector spinae) rotate and extend the joints between the skull and C1 and C2 vertebrae.



41
See also 21



INTRINSIC MOVERS: * EXTENSOR^E ROTATOR^{C³} LATERAL FLEXOR^D

