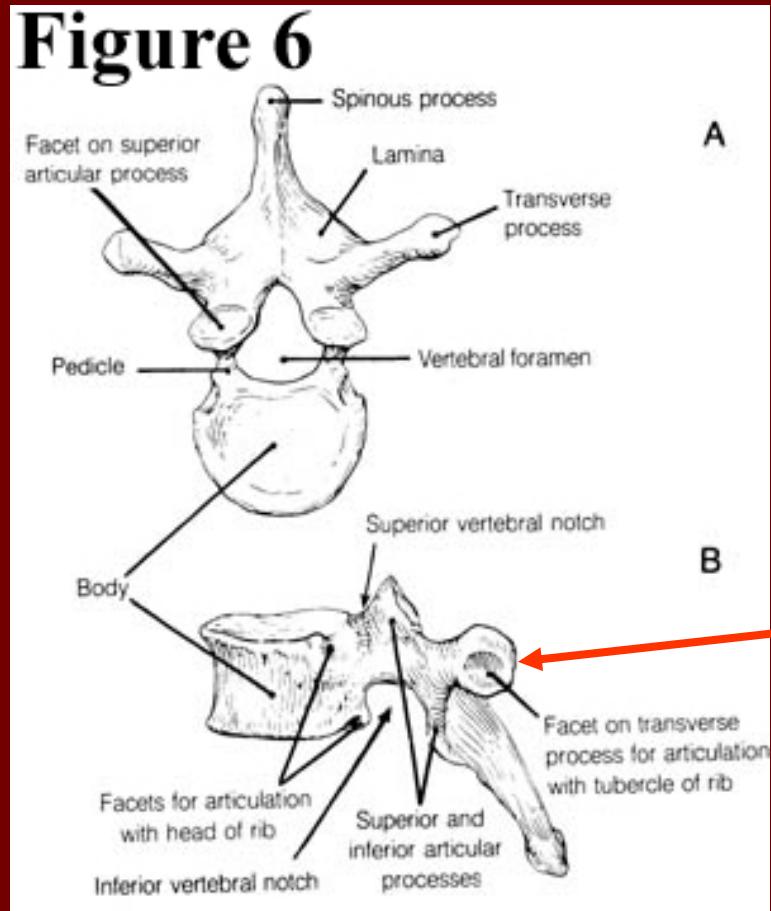


Thoracic and Lumbar Spine Anatomy

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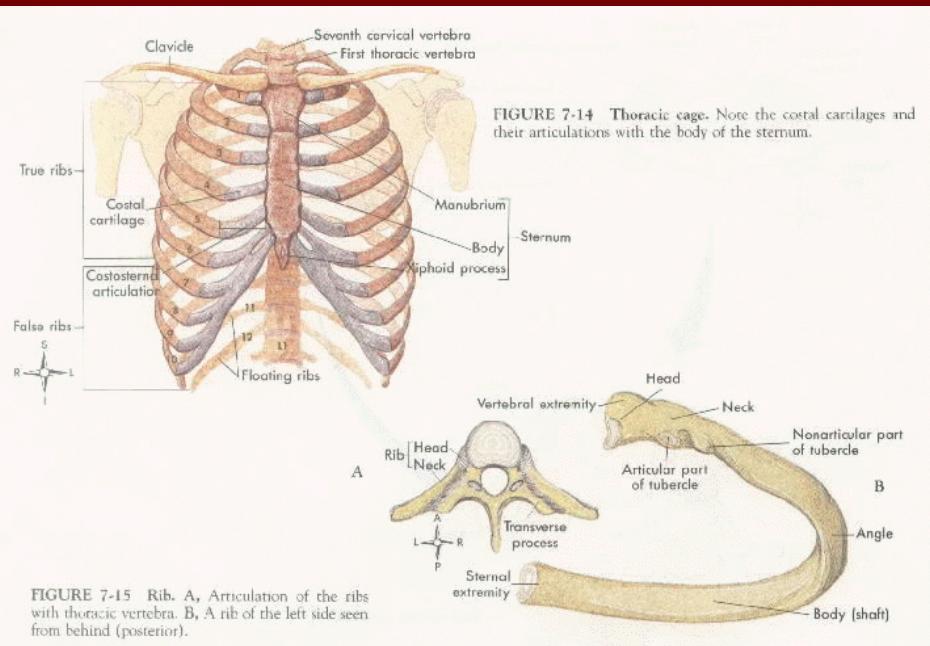
Thoracic Vertebrae

Figure 6



- Bodies
- Pedicles
- Laminae
- Spinous Processes
- Transverse Processes
- Inferior & Superior Facets
- Distinguishing Feature
 - Costal Fovea
 - T1
 - T2-T8
 - T9-12

Thoracic Vertebrae and Rib Junction



■ Functions of Thoracic Spine

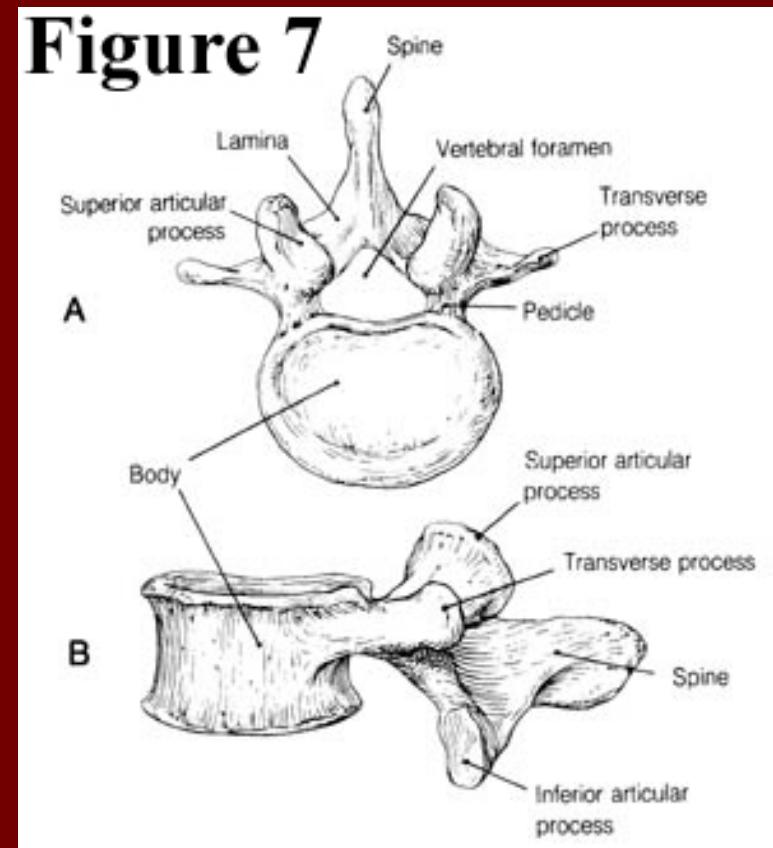
- Costovertebral Joint
- Costotransverse Joint

■ Motions

- All available
- Flexion and extension limited
- T7-T12

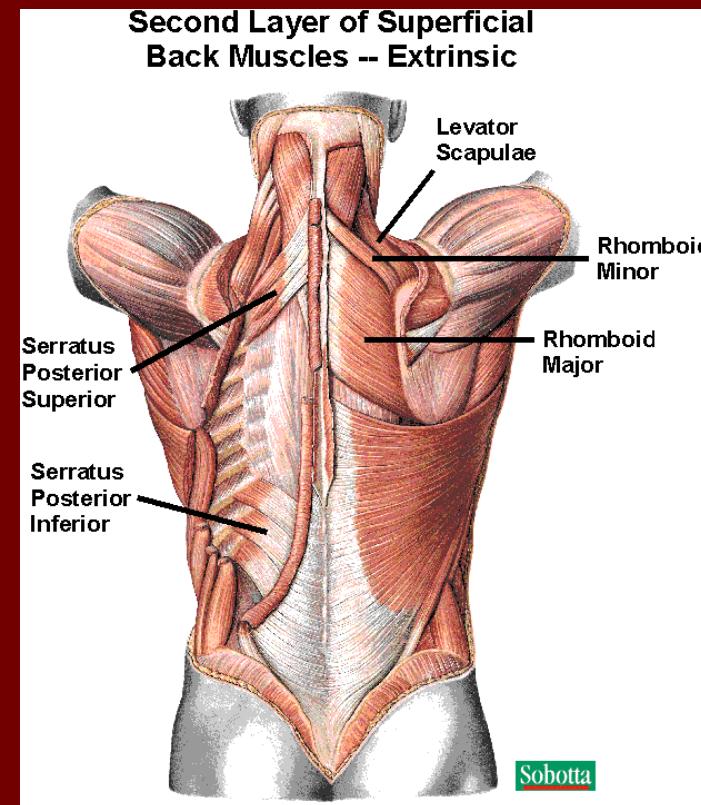
Lumbar Spine

- Bodies
- Pedicles
- Laminae
- Transverse Process
- Spinous Process
- Articular Facets

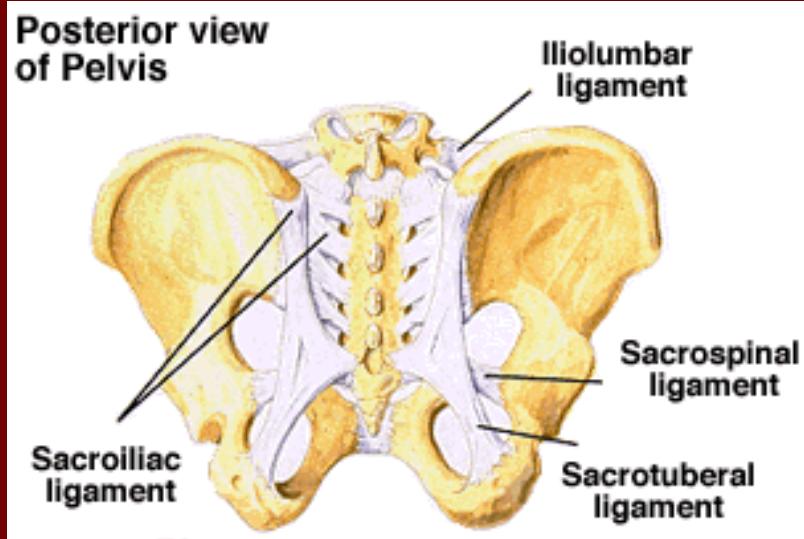


Lumbar Spine

■ Thoracolumbar Fascia

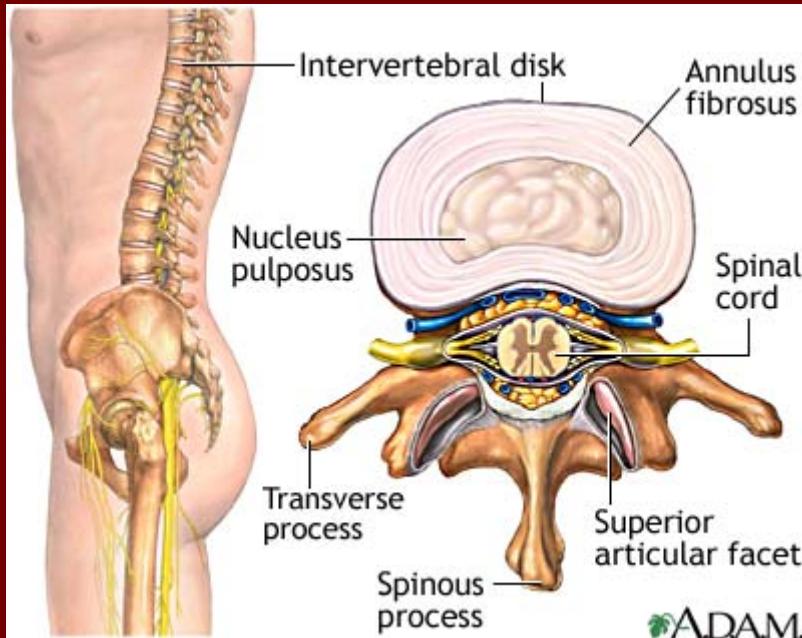


Lumbar Spine



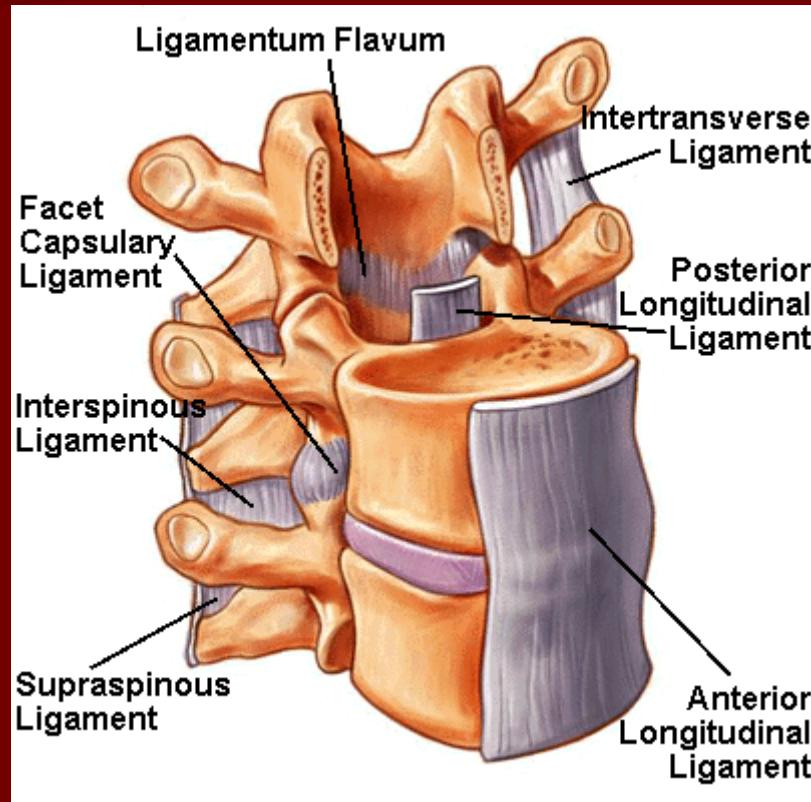
- Iliolumbar Ligaments
- Functions of Lumbar Spine
 - Resistance of anterior translation
 - Resisting Rotation
 - Weight Support
 - Motion

Intervertebral Disks



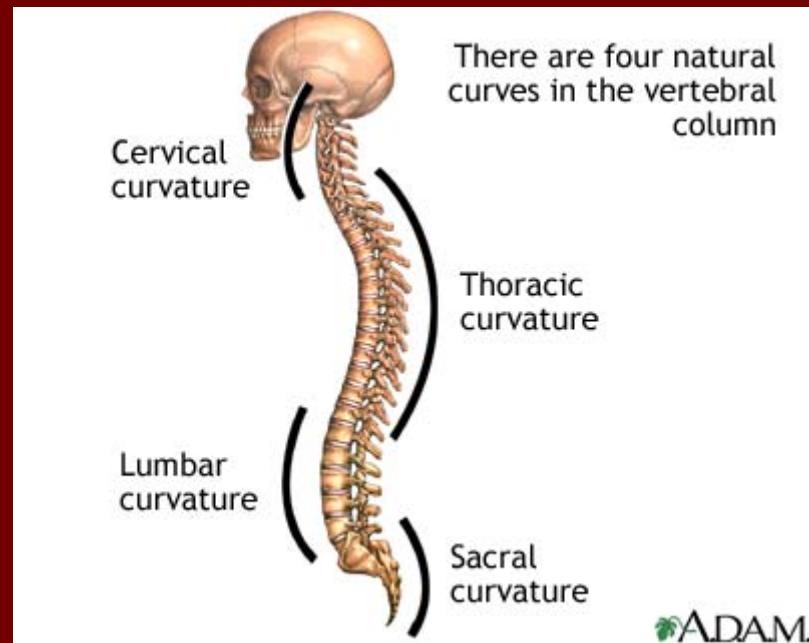
- Ratio between disk thickness and vertebral body height
- Disk Composition
 - Nucleus pulposis
 - Annulus Fibrosis

Spinal Ligaments



- Anterior Longitudinal
- Posterior Longitudinal
- Ligamentum Flavum
- Interspinous Ligaments
- Supraspinous Ligaments
- Intertransverse Ligaments

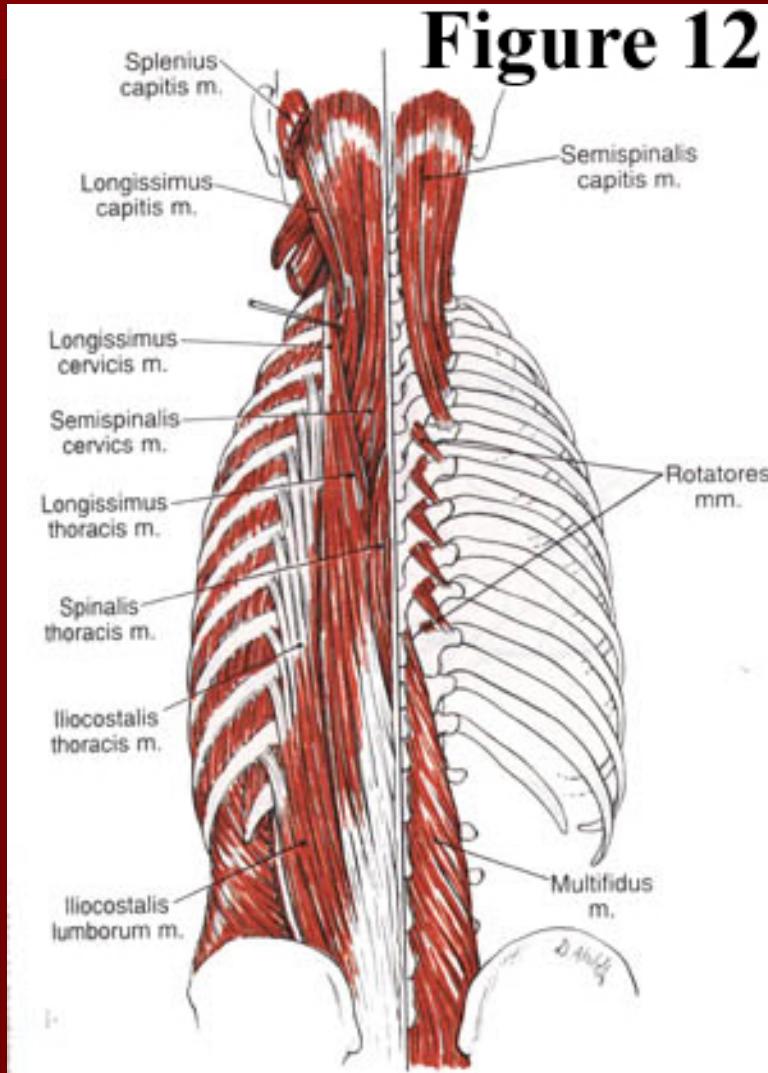
Spinal Curves



- Posterior View
- Sagittal View
 - Primary
 - Secondary

Deep Muscles of the Back (Erector Spinae)

Figure 12



Iliocostalis

- Iliocostalis lumborum
- Iliocostalis Thoracis
- Iliocostalis Cervicis

ERECTOR SPINAE*

ILIOCOSTALIS LUMBORUM

Origin	Medial and lateral sacral crests and medial part of iliac crests
Insertion	Angles of lower six ribs
Action	Extension, lateral flexion of vertebral column, rotates ribs for forceful inspiration
Nerve	Dorsal primary divisions of spinal nerves

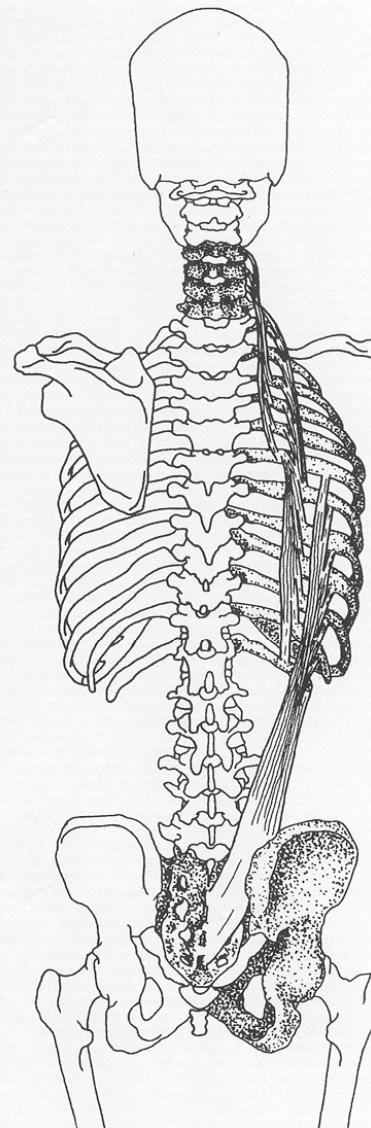
ILIOCOSTALIS THORACIS

Origin	Angles of lower six ribs medial to iliocostalis lumborum
Insertion	Angles of upper six ribs and transverse process of seventh cervical vertebra
Action	Extension, lateral flexion of vertebral column, rotates ribs for forceful inspiration
Nerve	Dorsal primary divisions of spinal nerves

ILIOCOSTALIS CERVICIS

Origin	Angles of third through sixth ribs
Insertion	Transverse processes of fourth, fifth, and sixth cervical vertebrae
Action	Extension, lateral flexion of vertebral column
Nerve	Dorsal primary divisions of spinal nerves

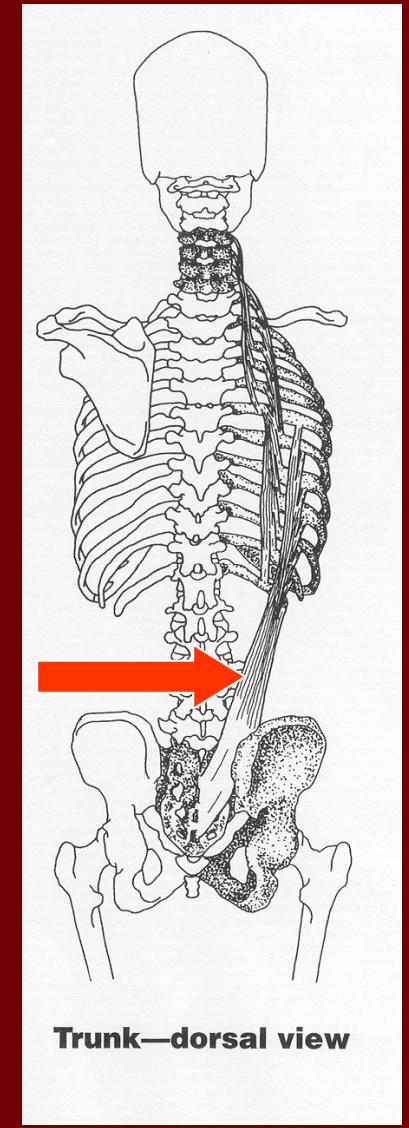
*The erector spinae (sacrospinalis) is a complex of three sets of muscles: iliocostalis, longissimus, and spinalis. The origin of this group is the medial and lateral sacral crests, the medial part of iliac crests, and the spinous processes and supraspinal ligament of lumbar and eleventh and twelfth thoracic vertebrae.



Trunk—dorsal view

Iliocostalis Lumborum

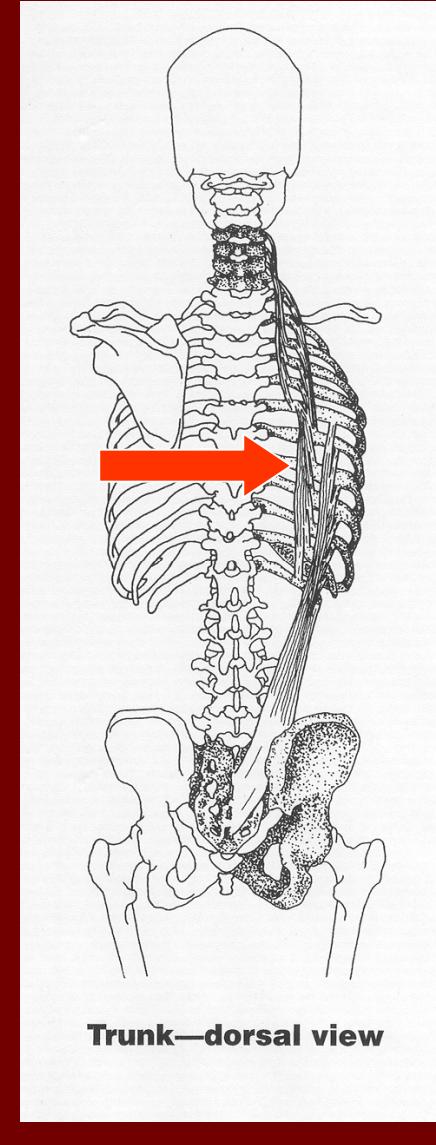
- O
 - Common tendon origin in sacrum, iliac crest, lumbar vertebrae
- I
 - Lower borders ribs 6-12
- N
 - Dorsal rami of spinal nerves
- F
 - Bilateral
 - Spinal extension
 - Maintenance of erect posture
 - Stabilization of spine during flexion
 - Unilateral
 - Lateral flexion
 - Ipsilateral rotation



Trunk—dorsal view

Iliocostalis Thoracis

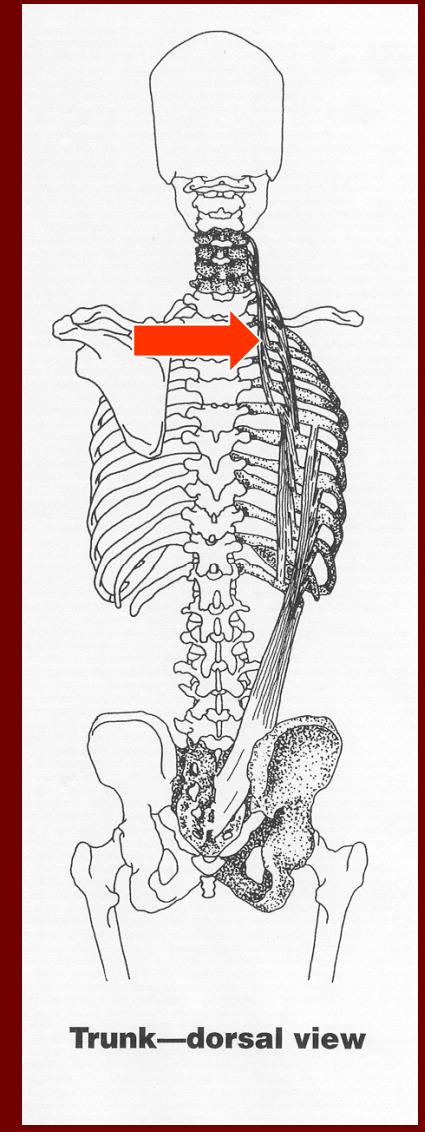
- O
 - Upper borders rib 6-12
- I
 - Lower borders ribs 1-6
- N
 - Dorsal rami of spinal nerves
- F
 - Bilateral
 - Same as above
 - Unilateral
 - Same as above



Trunk—dorsal view

Iliocostalis Cervicis

- O
 - Angles ribs 1-6
- I
 - C4-6 transverse processes
- N
 - Dorsal rami of spinal nerves
- F
 - Same as above



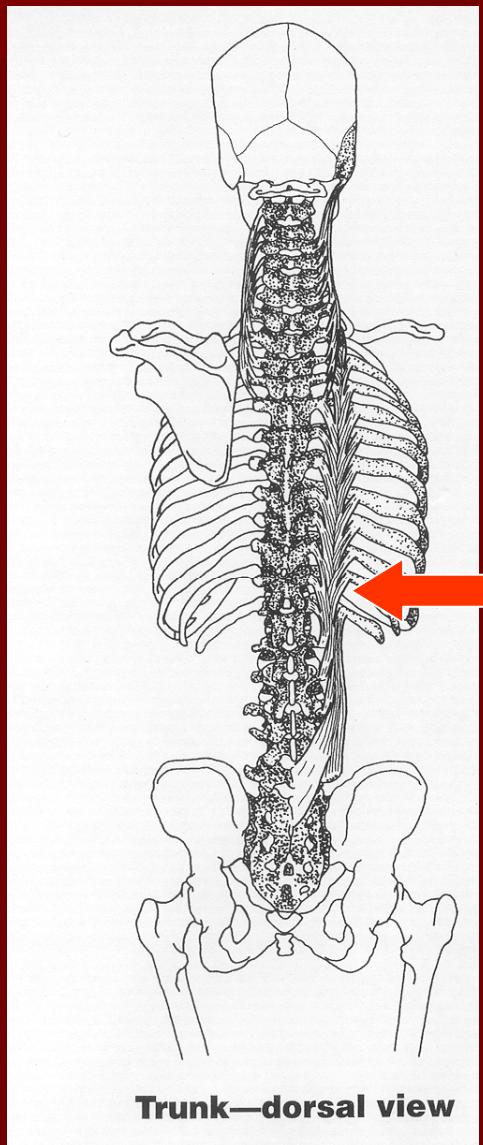
Trunk—dorsal view

Longissimus

- Longissimus Thoracis
- Longissimus Cervicis
- Longissimus Capitus

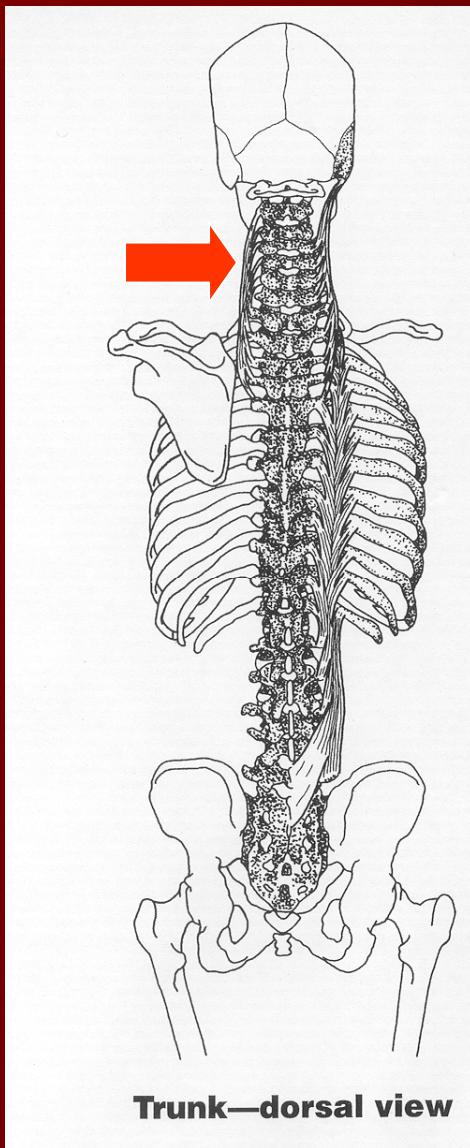
Longissimus Thoracis

- O
 - Common tendon origin in sacrum, iliac crest, lumber vertebrae
- I
 - T1-12 transverse processes
- N
 - Dorsal rami of spinal nerves
- F
 - Same as above



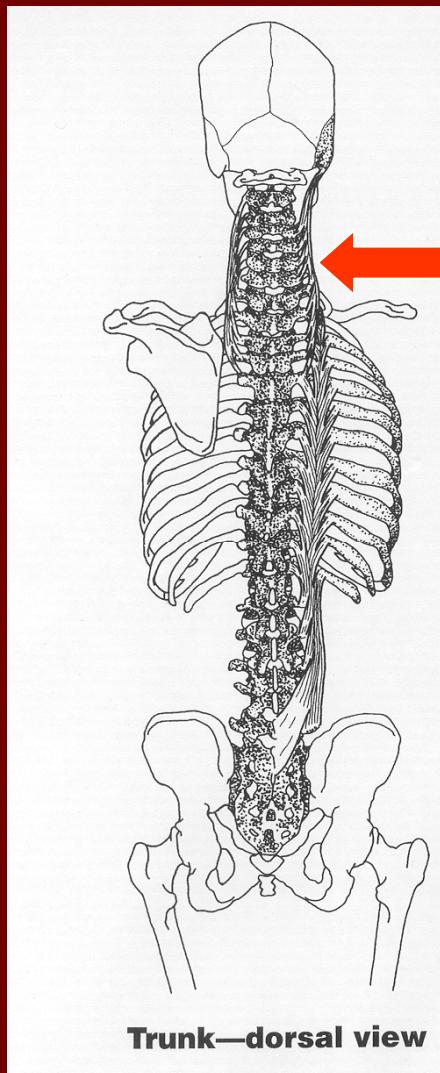
Longissimus Cervicis

- O
 - T1-5 transverse processes
- I
 - C2-6 transverse processes
- N
 - Dorsal rami of spinal nerves
- F
 - Same as above



Longissimus Capitus

- O
 - T1-5 transverse processes
 - C5-7 articular processes
- I
 - Posterior mastoid process
- N
 - Dorsal rami of spinal nerves
- F
 - Extends and rotates head

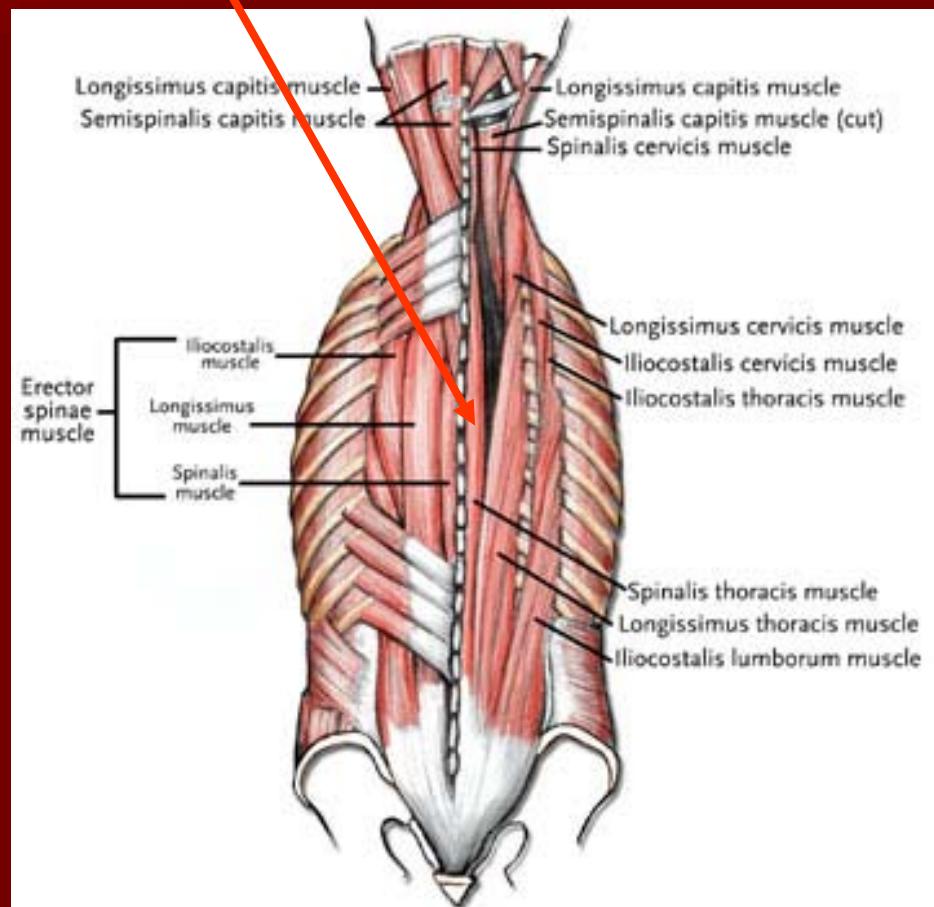


Spinalis

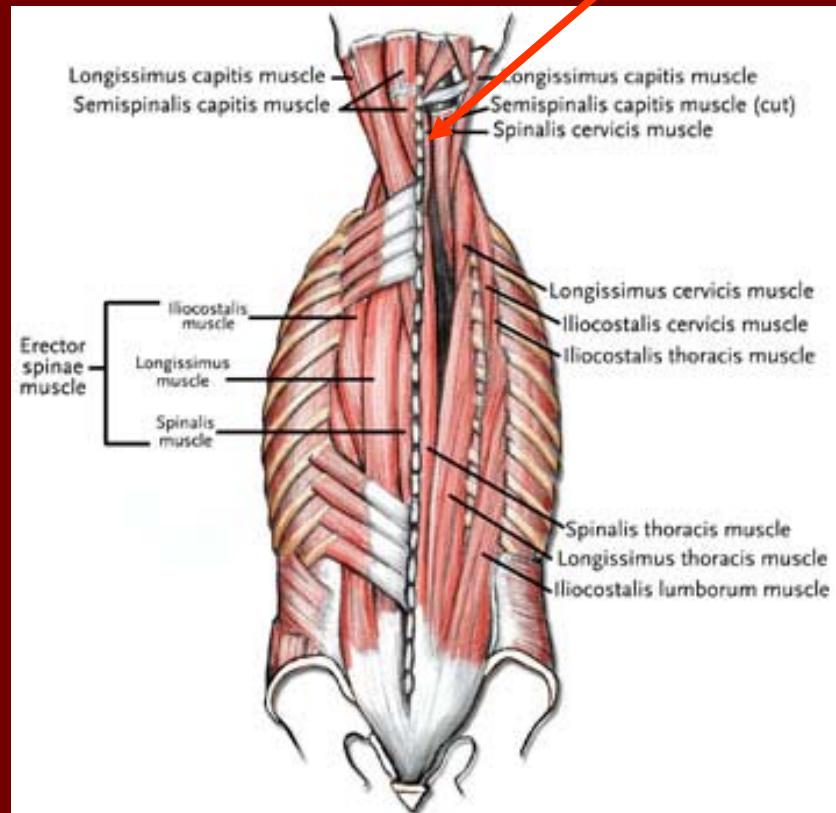
- Spinalis Thoracis
- Spinalis Cervicis
- Spinalis Capitus

Spinalis Thoracis

- O
 - Common tendon origin in sacrum, iliac crest, lumbar vertebrae
- I
 - T3-8 spinous processes
- N
 - Dorsal rami pf spinal nerves
- F
 - Same as above

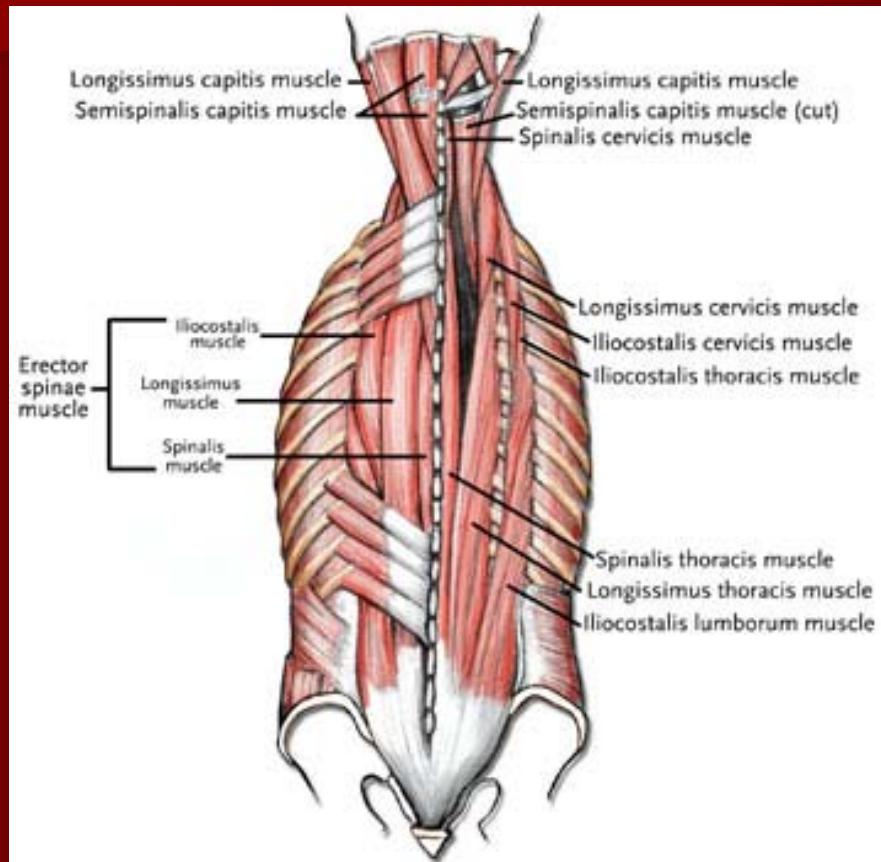


Spinalis Cervicis



- O
 - C6-T12 spinous processes
- I
 - C2 spinous process
- N
 - Dorsal rami of spinal nerves
- F
 - Same as above

Spinalis Capitis



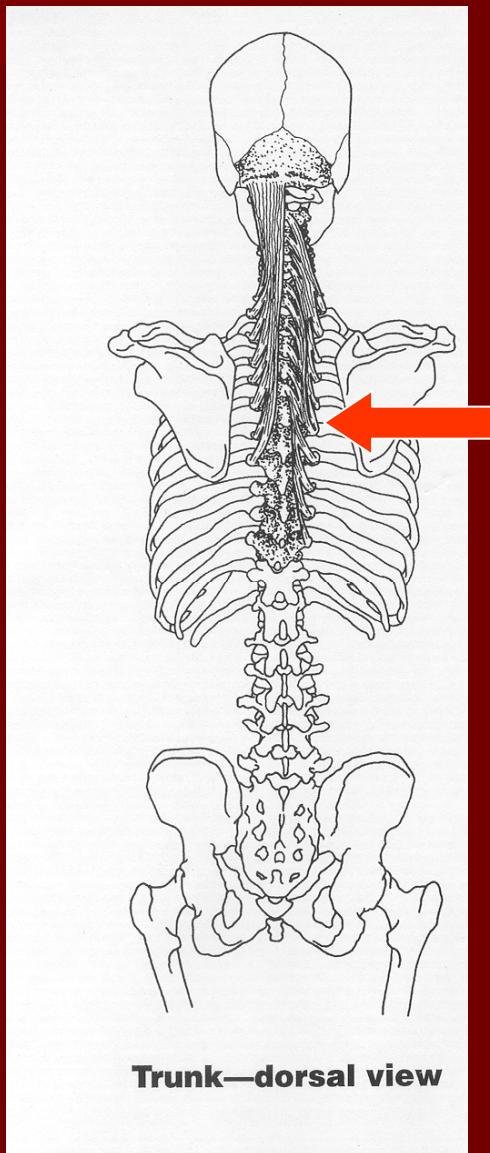
- O
 - Spinous processes of lower cervical and upper thoracic
- I
 - Between superior and inferior nuchal line on occiput
- N
 - Dorsal rami of spinal nerves
- F
 - Same as above

Transversospinal Muscles

- Semispinalis thoracis
- Semispinalis Cervicis
- Semispinalis Capitus

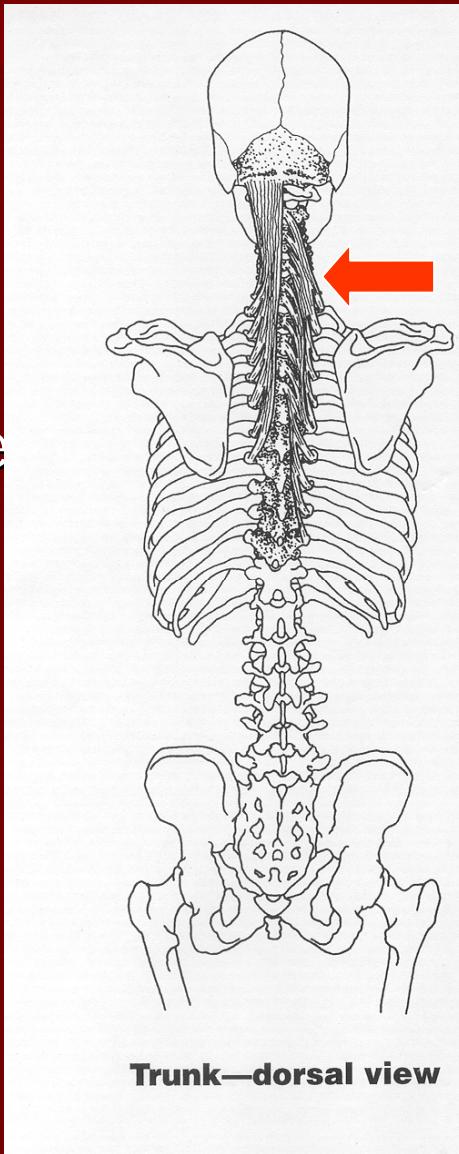
Semispinalis Thoracis

- O
 - T6-10 transverse processes
- I
 - C6 – T4 spinous processes
- N
 - Sorsal rami of spinal nerves
- F
 - Same as above



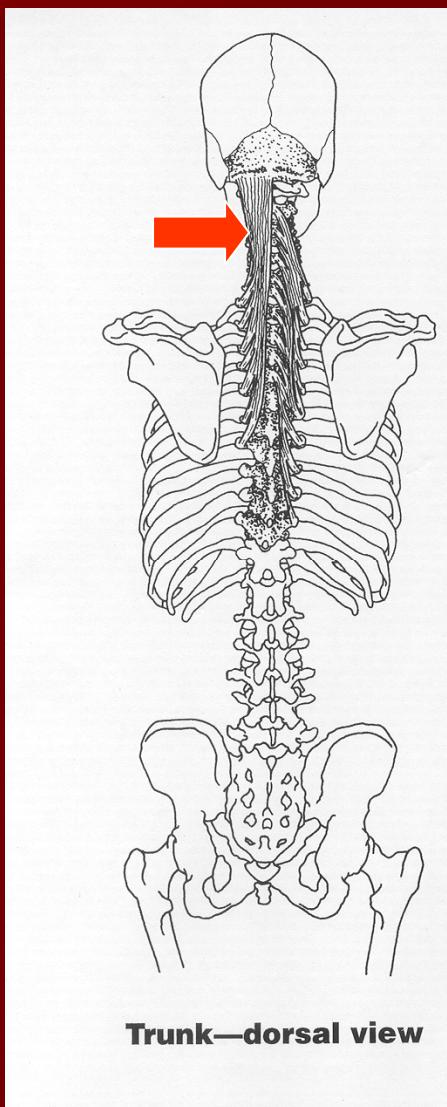
Semispinalis Cervicis

- O
 - T1-T6 spinous processes
- I
 - C2-5 spinous processes
- N
 - Dorsal rami of spinal nerves
- F
 - Same as above

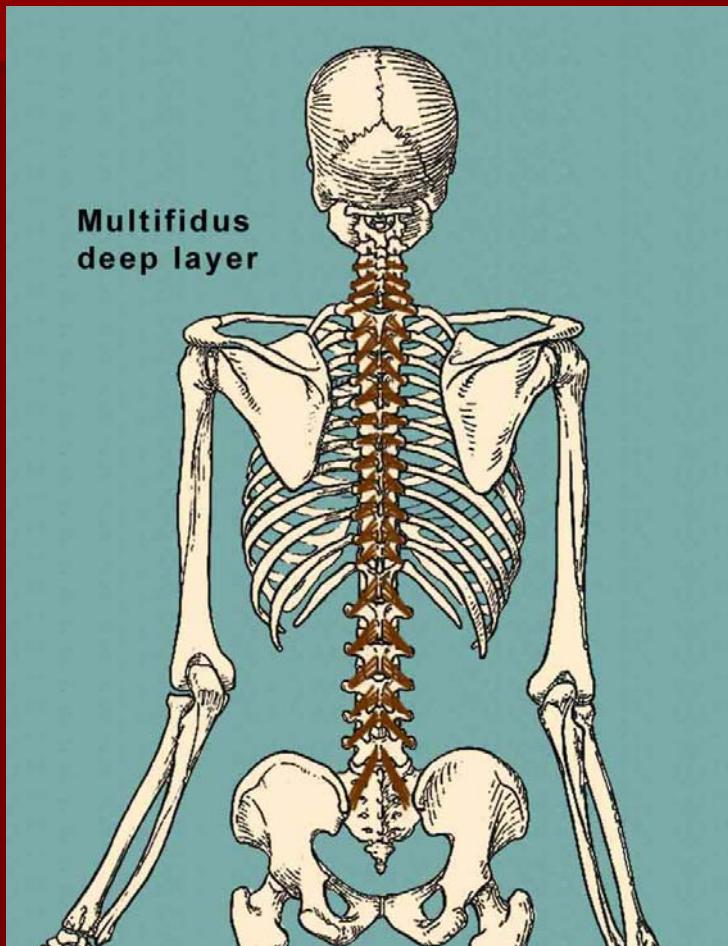


Semispinalis Capitis

- O
 - C4-7 transverse processes
 - T1-7 vertebrae
- I
 - Between superior and inferior nuchal lines of occiput
- N
 - Dorsal rami of spinal nerves
- F
 - Same as above



Multifidus



■ O

- Transverse processes C4-L5
- Sacrum
- PSIS

■ I

- Spinous process of vert above origin

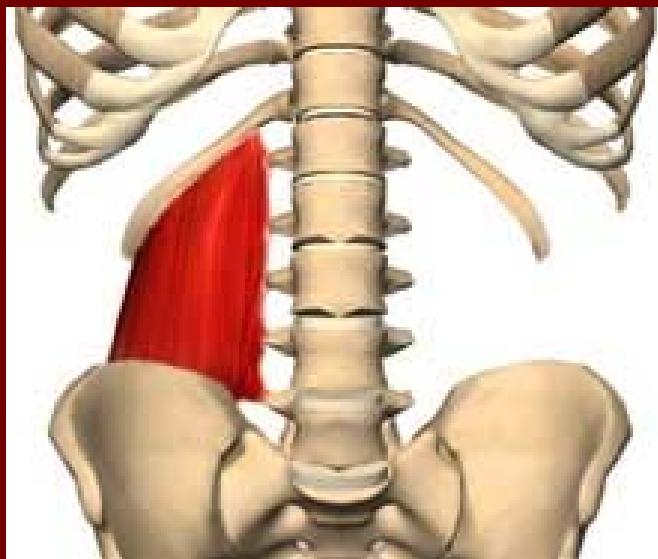
■ N

- Spinal nerve roots

■ F

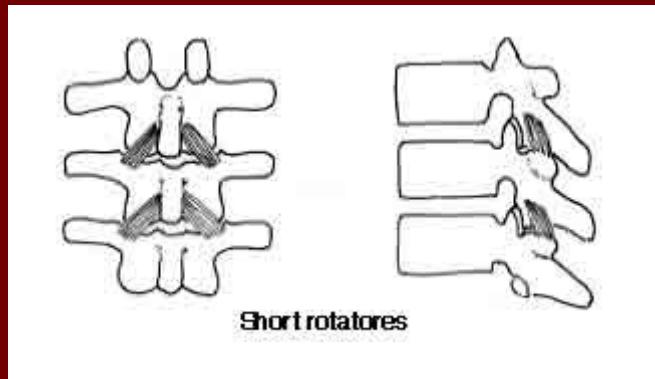
- Extend and lateral flexion of vertebral column

Quadratus Lumborum



- O
 - Iliolumbar Ligament
 - Iliac crest
- I
 - Lower border 12th rib
 - L1-L4 transverse processes
- N
 - ventral branches of T12 and L1 to L4.
- F
 - Pelvis elevation
 - Trunk extension
 - Trunk lateral flexion
 - Pulls down rib 12 to fix origin of diaphragm

Rotatores



- O
 - Transverse processes from axis to sacrum
- I
 - Laminae of vert above
- N
 - Direct branches over spinal nerve roots
- F
 - Spine extension
 - Rotation to opposite side