



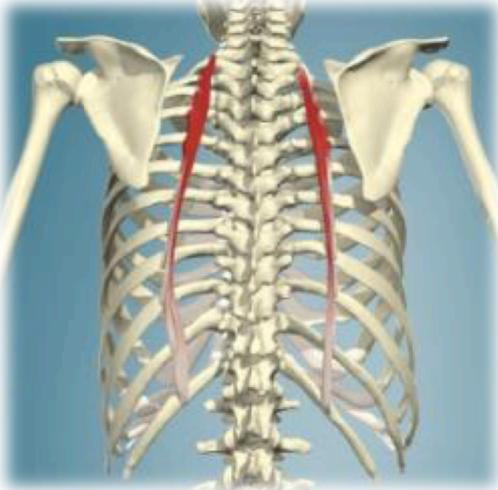
YMCA Awards

Level 3 Applied anatomy and
physiology
2018

Level 3 Applied anatomy and physiology

Muscles of the vertebral column

Erector spinae - iliocostalis group



Origin

Ribs and iliac crest

Insertion

Transverse processes of cervical vertebrae and ribs superior to origin

Joint crossed

Vertebrae

Joint action

Extends the spine

Longissimus group



Origin

Transverse processes of cervical, thoracic and lumbar vertebrae

Insertion

Transverse processes of superior vertebrae to origin

Joint crossed

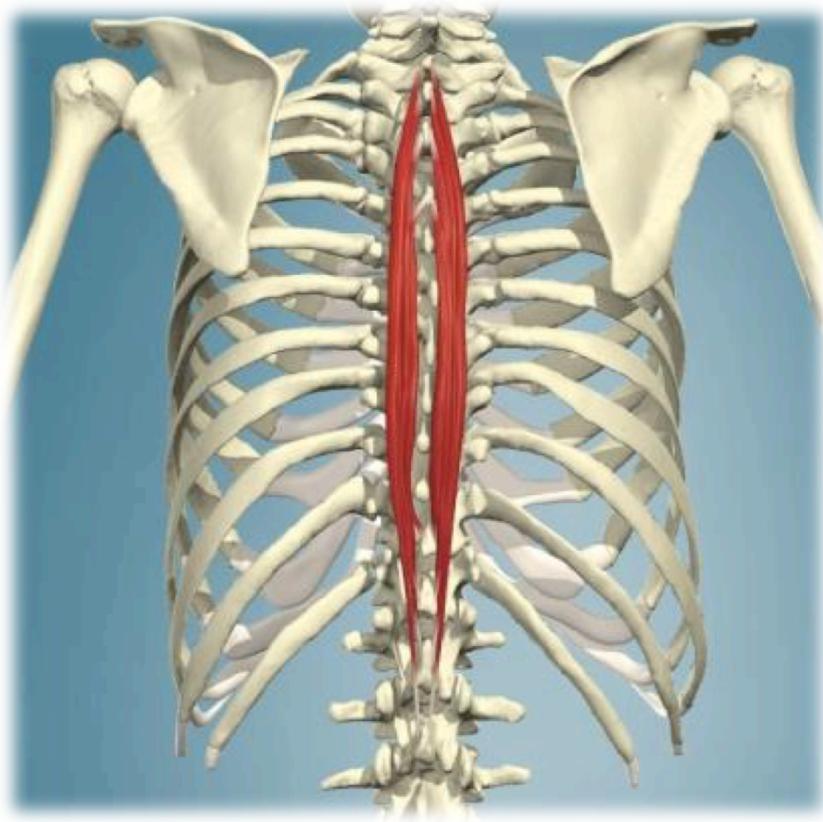
Vertebrae

Joint action

Extends head and rotates it to same side

Extends the spine

Spinalis



Origin

Spinous processes of cervical, thoracic and lumbar vertebrae

Insertion

Spinous processes of superior vertebrae to origin

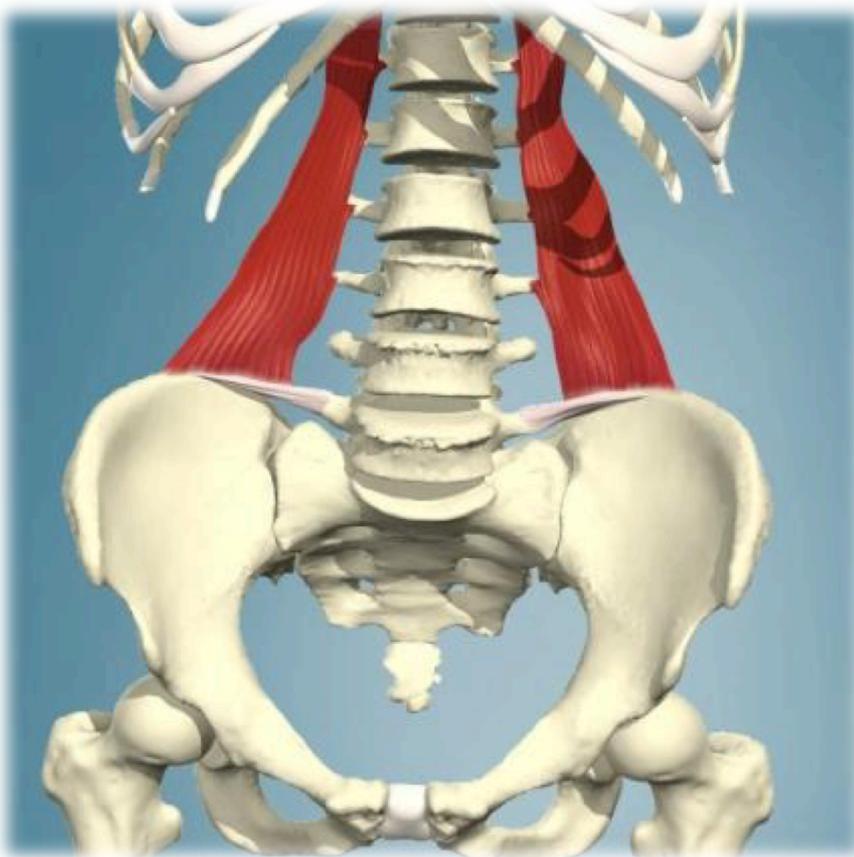
Joint crossed

Vertebrae

Joint action

Extends the spine

Quadratus Lumborum



Origin

Iliac crest and Iliolumbar fascia.

Insertion

Upper 4 lumbar vertebrae and lower margin of 12th rib.

Joint crossed

Intervertebral joints of lumbar vertebrae.

Joint action

Unilateral concentric contraction: lateral flexion of lumbar spine.

Unilateral isometric contraction: prevents lateral flexion of lumbar spine (e.g. when carrying a heavy suitcase in one hand).

Bilateral eccentric contraction: assists in preventing hyperflexion of lumbar spine.

Multifidus



Origin

Sacrum, and transverse processes of vertebrae.

Insertion

Spinous processes 2-4 vertebrae superior to origin.

Joint crossed

Intervertebral joints of vertebral column.

Joint action

Extension of vertebral column (bilaterally)

Assists in rotation of vertebral column (unilaterally)

Assists in lateral flexion of spine (unilaterally)

Important to lumbar spine stability because it is a 'local' muscle, controlling the fine positioning of adjacent vertebrae.

