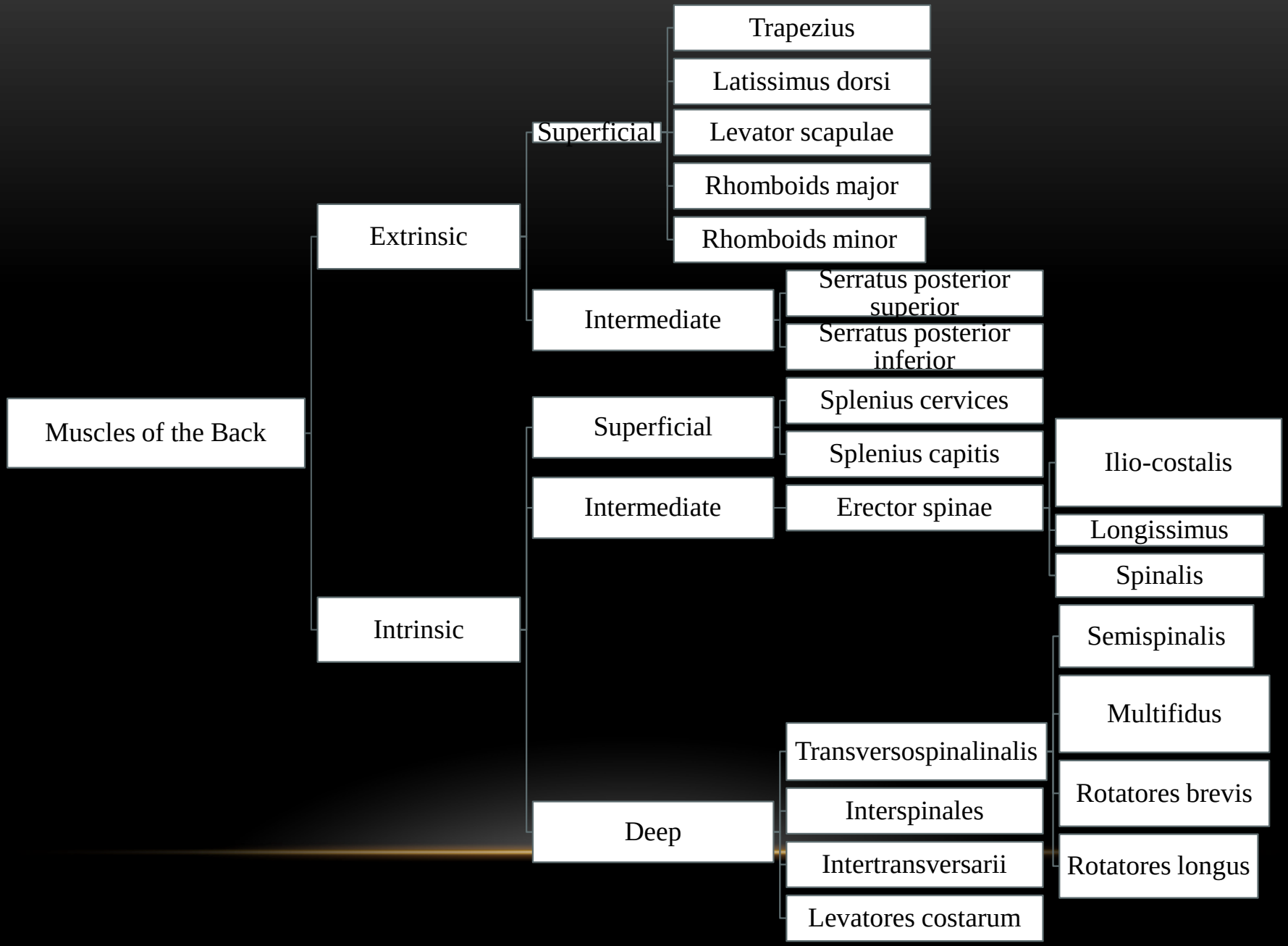
Muscles of the Back

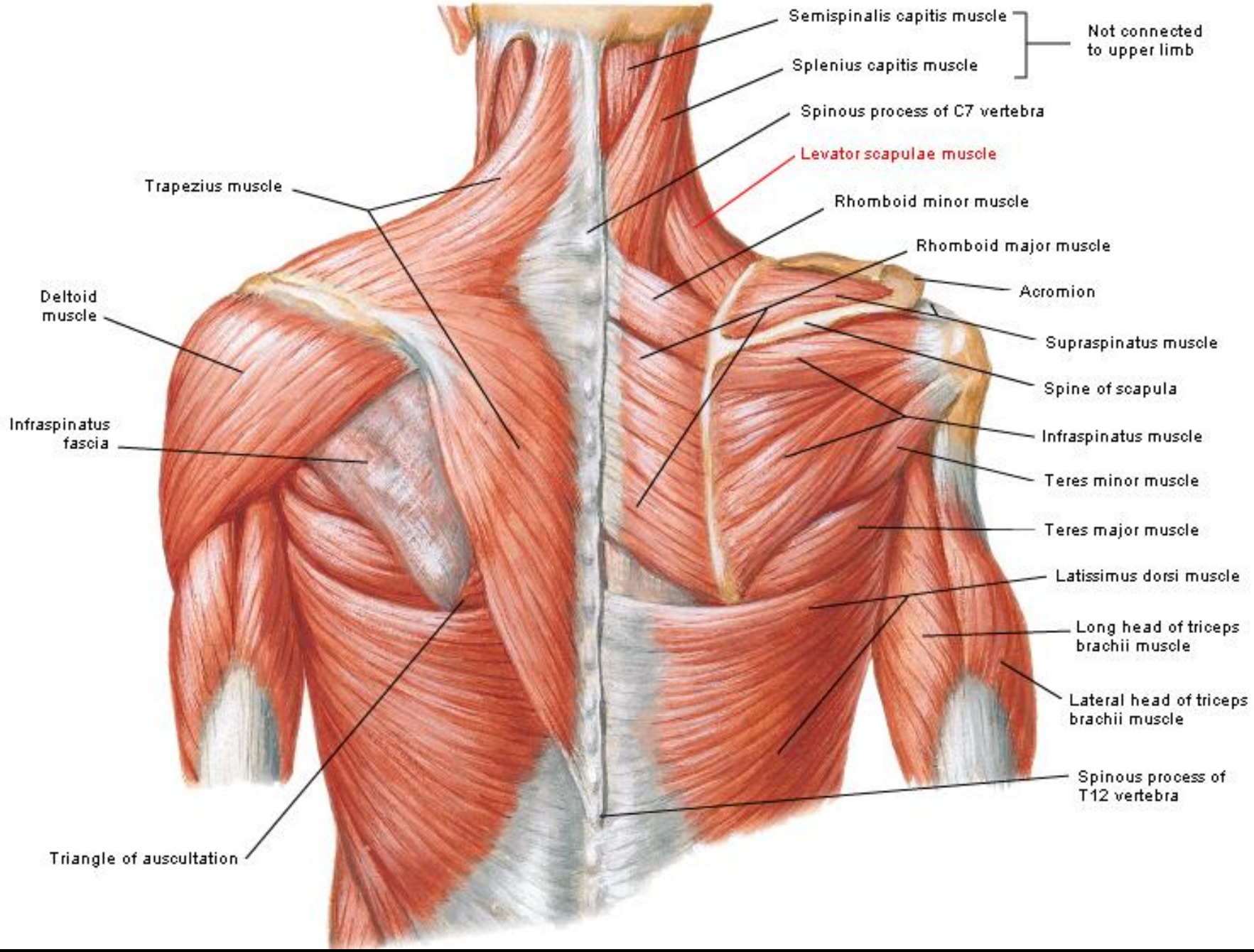
Superficial muscles (extrinsic) are associated with movements of the shoulder.

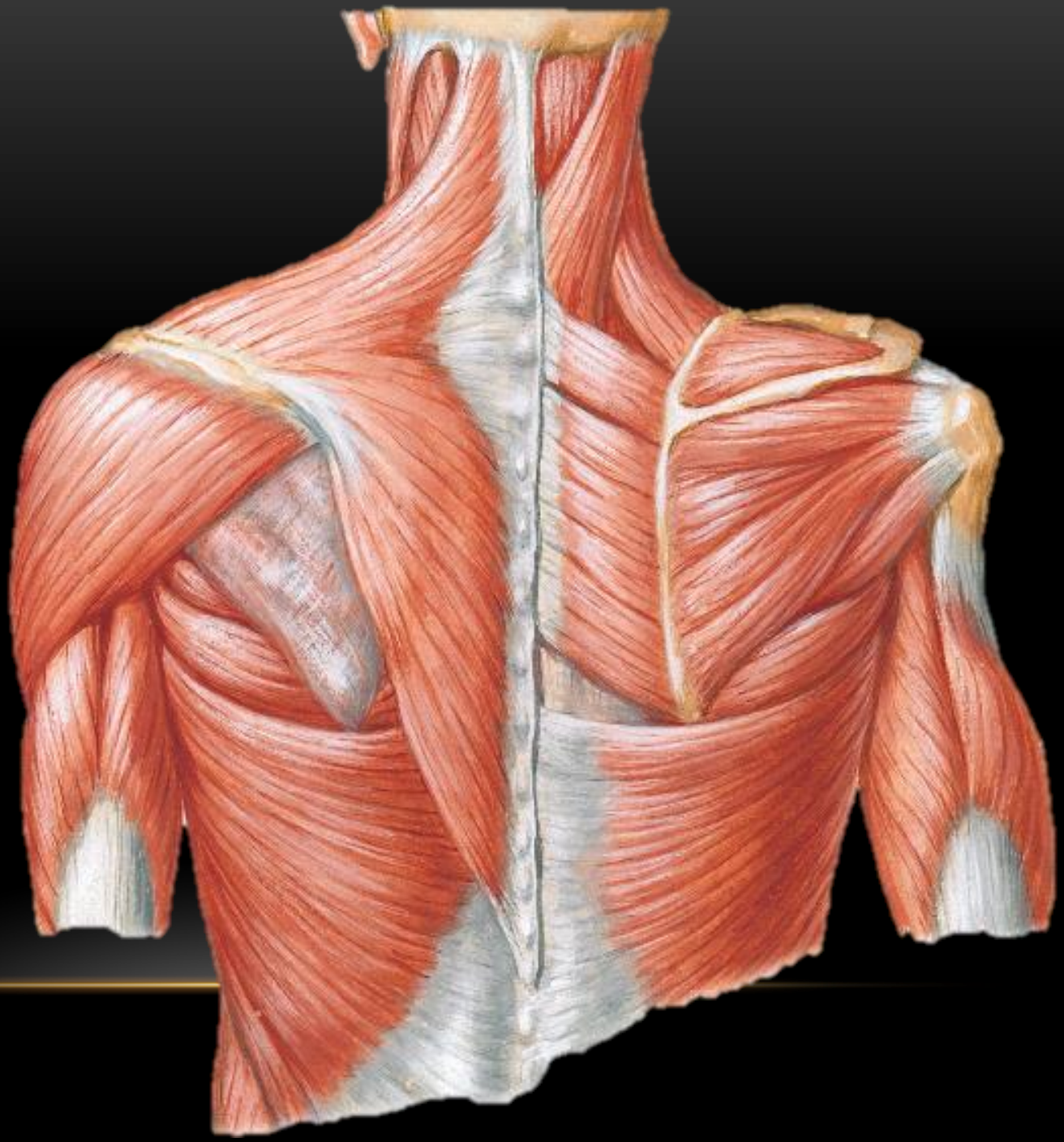
Intermediate muscles **(extrinsic)** are associated with movements of the thoracic cage.

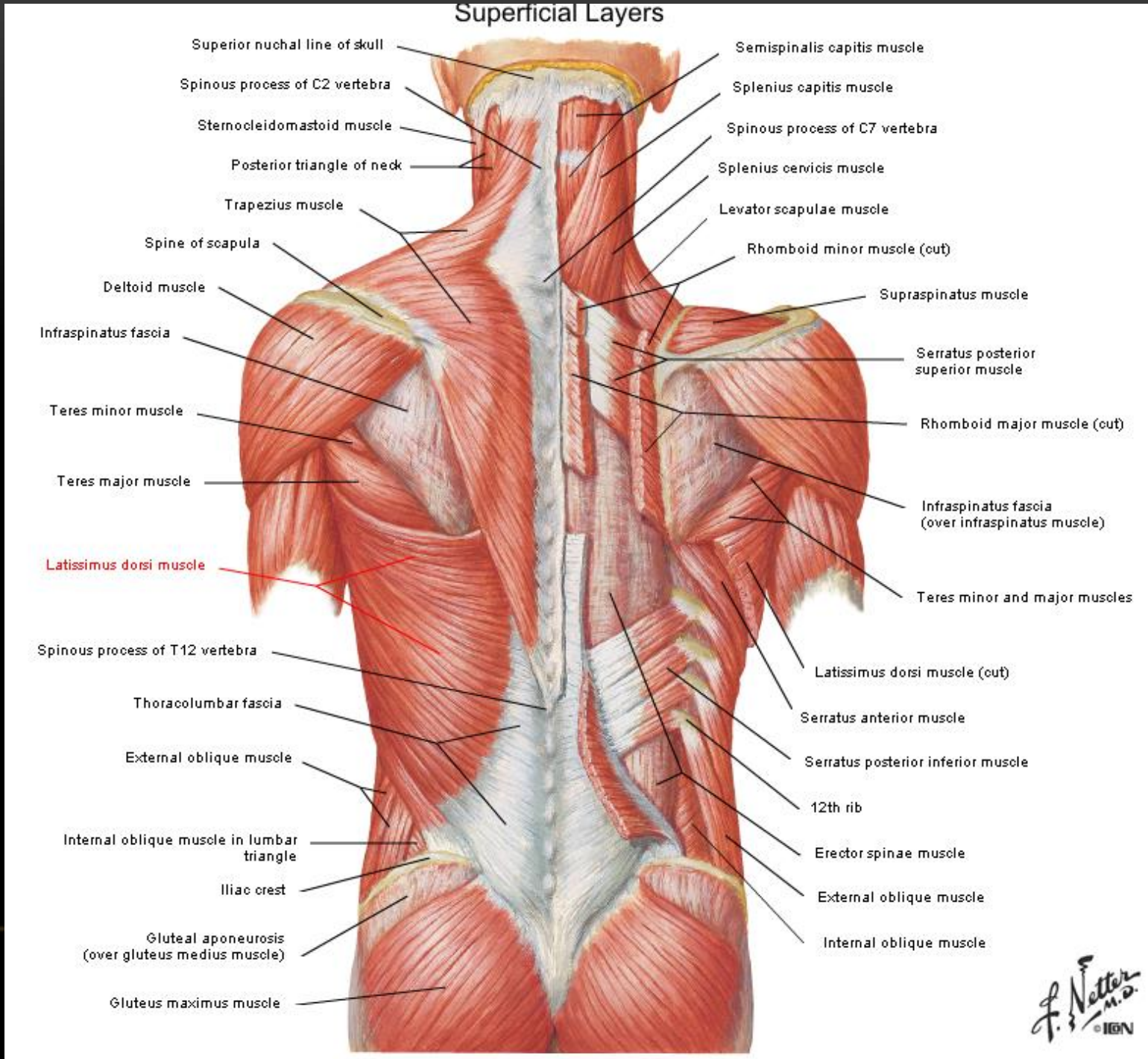
Deep muscles (intrinsic) are associated with movements of the vertebral column.

The extrinsic muscles are superficial to the intrinsic muscles.


Muscles of the Back
Extrinsic
Superficial
Trapezius
Latissimus dorsi
Levator scapulae
Rhomboids major
Rhomboids minor
Intermediate
Serratus posterior superior
Serratus posterior inferior
Intrinsic
Superficial
Splenius cervices
Splenius capitis
Intermediate
Erector spinae
Ilio-costalis
Longissimus
Spinalis
Deep
Transversospinalinalis
Semispinalis
Multifidus
Interspinales
Rotatores brevis
Intertransversarii
Rotatores longus
Levatores costarum


Semispinalis capitis muscle
Splenius capitis muscle
Not connected to upper limb
Spinous process of C7 vertebra
Levator scapulae muscle
Trapezius muscle
Rhomboid minor muscle
Rhomboid major muscle
Deltoid muscle
Acromion
Supraspinatus muscle
Spine of scapula
Infraspinatus fascia
Infraspinatus muscle
Teres minor muscle
Teres major muscle
Latissimus dorsi muscle
Long head of triceps brachii muscle
Lateral head of triceps brachii muscle
Spinous process of T12 vertebra
Triangle of auscultation




Superficial Layers
Superior nuchal line of skull
Spinous process of C2 vertebra
Sternocleidomastoid muscle
Posterior triangle of neck
Trapezius muscle
Spine of scapula
Deltoid muscle
Infraspinatus fascia
Teres minor muscle
Teres major muscle
Latissimus dorsi muscle
Spinous process of T12 vertebra
Thoracolumbar fascia
External oblique muscle
Internal oblique muscle in lumbar triangle
Iliac crest
Gluteal aponeurosis (over gluteus medius muscle)
Gluteus maximus muscle
Semispinalis capitis muscle
Splenius capitis muscle
Spinous process of C7 vertebra
Splenius cervicis muscle
Levator scapulae muscle
Rhomboid minor muscle (cut)
Supraspinatus muscle
Serratus posterior superior muscle
Rhomboid major muscle (cut)
Infraspinatus fascia (over infraspinatus muscle)
Teres minor and major muscles
Latissimus dorsi muscle (cut)
Serratus anterior muscle
Serratus posterior inferior muscle
12th rib
Erector spinae muscle
External oblique muscle
Internal oblique muscle
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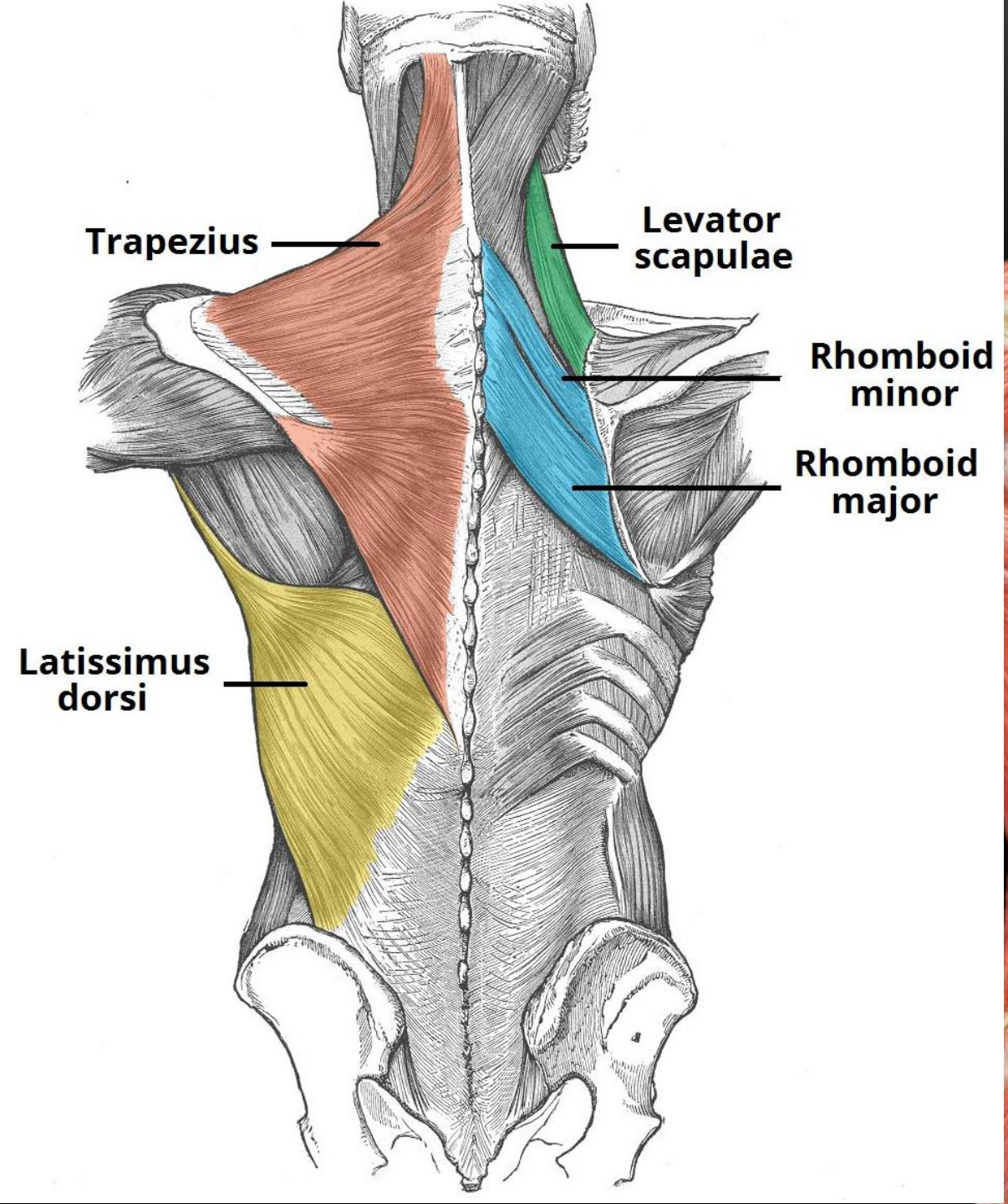
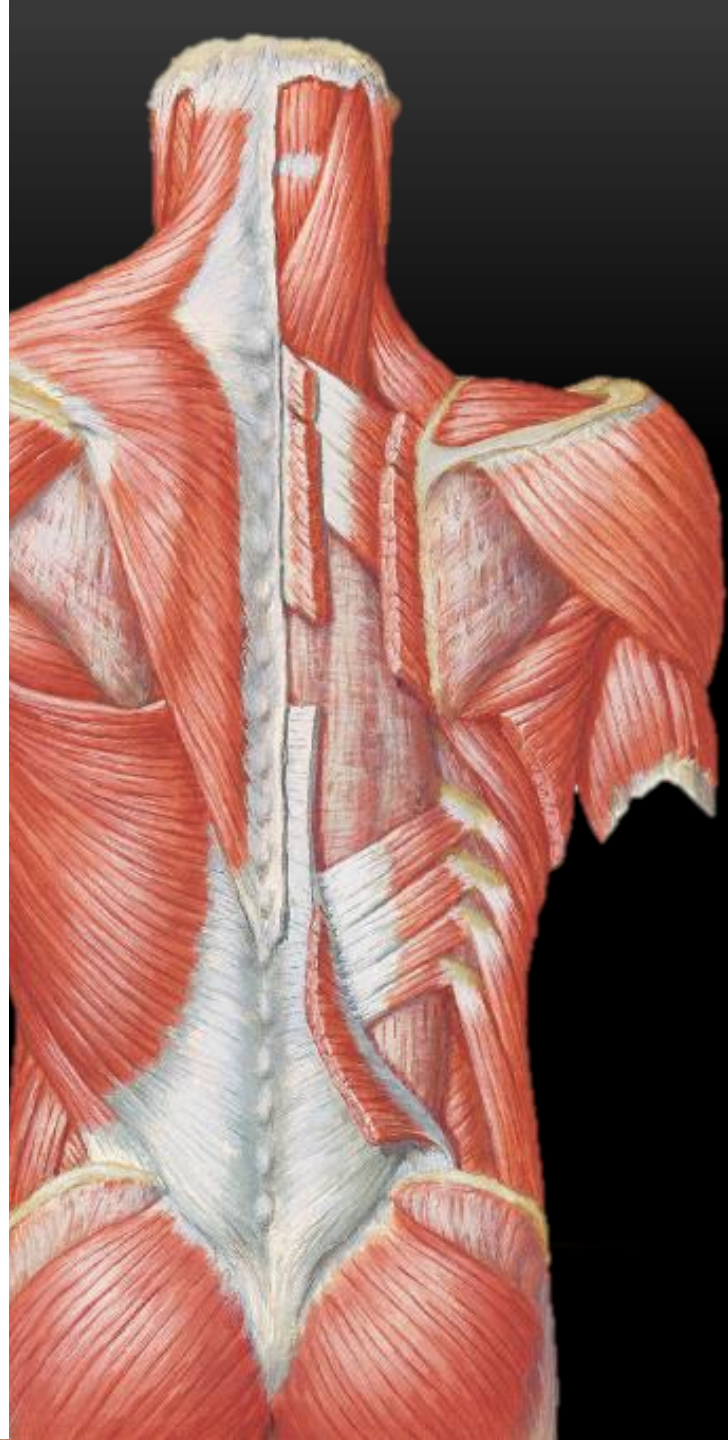

Trapezius
Levator scapulae
Rhomboid minor
Rhomboid major
Latissimus dorsi



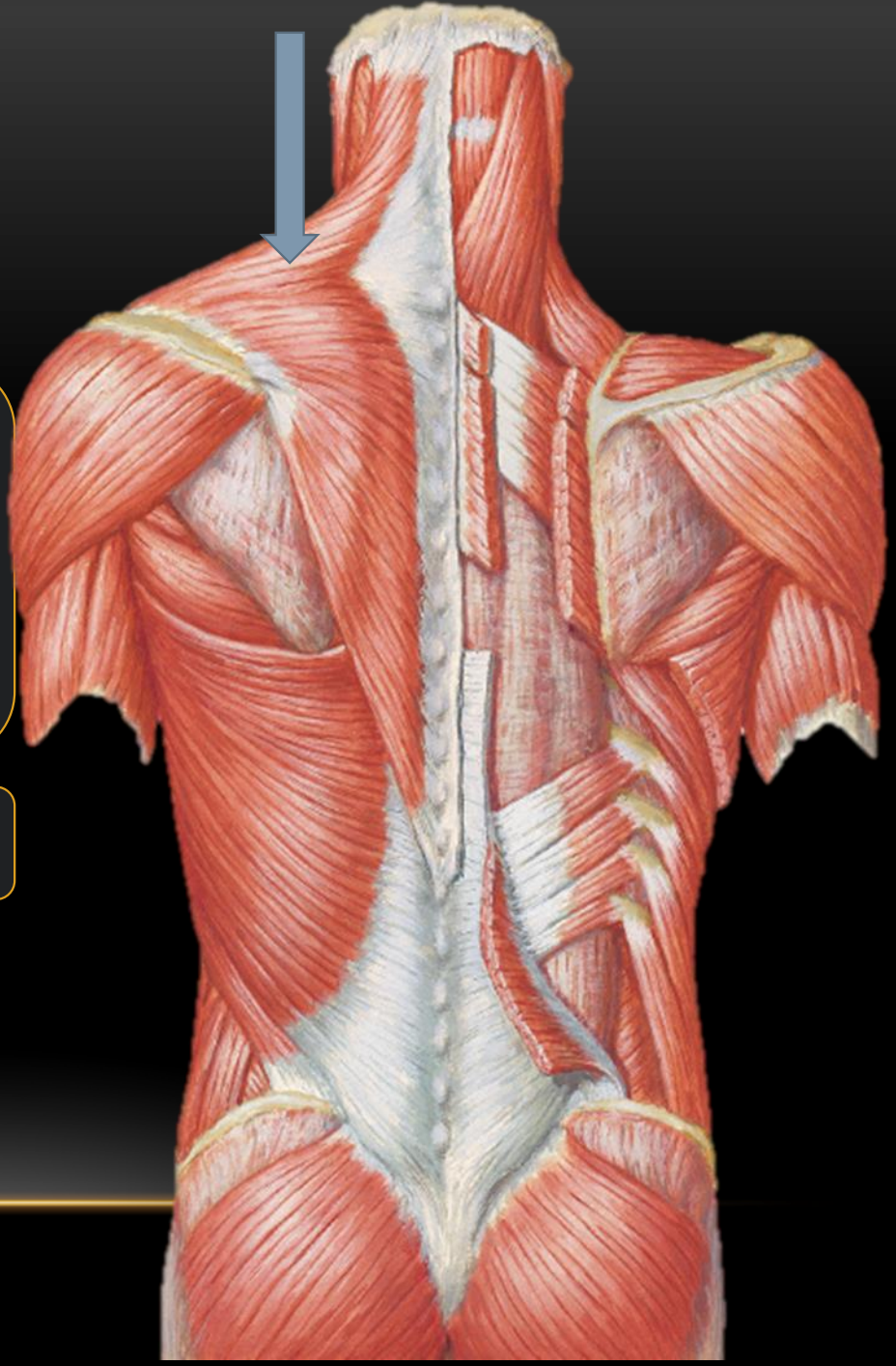
Extrinsic Muscles- Superficial Group

Trapezius ..1/2

Origin: Occipital bone(external occipital protuberance), superior nuchal line, ligamentum nuchae, spine of seventh cervical vertebra, spines of all thoracic vertebrae and their supraspinous ligament

Insertion:

- Upper fibers into posterior border of lateral third of clavicle
- middle fibres- medial border of acromion and upper lip of crest of spine
- lower fibers pass upward and laterally and insert on medial end of spine of scapula



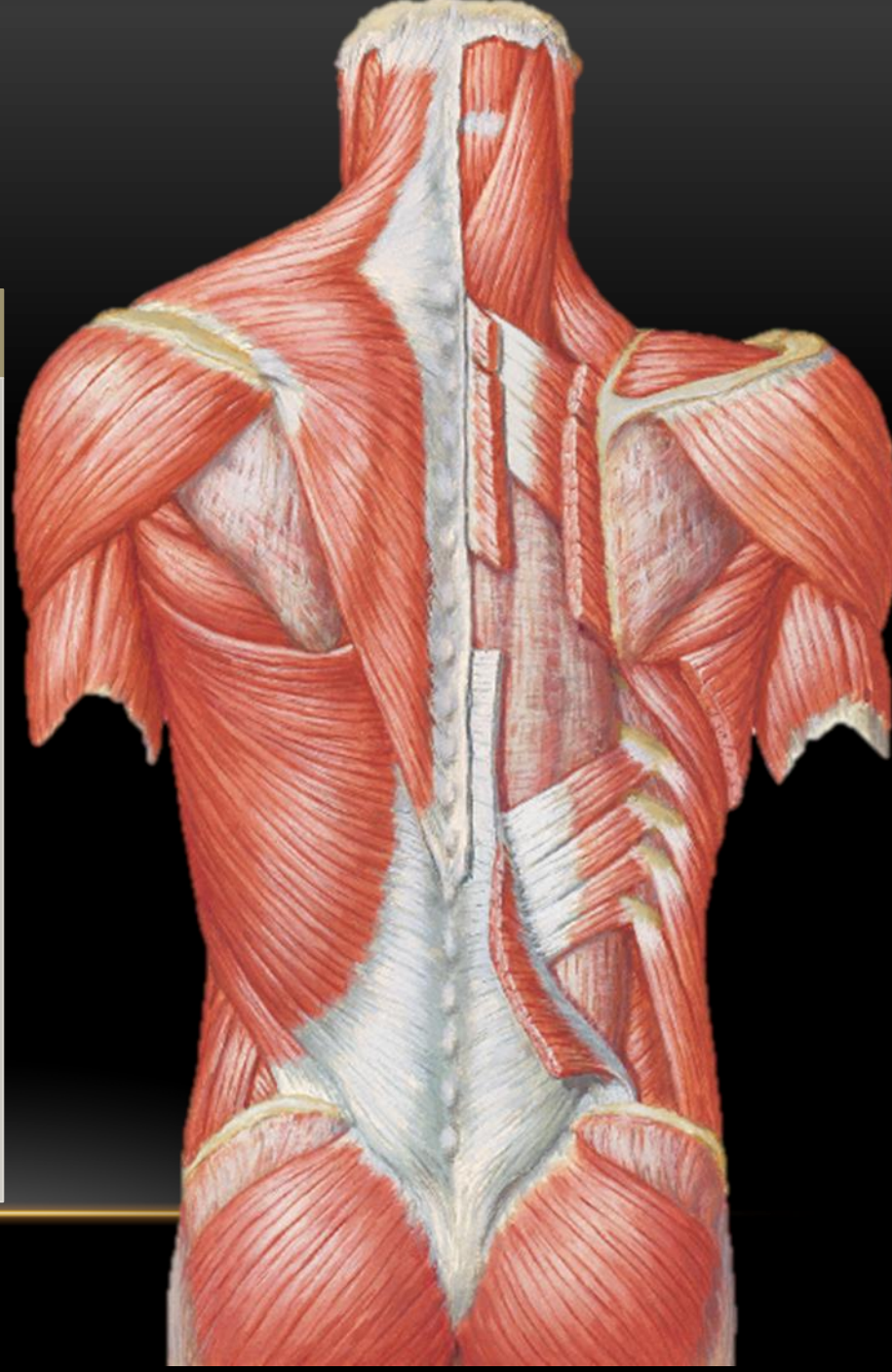
Trapezius ..2/2

Nerve Supply:

- Spinal part of accessory nerve (motor) and ventral rami of C3 and 4 (sensory-proprioceptive)

Action:

- Upper fibers along with levator scapulae elevate the scapula;
- middle fibers with rhomboids pull scapula medially (retracts);
- lower fibers pull medial border of scapula downward , so upper and lower fibres acting together rotate scapula-glenoid cavity face upward assisted by lower 5 digitations of serratus anterior



Latissimus dorsi

Origin

- Iliac crest, lumbar fascia, spines of lower six thoracic vertebrae(T7-T12), lower three or four ribs, and inferior angle of scapula

Insertion

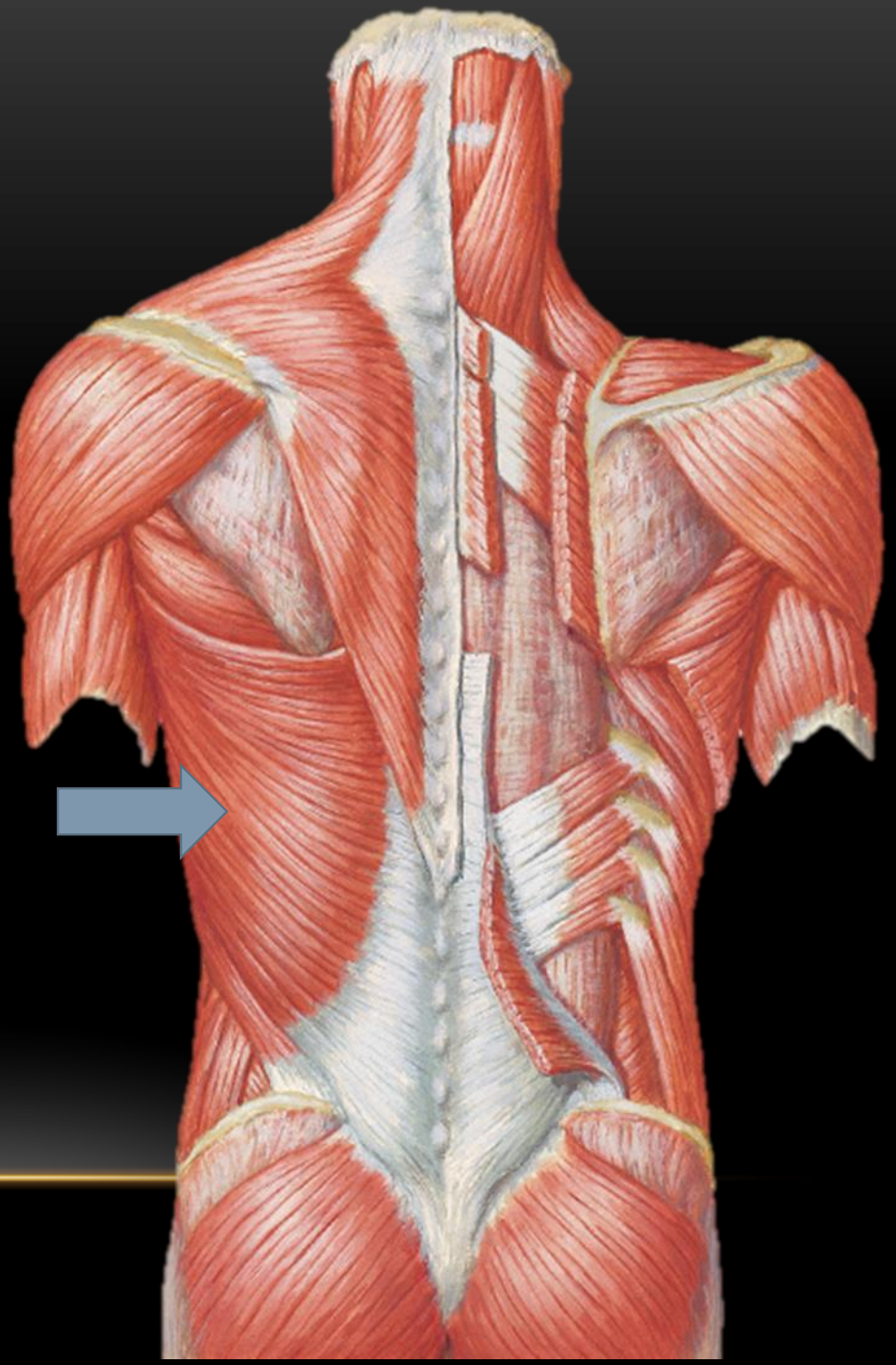
- Floor of bicipital groove of humerus

Nerve Supply

- Thoracodorsal nerve (C6, 7, 8)

Action

- Extends, adducts, and medially rotates the arm
- Its called the climbing muscle
- Raising of the trunk above the arm



Levator scapulae

Origin

- Transverse processes of first fourth cervical vertebrae

Insertion

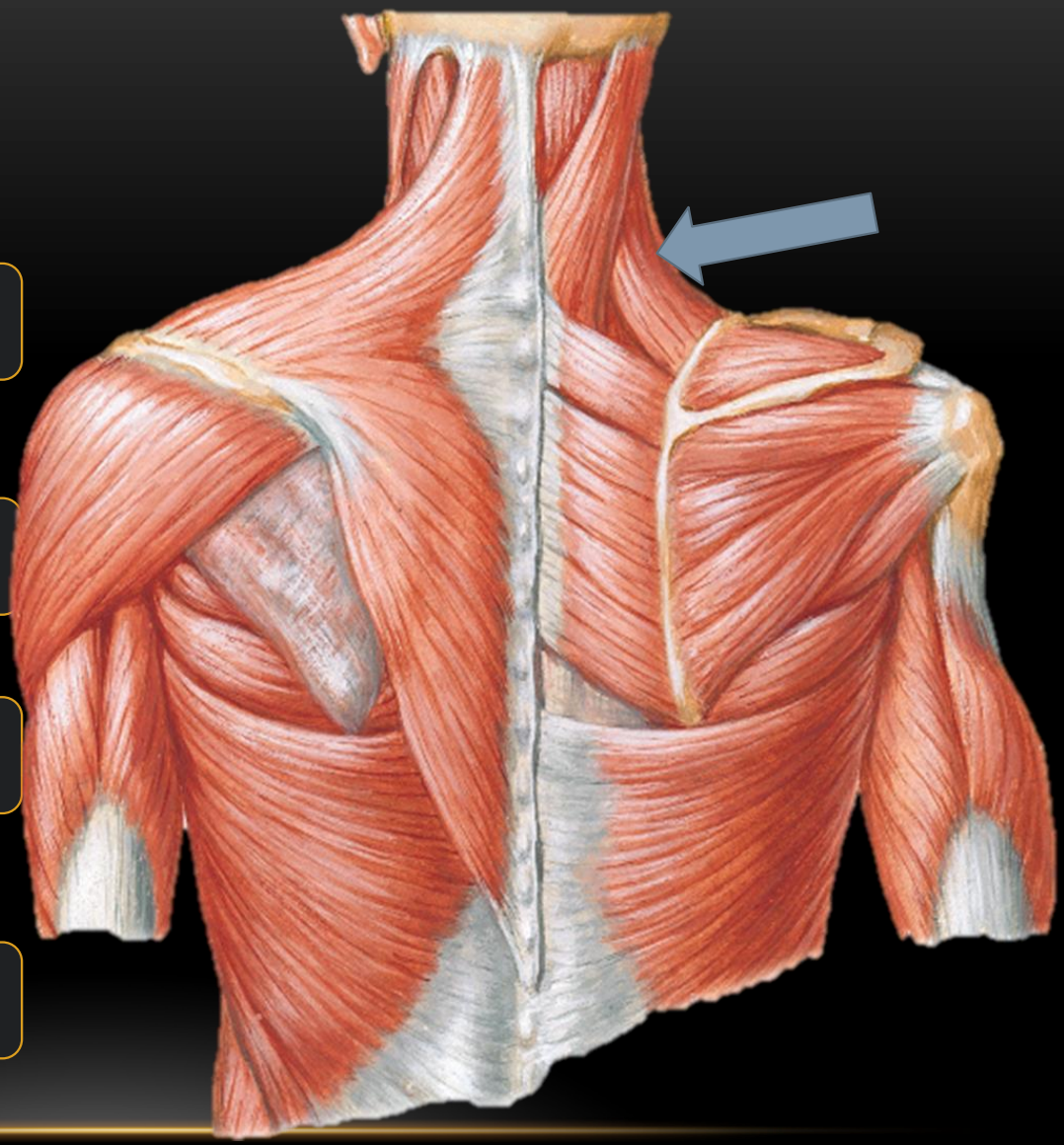
- Medial border of scapula

Nerve supply

- C3 and 4 and dorsal scapular nerve
- C3, 4, 5

Action

- Raises medial border of scapula



ligamentum nuchae

The ligamentum nuchae is a large median ligament composed of tendons and fascia located between the posterior muscles of the neck. It covers the spines of C1 to C6 vertebrae. It is a superior and posterior extension of the supraspinous ligament

Rhomboid minor

Origin

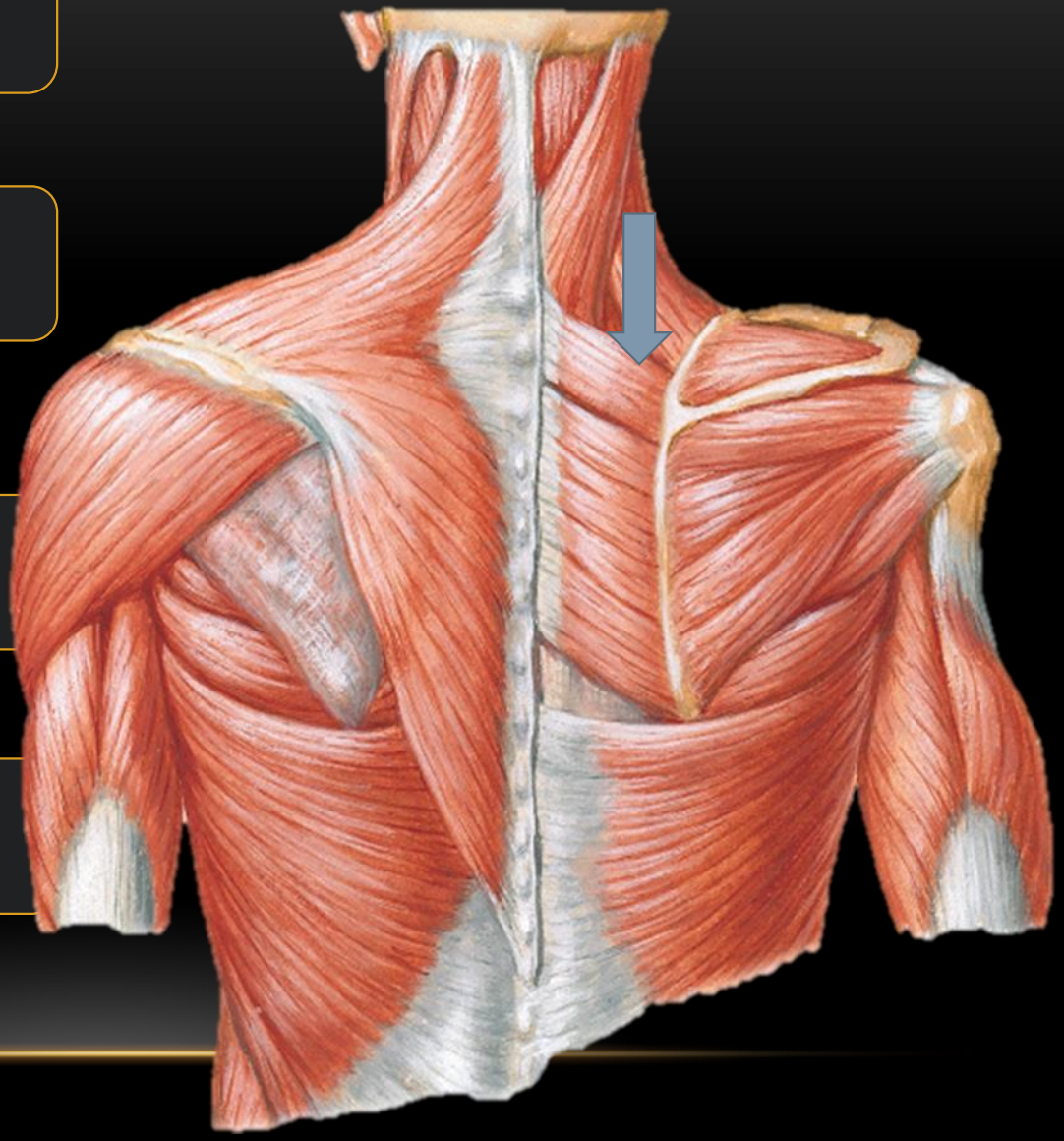
- Ligamentum nuchae and spines of C7and T1-T3

Insertion

- Medial border of scapula

Nerve supply

- Dorsal scapular nerve **C4**, 5



Rhomboid major

Origin

- Second to fifth thoracic spines

Insertion

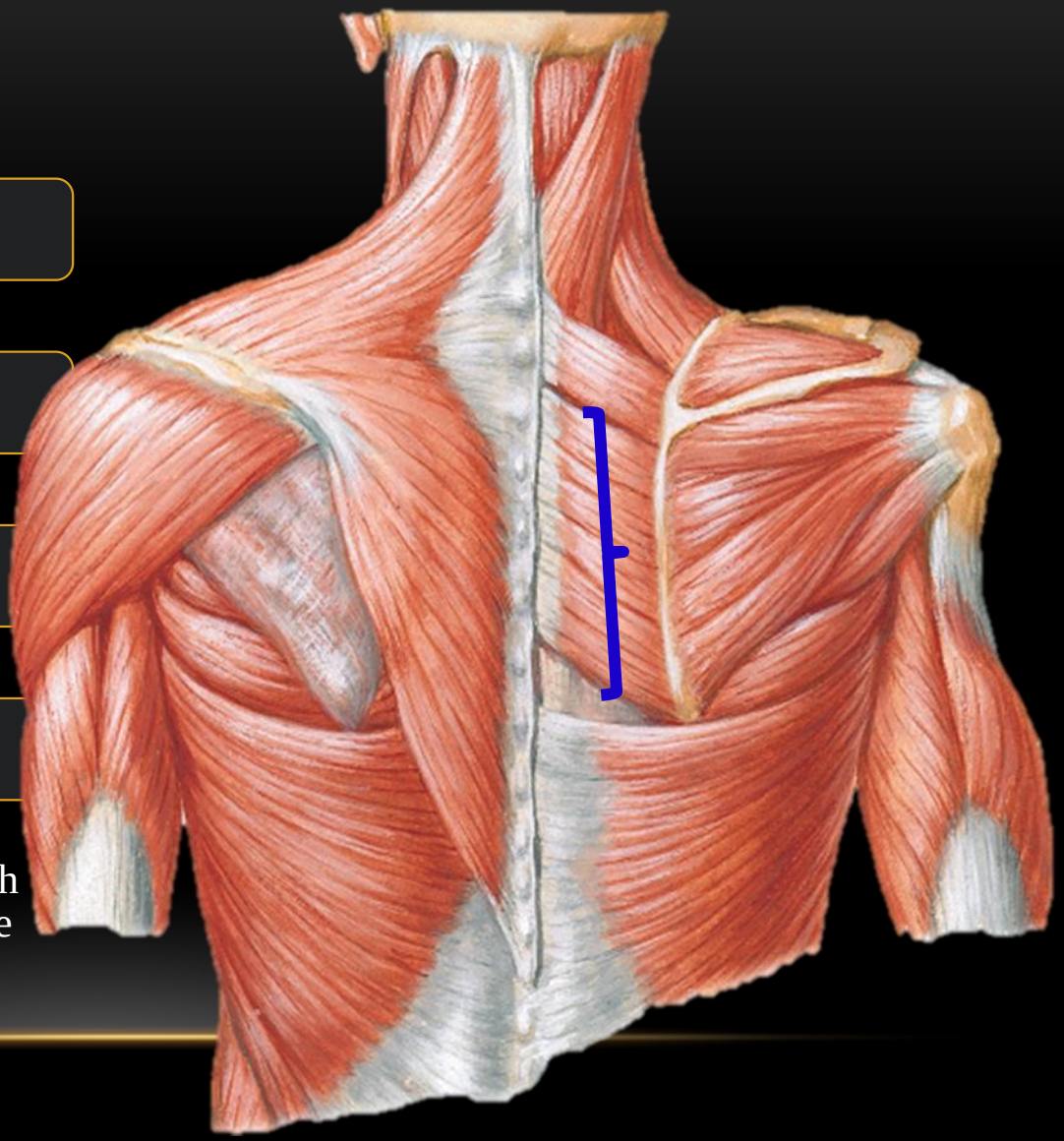
- Medial border of scapula

Nerve supply

- Dorsal scapular nerve **C4**, 5

Action

- Retract scapula
- The **rhomboids** work collectively with the levator scapulae muscles to elevate the medial border of the scapula, downwardly rotating the scapula with respect to the glenohumeral joint.



Superficial extrinsic back muscles connect the upper limb to the trunk.

Intermediate extrinsic back muscles are superficial respiratory muscles and are supplied by intercostal nerves.

Intrinsic Muscles of the Back are called muscles of the back proper.

All are supplied by the posterior primary rami of spinal nerves.

Act to maintain posture and control movement of the vertebral column.

Superficial Muscles- Intermediate Group

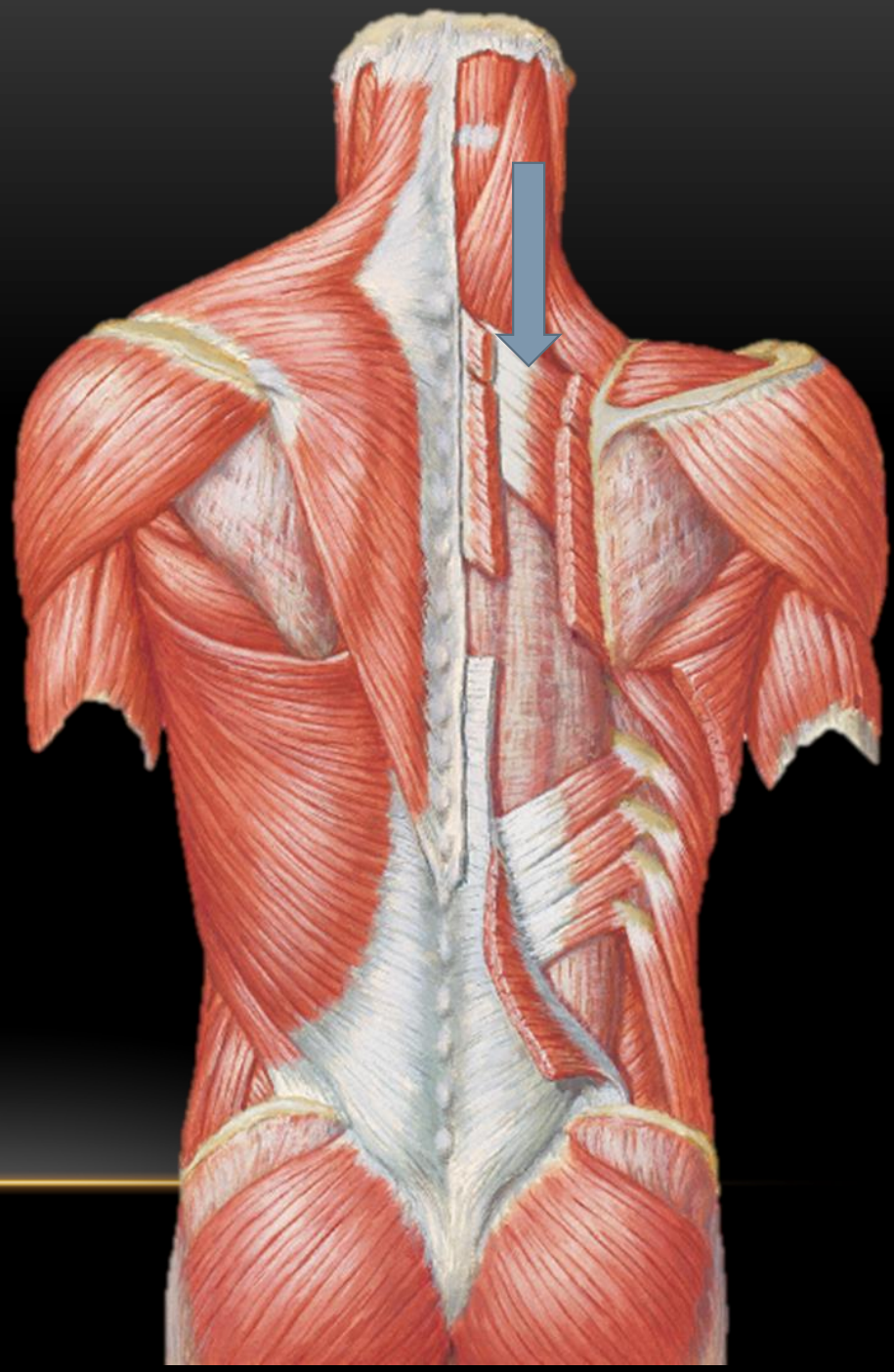
Serratus Posterior Superior

Origin: from the lower part of the ligamentum nuchae, and the cervical and thoracic spines (usually C7 – T3).

Insertion: The fibres pass in an inferolateral direction, attaching to ribs 2-5.

Nerve Supply: Intercostal nerves.

Action: Elevates ribs 2-5.



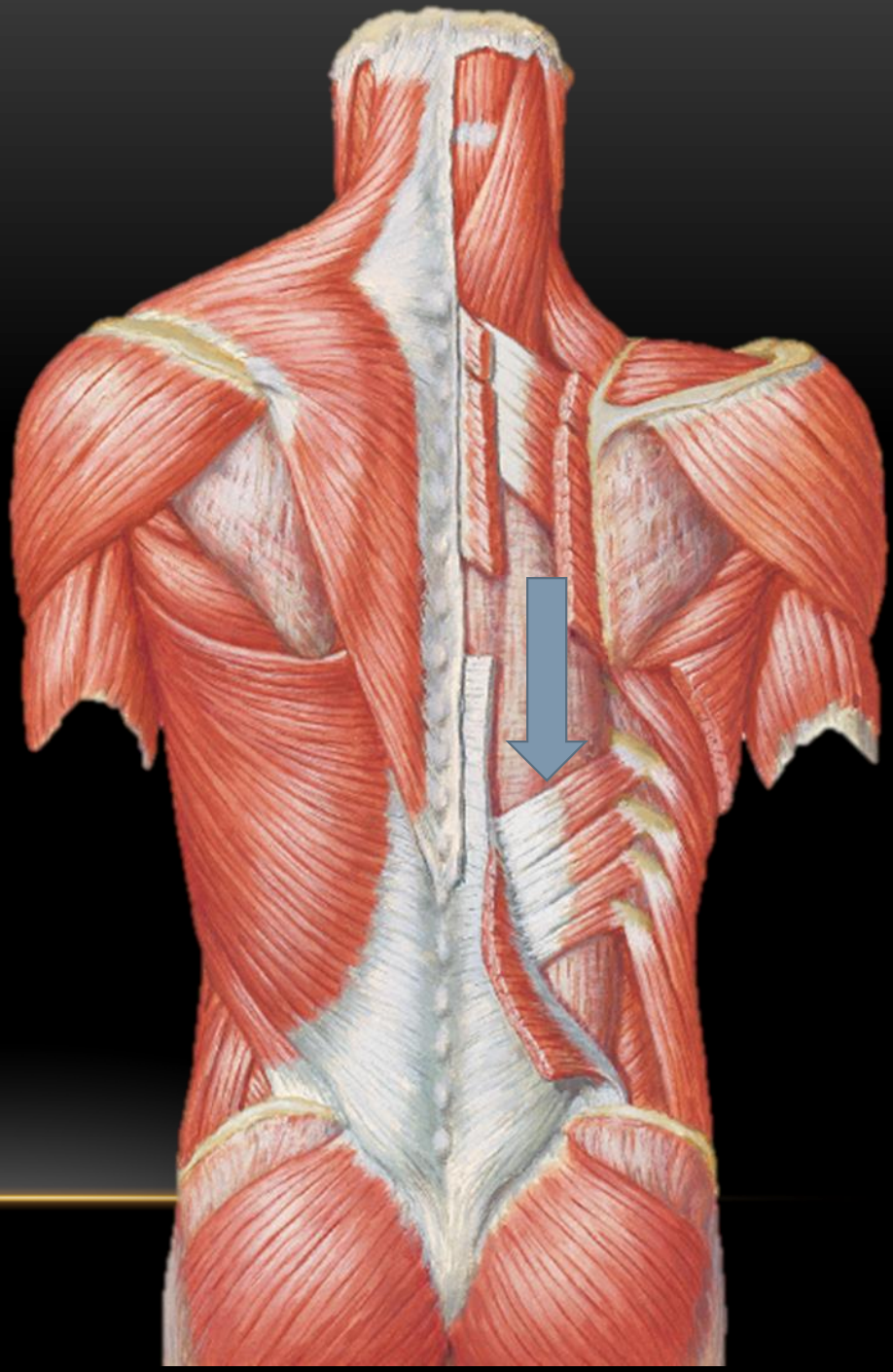
Serratus Posterior Inferior

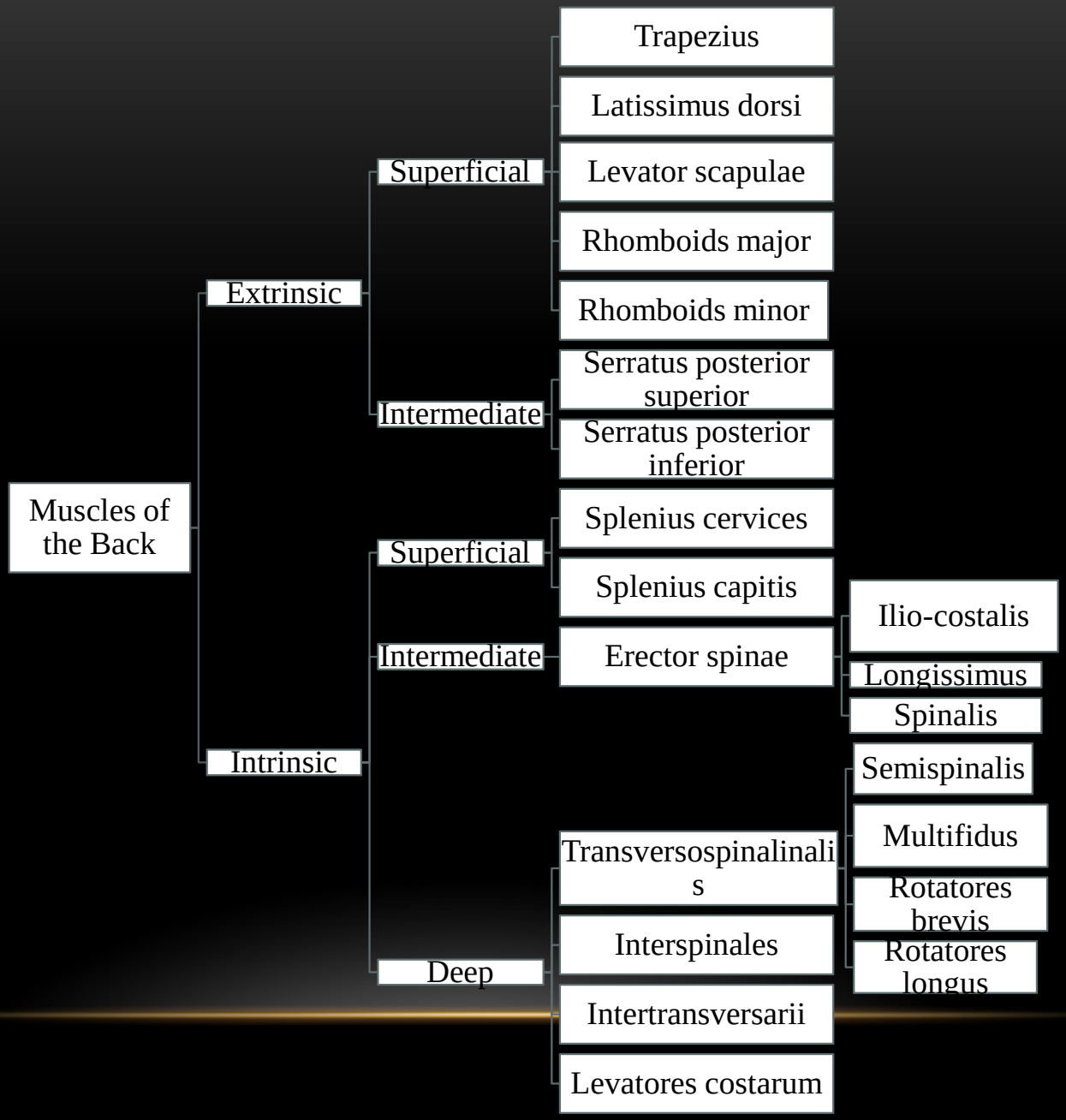
Origin: from the thoracic and lumbar spines (usually T11 – L3).

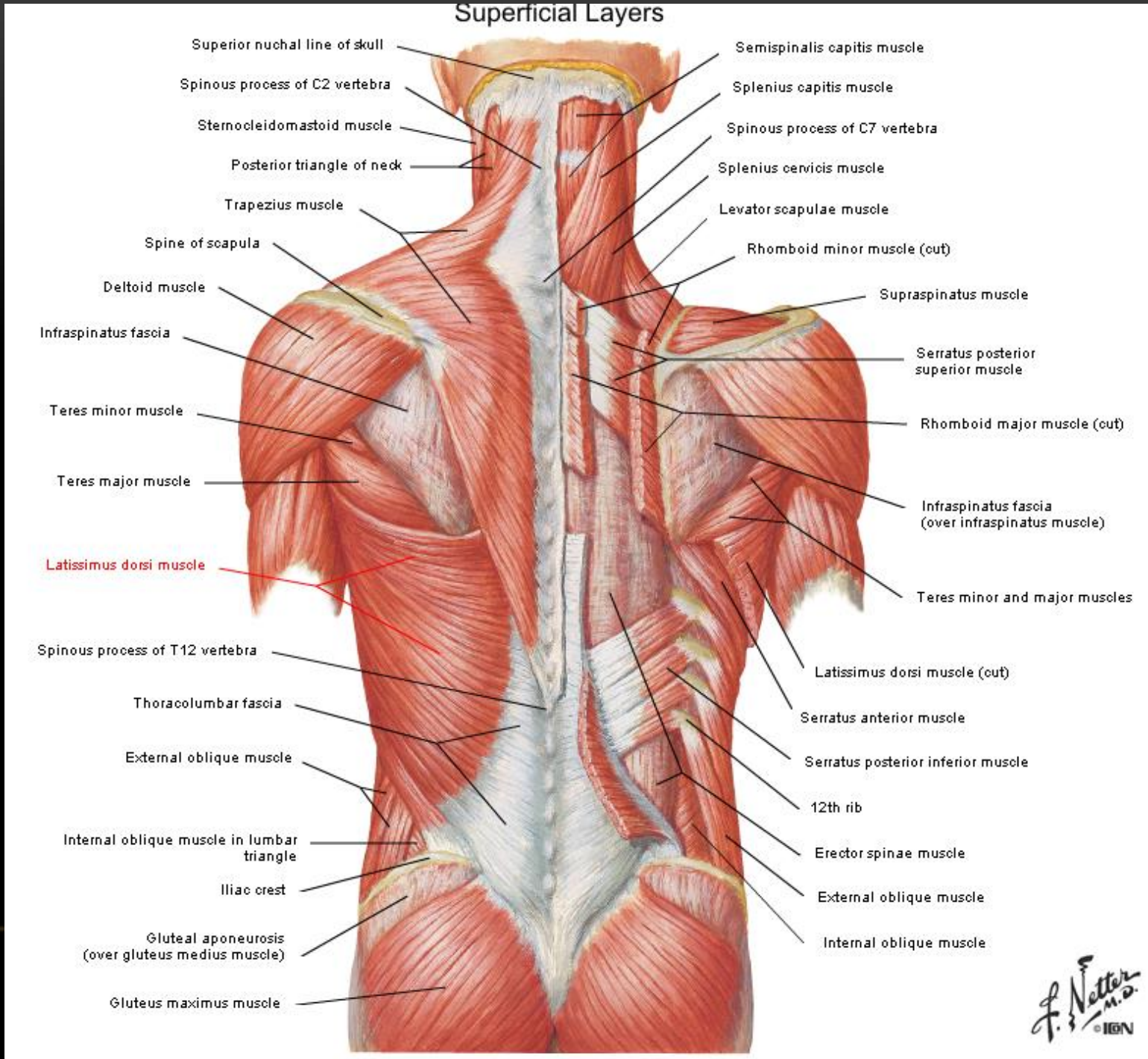
Insertion: The fibres pass in a superolateral direction, attaching to ribs 9-12.

Nerve Supply: Intercostal nerves.

Action: Depresses ribs 9-12




Muscles of the Back
Extrinsic
Superficial
Trapezius
Latissimus dorsi
Levator scapulae
Rhomboids major
Rhomboids minor
Intermediate
Serratus posterior superior
Serratus posterior inferior
Intrinsic
Superficial
Splenius cervices
Splenius capitis
Intermediate
Erector spinae
Ilio-costalis
Longissimus
Spinalis
Deep
Transversospinalinalis
Semispinalis
Multifidus
Rotatores brevis
Rotatores longus
Interspinales
Intertransversarii
Levatores costarum


Superficial Layers
Superior nuchal line of skull
Spinous process of C2 vertebra
Sternocleidomastoid muscle
Posterior triangle of neck
Trapezius muscle
Spine of scapula
Deltoid muscle
Infraspinatus fascia
Teres minor muscle
Teres major muscle
Latissimus dorsi muscle
Spinous process of T12 vertebra
Thoracolumbar fascia
External oblique muscle
Internal oblique muscle in lumbar triangle
Iliac crest
Gluteal aponeurosis (over gluteus medius muscle)
Gluteus maximus muscle
Semispinalis capitis muscle
Splenius capitis muscle
Spinous process of C7 vertebra
Splenius cervicis muscle
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Rhomboid minor muscle (cut)
Supraspinatus muscle
Serratus posterior superior muscle
Rhomboid major muscle (cut)
Infraspinatus fascia (over infraspinatus muscle)
Teres minor and major muscles
Latissimus dorsi muscle (cut)
Serratus anterior muscle
Serratus posterior inferior muscle
12th rib
Erector spinae muscle
External oblique muscle
Internal oblique muscle
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Intrinsic Muscles- Superficial Group

Splenius Capitis

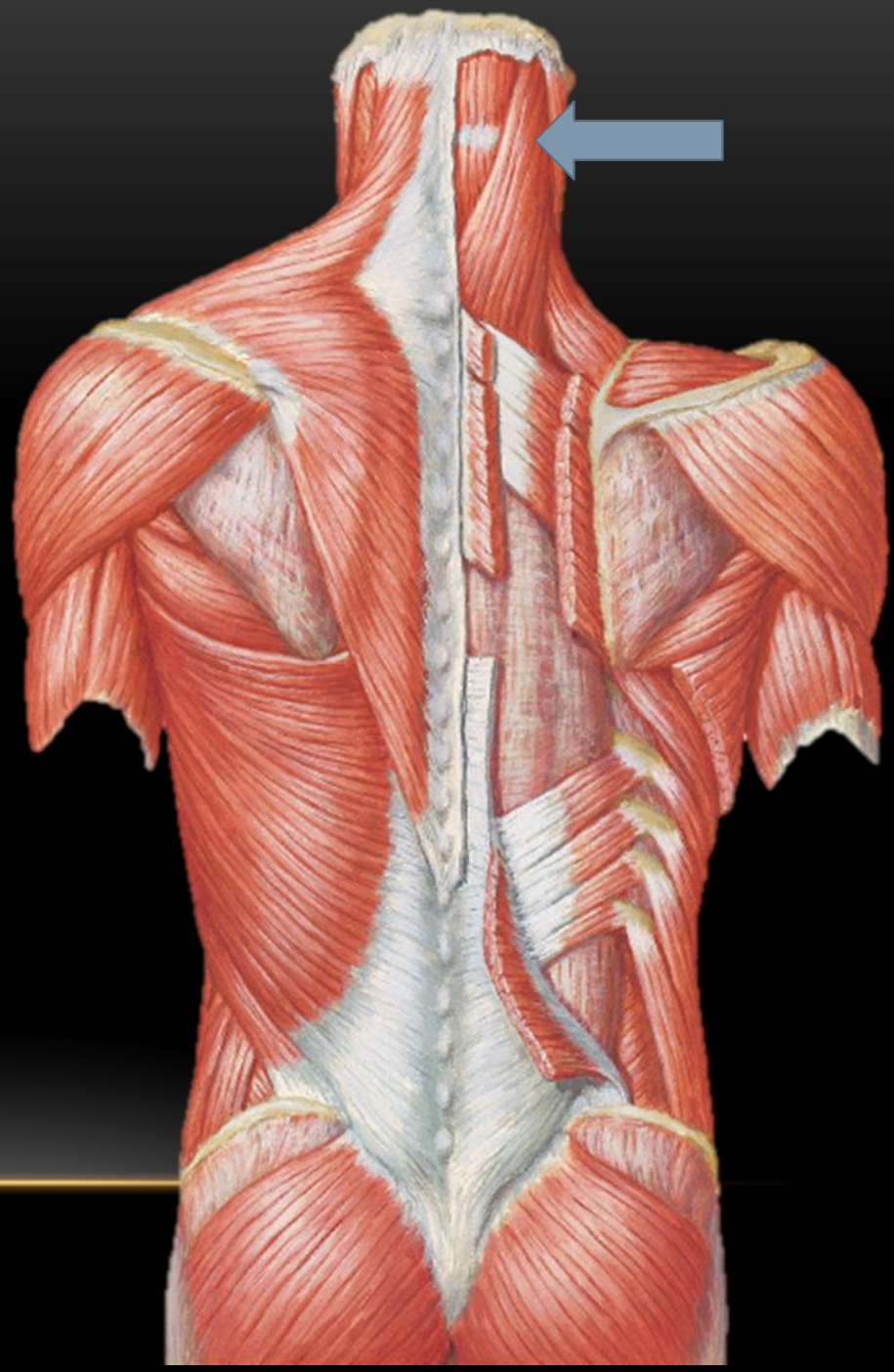
Origin: from the lower aspect of the ligamentum nuchae, and the spinous processes of C7 – T3/4 vertebrae.

Insertion: The fibres ascend, attaching to the mastoid process and the occipital bone of the skull.

Nerve Supply: Posterior rami of spinal nerves C3 and C4.

Action:

- Rotate head to the same side.
- Acting together, muscles on both sides extend the head and neck.



Splenius Cervices

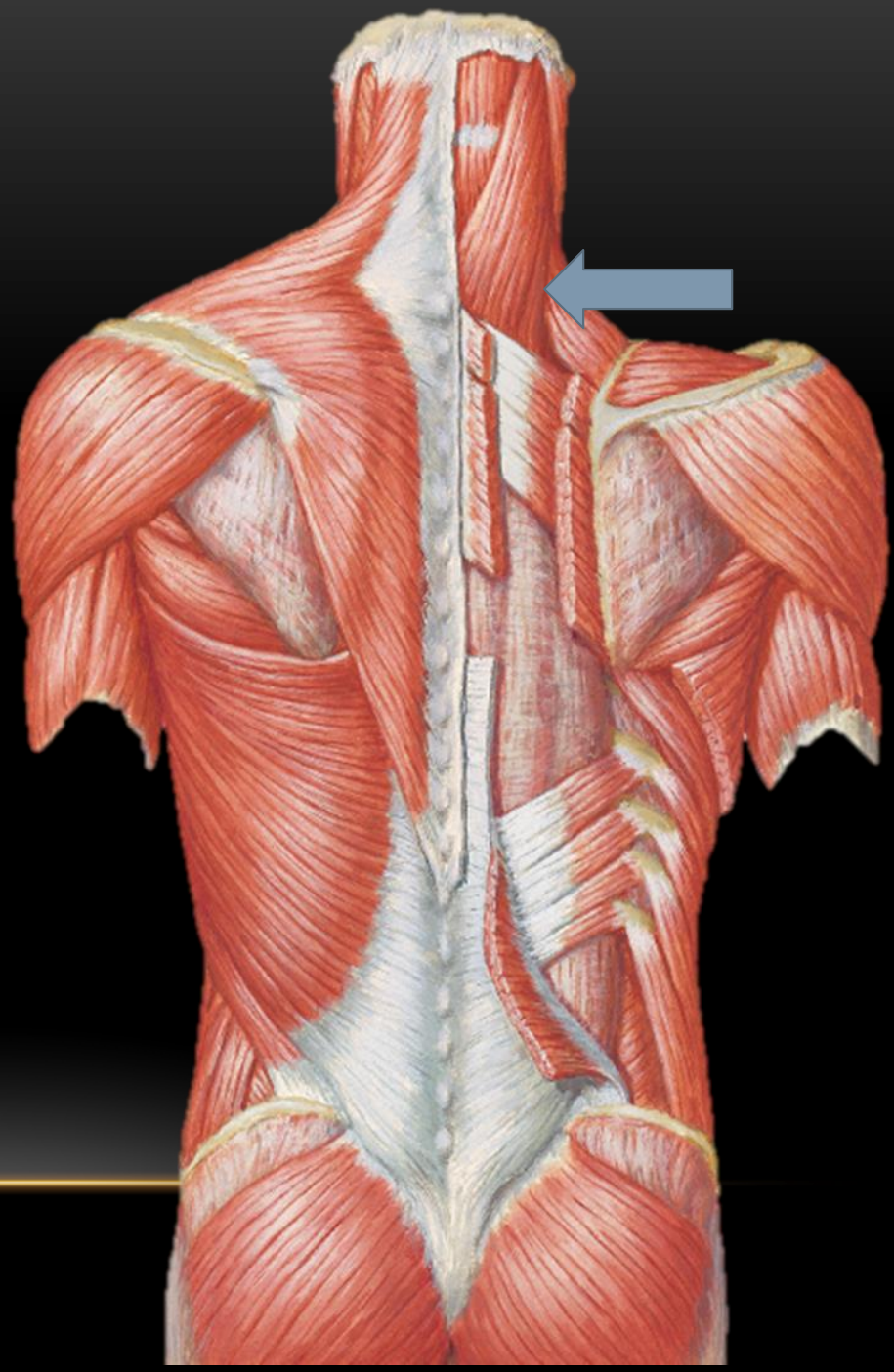
Origin: from the spinous processes of T3-T6 vertebrae.

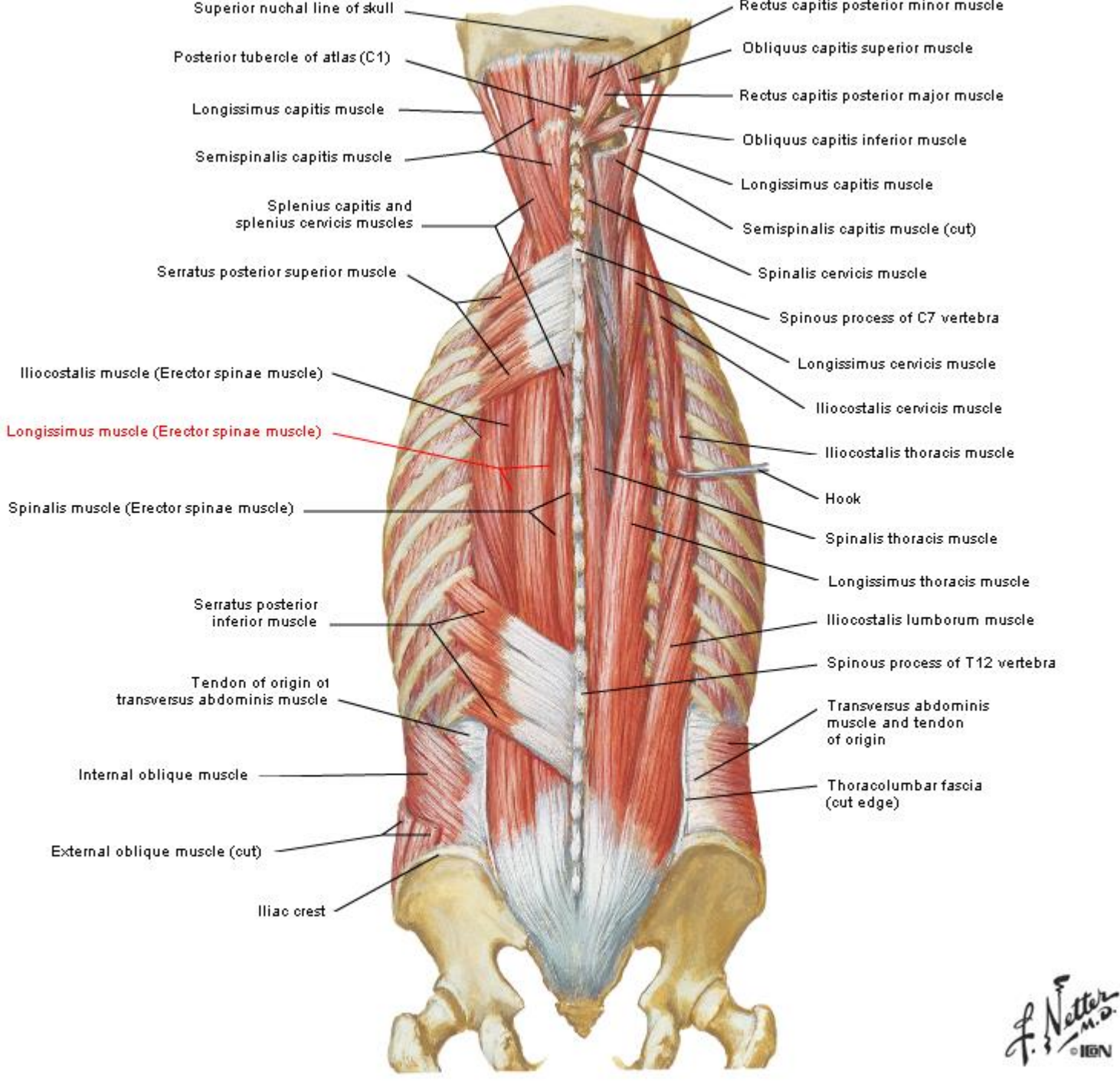
Insertion: The fibres ascend, attaching to the transverse processes of C1-3/4.

Nerve Supply: Posterior rami of the lower cervical spinal nerves.

Action:

- Rotate head to the same side.
- Acting together, muscles on both sides extend the head and neck.




Superior nuchal line of skull
Posterior tubercle of atlas (C1)
Longissimus capitis muscle
Semispinalis capitis muscle
Splenius capitis and splenius cervicis muscles
Serratus posterior superior muscle
Iliocostalis muscle (Erector spinae muscle)
Longissimus muscle (Erector spinae muscle)
Spinalis muscle (Erector spinae muscle)
Serratus posterior inferior muscle
Tendon of origin of transversus abdominis muscle
Internal oblique muscle
External oblique muscle (cut)
Iliac crest
Rectus capitis posterior minor muscle
Obliquus capitis superior muscle
Rectus capitis posterior major muscle
Obliquus capitis inferior muscle
Longissimus capitis muscle
Semispinalis capitis muscle (cut)
Spinalis cervicis muscle
Spinous process of C7 vertebra
Longissimus cervicis muscle
Iliocostalis cervicis muscle
Iliocostalis thoracis muscle
Hook
Spinalis thoracis muscle
Longissimus thoracis muscle
Iliocostalis lumborum muscle
Spinous process of T12 vertebra
Transversus abdominis muscle and tendon of origin
Thoracolumbar fascia (cut edge)
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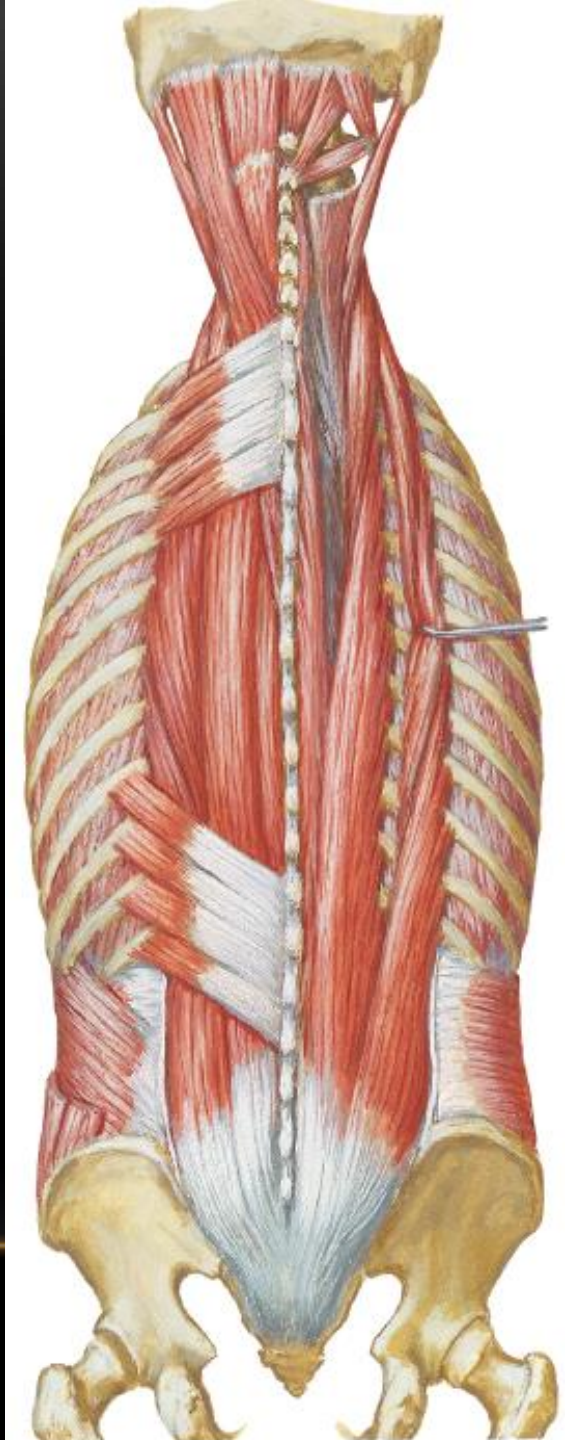


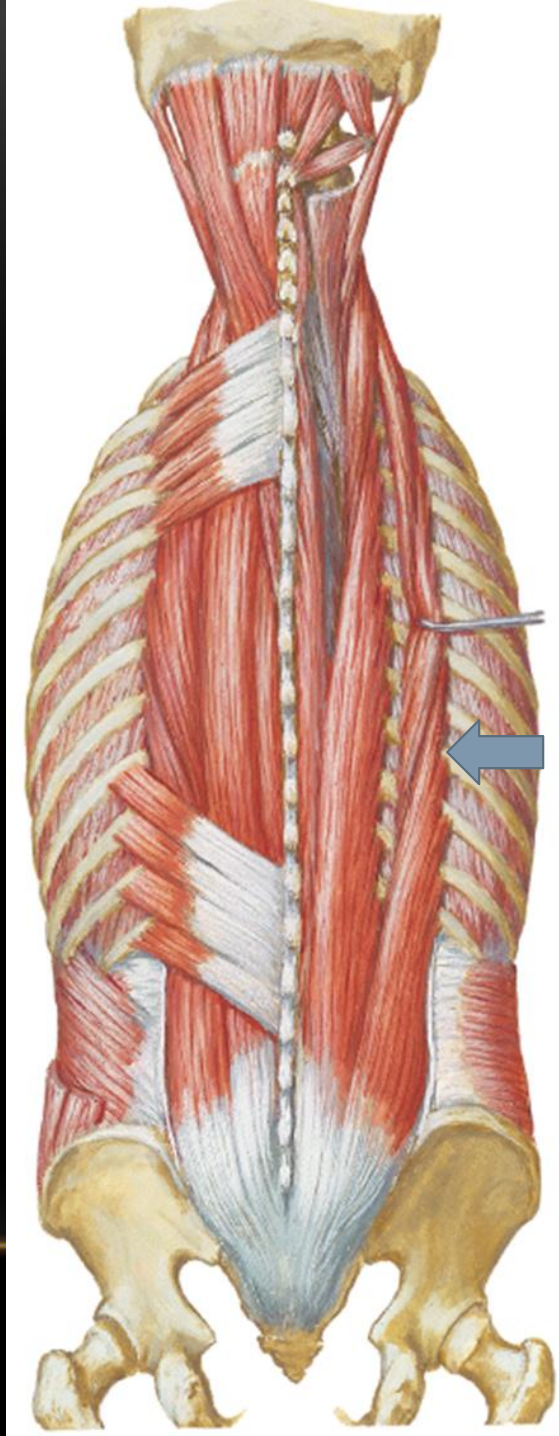
Iliocostalis

Origin: Arises from the common tendinous origin,

Insertion: to the costal angle of the ribs and the cervical transverse processes.

Nerve Supply: Posterior rami of the spinal nerves.

Action: Acts unilaterally to laterally flex the vertebral column. Acts bilaterally to extend the vertebral column and head.



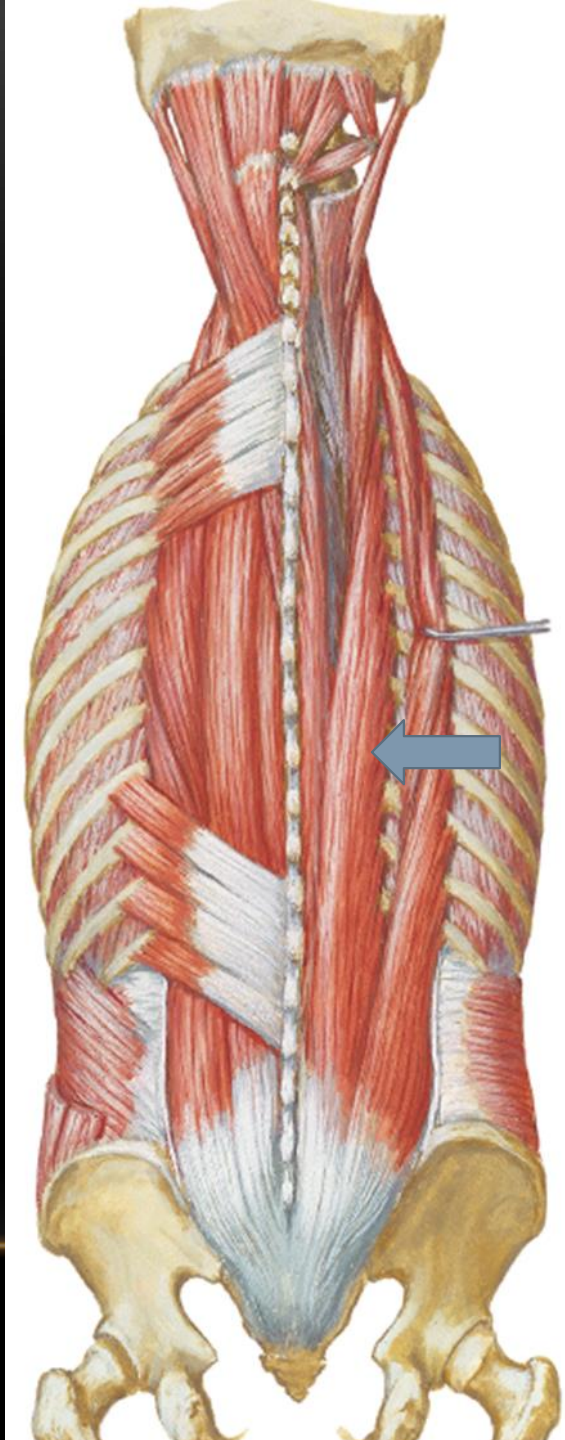
Longissimus

Origin: Arises from the common tendinous origin,

Insertion: to the lower ribs, the transverse processes of C2 – T12, and the mastoid process of the skull.

Nerve Supply: Posterior rami of the spinal nerves.

Action: Acts unilaterally to laterally flex the vertebral column. Acts bilaterally to extend the vertebral column and head.



Spinalis

Origin: Arises from the common tendinous origin,

Insertion: to the spinous processes of C2, T1-T8 and the occipital bone of the skull.

Nerve Supply: Posterior rami of the spinal nerves.

Action: Acts unilaterally to laterally flex the vertebral column. Acts bilaterally to extend the vertebral column and head.