Chapter 4 - Spine & Thorax

4

Spine & Thorax
Muscles of the Spine and Thorax - Posterior 2

4.51 Posterior view, intermediate muscles of the back

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Muscles of the Spine and Thorax - Lateral

Text

Trapezius
Infraspinatus
Teres minor
Teres major
Latissimus dorsi (outline)
Serratus posterior inferior
Serratus anterior
Pectoralis minor
Deltoid (outline)
External oblique
Gluteus medius
Gluteus maximus

4.52 Lateral view
**Muscle Layers of the Posterior Neck**

**Muscle Layers of the Posterior Neck - Intermediate**

**4.55** Posterior view of upper back and neck showing intermediate layer of spinal muscles
Muscle Layer of the Posterior Neck

Text

4.56 Posterior view of upper neck showing deepest layer of spinal muscles
Erector Spinae Group

A Unilaterally:
Laterally flex vertebral column to the same side

Bilaterally:
Extend the vertebral column

O Common tendon (thoracolumbar aponeurosis) that attaches to the posterior surface of sacrum, iliac crest, spinous processes of the lumbar and last two thoracic vertebrae

I Various attachments at the posterior ribs, spinous and transverse processes of thoracic and cervical vertebrae and mastoid process of temporal bone

N Spinal

Branches of the Erector Spinae Group

Spinalis

O Spinous processes of the upper lumbar and lower thoracic vertebrae (thoracis)
Ligamentum nuchae, spinous process of C-7 (cervicis)

I Spinous processes of upper thoracic (thoracis)
Spinous processes of cervicals, except C-1 (cervicis)
Erector Spinae Group

**Longissimus**

0. Common tendon *(thoracis)*
   Transverse processes of upper five thoracic vertebrae *(cervicis and capitis)*

1. Lower nine ribs and transverse processes of thoracic vertebrae *(thoracis)*
   Transverse processes of cervical vertebrae *(cervicis)*
   Mastoid process of temporal bone *(capitis)*

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*TGB, p. 198*
Erector Spinae Group

Iliocostalis

- **Common tendon** *(lumborum)*
  - Posterior surface of ribs 1-12 *(thoracis and cervicis)*

- **Transverse processes of lumbar vertebrae 1-3 and posterior surface of ribs 6-12 *(lumborum)*
  - Posterior surface of ribs 1-6 *(thoracis)*
  - Transverse processes of lower cervicals *(cervicis)*
Transversospinalis Group

*Multifidi*
*Rotatores*
*Semispinalis Capitis*

4.71 Posterior view

4.72 Posterior view with the multifidi on the left and the rotatores on the right
Transversospinalis Group

**Multifidi and Rotatores**

- **A** Unilaterally:
  - **Rotate** the vertebral column to the opposite side

- **Bilaterally**:
  - **Extend** the vertebral column

- **Multifidi**:
  - Sacrum and transverse processes of lumbar through cervical vertebrae

- **Rotatores**:
  - Transverse processes of lumbar through cervical vertebrae

- **Spinal**
  - Spinous processes of lumbar vertebrae through second cervical vertebra
  - (*Multifidi span two to four vertebrae*;
  - *Rotatores span one to two vertebrae*)

4.73 Posterior view, showing origins and insertions of the upper multifidi

4.74 Posterior view, showing origins and insertions of the upper rotatores
Transversospinalis Group

**Semispinalis Capitis**

- **A** Extend the vertebral column and head
- **O** Transverse processes of C-4 to T-5
- **I** Between the superior and inferior nuchal lines of the occiput
- **N** Cervical

*4.75 Posterior view, showing origin and insertion of the semispinalis capitis*
Suboccipitals

Rectus Capitis Posterior Major
Rectus Capitis Posterior Minor
Oblique Capitis Superior

Rock and tilt the head back into extension

Rectus Capitis Posterior Major
Oblique Capitis Inferior

Rotate the head to the same side

Rectus Capitis Posterior Minor
Oblique Capitis Superior

Laterally flex the head to the same side
Suboccipitals

**Rectus Capitis Posterior Major**
- **O** Spinous process of the axis (C-2)
- **I** Inferior nuchal line of the occiput
- **N** Suboccipital

*Posterior views with origins (black) and insertions (red)*

**Rectus Capitis Posterior Minor**
- **O** Tubercle of the posterior arch of the atlas (C-1)
- **I** Inferior nuchal line of the occiput
- **N** Suboccipital

*4.85 Rectus capitis posterior major*

*4.86 Rectus capitis posterior minor*
Suboccipitals

**Oblique Capitis Superior**
- O: Transverse process of the atlas (C-1)
- I: Between the nuchal lines of the occiput
- N: Suboccipital

**Oblique Capitis Inferior**
- O: Spinous process of the axis (C-2)
- I: Transverse process of the atlas (C-1)
- N: Suboccipital
Suboccipitals

Text

4.89 Partner supine, curling the fingers under the occiput

4.90 Partner prone, sinking your thumb medially, just lateral to the edge of the trapezius
Other Structures of the Spine and Thorax

Ligamentum Nuchae

4.119 Posterior/lateral view with muscles and tissue removed from right side

4.120 Partner supine, palpating the ligamentum nuchae