

#ideaworld



LIMITLESS

The Anatomy of Your Abs and Core

PRESENTED BY

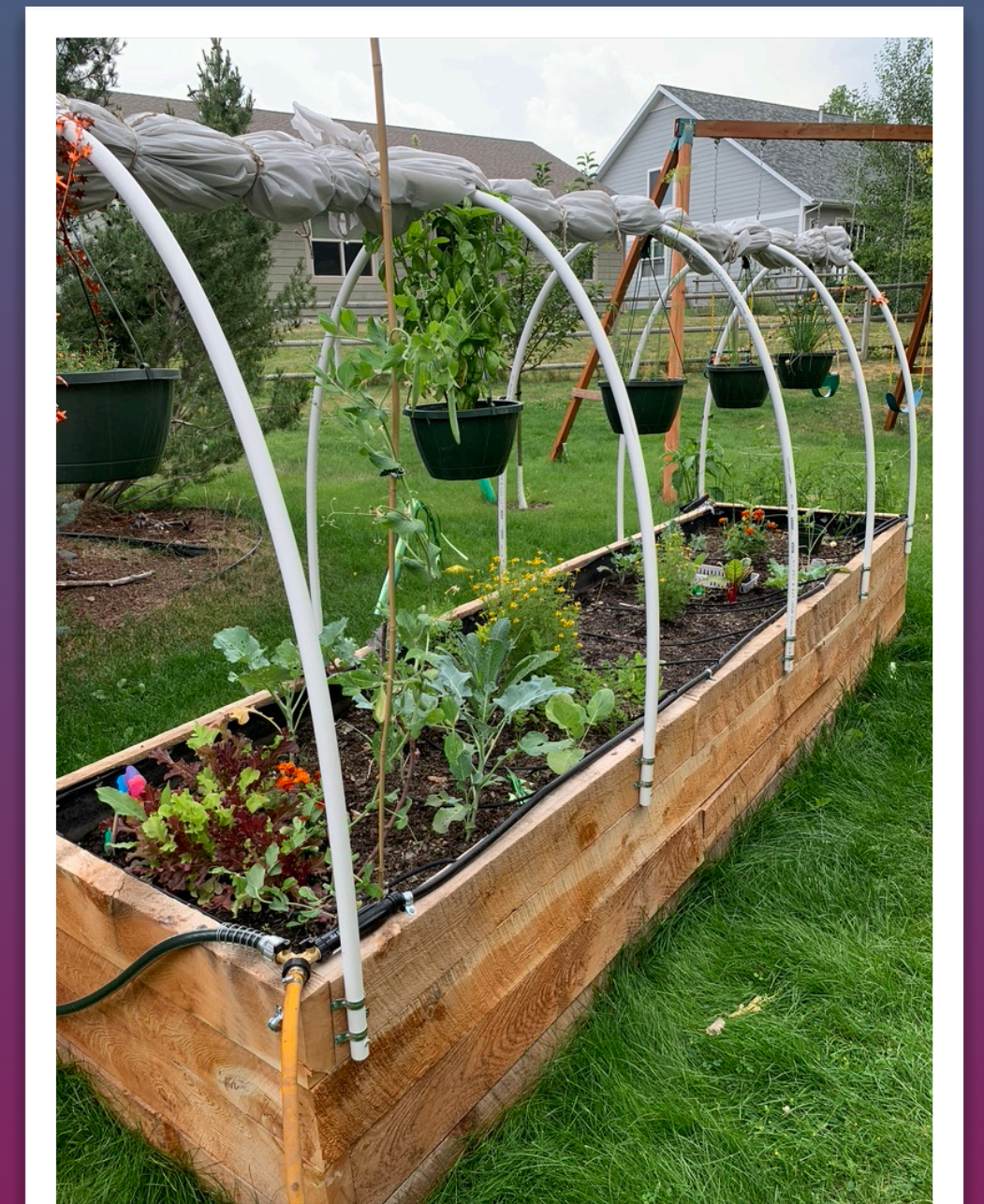
Beverly Hosford, MA

Guided Visualization



Beverly Hosford, MA (she, her)

- Anatomy & Physiology teacher at Sacred Roots Massage School in Bozeman, MT
- Fit Pro for 20 years
- BS in Exercise Science
- MA in Exercise Psychology
- ACE Personal Trainer
- Sleep specialist
- Mama of two kids (age 3 & 5)
- Ski, hike, bike in Montana
- Gardening & cooking



Phases of Anatomy

1. Look at the images
2. Palpate the muscles on yourself
3. Locate origin and insertion
4. Explore actions
5. Design exercises

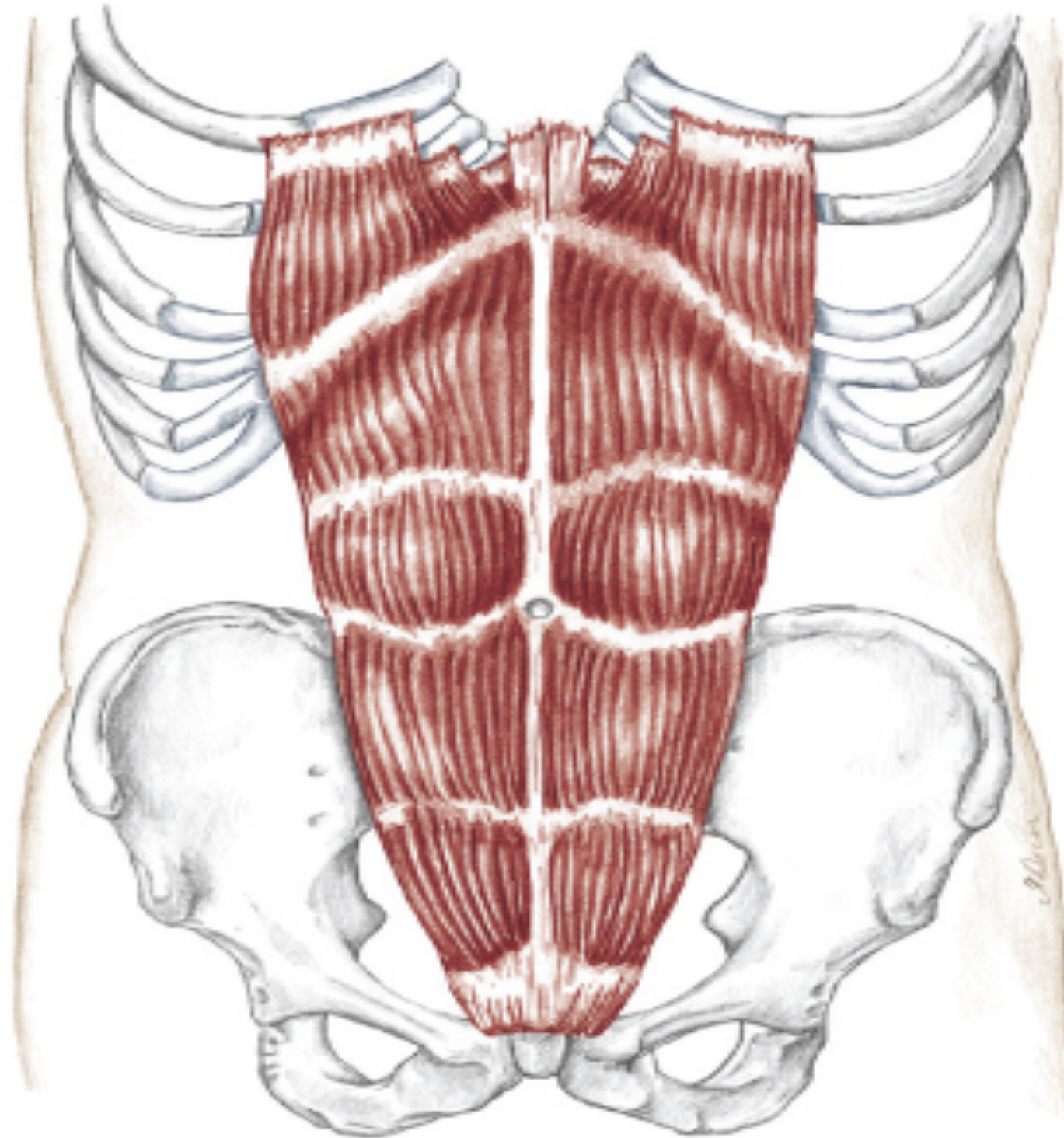
Abdominals

1. Rectus Abdominus - standing erect
2. External Oblique - mad at my ex, hands in pockets
3. Internal Oblique - going in to the tent
4. Transverse Abdominus - train, transportation
5. Pyramidalis
6. Quadratus Lumborum - curtain

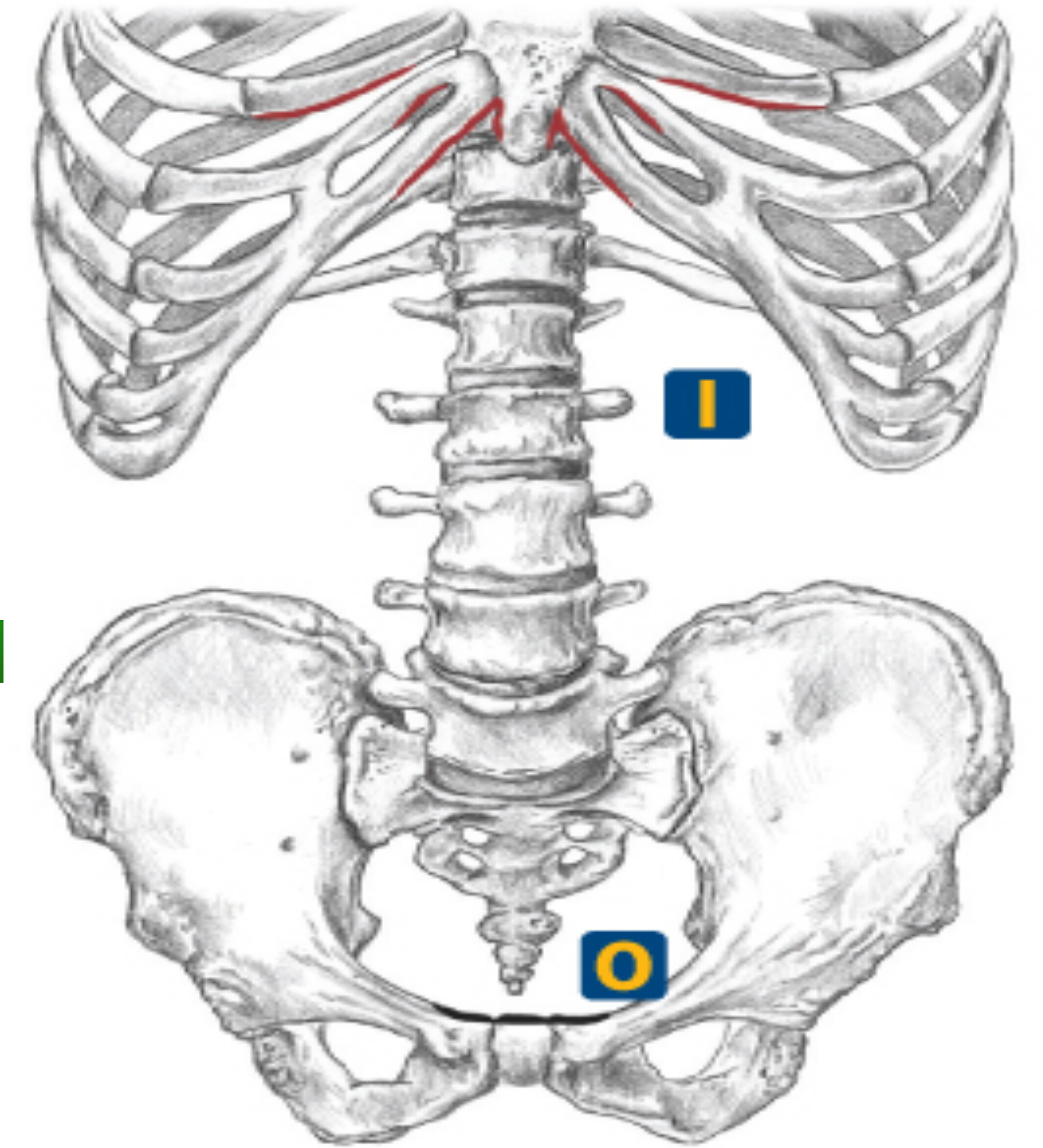
****Standing erect****

Rectus Abdominis

- A** Flex the vertebral column
Tilt pelvis posteriorly
 - O** Pubic crest, pubic symphysis
 - I** Cartilage of fifth, sixth and seventh ribs and xiphoid process
 - N** T5, 6, T7-11, T12, ventral rami
-



4.98 Anterior view of rectus abdominis



4.99 Anterior view showing origin and insertion

Rectus abdominus



****Mad at my Ex****
hand in pockets

External Oblique

A *Unilaterally:*
Laterally flex vertebral column
to the same side

Rotate vertebral column
to the opposite side

Bilaterally:

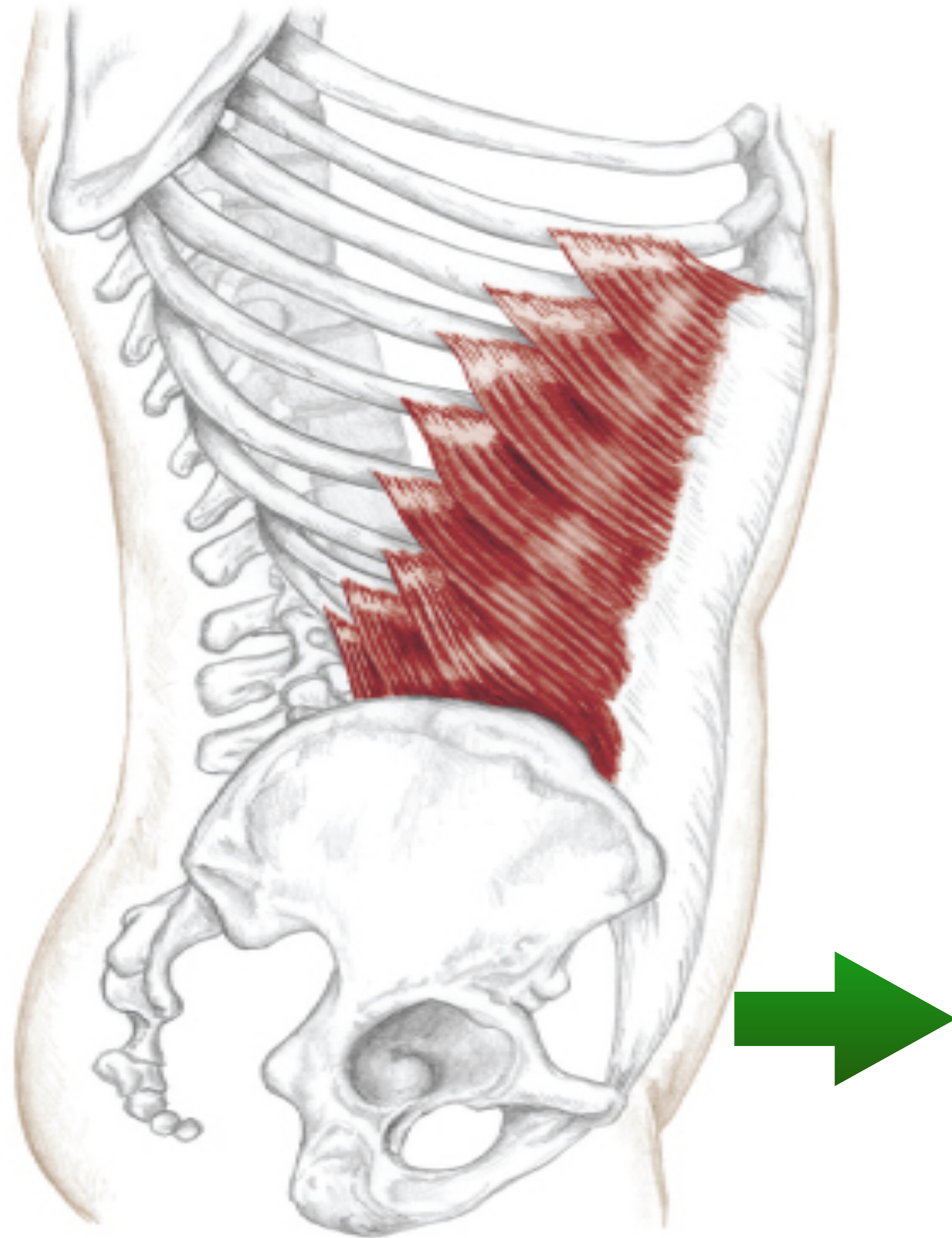
Flex the vertebral column

Compress abdominal contents

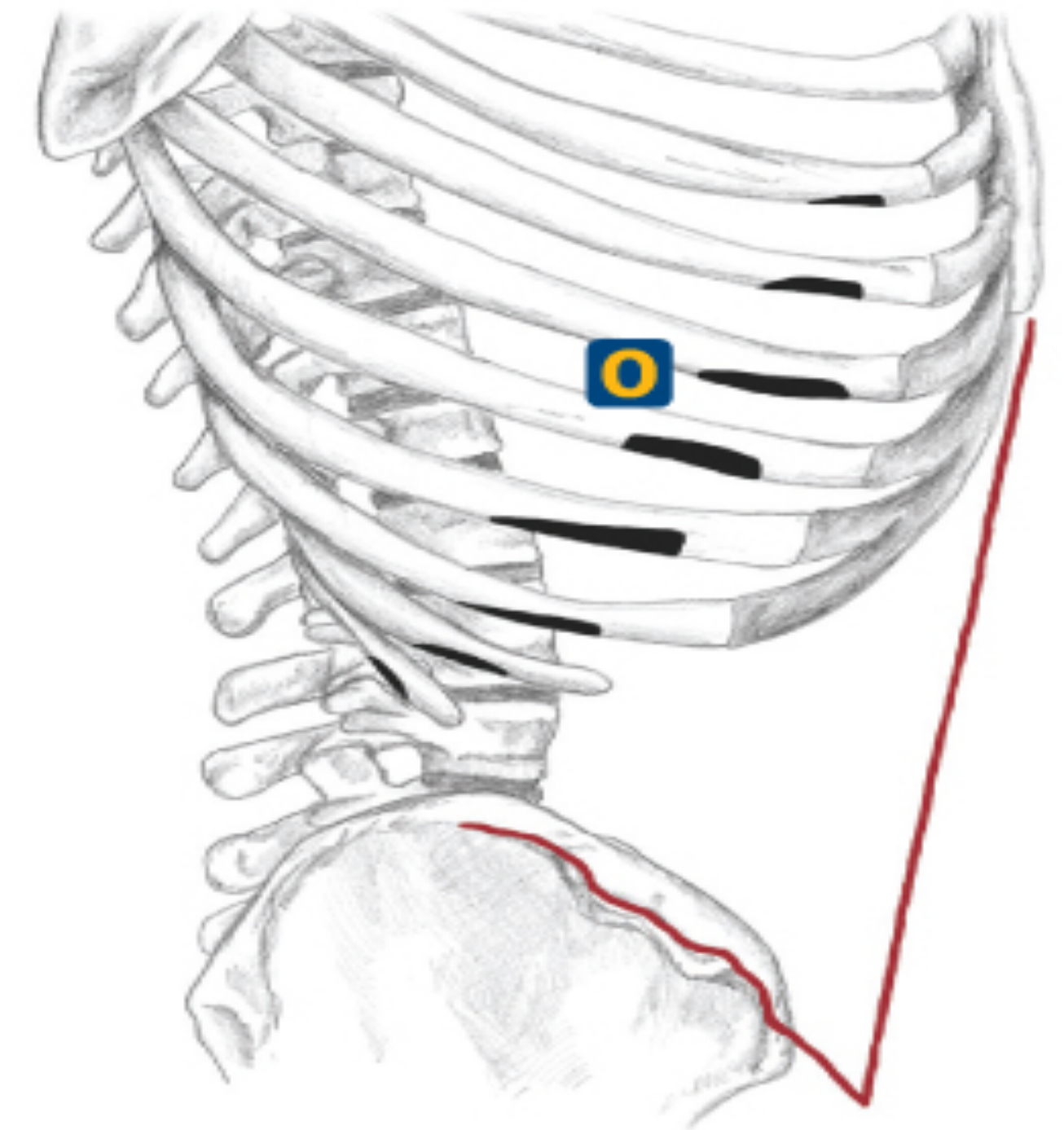
O External surfaces of fifth to twelfth ribs

I Anterior part of the iliac crest,
abdominal aponeurosis to linea alba

N (T5, 6), T7-11, T12



4.100 Lateral view
of external oblique

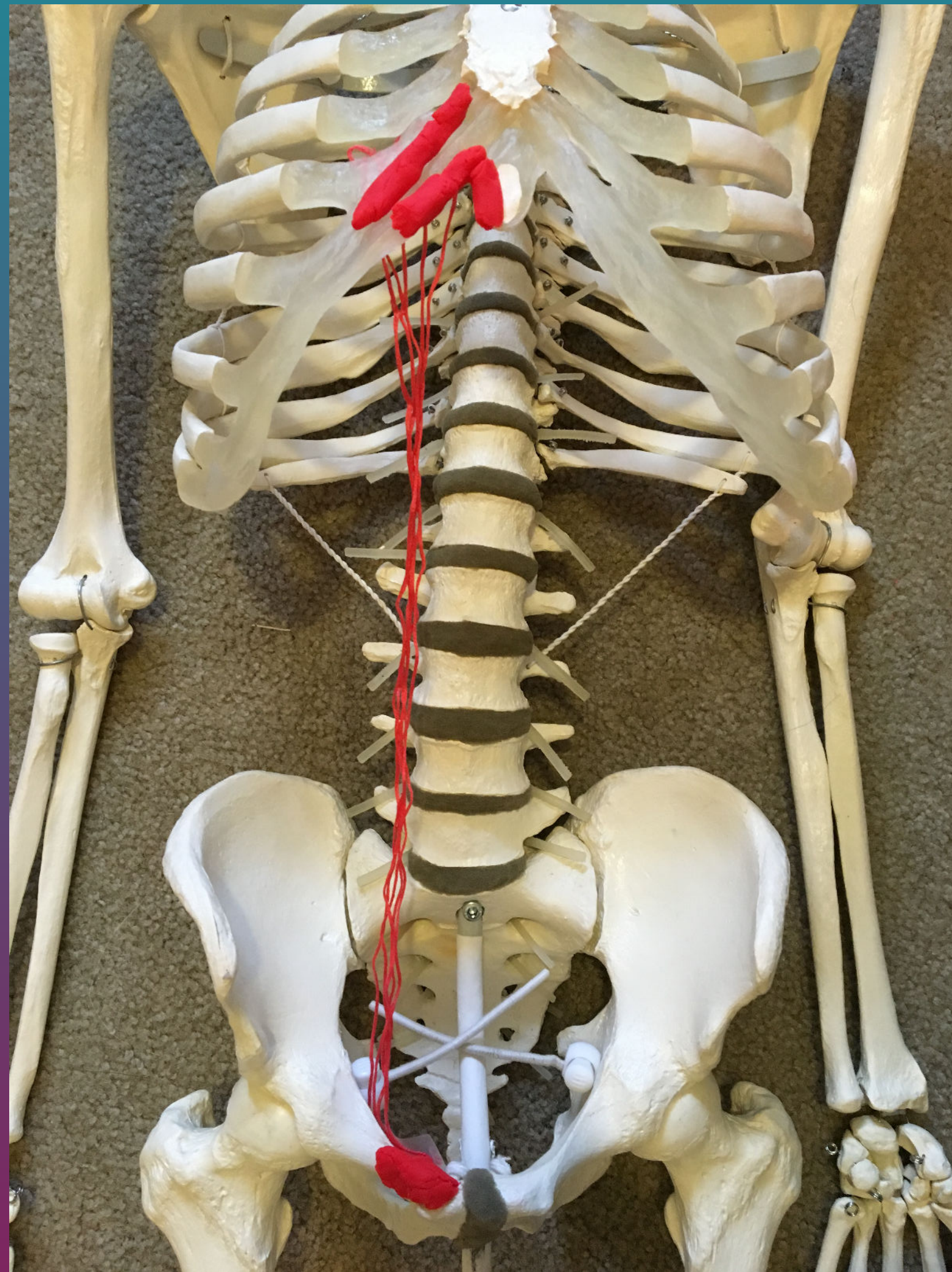


4.101 Lateral view showing
origin and insertion

External oblique



Find on yourself & partner



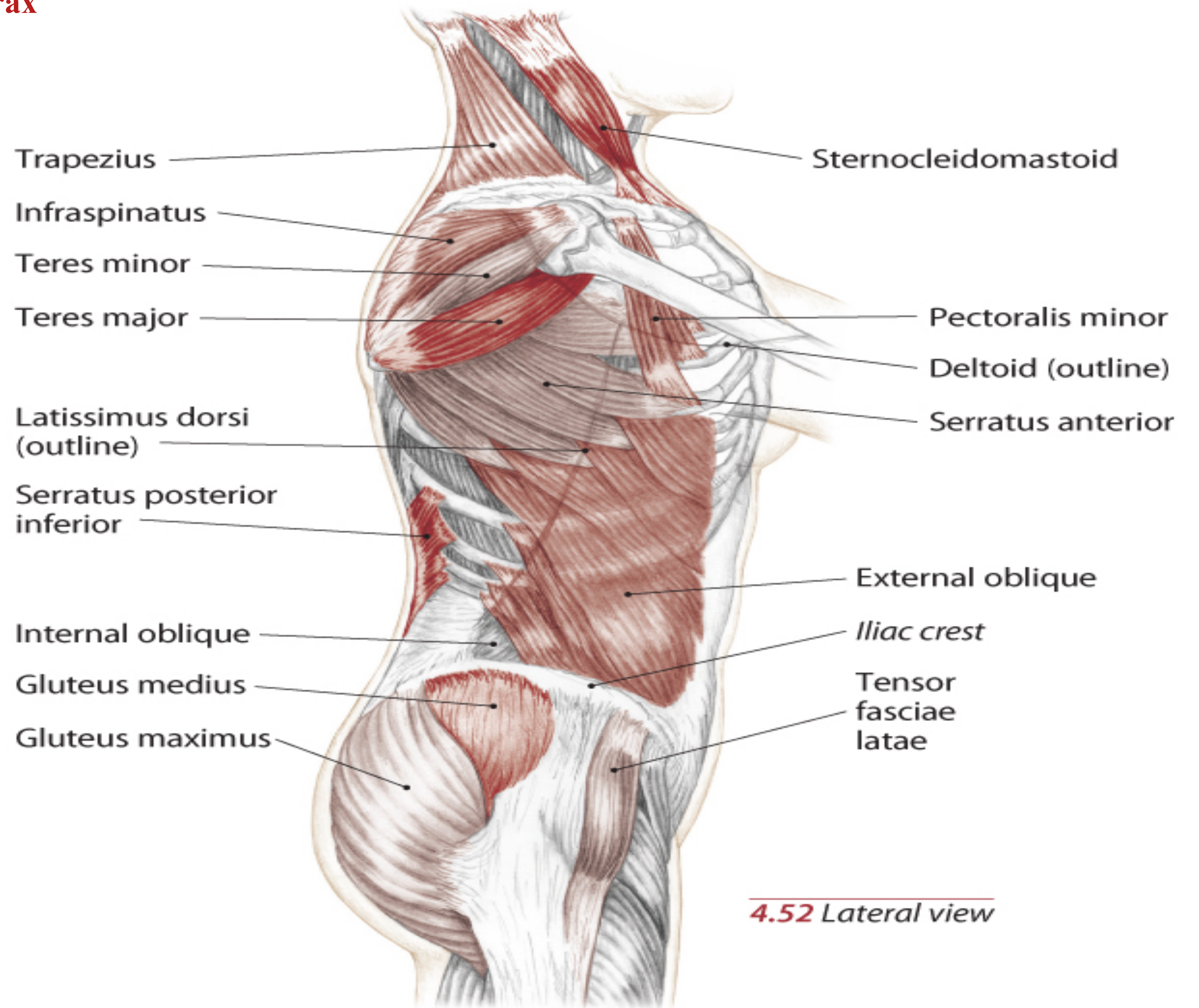
Rectus Abdominus



External Oblique

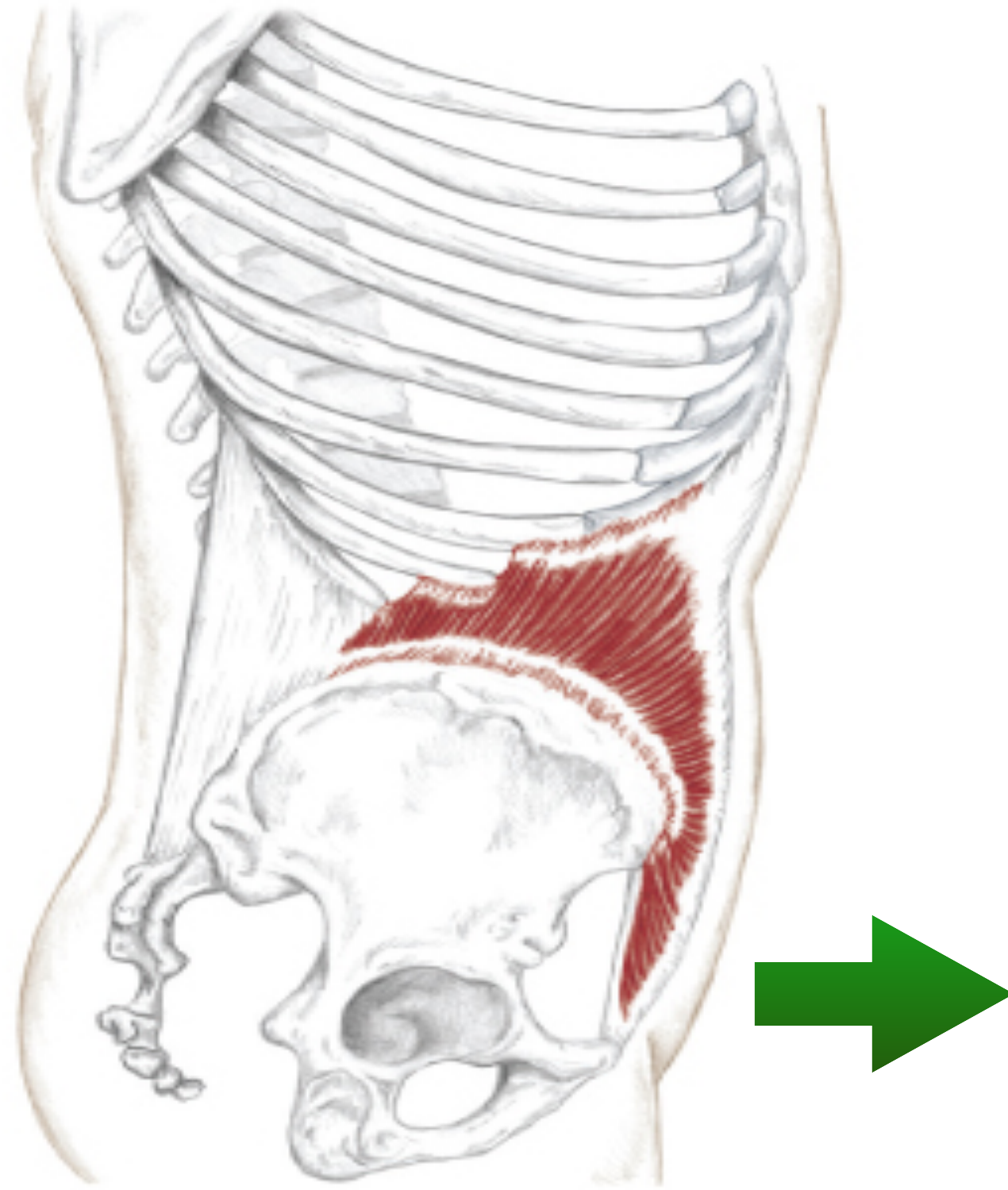
Muscles of the Spine and Thorax

Lateral View



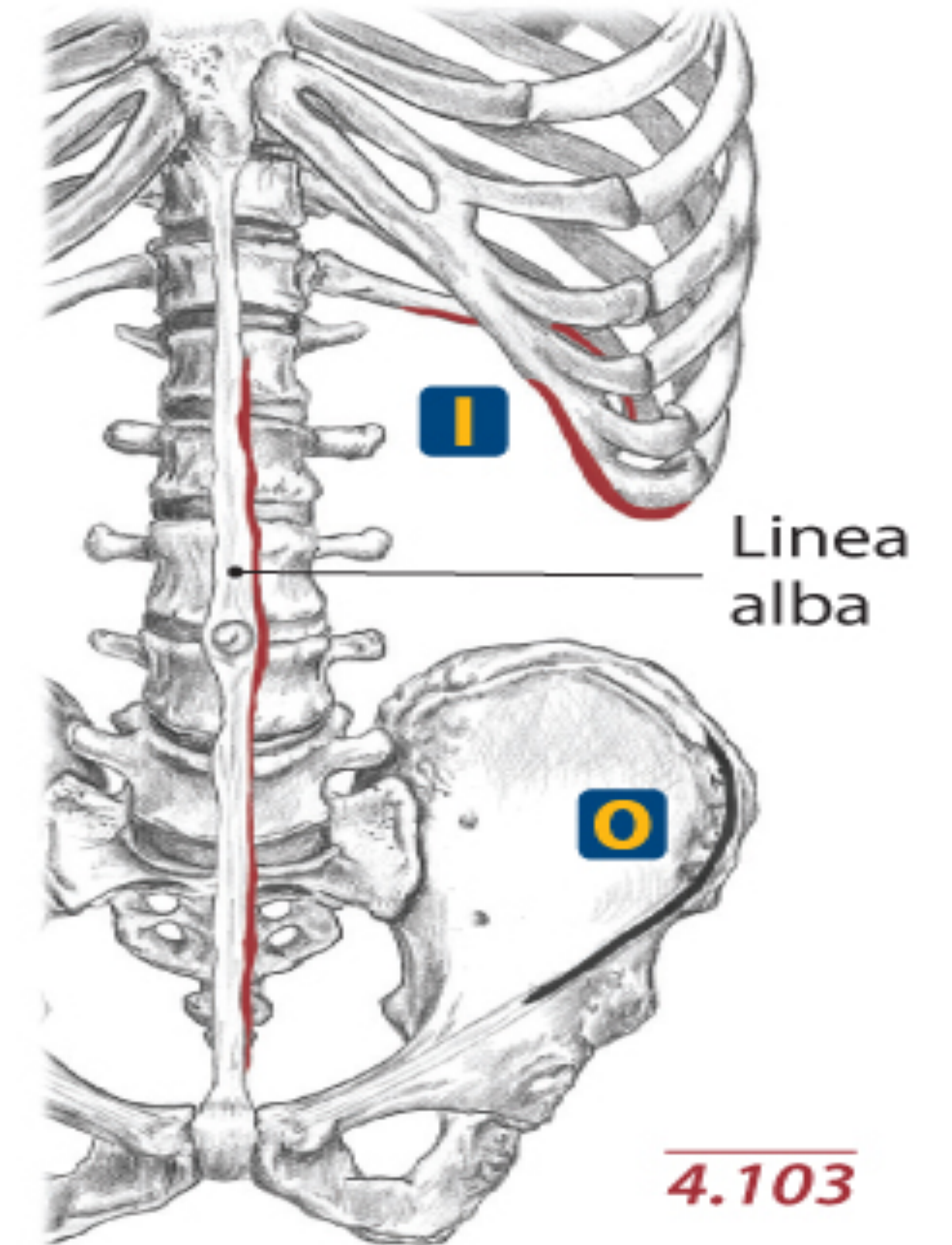
4.52 Lateral view

Internal Oblique



4.102 Lateral view of internal oblique

- A** *Unilaterally:*
 - Laterally flex** vertebral column to the same side
 - Rotate** vertebral column to the same side
- Bilaterally:*
 - Flex** the vertebral column
 - Compress** abdominal contents
- O** Lateral inguinal ligament, iliac crest and thoracolumbar fascia
- I** Internal surface of lower three ribs, abdominal aponeurosis to linea alba
- N** T7, 8, T9-12, L1, iliohypogastric and ilioinguinal, ventral rami



Internal oblique

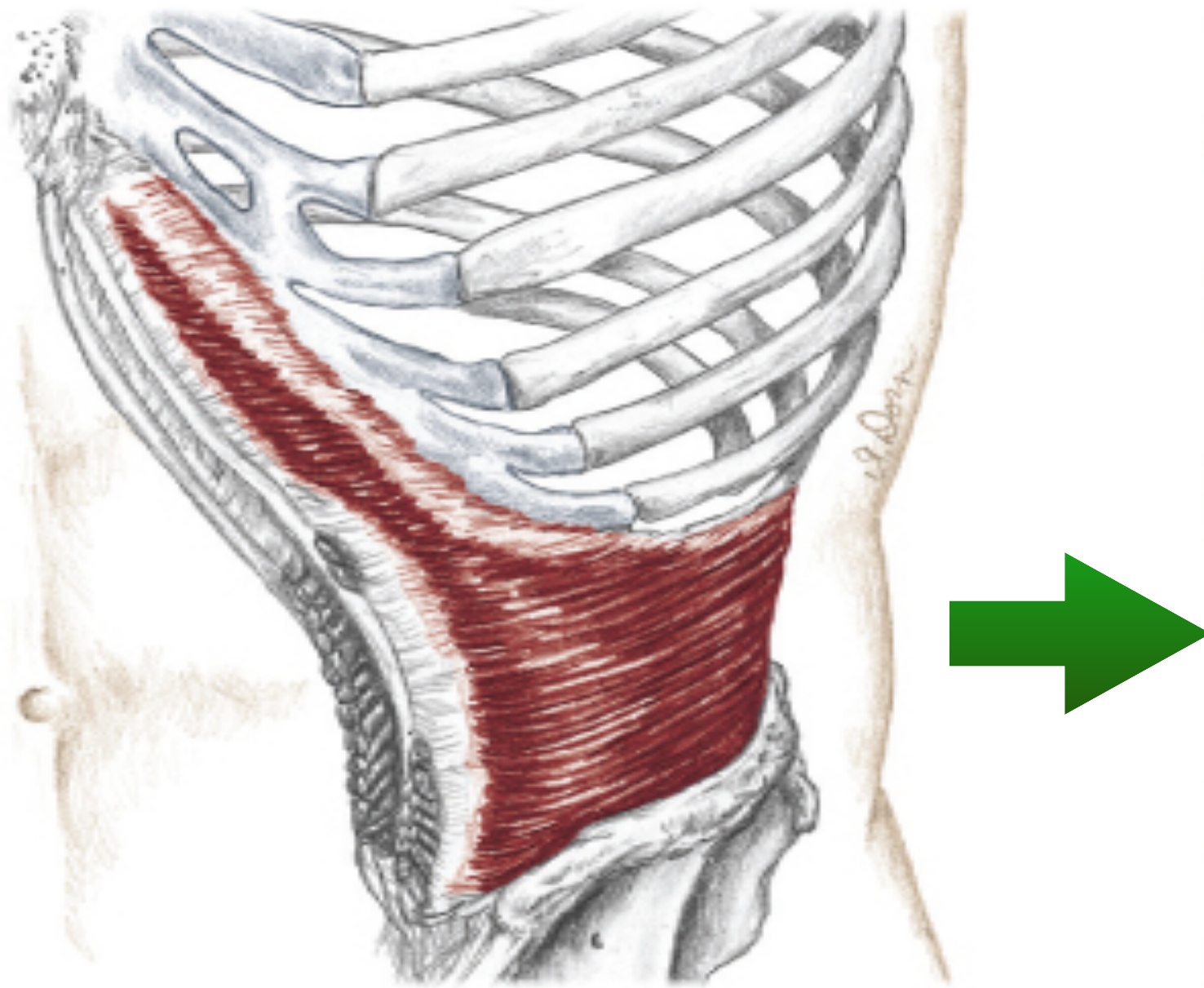


Find on yourself & partner



Yellow: Internal Oblique

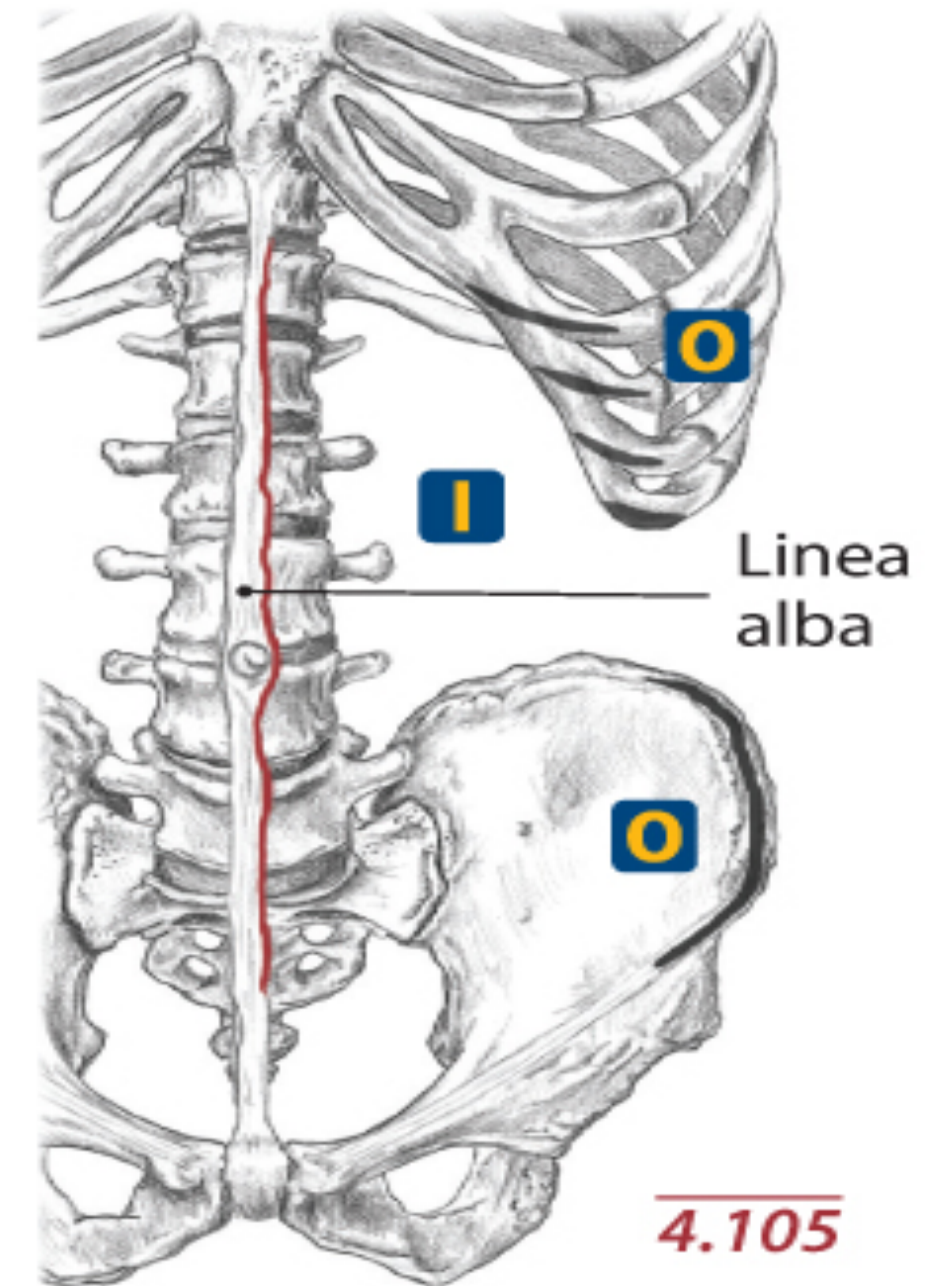
****Train - Transportation****



4.104 Anterior view of transverse abdominis (both obliques cut and reflected)

Transverse Abdominis

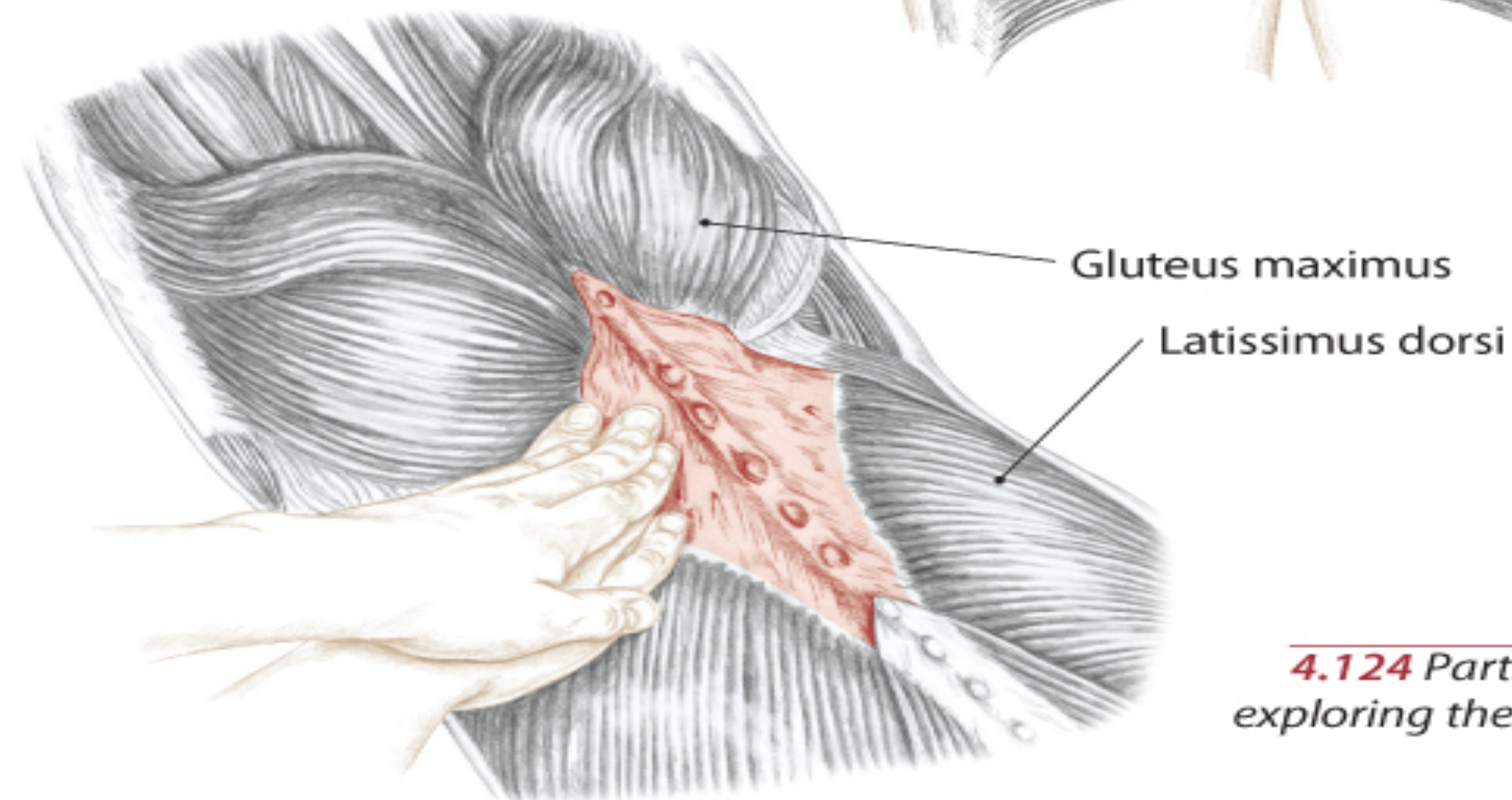
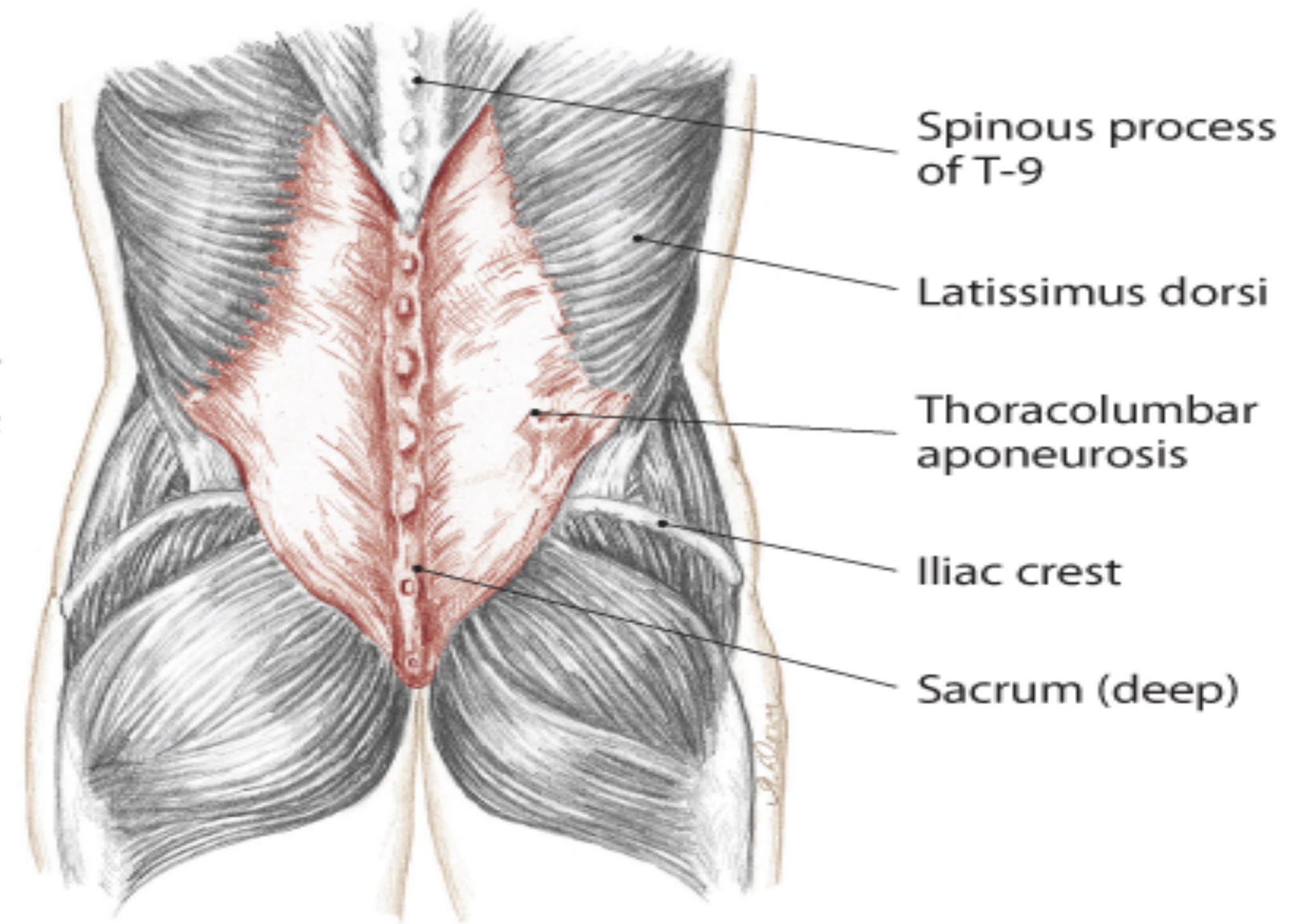
- A** **Compress** abdominal contents
 - O** Lateral inguinal ligament, iliac crest, thoracolumbar fascia and internal surface of lower six ribs
 - I** Abdominal aponeurosis to linea alba
 - N** T7-12, L1, iliohypogastric and ilioinguinal, ventral divisions
-



4.105

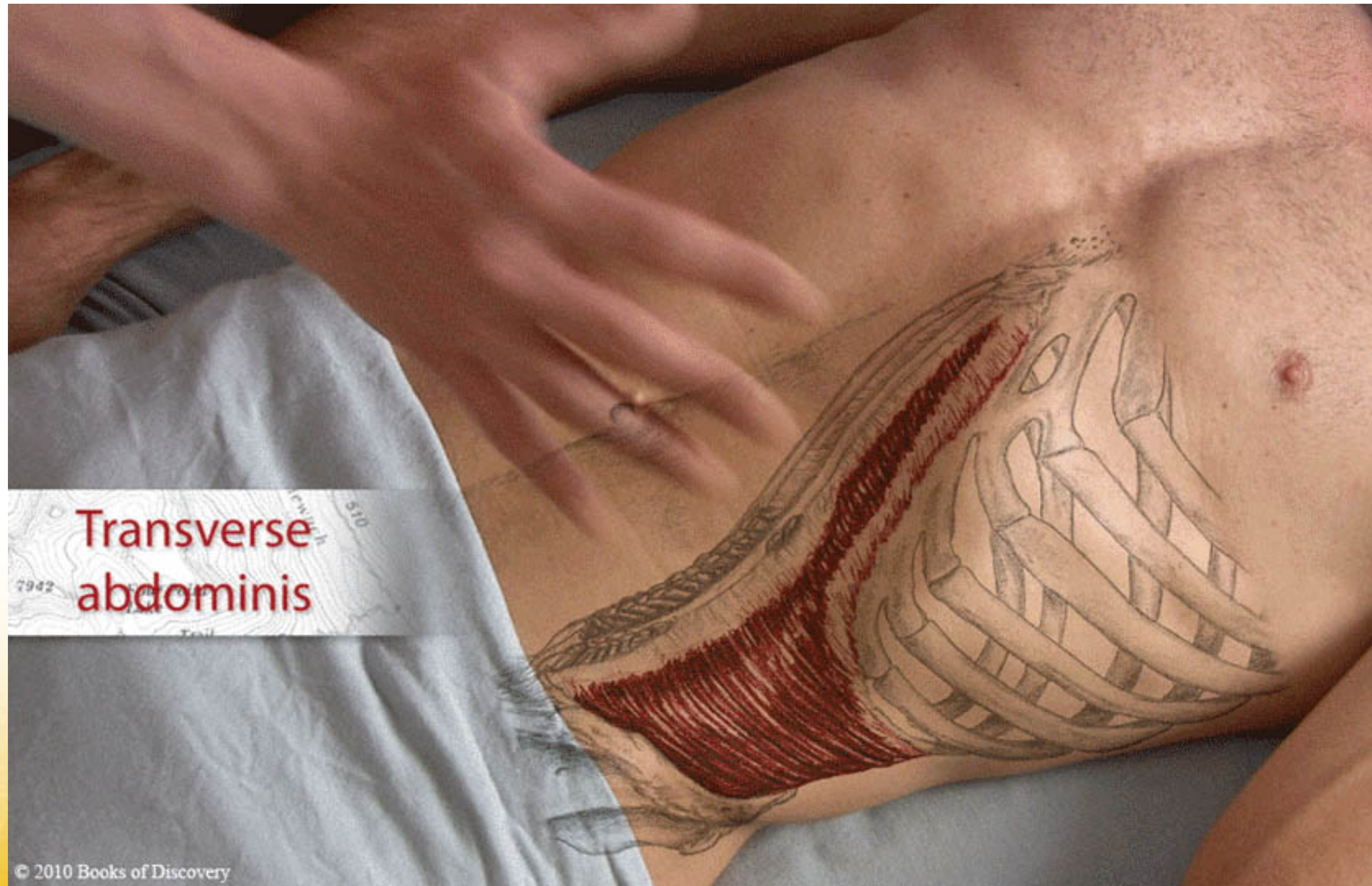
Thoracolumbar Aponeurosis

4.123 Posterior view of lower thorax and pelvis



4.124 Partner prone, exploring the aponeurosis

Transverse abdominis



Transverse
abdominis

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Four Core Abdominals

**Rectus
Abdominus**
Standing erect

Internal Oblique
Go into the Tent



External Oblique
Mad at my ex,
hands in pockets

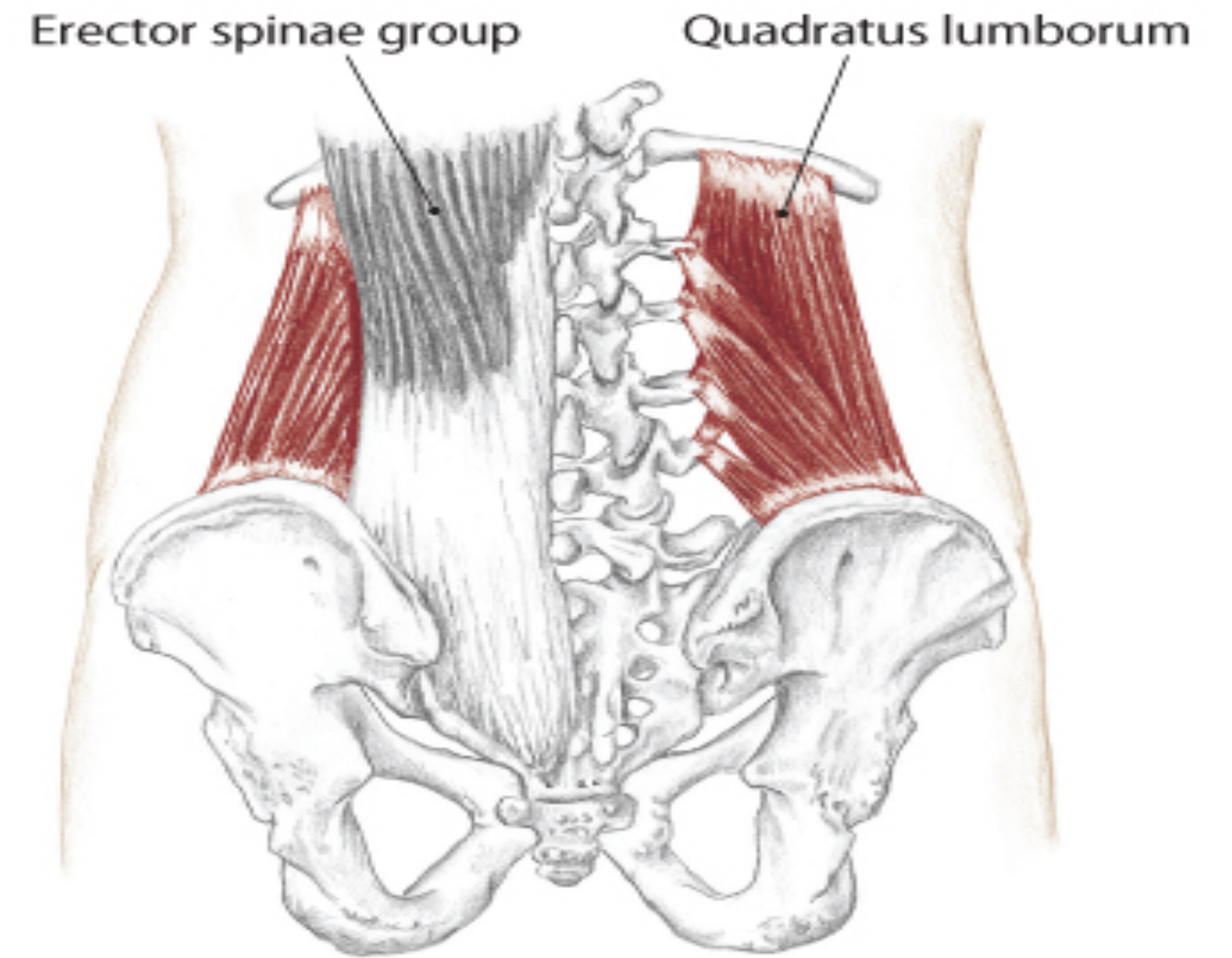
**Transverse
Abdominus**
Train,
transportation

5th - Pyramidalis

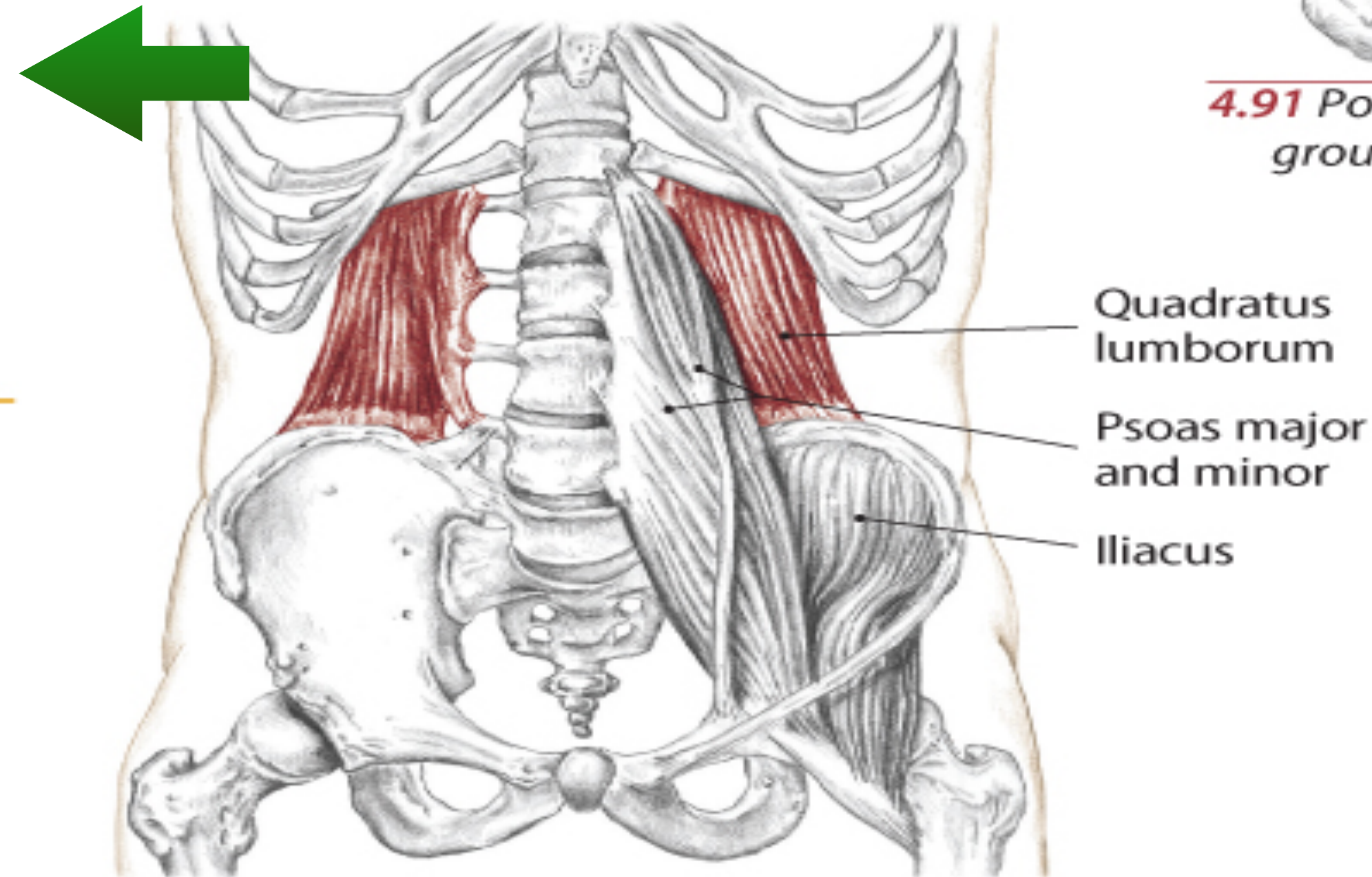
Quadratus Lumborum

6th Abdominal
deepest
curtain

- A** Unilaterally:
 - Laterally tilt** (elevate) the pelvis
 - Laterally flex** the vertebral column to the same side
- Bilaterally:
 - Assist to **extend** the vertebral column
 - Fix** the last rib during forced inhalation and exhalation
- O** Posterior iliac crest
- I** Last rib and transverse processes of first through fourth lumbar vertebrae
- N** Lumbar plexus T12, L1, 2, 3



4.91 Posterior view, erector spinae group removed on right side

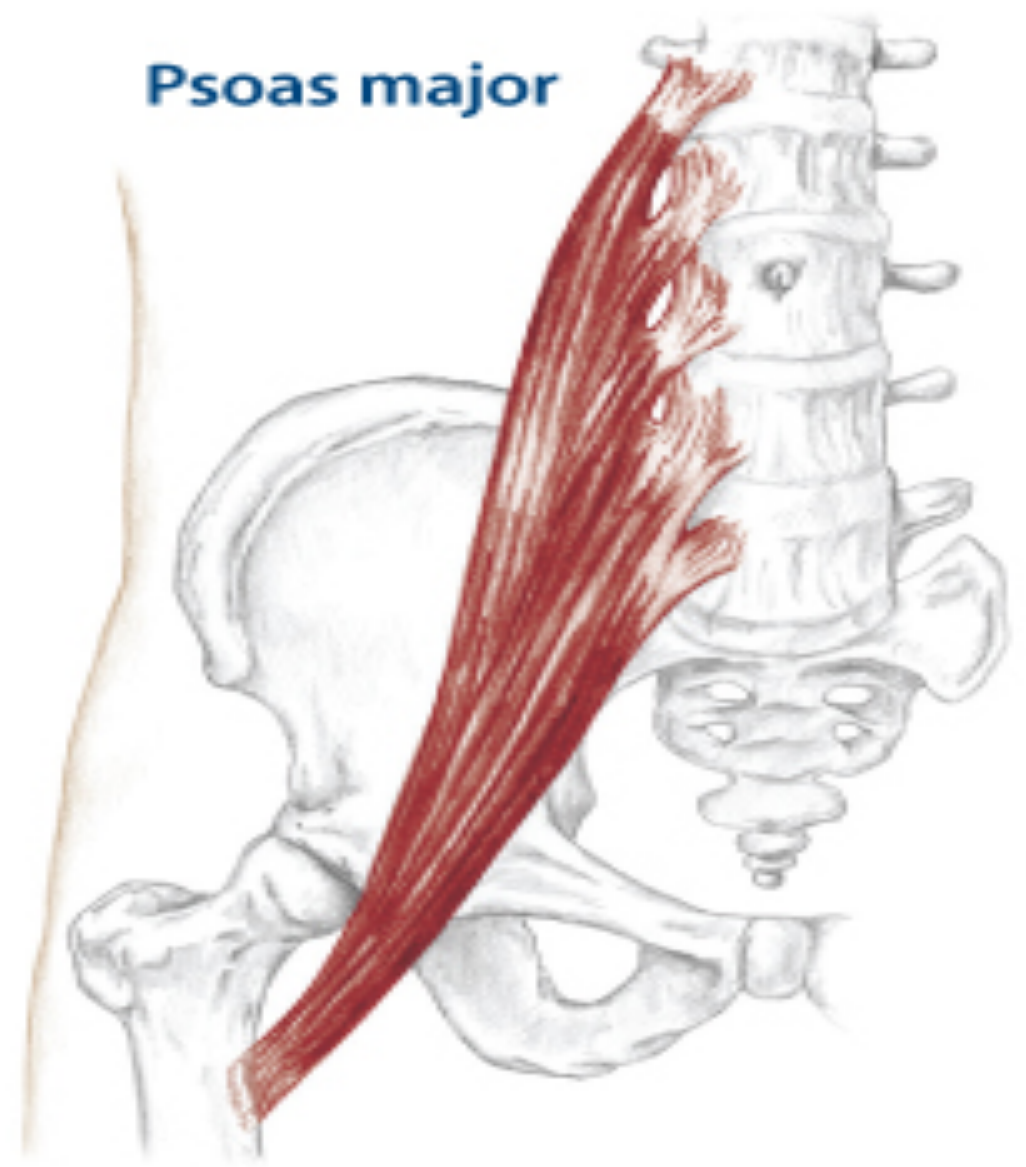
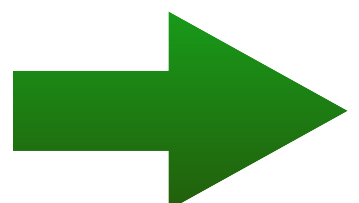
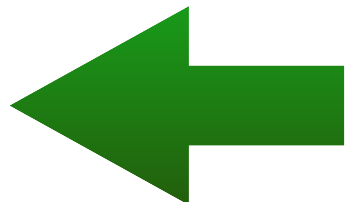


4.92 Anterior view

Iliopsoas - Common Compensation Muscles

Psoas Major

- A** *With the origin fixed:*
 - Flex** the hip (coxal joint)
 - May **laterally rotate** the hip (coxal joint)
- With the insertion fixed:*
 - Flex** the trunk toward the thigh
 - Tilt** pelvis anteriorly
- Unilaterally:*
 - Assist to **laterally flex** the lumbar spine
- O** Bodies and transverse processes of lumbar vertebrae
- I** Lesser trochanter
- N** Lumbar plexus L1, 2, 3, 4

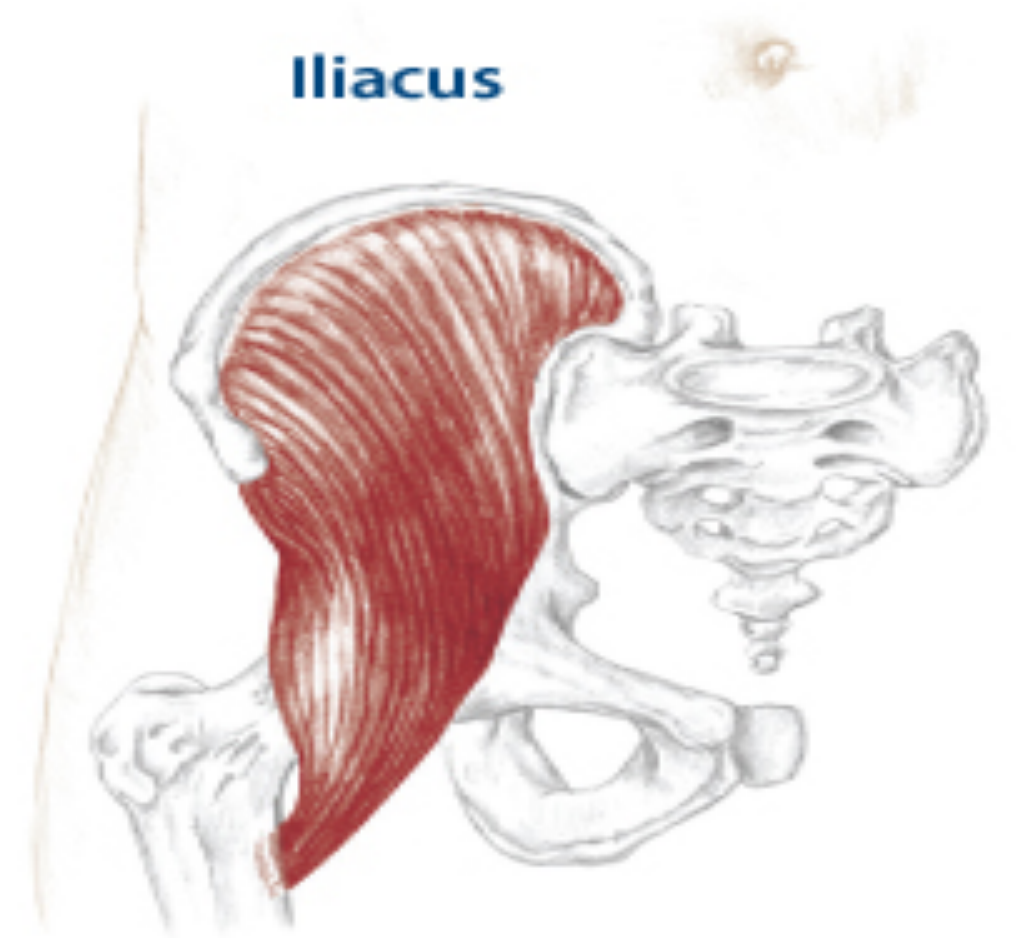


Psoas major

6.127 Anterior view of spine and right hip

Iliacus

- A** *With the origin fixed:*
 - Flex** the hip (coxal joint)
 - May **laterally rotate** the hip (coxal joint)
- With the insertion fixed:*
 - Flex** the trunk toward the thigh
 - Tilt** pelvis anteriorly
- O** Iliac fossa
- I** Lesser trochanter
- N** Femoral L(1), 2, 3, 4

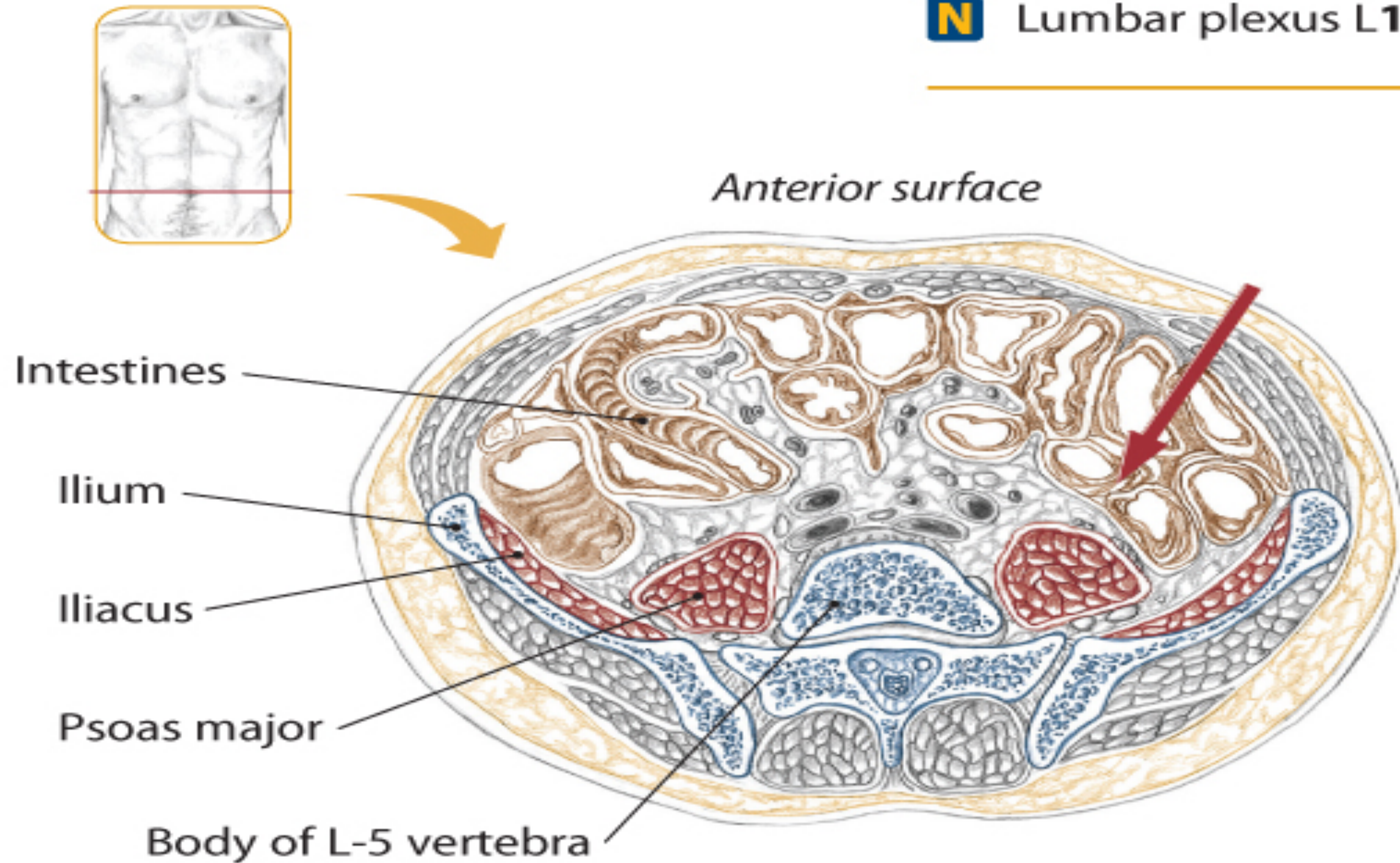
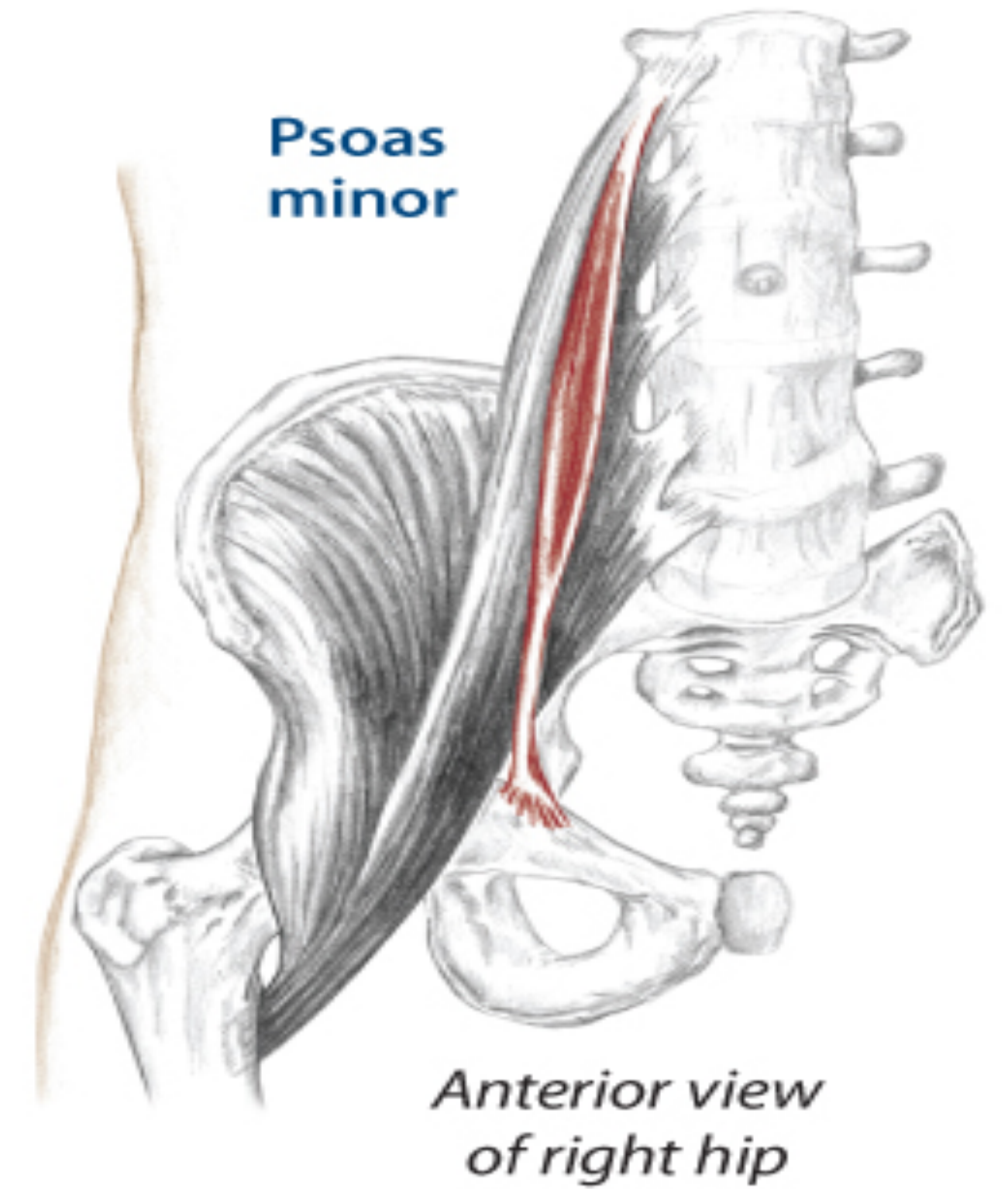


Iliacus

6.128 Anterior view of right hip

Psoas Minor

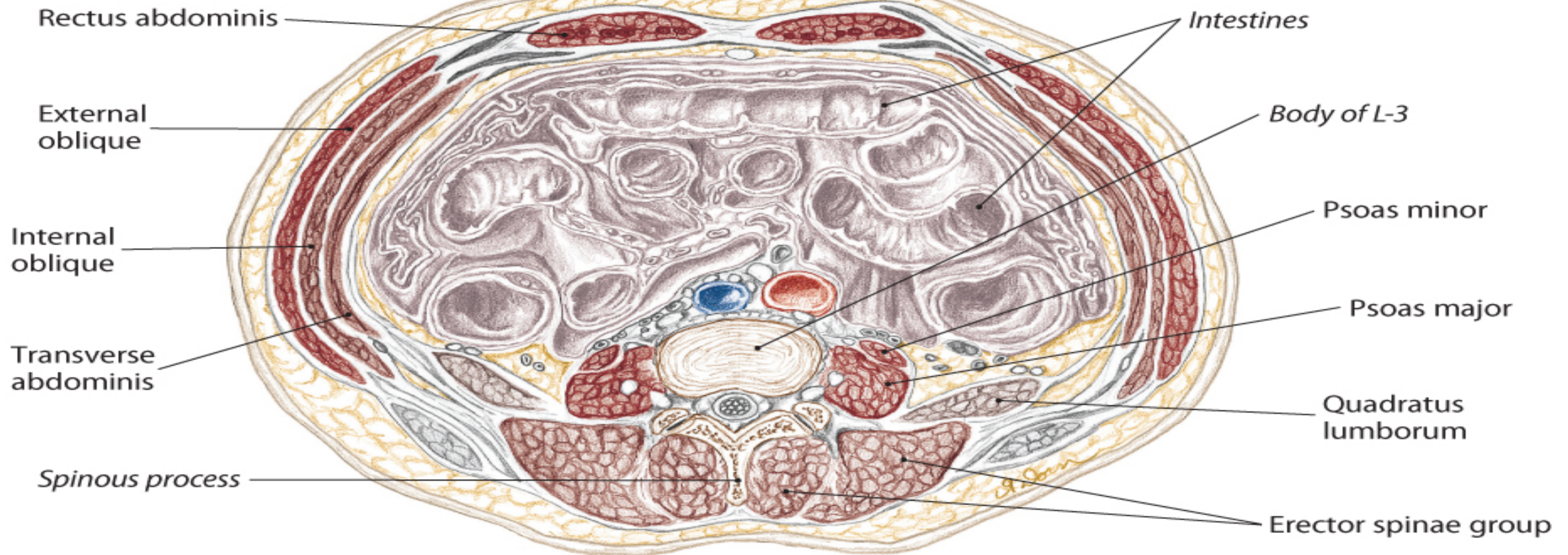
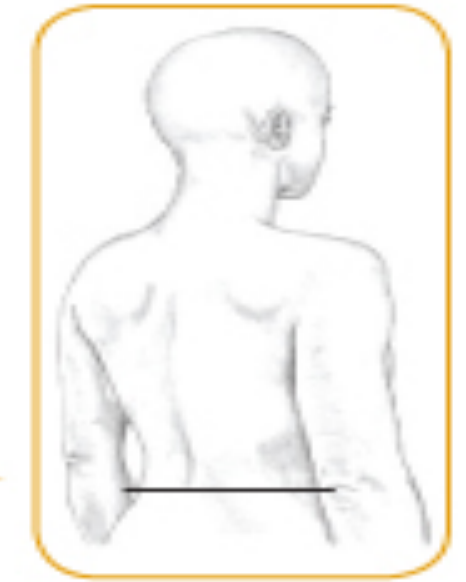
- A** Assist to **create** lordotic curvature in the lumbar spine
- Tilt** pelvis posteriorly
- O** Body and transverse process of first lumbar vertebra
- I** Superior ramus of pubis
- N** Lumbar plexus L1, 2



6.130 Cross section of the trunk at the level of L-5, arrow showing direction of fingers when accessing the psoas major

Cross Section of the Thorax Superficial Layers

Anterior surface



4.59 Cross section of the abdomen at the level of the third lumbar vertebra

Diaphragm

****Frames the ribs****

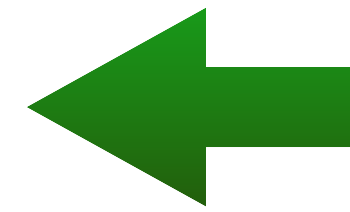
A Draw down the central tendon of the diaphragm

Increase the volume of the thoracic cavity during inhalation

O Costal attachment:
Inner surface of lower six ribs

Lumbar attachment:
Upper two or three lumbar vertebrae

Sternal attachment:
Inner part of xiphoid process

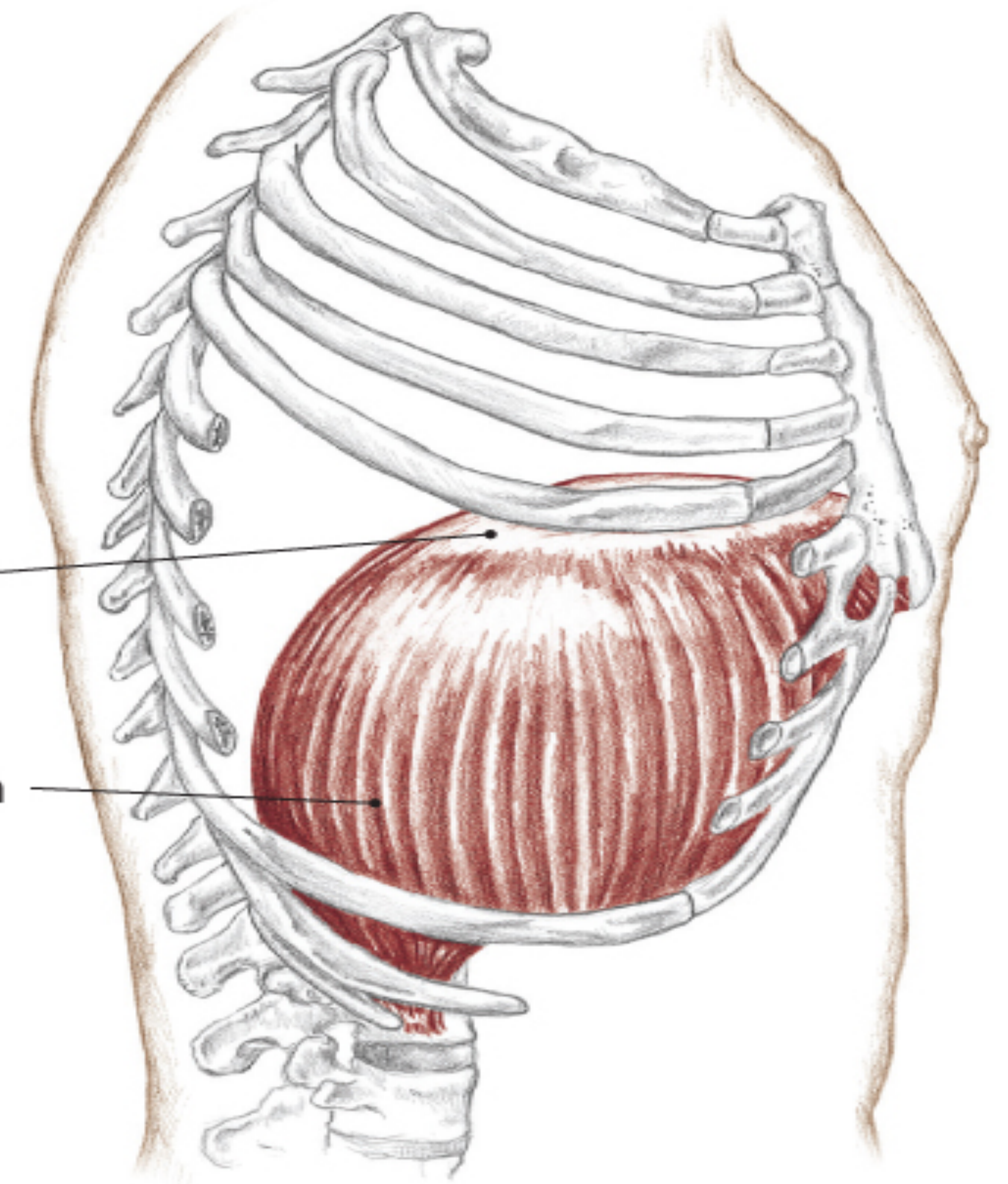


I Central tendon

N Phrenic C3, 4, 5

Central tendon

Diaphragm



4.108 Lateral view of thorax showing diaphragm in position of exhalation

Intercostals ****In between the ribs (cost a lot)****

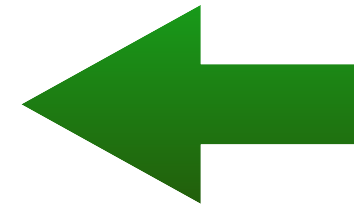
A *External Intercostals:*
Draw the ribs superiorly (increasing the space of the thoracic cavity) to assist with **inhalation**

Internal Intercostals:
Draw the ribs inferiorly (decreasing the space of the thoracic cavity) to assist with **exhalation**

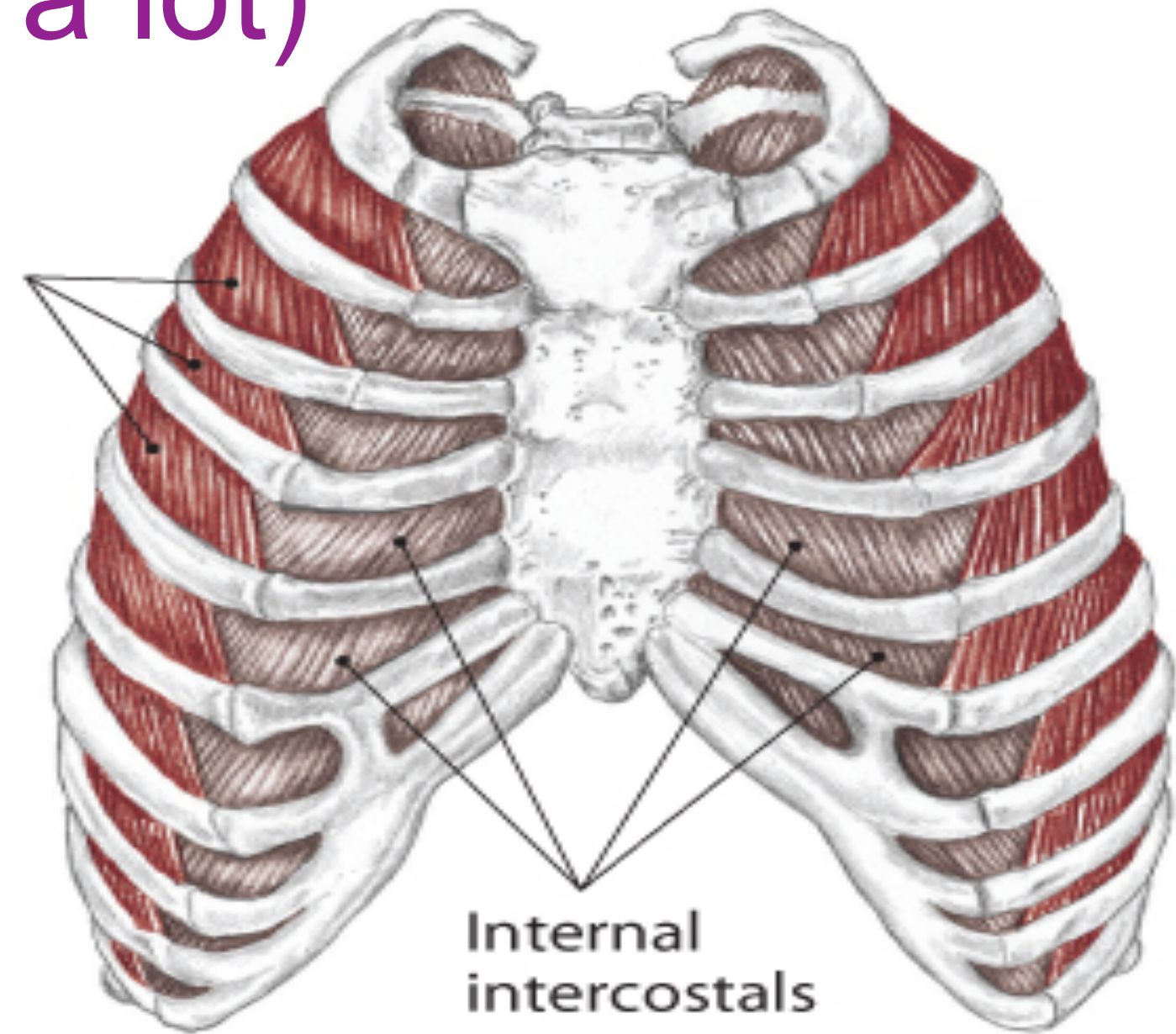
O Inferior border of the rib above

I Superior border of the rib below

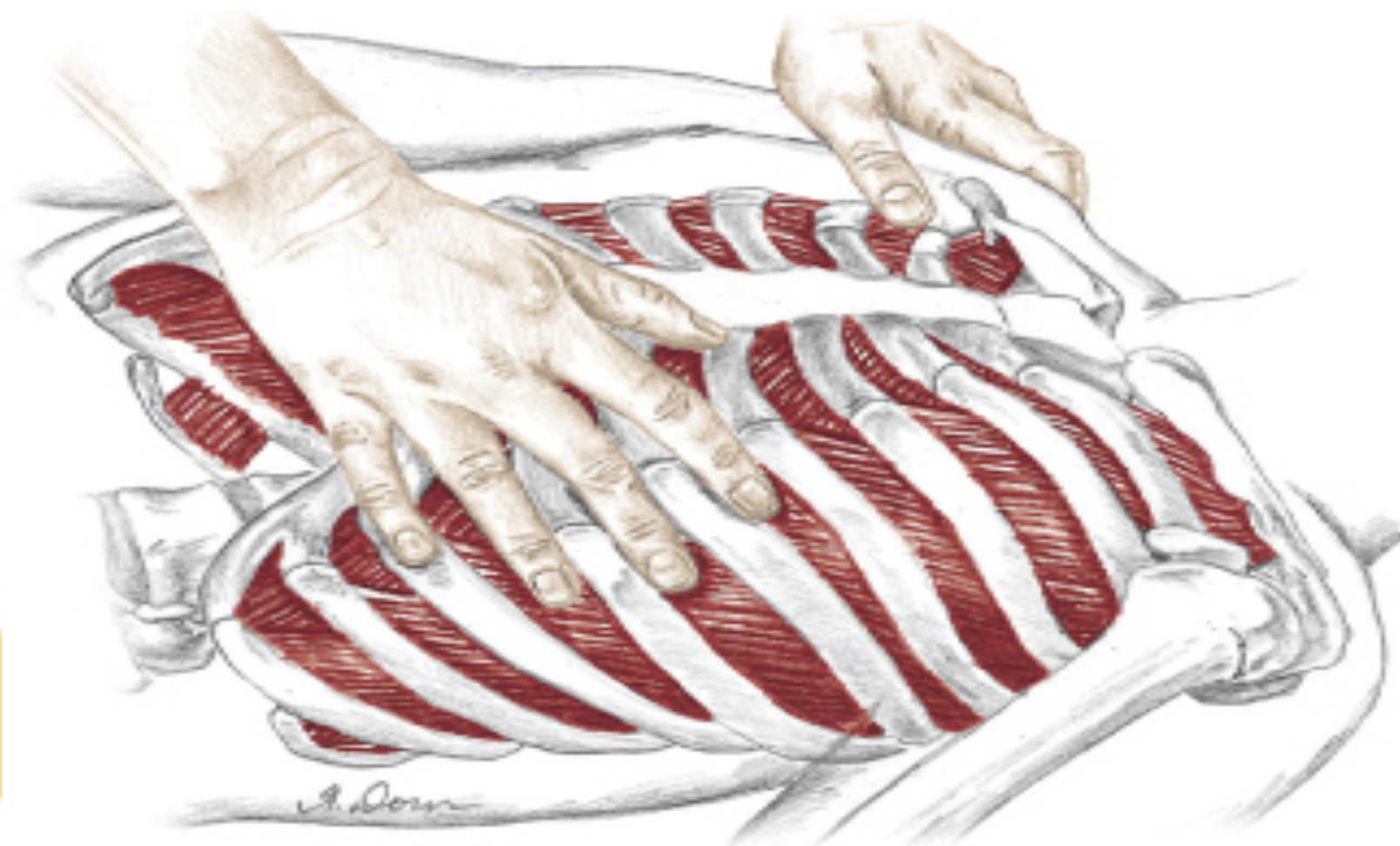
N Thoracic



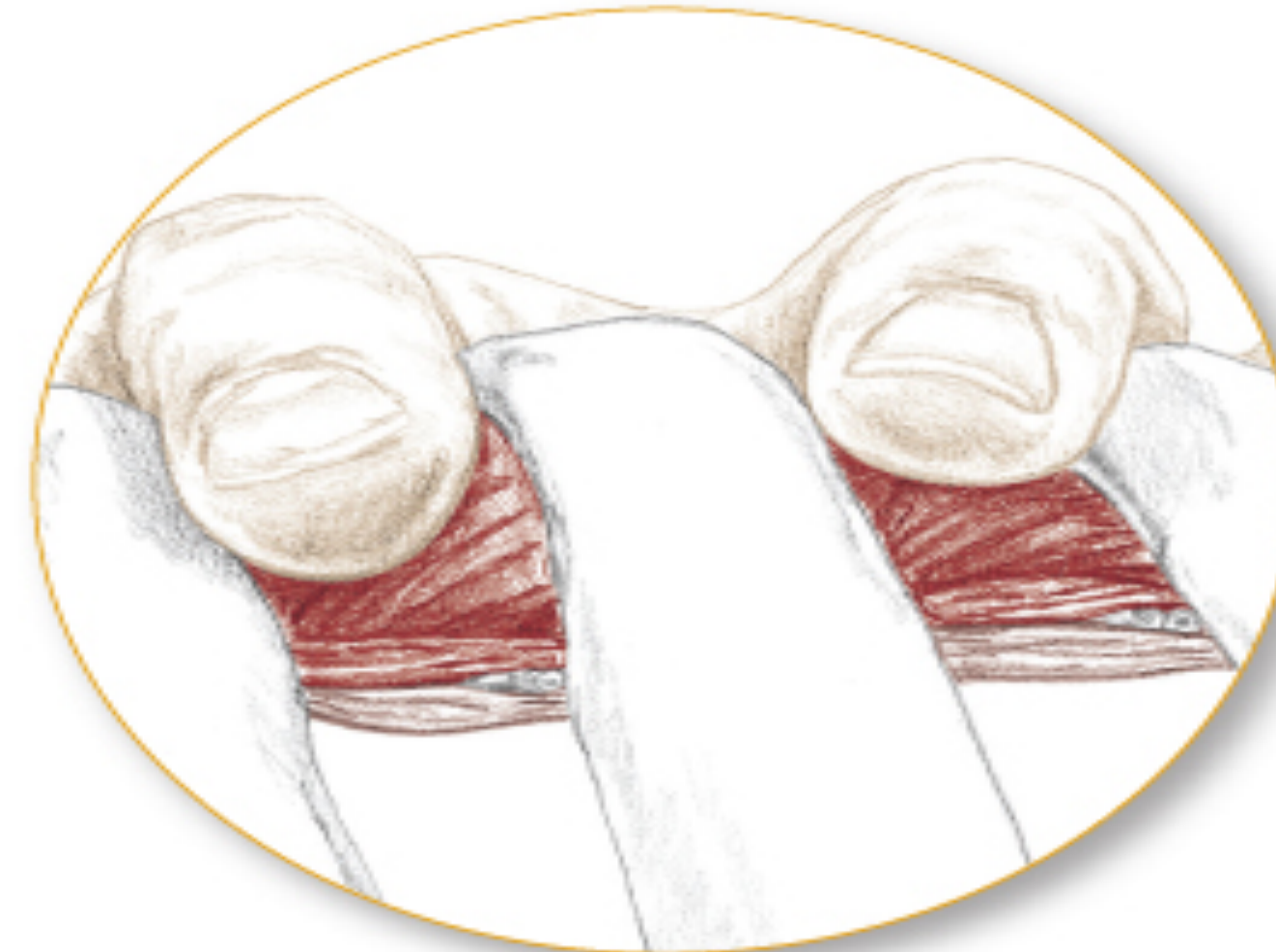
External intercostals



4.112 Anterior view of rib cage



4.113 Partner supine



Cross section of palpating intercostals



Posterior Core Muscles



Orange: Ilicostalis

Blue: Longissimus

Yellow: Semispinalis

Pink: Multifidus

Purple: Rotatores

Red: Interspinalis

Green: Intertransversarii

Movement & Exercise

Origin and Insertion approximating with each other

Free-Write : 5 minutes

What do your abs and core want to say to you today?

Watch Andy teach the Spine
and get a *guided visualization*.



www.BeverlyHosford.com/spine

Images courtesy of Trail Guide to the Body
and
Andy the Skeleton

@askandytheskeleton



STAY IN TOUCH!!!

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