

November 9, 2020 - Dr. Krebs (claudia.krebs@ubc.ca)

Objectives:

- Identify the muscles that form the posterior abdominal wall
- Identify the nerves on the posterior abdominal wall from the lumbosacral plexus
- Observe the relationship of the abdominal aorta and the inferior vena cava
- Identify the gonadal vessels, the renal vessels and their anatomical relationships
- Describe the position of the kidneys on the posterior abdominal wall and the course of the ureter to the pelvis

Relevant video:

(3.3.17) *Nerves of abdominal region*

Relevant module:

Identify checklist structures on specimens in the virtual lab:

Bones:

Typical lumbar vertebra

- Body
- Superior & inferior articular facets
- Transverse processes

Iliac crest

Iliac fossa

Transverse process of L5 vertebra

12th rib

Muscles:

Quadratus lumborum

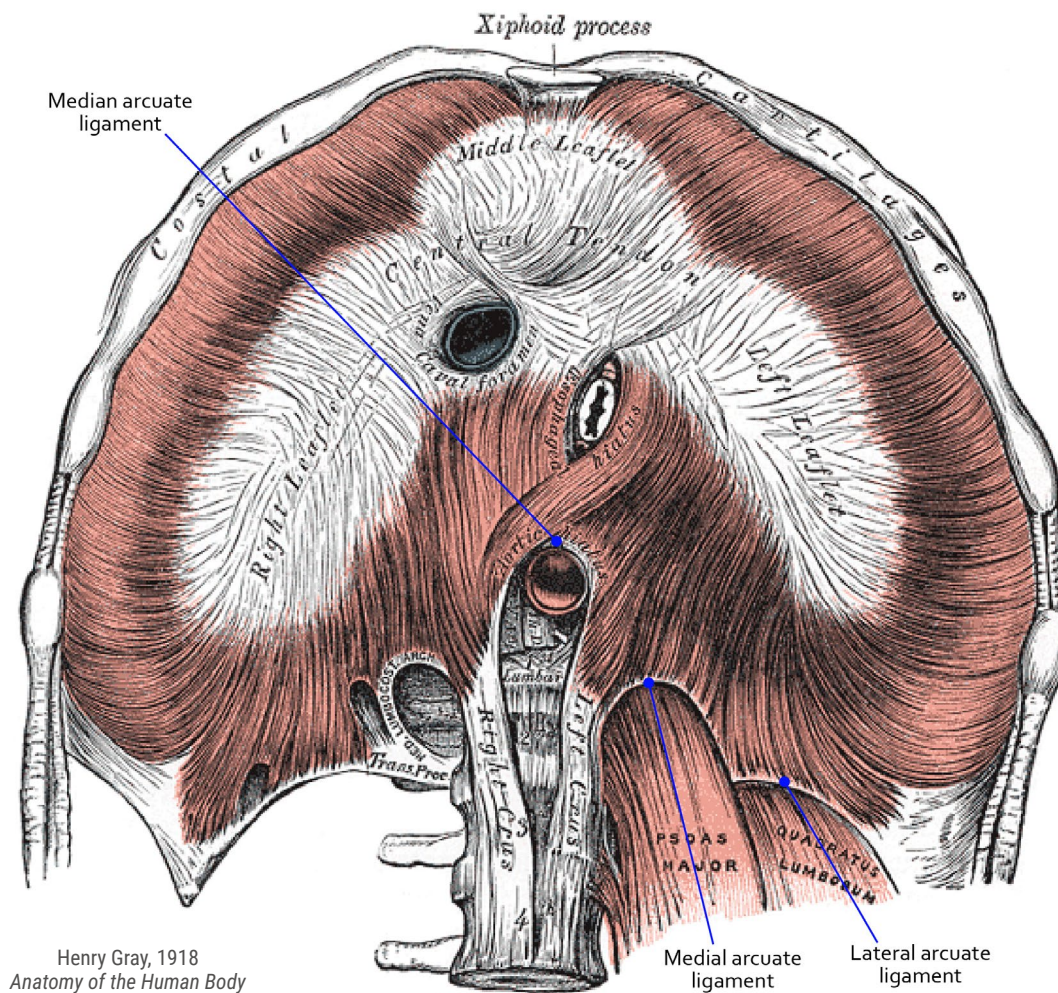
Iliacus

Psoas major

Transversus abdominis

Muscles & Nerves of Posterior Abdominal Wall

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Henry Gray, 1918
Anatomy of the Human Body

Inferior View of Diaphragm

Muscles:

Diaphragm

- Opening for inferior vena cava
- Hiatus for esophagus
- Aortic opening (hiatus)
- Left and right crura
- Median, Medial and Lateral arcuate ligaments

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Viscera:

Kidneys (+ surrounding tissues)
Ureters
Adrenal glands

Veins:

Inferior vena cava
R & L common iliac
R & L external iliac
R & L internal iliac
R & L renal
R & L gonadal
R & L suprarenal

Viscera & Vessels of Posterior Abdominal Wall

Arteries:

Abdominal aorta
- Renal
- Gonadal
(testicular/ovarian)
- Bifurcation
- Common iliac
- Internal iliac
- External iliac

(B. Kathleen Alsup & Glenn M. Fox,
University of Michigan Medical School,
[BlueLink](#))

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*Transverse Section of Posterior Abdominal Wall (Inferior View)
Right Side, L2 Level*

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Lumbar Plexus (T12 - L4), anterior rami

Note: posterior rami supply the skin and muscles of the back

Nerves:

Subcostal (T12)

Iliohypogastric (L1)

Ilioinguinal (L1)

- along inguinal ligament to labia/scrotum
- L1 dermatome

Genitofemoral (L1,2)

- innervates cremaster muscle & medial thigh

Femoral (L2,3,4) - *Motor & Sensory*

- motor to anterior compartment of thigh
- sensory to thigh, anterior knee, medial to ankle
- terminal branches below inguinal ligament

Obturator (L2, 3, 4) - *Motor & Sensory*

- muscles of medial thigh

Lumbar Plexus

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Questions for the Lab:

- 1) During pregnancy people often experience edema in the legs. Which leg will typically be more affected? Can you relate this to the anatomy of the posterior abdominal wall?

- 2) Describe the anatomical relationship between the kidneys and the diaphragm - what is the clinical significance of this?

- 3) Look at the relationship between the superior mesenteric artery and the left renal vein - what could go wrong here?

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RESOURCES

Websites:

Clinical Anatomy | Entrada | Acland's Video Atlas | Labnatomy

Recommended Textbooks:

Gray's Anatomy for Students

By: Drake, Vogl, Mitchell
Elsevier Inc. Churchill Livingstone
ISBN 978-0-7020-5131-9

** OR **

Essential Clinical Anatomy

By: Moore and Agur
Lippincott Williams & Wilkins
ISBN 0-7817-6274-X

One of the Following Atlases:

Gray's Atlas of Anatomy

By: Drake, Vogl, Tibbits, Richardson, Mitchell
Elsevier
ISBN 978-1-4557-4802-0

Atlas of Anatomy

By: Gilroy, MacPherson, Ross
Thieme
ISBN 978-1-60406-062-1

Atlas of Human Anatomy

By: Frank Netter
Icon Learning Systems
ISBN 1-929007-11-6

Before We Are Born

By: Moore and Persaud
Saunders
ISBN 978-1-4160-3705-7

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