

Autopsy.Online

Anatomy course – Labs

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1-1 Introduction to digitized slide viewer:

1. How to view a slide

Go to Histology page.

Select the “Skin; breast” slide (by clicking on the image labelled “Skin; breast.”)

A new login page will appear.

Select the “GUEST ACCESS” to login.

Select the diagonal arrows in the upper right of the image to make full screen.

Practice going back and forth between the different magnifications.

Practice moving the image around by clicking and dragging.

1-2 Epithelium

1. Select the “Skin; breast” slide from Histology.
2. Identify the layers of the skin.
3. Identify a hair follicle.
4. Are there any other adnexal structures (sebaceous glands, sweat glands, etc.)? Identify each.

1-3 Connective tissue.

1. Select the “Skin; breast” slide from Histology.
2. Review the different types of connective tissue.
3. What types of connective tissue can you see within the skin portion?
4. What types of connective tissue can you see within the breast portion?

1-4 Muscle – skeletal

1. View the “Thyroid; skeletal muscle” slide.
2. First look at low power.

- a. How many portions of tissue are on the slide?
- b. Identify which is thyroid and which is skeletal muscle.
- c. Focus on the skeletal muscle portion.
 - i. Identify the skeletal muscle cells
 - ii. Identify Z-lines, A-Bands and H-Bands.
 - iii. Identify the muscle nucleus, capillaries and adipose tissue.
 - iv. Identify epimysium, perimysium and endomysium.

1-5 Muscle – cardiac

1. Select the “Heart” slide in Histology.
2. Identify cardiac muscle.
3. Identify the atrial, ventricular and valve tissue.
 - a. Which would you expect to be thicker — the atrium or the ventricle?
 - b. Which would expect to be comprised of cells vs. connective tissue — the muscle or the valve?
4. Identify muscle striations.
5. How does cardiac muscle differ from skeletal muscle.
 - a. Where is the nucleus located in cardiac muscle compared to skeletal muscle cells?
 - b. Identify intercalated discs.
6. Identify capillaries.

1-6 Neural – peripheral nerve

1. Select the “Heart” slide in Histology and look in the pericardial fat.
2. Identify a nerve in the pericardial fat.
3. Identify perineurium, nerve fascicle and Schwann cells.

1-7 Neural – brain

1. View the “Brain” slide in the Histology page.
2. Identify grey matter and white matter.
3. Identify neurons and glial cells.

1-8 View Histology for more tissue types.

Examples:

1. Blood vessels.

Select the “Skin; breast” slide in Histology.

- a. Find a capillary, artery and vein.
- b. How can you tell the difference?
- c. Identify each layer of the wall.

2. Blood cells.

Select the “Skin; breast” slide in Histology.

- a. Go to higher power on a blood vessel with blood in it.
- b. What kinds of blood cells can you identify?

2-1 Arteries, veins, capillaries

1. Select the coronary artery slide in the Histology page.
 - a. Identify a region without plaque.
 - b. Identify the layers of the wall: intima, media and adventitia.
 - c. Identify the muscular layers.
2. Select the heart slide in the Histology page.
 - a. Identify the epicardial fat.
 - b. Identify a small coronary artery within the epicardial fat.
 - c. Identify the layers of the wall: intima, media and adventitia.
 - d. Identify the muscular layers.

- e. Identify veins in the epicardial fat.
 - i. What is the difference between the wall of an artery and a vein?
3. View Case 13 Part 4 (00:00 – 00:33).
- a. What veins are being demonstrated?
 - b. Where do they drain to?
 - c. What veins connected to them outside the chest?
4. View Case 14 Part 3.
- a. Beginning at 1:51 through the end of the video: what arteries are being demonstrated?
 - b. What parts of the body do they supply?
 - c. What arteries will they connect or branch to?
5. Select the Lung slide in the Histology page.
- a. Identify capillaries in the alveolar septae.
 - b. How many cell layers is the capillary wall comprised of?
6. Select the Kidney slide in the Histology page.
- a. Identify capillaries in the glomeruli.
 - b. How many cell layers is the capillary wall comprised of?
7. Explore other tissue types in the Histology page.
- a. Identify microscopic arteries, veins and capillaries.
8. Summarize the gross, microscopic and functional differences between arteries and veins.

2-2 Heart external

1. These videos illustrate the external heart and have Anatomy Pins:
- Case 17 Part 5
 - Case 28 Part 3 (00:00 – 00:09)
- a. Use the Anatomy Pin video to assist. Identify the external structures.
 - b. Use the Free-Draw sketch pad to make a labelled diagram.
2. These videos illustrate the heart and do not have Anatomy Pins:

Case 6 Part 8

Case 42 Part 4

- a. What structures on the external view of the heart can you identify in each video?
- b. Use the Free-Draw sketch pad to make a labelled diagram.

2-3 Heart – valves

1. View Case 6 Part 9.

- a. Identify and name each valve.
- b. Identify papillary muscles and chordae tendineae.
- c. Be able to identify the direction of flow across the valve and the chamber or vessel on each side of the valve.
- d. Identify any coronary artery ostia.

2. Use the body map to identify additional videos which show valves.

2-4 Aorta

1. These videos illustrate the aorta:

Case 1 Part 12 (1:12)

Case 13 Part 7

Case 17 Part 6

Case 39 Part 7

- a. Identify where you see the aortic root, aortic arch, descending aorta, thoracic aorta and abdominal aorta.
- b. Identify the aortic hiatus in the diaphragm.
- c. Identify the main branches of the aorta and/or their ostia: right brachiocephalic, left common carotid, left subclavian, celiac, superior mesenteric, renal, inferior mesenteric, and common iliac arteries.
- d. Which of these vessels continue directly to their target organ or structure? And which branch into additional named vessels prior to reaching a target organ?

- e. If the vessels branch, what are the named branches and their target organs?
- f. Once you identify the target organs, name the returning veins from these organs.

2-5 Pulmonary circulation

1. These cases illustrate the location of the pulmonary trunk:

Case 1 Part 5 00:33 – 01:43

Case 12 Part 4 00:00 – 00:36

Case 39 Part 3 00:15 – 00:39

Case 42 Part 4 00:00 – 00:28

- a. Is the pulmonary trunk to the left or right of the aortic root?
- b. Is the pulmonary trunk to anterior or posterior to the aortic root?
- c. If you were to insert forceps into the pulmonary trunk, you could advance it in three different directions.
 - i. What directions could you advance your forceps?
 - ii. Which named vessels would you be advancing through in each direction?
 - iii. At what main anatomic structure would arrive in each direction?

2. View Case 27 Part 8.

- a. Identify the main hilar structures: pulmonary artery, pulmonary veins, mainstem bronchus.
- b. Was a pulmonary embolism identified? Was it in a pulmonary artery or vein? Was it a lobar or sublobar vessel?

3. View Case 12 Part 4.

- a. Identify the part of the video that shows exploration of the right pulmonary artery (between the pulmonary trunk and the right lung).
- b. View the dissection of the pulmonary artery
- c. Was a pulmonary embolism identified
- d. Was it within a lobar or sublobar vessel?
- e. Which lobe was it in?

4. Your patient has a pulmonary embolism in a sublobar pulmonary artery of the right upper lobe of the lung. It originated as a deep venous thrombosis in the left popliteal vein.
 - a. Trace the path it travelled naming all the vessels and heart chambers along the way.
5. View the lung slide in Histology.
 - a. Identify the pulmonary edema.
 - i. Where is the pulmonary edema (inside what space)?
 - ii. What is usually inside this space?
 - b. Review the pulmonary circulation.
 - i. Explain how blood gets into and out of the lungs, naming the heart chambers and blood vessels comprising this circulation as they branch down to the capillaries inside the alveolar septae and then back again to the heart.
 - c. Explain why pulmonary edema occurs with left heart failure?
 - d. Would you expect pulmonary edema to occur in right heart failure?
 - e. What are diseases that can cause left heart, right heart or biventricular heart failure?

2-6 Portal circulation

1. View Case 39 Part 5 and Case 39 Part 8.
 - a. Review the portal circulation.
 - i. Identify and name the vessels and organs involved.
 - b. Review portal hypertension.
 - i. What are causes of portal hypertension?
 - ii. What are consequences of portal hypertension?
 - c. The patient's spleen is massively enlarged.
 - i. Why does this happen in portal hypertension?
 - d. There is a clot in the splenic vein.
 - i. Why might this happen in portal hypertension?

3-1 Pleural space

1. These cases illustrate the pleural space:

Case 17 Part 4 00:00 – 01:28

Case 29 Part 4 00:00 – 00:35

Case 30 Part 7 00:00 – 00:12

Case 34 Part 2 00:00 – 00:20

Case 37 Part 4 00:59 – 02:01

Case 39 Part 3 00:00 – 00:05 & Case 39 Part 6 00:22 – 00:45

a. Evaluate each for pleural fluid and adhesions.

b. For the case(s) with pleural effusions:

i. Are they unilateral or bilateral?

ii. Which side?

iii. Estimate how much fluid is in there.

iv. Is the fluid serous, serosanguinous or hemorrhagic? Exudative or transudative?

v. What might an x-ray show in each patient?

c. For the case(s) with adhesions:

i. What are the adhesions between (example: right upper lobe to chest wall, right middle lobe to mediastinum, etc.)?

ii. Why might they be there (review History)?

2. In this case, the patient had a procedure with instrumentation through the chest wall into the pleural space — a chest tube:

Case 38 Part 5

a. What anatomic layers does a chest tube pass through to get into the pleural space, beginning with the epidermis.

b. Did the chest tube in this patient enter through the lower or upper rib cage?

c. Can you estimate between which two ribs the chest tube was inserted?

- d. Identify the contusion inside the chest cavity. (01:09 is a high magnification view of the right inner chest wall. In this view, the contusion is on the left; normal is on the right. 01:24 is a low magnification view including the right inner chest wall. In this view, the contusion is on the left; normal is on the right.
- e. Decide if the hemorrhage is near the visceral or parietal pleura.
- f. Then decide if the hemorrhage is external to the pleura, within the pleura itself, or internal to the pleura.
- g. Would you expect hemorrhage inside the pleural cavity related to the procedure?

3-2 Lung external

1. These cases illustrate the external lung from various perspectives:

Case 1 Part 5 & Case 1 Part 9

Case 11 Part 8

Case 13 Part 8

Case 17 Part 4

Case 14 Part 6

Case 37 Part 4

Case 38 Part 8

- a. Before you begin, decide which lobe on each side occupies most of the anterior, posterior, medial and lateral surfaces of each lung.
 - i. Refer to a diagram if need be.
 - ii. Sketch your own diagram of the lungs from each perspective.
- b. Case 1 shows two different views of the lungs. Part 5 shows the lungs still in the chest cavity (in situ). Part 9 shows the lungs removed.
 - i. Identify the lobes and fissures in situ (Part 5).
 - ii. Identify the lobes and fissures after the lung was removed (Part 9).
 - iii. Compare your answers in i. and ii.
 - iv. Did you identify each lobe correctly in Part 5 (in situ)?

- c. For each case of the other cases
 - i. Decide when you are looking anterior, posterior, medial or lateral to the organ.
Some cases show multiple perspectives.
 - ii. Identify superior and inferior.
 - iii. Identify each visible lobe and each visible fissure.
 - iv. Identify the diaphragmatic surface and lingula, where visible.
 - v. Decide if there is any anatomic variation, or if the lungs show the usual configuration (e.g., 3 lobes on the right; 2 lobes on the left).
- d. After viewing these cases, reassess your understanding of which lobe on each side occupies most of the anterior, posterior, medial or lateral surface of the lung.
 - i. Has your understanding changed?
 - ii. Was your diagram in Part a. correct?
 - iii. Is it the same or different in each patient?
 - iv. How will you apply this knowledge clinically?

3-3 Pulmonary arteries, pulmonary veins, bronchi

(see Cardiovascular: 2-5 Pulmonary circulation)

3-4 Airway – larynx and trachea

1. These cases illustrate the larynx and airway. (Note: some of these cases will have Anatomy Pins).

Case 1 Part 6

Case 2 Part 10

Case 13 Part 8

Case 23 Part 2 Case 32 Part 3

- a. Decide when the view is from anterior, posterior, superior, etc.
- b. Which case shows trauma?
 - i. Where is located (in what anatomic structure)?

- ii. What caused it?
- c. Which case shows pulmonary edema filling the airway?
 - i. What caused it?
- d. In which case(s) can you identify the epiglottis?
 - i. Is it complete or transected?
- e. Which case shows an anatomic abnormality?
- f. Which case(s) might have been difficult to intubate and why?
- g. Which cases show identifiable strap muscles?
 - i. Which strap muscles can you identify?
- h. Wherever it appears, identify the hyoid bone, laryngeal notch, true vocal cords, false focal cords, posterior tracheal membrane, tracheal rings, and carina.
- j. Wherever it appears, identify the cricothyroid membrane (or where it would be located) and the thyrohyoid membrane.
- k. Wherever the trachea appears, decide where you would position the tip of an endotracheal tube.

4-1 Esophagus

1. Note: This activity is extremely challenging. Use your text and any anatomy pin videos to assist. Be sure to turn on Closed Captions in the video to assist with audio.

2. These videos demonstrate esophageal anatomy.

Case 1 Part 11 00:59 – 01:40 and 02:35 – 03:00

Case 12 Part 3 00:00 – 00:39 and 01:13 – 02:10

Case 13 Part 10 02:00 – 02:43

Case 23 Part 2 00:00 – 01:54 and 03:15 – 04:12

Case 23 Part 3 00:00 – 00:06 and 01:10 – 02:22

Case 39 Part 6 00:00 – 00:22 and 01:10 – 02:51

3. As you watch, note what structures are anterior, posterior, right lateral, left lateral, inferior and superior to the esophagus.

a. If possible, mark a time in a video that demonstrates your observation.

b. Example:

Video/Time: Case 23 Part 3 at 1:24

The esophagus is anterior to the vertebral column.

4. Specific structures:

a. What does the esophagus connect to superiorly?

i. Video/Time:

b. What does the esophagus connect to inferiorly?

i. Video/Time:

c. Is the esophagus anterior or posterior to the trachea?

i. Video/Time:

d. Is the esophagus anterior or posterior to the thoracic aorta? (Hint: It depends on where you look in the chest. Explain below.)

i. Video/Time:

ii. Video/Time:

e. Is the esophagus anterior or posterior to the inferior vena cava?

i. Video/Time:

f. What structures are right lateral to the esophagus?

i. Video/Time:

g. What structures are left lateral to the esophagus?

i. Video/Time:

h. What structure(s) is (are) posterior to the esophagus?

i. Video/Time:

ii. Video/Time:

5. What is the name of the passageway through the diaphragm for the esophagus?

6. What is the difference between the pharynx and esophagus?

4-2 Stomach, small intestine, large intestine

1. These cases focus on the gastrointestinal tract:

Case 10

Case 11

a. Familiarize yourself with these terms:

Esophagus

Gastroesophageal junction

Stomach

Greater curvature

Lesser curvature

Pylorus

Antrum

Body

Fundus

Small intestine

Duodenum

Jejunum

Ileum

Ileocecal junction

Appendix

Colon

Cecum

Ascending colon

Transverse colon

Descending colon

Sigmoid colon

Rectum

Mesentery

Mesenteric surface

Antimesenteric surface

Right colic flexure

Left colic flexure

Mucosa

- b. Keep the list of term handy and create your own where you can add notes.
- c. View the videos and identify as many of these structures as you can within the videos.
- d. Add a Case, Part and video time next to each term to note when the structure is visible in the video.
 - i. For example:
Appendix: Case 11 Part 6 visible at 00:15.
- e. Be able to identify the structure if asked.
- f. Sharpen observation skills. See if you can identify the first time in a video the structure appears. Sometimes structures are not mentioned in the audio, but will pass by quickly during the dissection.
 - i. For example, in Case 10, the small intestine is first visible in Part 2 at about 00:30. It is also visible later in the case, for example Case 10 Part 3 at 00:00. But “Case 10 Part 2, about 00:30” would be the correct answer for when it appears first.

4-3 Liver, gallbladder

1. Use the Body Map to identify videos which include the liver and gallbladder.
 - a. Find one that shows cirrhosis.
 - b. Find one that shows the right and left lobes of the liver and the round ligament.

4-4 Pancreas

1. Use the Body Map to identify a video which shows the pancreas.
 - a. Where is it in relation to the stomach, duodenum and spleen?

5-1 Bone marrow

1. View the bone marrow slide in Histology.
 - a. Identify precursors of each cell type (red cell, white cell, platelets).
2. This case shows the cut surface of the ribs (after removing the chest plate).

Case 13 Part 2

- a. Identify each rib by its cut surface.
- b. How many ribs do you identify on each side?
- c. Which ones show bone marrow on the inside and which ones do not?
 - i. How can you tell the difference?
 - ii. For the ones that do not contain bone marrow, what are they filled with?
- d. One of the cut surfaces is not a rib, but a different bone.
 - i. Which cut surface is not part of the ribs?
 - ii. Which bone is it?

5-2 Spleen

1. This case shows a spleen dissection.

Case 9 Part 1

- a. Identify the splenic capsule and hilum.
- b. Can you identify red and white pulp?
- c. What is a spleniculus?
 - i. How common are these?
 - ii. Does the patient have one?
 - iii. Can they be multiple?

2. This case shows a thrombosed splenic vein.

Case 39 Part 8

a. Review the splenic and portal circulation.

b. Identify the splenic vein thrombosis in the video.

i. Where did the thrombosed vein drain to? (Name the vein and/or organ this vein drains into.)

c. Is the spleen normal in size, smaller or larger than normal?

i. If there is a change in size, why did that happen (based on the history and clinicopathologic findings)?

3. This patient had a TIPS procedure.

Case 8

a. Review TIPS procedure.

b. Review the history:

i. In the case, the TIPS procedure was “converted to a transplenic approach mid-procedure.” What does this mean?

ii. What vessels were involved in the procedure?

c. Identify the spleen in this case.

i. Is it normal or abnormal?

ii. If it is abnormal, what changes are there?

iii. If there are changes, why did these happen (based on the history)?

5-3 Lymph nodes

1. These cases show lymph nodes.

Case 39 Part 6

Case 20 Part 4

a. Review where lymph nodes are normally located in the body.

b. Identify the lymph nodes each case.

c. Where are the lymph nodes located (near what anatomic structures)?

d. Are the lymph nodes normal in size, appearance and number in each case? If not, explain what's different.

5-4 Blood cells

1. View the "Skin; breast" slide in the Histology page.

- a. Find a blood vessel with blood inside it.
- b. Identify red cells, lymphocytes and neutrophils.

(Platelets are not typically visible in a section of tissue but can be found in a blood smear.)

6-1 Joints

1. List the main types of joints.

2. View these cases and decide what joint is highlighted in the video and what type it is.

Case 5 Part 1

Case 17 Part 3

Case 30 Part 3

6-2 Tendons and Ligaments

1. These cases show views of tendons.

Case 15 Part 2

Case 29 Part 2

Case 32 Part 3

a. Identify tendons in each video.

i. What are common characteristics?

b. Name the muscle, insertion and origin associated with each tendon based on surrounding anatomy.

Note: This is an extremely challenging (but not impossible) activity.

2. This case shows a knee replacement surgery a tendon repair.

Case 30 Part 2

a. Identify the patellar ligament (tendon) and the quadriceps tendon.

i. Which tore and was repaired?

b. Identify the knee replacement hardware.

i. Name the bony structures replaced by the hardware.

6-3 Skeletal muscle

1. View three cases with Y-shaped incisions.

a. It's your choice of case. Part 1 will show the external exam. So, select Part 2 (in most cases) for the Y-shaped incision. Choose from the Library.

b. Which case did you pick? (list 3)

2. Identify:

Subcutaneous tissue

Pectoralis major muscle

Pectoralis minor muscle

Ribs

Costal cartilage

Costochondral junction

Clavicle

Sternum

Sternal notch

Xyphoid process

3. Look up: what muscles attach to the clavicle.

a. Can you identify any in your videos?

4. Review intercostal muscle anatomy.

b. What is the blood supply an innervation of the intercostal muscles.

6-4 Skull

1. These videos show skull anatomy:

Case 5 Part 1

Case 12 Part 5

Case 16 Part 3

Case 31 Part 2

Case 35 Part 2

- a. To the right of each video at the top of the page is a “What’s inside” list of anatomic structures.
- b. Review each video and make a master list of anatomic structures.
- c. Once your master list is made, go back to each video and try to identify each of the structures in your master list.

2. Clinical application: head trauma.

Case 31 Part 2

- a. Identify where the internal and external trauma occurred (name the bones).
- b. What cranial nerves are nearest the site of internal trauma?

3. Clinical application: burr (drill) hole from a past neurosurgery.

Case 7 Part 6

- a. What is a burr hole?
- b. Go to 00:45.
 - i. Orient the patient (decide what is anterior, posterior, right and left).
 - ii. Identify each of the visible bones and sutures.
 - iii. Where was the burr hole drilled?
 - iv. What structures did the surgeon pass through while drilling the hole?
 - v. What lobe of the brain was under the burr hole?

4. Clinical application: brain tumor.

Case 19 Part 4

- a. In which cranial fossa is the tumor located.

- b. Is the tumor superior or inferior to the cerebellar tentorium?
- c. Where is the transverse sinus in relation to the tumor?
- d. Where is the superior sagittal sinus in relation to the tumor?
- e. Where is the spinal cord in relation to the tumor?
- f. Is the tumor anterior or posterior to the petrous bone?
- g. Which blood vessel likely supplied the tumor?
- h. Is the tumor adjacent to the frontal, parietal, temporal or occipital bone?
- i. Name the calvarial suture(s) that would be nearest to the tumor.
- j. What portion of the brain did the tumor compress?
- k. What change in function could this tumor possibly have caused?
- l. Where are meningiomas typically found?
- m. If the tumor had caused herniation, what type of herniation might it have caused?
- n. Which of the meningeal layers contained the meningioma: pia, arachnoid or dura mater?
- o. Which cranial nerves were closest to the tumor?
- p. Was this a resectable tumor?
- q. What surgical approach might have been used to remove this tumor?

6-5 Diaphragm

1. Find videos on the diaphragm in the Body Map (Scan “Respiratory, Gastrointestinal” option).
 - a. Which videos did you select?
2. Review the anatomy of the diaphragm.
 - a. What is the function diaphragm.
 - b. What is the blood supply and innervation of the diaphragm.
3. View the videos.
 - a. Identify the esophageal, aortic and caval hiatus wherever they appear in the videos.
 - i. Which one is nearest the spine (posterior)?
 - ii. Which one is most anterior?

- iii. Which one is most to the right?
 - iv. Which one is most to the left?
 - v. Draw out each on a diagram.
- b. Identify the central tendon wherever it appears in the videos.

7-1 Kidney, Ureter

1. This video shows a posterior view of the organ block and a dissection of the kidneys:

Case 20 Part 2

a. Keep handy or sketch out a diagram that includes these structures:

Common iliac arteries, bilateral

Aorta

Celiac artery

Superior mesenteric artery

Inferior mesenteric artery

Bilateral renal arteries

Bilateral kidneys

Bilateral ureters

Bilateral adrenals

b. Is the renal artery superior or inferior to the superior mesenteric artery?

c. View the video with your diagram handy.

i. Is it an anterior or posterior view of the organ block?

d. Identify superior and inferior in the video.

e. Orientation switches in the video.

i. Identify when that happens.

f. Is the aorta to the right or left of the inferior vena cava in initial view?

g. Keep track of the renal arteries.

h. Identify the kidneys and ureters when they are exposed during the dissection.

i. Have ureters already been transected near the bladder or are they still connected?

2. This video shows the prostate, bladder and right ureter. The left ureter has been cut.

Case 20 Part 6 5:35

- a. Identify each structure (prostate, bladder, right ureter).
- b. Identify where you think the left ureter would attach to the bladder.

3. This video shows a narrow view of anatomy near the pelvis. The right ureter is identified.

Case 7 Part 4

- a. What structures are near to the ureter?
- b. Beginning at the kidney, what structures does the ureter pass on the way to the bladder?
- c. What structures does the ureter cross over (anterior to)?
- d. What structures does the ureter cross behind (posterior to)?

4. This video shows the internal anatomy of the kidney. The kidney is not normal but the main anatomic structures and relationships can be identified.

Case 13 Part 10

- a. View the Anatomy Pin video and pull up pins 25 – 30.
- b. Identify the cortex, medulla, and renal pelvis (internal and external views).
- c. Identify a medullary pyramid.
- d. The patient has renal arteriolar nephrosclerosis.
 - i. What is this condition?
 - ii. What causes this condition?
 - iii. What changes in this kidney fit for the diagnosis?

7-2 Male reproductive system, Bladder

1. Case 37 Part 7 shows the prostate, bladder and testes.

- a. Identify the prostate.
 - i. Identify the prostatic urethra, seminal vesicles and vas deferens.
 - ii. Is the vas deferens medial or lateral to the seminal vesicle?
- b. Identify the bladder.

- i. Is there any urine inside?
- c. Identify the testis.
 - i. Is it the right or left testis?
 - ii. From what passageway is it retrieved?
 - iii. What structures normally sit in this passageway?
- d. The rectum is not visible in the video.
 - i. Is the rectum anterior or posterior to the prostate and bladder?

7-3 Female reproductive system

1. These videos shows the female reproductive organs in the pelvis and after removal:

Case 21 Part 4

Case 21 Part 5

- a. Identify the bladder and uterus in Part 4 and Part 5.
- b. Order from anterior to posterior: rectum, bladder, uterus.
- c. Identify these structures:
 - Vaginal wall
 - Cervix
 - Cervical os
 - Body of uterus
 - Fallopian tubes
 - Ovarian ligament
 - Ovary
 - Parametrium
- d. What are the medial and lateral attachments of the ovarian ligament?
- e. Does the fallopian tube attach directly to the ovary?
- f. Is the fallopian tube anterior or posterior to the ovarian ligament?
- g. At the end of the Case 21 Part 4, is the retrieved uterus viewed from anterior or posterior?

- i. How can you tell?
- h. Is there urine in the bladder? (Part 5)
- i. Identify the endocervical canal. (Part 5)
- j. Identify the endometrial cavity and myometrium. (Part 5)

8-1 Brain

1. These cases show a brain dissection and include Anatomy Pins.

Case 19 Part 5

Case 19 Part 6

- a. Identify each of the structures using the list of terms beside the Anatomy Pin video.
- b. Then scroll-up the list to hide. Now review each pin and be able to identify the structure.

2. Case 5 is an older case. It shows a brain dissection and include Anatomy Pins. Try this case after viewing Case 19, above.

Case 5 Part 2

Case 5 Part 3

- a. Identify each of the structures using the list of terms beside the Anatomy Pin video.
- b. Then scroll-up the list to hide. Now review each pin and be able to identify the structure.

8-2 Spinal cord

1. These cases show retrieval of the spinal cord.

Case 6 Part 3

Case 6 Part 6

Case 6 Part 7

- a. Decide if the segment(s) of spinal cord being removed is cervical, thoracic or lumbar.
- b. How caudal does the spinal cord go?
- c. Identify the cauda equina.

- i. At what vertebral level is it found?
- d. What structures or spaces surround the spinal cord?
 - i. Begin with the spinal cord and end with the vertebral bone.
 - ii. Which ones are identifiable in the videos?
- e. Can you identify any peripheral nerve roots in any of the videos?
- f. What is the blood supply of the spinal cord?
- g. Review the anatomy of vertebral bone.
 - i. What portions of the vertebral bone were cut to access the spinal cord?

8-3 Meninges

1. This case shows stripping of the dura mater from the inner calvarium:

Case 12 Part 5

- a. Identify the dura mater.
- b. What space would be considered epidural?
- c. What space would be considered subdural?

2. This case shows the arachnoid mater. Most of the brain is covered in arachnoid mater. One area of the right occipital lobe (near the midline) is missing the arachnoid mater, for comparison.

Case 13 Part 1

- a. Identify the arachnoid mater.
- b. What space would be considered subarachnoid?
- c. Identify the subdural space in the video.

3. View this case:

Case 43 Part 3

- a. Decide if the bleeding is epidural, subdural or subarachnoid. Or some combination.

4. Note: The pia mater directly covers the brain.

8-4 Peripheral nervous system

(See Tissue types 1-6 Neural – peripheral nerve)

9-1 Overview – Endocrine

1. Use the Body Map (Endocrine and Gastrointestinal) to search for videos with pancreas, thyroid, adrenals, ovaries and testes. Identify the organs.
2. Find the sella turcica in a Case 5 Part 1. Select Pin 16 to view. It's where the pituitary sits.