

Graduate Anatomy 503
EXAMINATION 3

October 18, 2019

PART I. Answer in the space provided. (16 pts)

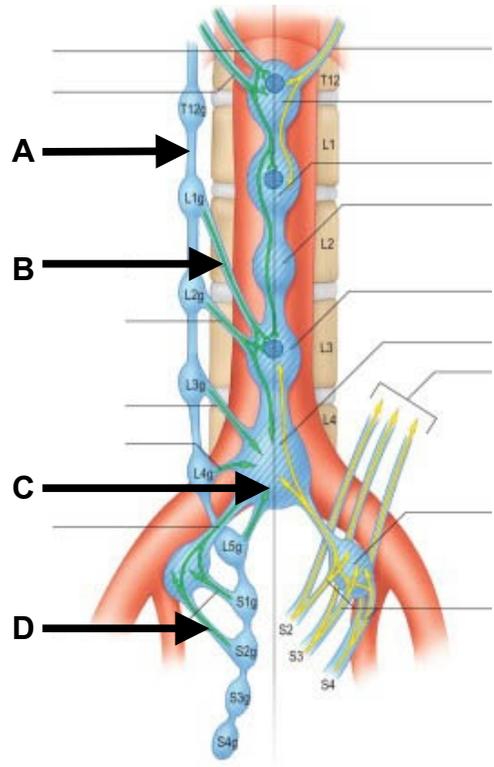
1. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



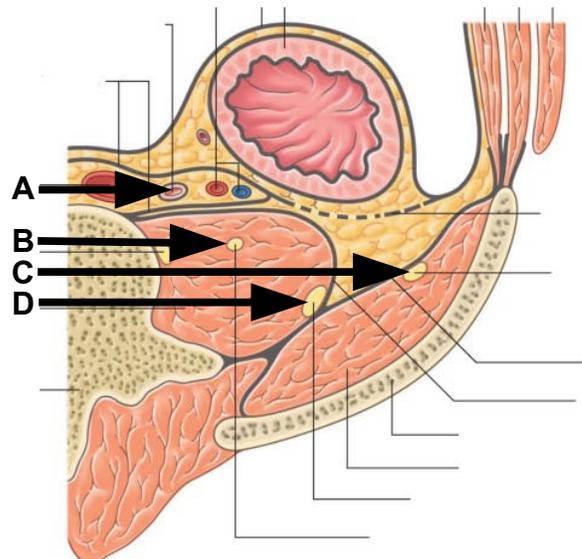
2. Identify the structures. (2 pts)

A. _____

B. _____

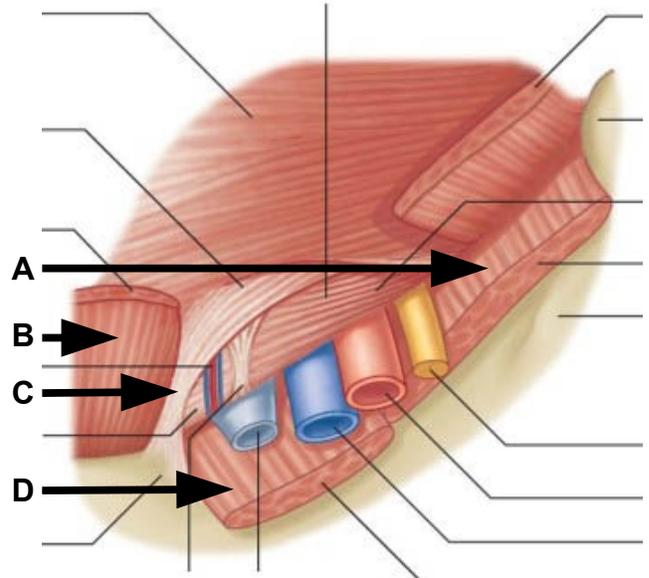
C. _____

D. _____



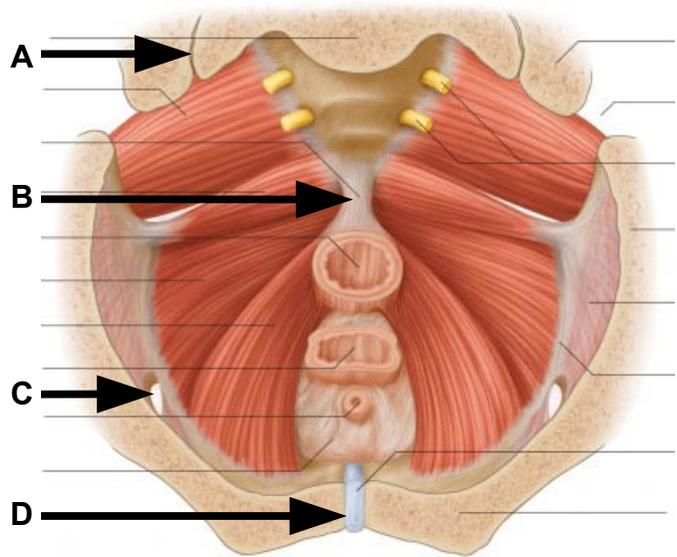
3. Identify the structures. (2 pts)

- A. _____
- B. _____
- C. _____
- D. _____



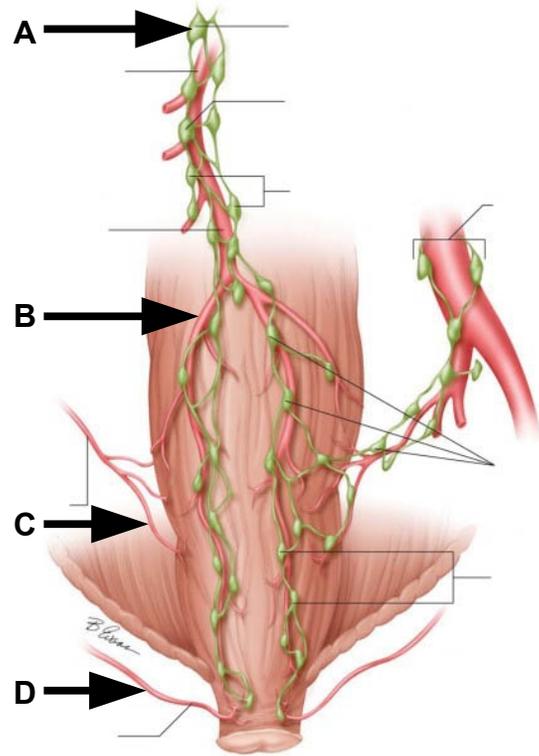
4. Identify the structures. (2 pts)

- A. _____
- B. _____
- C. _____
- D. _____



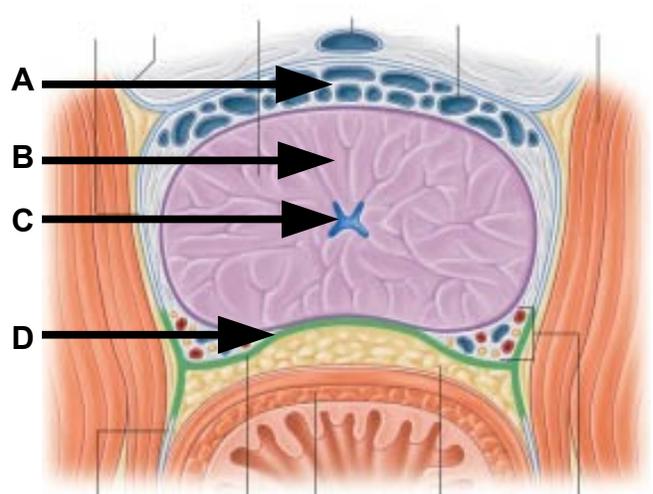
5. Identify the structures. (2 pts)

- A. _____
- B. _____
- C. _____
- D. _____



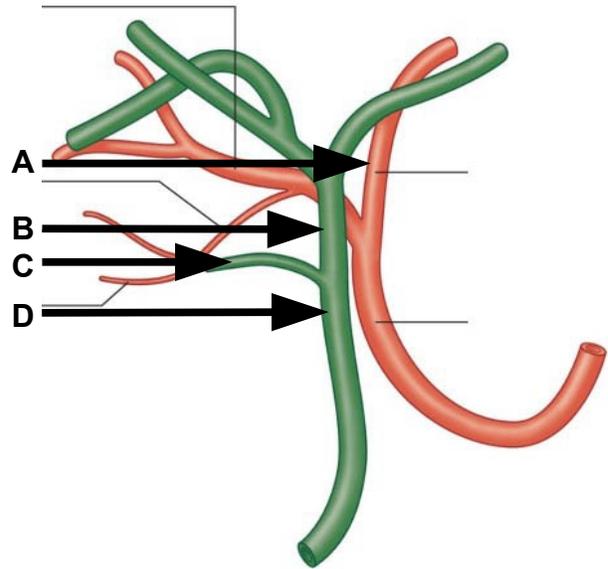
6. Identify the structures. (2 pts)

- A. _____
- B. _____
- C. _____
- D. _____



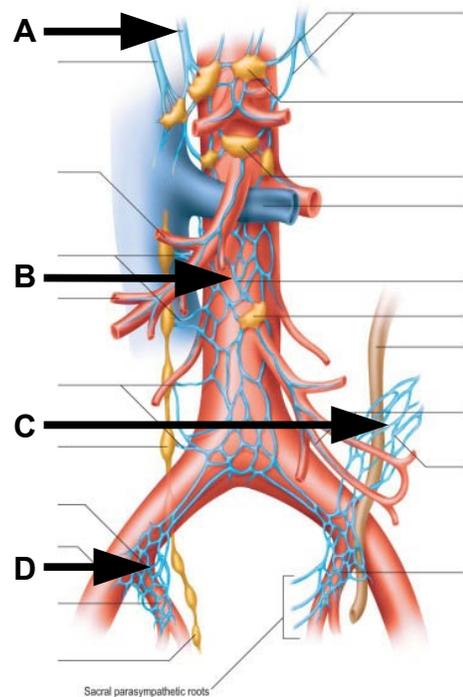
7. Identify the structures. (2 pts)

- A. _____
- B. _____
- C. _____
- D. _____



8. Identify the structures. (2 pts)

- A. _____
- B. _____
- C. _____
- D. _____



Part II. Circle the correct answer. All, none, or some may apply. (18 pts)

1. With regard to anterior abdominal wall and inguinal canal:
 - a) A direct inguinal hernia may descend into the tunica vaginalis.
 - b) The iliac crest is at the L3 vertebral level and the T9 dermatome level.
 - c) The transversus abdominis muscle is attached to the lateral 2/3 for the inguinal ligament.
 - d) The conjoint tendon consists of transversalis fascia and the internal oblique aponeurosis.
 - e) The superior, middle, and inferior suprarenal arteries and veins supply the suprarenal gland.
 - f) Metastatic disease from the left colic flexure is expected to spread to the celiac lymph nodes.

2. With regard to the abdominopelvic cavity and vasculature:
 - a) The superior mesenteric artery supplies blood to the hindgut and anal canal.
 - b) The superior and inferior rectal veins anastomose proximal to the pectinate line.
 - c) Lymphatic drainage from the superior pole of the ovary is primarily to the inferior mesenteric nodes.
 - d) Lymphatic drainage from the fundus of the stomach is to the superior mesenteric nodes.
 - e) The superior anterior and posterior pancreaticoduodenal arteries anastomose with the inferior anterior and posterior pancreaticoduodenal arteries at a location along the alimentary canal that marks the transition from foregut to hindgut.
 - f) Lymphatic drainage from the appendix is to the inferior mesenteric nodes.

3. With regard to the liver, duodenum, pancreas, and posterior abdominal structures:
 - a) The caudate lobe of the liver provides the inferior boundary of the epiploic foramen.
 - b) The inferior vena cava passes through the bare area of the liver and provides the superior boundary of the epiploic foramen.
 - c) The hepatogastric ligament is a visceral ligament attached to a fibrous ligament and containing the left gastric vein.
 - d) Blood from the portal system normally passes through the liver before draining into the inferior vena cava by way of the portal veins.
 - e) The ligament venosum extends from the portal vein to the right hepatic vein.
 - f) The common bile duct is joined by the main pancreatic duct to form the ampulla of Vater.

4. With regard to the pelvic viscera and perineum:
 - a) The retropubic space provides surgical access to the pubovesical ligament without the need to enter the peritoneal cavity.

- b) The ampulla of the vas deferens lies posterior to the prostate and lateral to the seminal vesicle.
- c) The presacral space is a subperitoneal space posterior to the uterus and anterior to the rectum.
- d) The rectouterine pouch is unique to the female.
- e) Perivisceral fascia is thickened at the posterior wall of the prostate and, at this location, is known as the fascia of Denonvilliers.
- f) Lymphatic channels passing through the inguinal canal communicate between uterine nodes and superficial inguinal nodes.

5. With regard to the pelvic diaphragm and anal region:

- a) The ischiococcygeus (coccygeus) takes origin from the internal surface of the sacrospinous ligament.
- b) The pubococcygeus muscle is tethered to the anococcygeal raphe.
- c) Pelvic visceral fascia condenses to form perirectal fascia.
- d) Internal hemorrhoids, more so than external hemorrhoids, may develop during pregnancy.
- e) The arcus tendineus is a specialization of the obturator internus fascia that provides a site of attachment for the ischiococcygeus muscle.
- f) Contraction of the ischiococcygeus raises the pelvic floor.

6. With regard to the pelvic nerves and vessels:

- a) Injury to the spinal cord at the S2-4 cord levels preserves the spinal reflexes of micturition.
- b) The cavernous nerves are derived from sacral splanchnic nerves.
- c) Sectioning of the hypogastric nerves to disrupt visceral afferent fibers removes all sympathetic supply to the bladder.
- d) Disruption of the sacral splanchnic nerves is expected to cause impotence.
- e) The falciform edge is on the medial margin of the ischial tuberosity and contributes to formation of the pudendal canal.
- f) The parasympathetic supply to the descending colon follows a periarterial plexus.

Part III. Indicate your understanding of the following. (30 pts)

- 1. Define the layers of the rectus sheath superior and inferior to the arcuate line. (6 pts)**

EXAM NUMBER _____

2. Cirrhosis of the liver causes portal hypertension. **Discuss the anatomical basis for caput medusa. (6 pts)**

EXAM NUMBER _____

3. Define the flow of urine beginning with the minor calyx and ending with the bladder. (6 pts)

EXAM NUMBER _____

4. Define the parts and relationships of the clitoris. (6 pts)

EXAM NUMBER _____

5. Define the boundaries and contents of the aortic hiatus. (6 pts)

EXAM NUMBER _____

Part IV. Answer in the space provided. (36 pts)

1. A hysterosalpingogram determines patency of the uterine ostia and uterine tubes. Radiographic contrast is injected into the uterine cavity through the vagina and cervix. If the uterine tubes are patent, dye appears in the abdominal cavity. Blockages are then ruled out as the cause of a patient's infertility. **Indicate your understanding of the uterus, uterine tubes, and ovary as to structure, orientation, relationships (anterior, posterior, superior, inferior, medial, lateral), ligamentous support, peritoneal associations, innervation (preganglionic, postganglionic, and visceral afferent pathways), vasculature, and lymphatic drainage. Cite an example of clinical relevance. (12 pts)**

EXAM NUMBER _____

EXAM NUMBER _____

2. Review the anatomy of Parts I-IV of the duodenum with respect to structure, relationships, innervation (sensory and motor), vasculature, lymphatic drainage, support (visceral and fibrous). Cite an example of clinical relevance. (12 pts)

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EXAM NUMBER _____

3. Indirect inguinal hernias pass into a patent processus vaginalis. Abdominal viscera may move through the processus vaginalis into the scrotum. **Review the anatomy of the spermatic cord. Include contents, coverings, fascial boundaries, innervation, vasculature, lymphatic drainage, and relationships. Discuss the pathway and location of an indirect inguinal hernia that has descended into the scrotum. Cite an example of clinical relevance. (12 pts)**

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