

**STRUCTURAL BASIS OF MEDICAL PRACTICE
EXAMINATION 3**

October 14, 2016

PART I. Answer in the space provided. (12 pts)

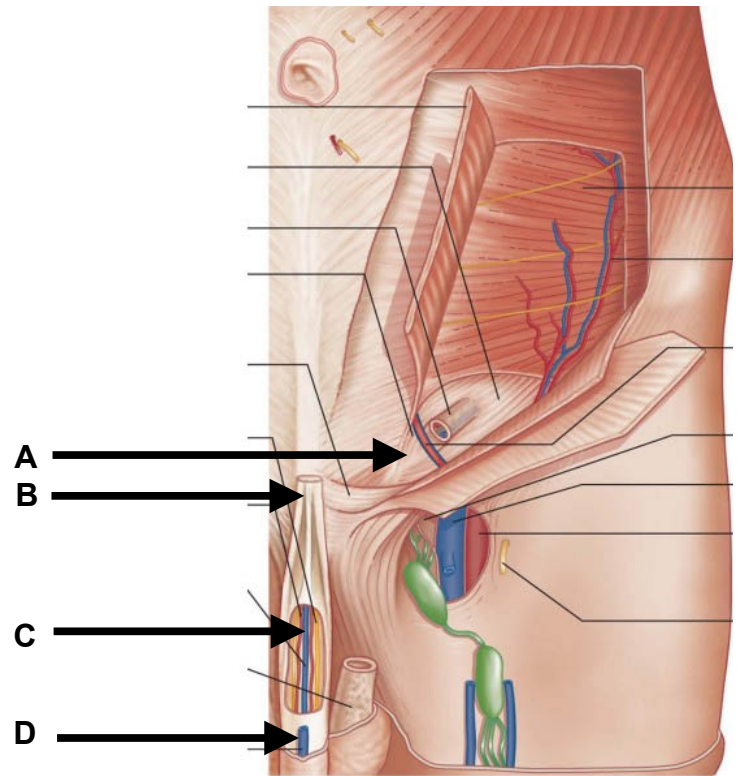
1. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



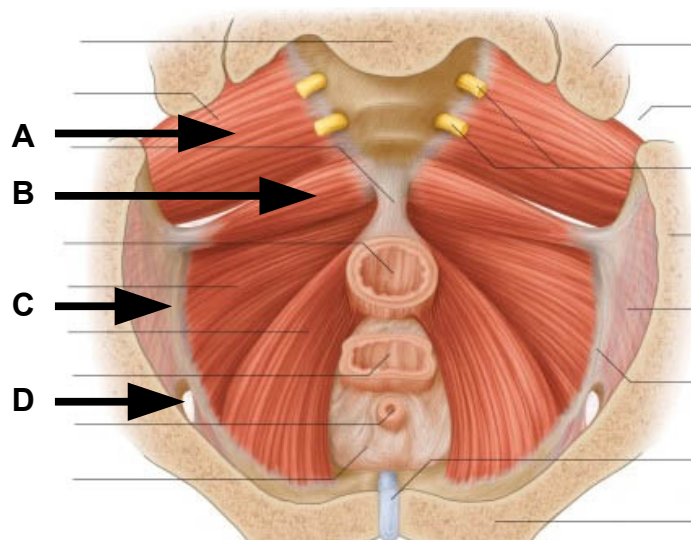
2. Identify the structures. (2 pts)

A. _____

B. _____

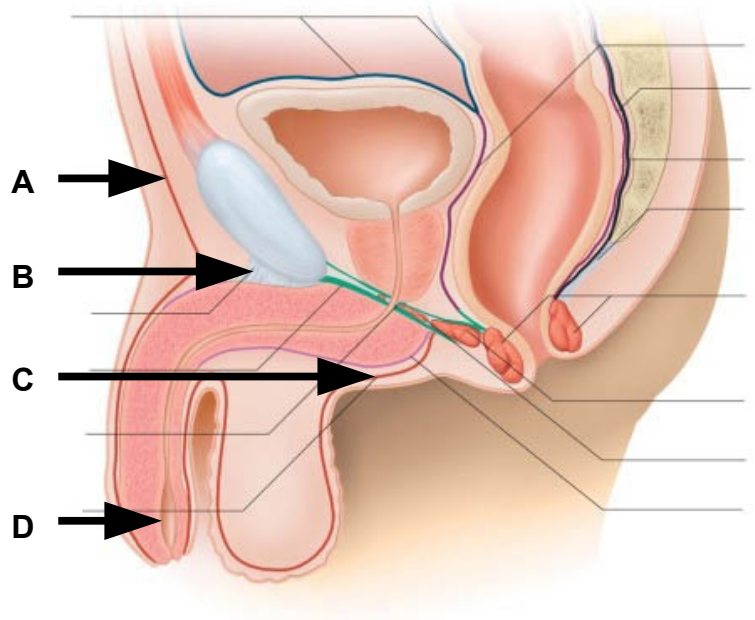
C. _____

D. _____



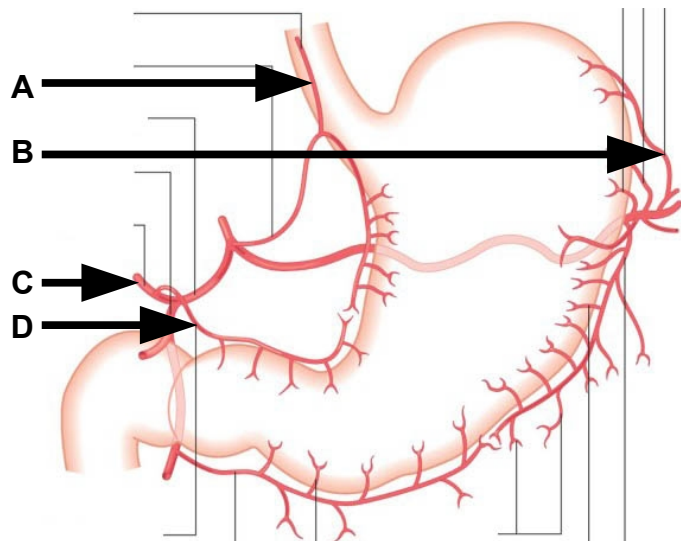
3. Identify the structures. (2 pts)

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



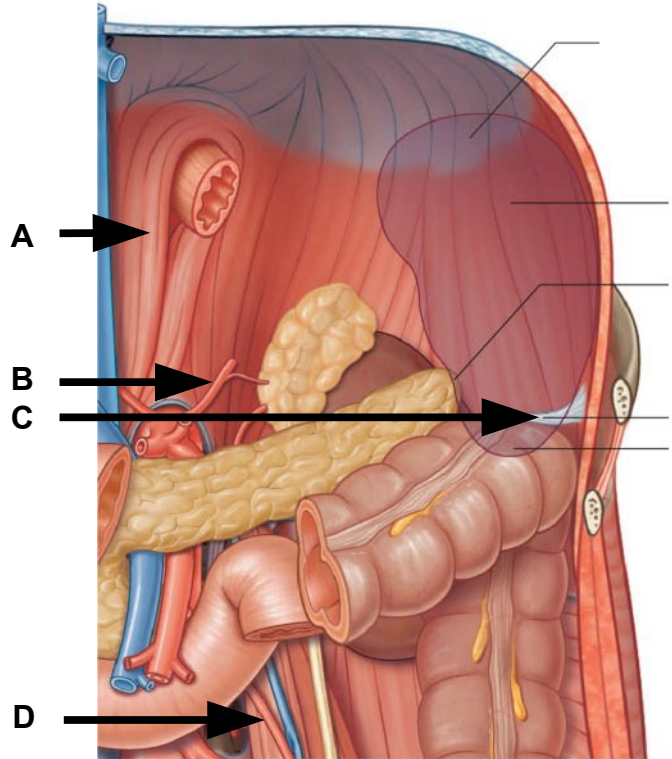
4. Identify the structures. (2 pts)

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



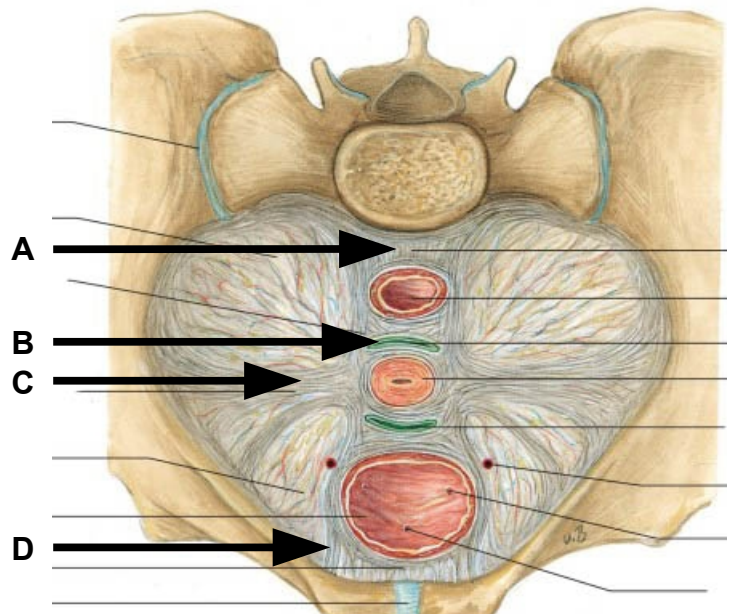
5. Identify the structures. (2 pts)

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



6. Identify the structures. (2 pts)

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



Part II. Circle the correct answer. All, none, or some may apply. (16 pts)

1. With regard to anterior abdominal wall and inguinal canal:
 - a) The vertebral projection of the iliac crest is to L2 and the cutaneous innervation is by the T8 spinal nerve.
 - b) The aponeurosis of the transversus abdominis muscle, inferior to the arcuate line, contributes to the anterior and posterior walls of the rectus sheath.
 - c) The external oblique muscle contributes to the inguinal, reflected inguinal, pectineal, and lacunar ligaments; to the medial and lateral crural fibers; to the intercrural fibers; and to the conjoint tendon.
 - d) The inferior epigastric artery defines the medial and lateral inguinal fossa. Indirect hernias occur in the medial inguinal fossa.

2. With regard to the abdominopelvic cavity:
 - a) Visceral pelvic fascia condenses to form perivisceral fascia including the fascia of Denonvilliers.
 - b) The pelvic inlet is partly defined by the promontory and ala of the sacrum.
 - c) The epiploic foramen provides a communication between the thoracic and abdominal cavities.
 - d) The ligament of Treitz is partly derived from the left crus of the diaphragm.
 - e) The posterior wall of the stomach provides an anterior boundary of the lesser sac.
 - f) The tail of the pancreas may become intraperitoneal within the gastrosplenic ligament.

3. With regard to the abdominal vasculature and the posterior abdominal wall:
 - a) Portal hypertension may cause esophageal varices at the anastomosis between the esophageal vein from the right gastric vein and esophageal veins from the inferior vena cava.
 - b) The superior anterior and posterior pancreaticoduodenal arteries provide a site of anastomosis between the midgut and hindgut.
 - c) Internal hemorrhoids are characterized by sharp pain and caused by the swelling of anastomotic veins between tributaries of the superior rectal vein and the external pudendal vein.
 - d) Blood from the portal system normally passes through the liver before draining into the inferior vena cava by way of the hepatic veins.
 - e) There are five lumbar vertebrae and 4 pairs of lumbar arteries.
 - f) Renal fascia does not support the inferior pole of the kidney and ptosis may occur if there is jarring vertical movement as is the case when horseback riding.
 - g) The testicular artery is deep to the internal spermatic fascia and the cremasteric artery is deep to the external spermatic fascia.
 - h) Derivatives of the external oblique muscle contribute boundaries to the abdominal wall, superficial inguinal ring, and femoral ring.

4. With regard to the pelvic viscera:

- a) The vas deferens and the seminal vesicle combine to form the prostatic ducts of the spongy urethra.
- b) The pubovesicle and lateral cervical ligaments are formed by condensations of pelvic visceral fascia.
- c) Passing along the superior margin of the lateral cervical ligament is the uterine artery.
- d) An anastomosis between the internal and external iliac arteries occurs in the iliac fossa.
- e) Obturator externus muscle fascia contributes to the formation of the arcus tendineus.

5. With regard to the perineum:

- a) The posterior boundary of the anterior superior recess of the ischioanal fossa is at the posterior free edge of the urogenital diaphragm.
- b) The paraurethral (lesser vestibular) and greater vestibular glands drain into the vestibule.
- c) The inferior rectal nerve often branches from the pudendal nerve as the pudendal nerve passes through the lesser sciatic foramen.
- d) The superficial perineal fascia attaches to the posterior free edge of the urogenital diaphragm and provides a boundary between the superficial perineal pouch and the anterior inferior recess of the ischioanal fossa.

6. With regard to the pelvic floor, nerves, and vessels:

- a) The ischioanal muscle contributes to the posterior wall of the pelvic diaphragm and is not part of levator ani.
- b) Parasympathetic nerves conveyed by the pelvic splanchnic nerves dilate the helicine arteries.
- c) Sectioning of the hypogastric nerves to disrupt visceral afferent fibers removes all autonomic supply to the uterus.
- d) The bulbospongiosus and the ischioanal muscles are controlled by the somatic nervous system.
- e) The posterior vaginal fornix is adjacent to the rectouterine pouch and the anterior wall of the rectum.

Part III. Indicate your understanding of the following. (24 pts)

1. The small bowel is approximately 32 feet long. **Define the differences between the jejunum and the ileum. (6 pts)**

EXAM NUMBER _____

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

EXAM NUMBER _____

3. Approximately 13% of men will develop prostate cancer in their lifetime. Approximately 90% of men who live to 80 years of age will develop benign prostatic hyperplasia.
Define the features of the prostatic urethra. (6 pts)

EXAM NUMBER _____

4. A varicocele is caused by venous engorgement of the pampiniform venous plexus. **Define the pampiniform venous plexus and the conditions that may lead to a varicocele. (6 pts)**

EXAM NUMBER _____

Part IV. Answer in the space provided. (48 pts)

1. A hysterosalpingogram assesses patency of the uterine tubes. Radiographic contrast is injected into the uterine cavity through the vagina and cervix. If the uterine tubes are patent, dye enters into the abdominal cavity. Blockages are then ruled out as a cause of 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 lymphatics. (12 pts)**

EXAM NUMBER _____

EXAM NUMBER _____

2. Approximately 15% of Americans will develop gallbladder stones in their lifetime. **Review the anatomy of the liver and gall bladder. Include structure, supporting elements, peritoneal relationships, vasculature, lymphatic drainage, innervation (preganglionic, postganglionic, afferent fibers, pathways), and relationship to surrounding structures and spaces. Explain the symptoms that predict blockages of the cystic duct, common hepatic duct, and ampulla of Vater. (12 pts)**

EXAM NUMBER _____

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3. Fecal continence and defecation involves a complex orchestration of somatic and autonomic structures. **Discuss the structures, functions, relationships, ligaments, spaces, and innervations (preganglionic, postganglionic, visceral afferent, somatic efferent and somatic afferent) that mediate fecal continence and defecation. (12 pts)**

EXAM NUMBER _____

EXAM NUMBER _____

4. Urinary catheterization of the male may go awry at the membranous urethra and damage the urethral wall and the inferior fascia of the urogenital diaphragm. **Define the boundaries of Scarpa's fascia and its derivatives with respect to the containment of the extravasation of urine in the male. Specify the fascial layers and locations associated with the accumulation of urine. What structures are at risk? Discuss whether urine will be found in the ischiorectal fossa. (12pts)**

EXAM NUMBER _____

EXAM NUMBER _____