All of the following vessels are direct or indirect branches of the internal iliac artery EXCEPT the:

A. middle rectal artery  
B. inferior gluteal artery  
C. inferior vesical artery  
D. inferior epigastric artery  
E. internal pudendal artery

Answer = D

A surgeon removing the uterus during a hysterectomy must be very careful not to damage the ureters which are in that area. Which statement is true about the relation of the ureters to the pelvic organs?

A. the ureters are intraperitoneal  
B. the ureters lie inferior to the uterine arteries at their point of intersection  
C. the ureters lie superior to the uterine arteries at their point of intersection  
D. the ureters lie superior to the broad ligament  
E. the ureters lie inferior to the internal iliac arteries

Answer = B

The ischiocavernosus muscle gains its nerve supply from a branch of the:

A. vagus nerve  
B. pudendal nerve  
C. pelvic splanchnics  
D. sympathetic nervous system  
E. ilioinguinal nerve

Answer = B

Which muscle is NOT innervated by the pudendal nerve?

A. bulbospongiosus  
B. deep transverse perineus  
C. ischiocavernosus  
D. levator ani  
E. sphincter urethrae

Answer = D

Which of the following ligaments encloses the uterine vessels?

A. cardinal  
B. round  
C. suspensory ligament  
D. uterovesical  
E. uterosacral

Answer = A

Which of the following muscles contribute to the pelvic EXCEPT the

A. coccygeus  
B. iliococcygeus  
C. piriformis  
D. pubococcygeus  
E. puborectalis

Answer = C

Which of the following muscles does NOT attach to the perineal body (central tendon of the perineum):

A. deep transverse perineal muscles  
B. superficial transverse perineal muscles  
C. external anal sphincter  
D. ischiocavernosus  
E. all of the above do attach to it

Answer = D

Which statement regarding the pudendal (Alcock’s) canal is correct?

A. It is in the deep fascia of the obturator externus muscle.  
B. It is in the medial wall of the ischiorectal fossa.  
C. It extends from the greater sciatic notch to the posterior edge of the U-G diaphragm.  
D. It is in the deep fascia of the obturator internus muscle.  
E. It is in the deep fascia of the levator ani muscle

Answer = d

A surgeon removing the uterus during a hysterectomy must be very careful not to damage the ureters. Which statement is TRUE about the relation of the ureters to pelvic organs?

A. The ureters are intraperitoneal.  
B. The ureters lie inferior to the uterine arteries at their point of intersection.  
C. The ureters cross anterior to the ovarian arteries at their point of intersection.  
D. The ureters lie within the broad ligament.  
E. The ureters are posterior to the external iliac arteries at their point of intersection.

Answer = B

All of the following statements about the sphincter ani externus muscle are correct EXCEPT that

A. it is associated with a portion of the pelvic diaphragm.  
B. some of its fibers run from the central tendon of the perineum (perineal body) to the anococcygeal ligament.  
C. it is composed primarily of smooth muscle fibers.  
D. it is innervated by the inferior rectal nerve.  
E. it surrounds the inferior end of the anal canal.

Answer = C

The ischiocavernosus muscle gains its nerve supply from a branch of the

A. vagus nerve.  
B. pudendal nerve.  
C. pelvic splanchnics.  
D. sympathetic nervous system.  
E. ilioinguinal nerve.

Answer = B.

During the process of micturition (urination), which muscle is controlled by the autonomic nervous system?

A. sphincter urethrae muscle  
B. bulbospongiosus muscle.  
C. pubovesical muscle.  
D. detrusor muscle.  
E. deep transverse perineus muscle.

Answer = E.
Answer = D

Which of the pairs is a correct association?
A. Bulbourethral glands -- superficial perineal pouch
B. Ischiocavernosus muscle -- vestibular bulb
C. Ovarian ligament -- ovarian vessels
D. Deep dorsal vein -- prostatic vessels
E. Glans penis -- corpus cavernosum

Answer = D

The pudendal canal
A. is a bony groove on the inferior edge of the greater sciatic notch.
B. contains the superior rectal artery and vein.
C. is a fascial tunnel on the lateral wall of the ichiorectal fossa.
D. contains the external pudendal artery and vein.
E. passes through the obturator membrane.

Answer = C

Which statement is true concerning the sphincter urethrae muscle?
A. it is located within the superficial perineal space
B. it makes up part of the levator ani
C. it is innervated by parasympathetic nerves
D. it makes up part of the urogenital diaphragm
E. it is superior to the pelvic diaphragm

Answer = D

The pelvic splanchnic nerves
A. contain sympathetic fibers.
B. come from the greater and lesser splanchnic nerves.
C. originate from sacral nerves 2-3-4.
D. synapse in the inferior mesenteric ganglia.
E. supply the right colic flexure.

Answer = C

The internal pudendal arteries exit the pelvic cavity via the
A. pudendal canal.
B. lesser sciatic foramen.
C. obturator foramen.
D. pelvic inlet.
E. greater sciatic foramen.

Answer = E

If a female patient had an infection in the peritoneal cavity, easy access for drainage of pus could be gained through the
A. ischiorectal fossa.
B. anterior fornix of vagina.
C. rectovesical space.
D. posterior fornix of vagina.
E. retropubic space.

Answer = D

Which of the following pairs are correctly associated?
A. Superficial dorsal vein of the penis - prostatic plexus of veins.
B. Sphincter urethrae muscle - superficial perineal space.
C. Greater vestibular glands - deep perineal space.
D. Corpus cavernosum - deep artery of penis.
E. Ischiocavernosus muscle - sympathetic innervation.

Answer = D

The transverse line separating the perineum into two anatomical triangles (urogenital and anal) would connect which two bony landmarks?
A. left and right ischial tuberosities
B. left and right ischial spines
C. symphysis pubis and coccyx
D. left and right acetabulae of os coxae
E. left and right posterior inferior iliac spines

Answer = A

The seminal vesicle
A. receives its blood supply from the internal pudendal artery.
B. is located in the deep perineal space (or pouch).
C. is located in the uterosacral pouch.
D. empties into the urethra via the ejaculatory duct.
E. transports sperm.

Answer = D

All of the following are muscles are innervated by somatic efferent fibers EXCEPT the
A. sphincter ani externus muscle.
B. cremaster muscle.
C. detrusor muscle.
D. bulbospongious muscle.
E. sphincter urethrae muscle.

Answer = C

Which ligament forms the greater sciatic (or ischiadic) foramen?
A. dorsal sacroiliac
B. interosseous sacroiliac
C. uterosacral
D. sacrospinous
E. arcuate

Answer = D

The subserous fascia (endopelvic fascia) is modified to form a major supporting element of the uterus commonly known as the
A. broad ligament.
B. cardinal ligament.
C. mesosalpinx.
D. perineal membrane.
E. round ligament of the uterus.

Answer = B
A muscle which contributes to the urogenital diaphragm is the
A. puborectalis
B. bulbospongiosus.
C. piriformis.
D. deep transverse perineus.
E. ischiococcygeus.

Answer = D

The pudendal nerve:
A. supplies the coccygeus muscle
B. originates from spinal cord levels L4, L5, S1
C. supplies the internal anal sphincter
D. exits the pelvic cavity through the lesser sciatic foramen
E. supplies the sphincter urethrae muscle

Answer = E

The broad ligament contains all of the following structures EXCEPT the:
A. uterine tubes
B. ovarian ligament
C. suspensory ligament of ovary
D. uterine artery
E. round ligament of uterus

Answer = C

Each of the following statements are correct EXCEPT that the
A. clitoris is the homologue of the penis.
B. bulb is on either side of the vagina.
C. greater vestibular glands are in the superficial perineal pouch.
D. urethra tranverses the corpus spongiosum before entering the vestibule.
E. bulb is covered by the bulbo-spongiosus.

Answer = D

All of the following statements regarding the pudendal (Alcock's) canal are correct EXCEPT:
A. It is in the deep fascia of the obturator internus muscle.
B. It is in the lateral wall of the ischiorectal fossa.
C. It extends from the lesser sciatic foramen to the posterior edge of the U-G diaphragm.
D. It is in the deep fascia of the levator ani muscle.
E. The vessels and nerves in the canal supply the perineum.

Answer = D

Which statement regarding the perineal membrane is CORRECT?
A. It is also referred to as the membranous layer of the superficial fascia.
B. It is also referred to as the inferior fascia of the U-G diaphragm.
C. It is also referred to as Scarpa's fascia.
D. It is also referred to as Buck's fascia.

Answer = B

A. All of the following muscles are innervated by the perineal nerve EXCEPT the:
A. bulbospongiosus
B. deep transverse perineus
C. ischiocavernosus
D. levator ani
E. sphincter urethrae

Answer = D

The rectum receives its arterial supply from all of the following EXCEPT:
A. internal pudendal
B. inferior mesenteric
C. posterior division of internal iliac
D. inferior rectal
E. anterior division of internal iliac

Answer = C

Which statement regarding the pudendal (Alcock's) canal is correct?
A. It is in the deep fascia of the obturator externus muscle.
B. It is in the medial wall of the ischiorectal fossa.
C. It extends from the greater sciatic notch to the posterior edge of the U-G diaphragm.
D. It is in the deep fascia of the obturator internus muscle.
E. It is in the deep fascia of the levator ani muscle.

Answer = D

During the process of micturition (urination), which muscle is controlled by the autonomic nervous system?
A. sphincter urethrae muscle
B. bulbospongiosus muscle
C. pubovesical muscle
D. detrusor muscle
E. deep transverse perineus muscle

Answer = D

All of the following structures are transmitted through the lesser sciatic foramen EXCEPT the
A. tendon of the obturator internus muscle.
B. internal pudendal vessels.
C. pudendal nerve.
D. inferior gluteal nerve.
E. nerve to the obturator internus muscle.

Answer = D

The pelvic splanchnic nerves
A. arise from cord segments S2, S3 and S4.
B. supply pelvic viscera only.
C. are branches of the pelvic sympathetic trunk.
D. contain both sympathetic and parasympathetic components.
E. are branches of the pudendal nerve.

Answer = A
Which of the following carry fibers sensitive to pain from the region inferior to the clinical rectoanal junction (pectinate line of the anal canal)?

A. Pelvic splanchnics
B. Sacral splanchnics
C. Pudendal nerves
D. Lumbar splanchnics
E. Inferior hypogastric plexus

Answer = C

The deep perineal pouch in the male contains all of the following structures EXCEPT the

A. membranous urethrae.
B. Cowper's glands (bulbourethral glands).
C. deep transverse perineus muscle.
D. bulb of the penis.
E. sphincter urethrae muscle.

Answer = D

In an elderly patient the arcus tendineus has separated from its facial attachment to the obturator internus. The patient complains of severe pain around the pelvic area. In this case the patient's ileum has herniated

A. through the obturator canal.
B. through the umbilicus.
C. into the ischiorectal fossa.
D. into the uterorectal pouch of Douglas.
E. through the femoral ring into the femoral canal.

Answer = C

The umbilical artery is a branch of the

A. abdominal aorta.
B. common iliac.
C. external iliac.
D. internal iliac.
E. renal.

Answer = D

To paralyze the ischiocavernosus muscle you would anesthetize a branch of the

A. vagus nerve.
B. pudendal nerve.
C. pelvic splanchnics.
D. sympathetic nervous system.
E. ilioinguinal nerve.

Answer = B

The uterine vessels can be injured during a reconstructive procedure involving the

A. transverse cervical.
B. round ligament.
C. suspensory ligament.
D. uterosacral ligament.
E. uterovesical ligament.

Answer = A

Which of the following embryological and adult structures are correctly matched?

A. urethral fold: labia majora
B. genital swelling: labia minora
C. definitive urogenital sinus: penile urethra
D. urogenital fold: scrotum
E. genital fold: scrotum

Answer = C

Which statement regarding the pudendal (Alcock's) canal is correct?

A. It is the deep fascia of the obturator externus muscle.
B. It is in the medial wall of the ischiorectal fossa.
C. It extends from the greater sciatic notch to the posterior edge of the U-G diaphragm.
D. It is in the deep fascia of the levator ani muscle.
E. It is in the deep fascia of the obturator internus muscle.

Answer = E

During the process of micturition (urination), which muscle is controlled by the autonomic nervous system?

A. spincter urethrae
B. bulbospongiousus
C. pubovesical
D. detrusor
E. deep transverse perineus

Answer = D

Which muscle is a part of the urogenital diaphragm?

A. deep transverse perineus
B. superficial transverse perineus
C. piriformis
D. puborectalis
E. ischiococcygeus

Answer = A

A fractured pelvis, damaging the pudendal nerve, would cause the loss of all of the following EXCEPT the

A. innervation of the spincter urethrae muscle.
B. sensory input from the glans clitoris.
C. innervation of the bulbospongiousus muscle.
D. innervation of the cremaster muscle.
E. innervation of the external anal spincter muscle.

Answer = D

A muscle which contributes to the urogenital diaphragm is the

A. bulbospongiousus.
B. levator ani.
C. piriformis.
D. deep transverse perineus.
E. obturator internus.

Answer = D
The pelvic splanchnic nerves
A. contain sympathetic fibers.
B. arise from the greater and lesser splanchnic nerves.
C. originate from sacral nerves 2-3-4.
D. synapse in the inferior mesenteric ganglia.
E. supply the ascending colon.
Answer = C

The greater vestibular glands are located in the
A. urogenital diaphragm.
B. crura of the clitoris
C. deep perineal pouch.
D. superficial perineal pouch.
E. perineal membrane.
Answer = D

The inferior boundary of the urogenital diaphragm is formed by
A. the perineal membrane.
B. the sphincter urethrae muscle.
C. the pelvic fascia.
D. the Colle's fascia.
E. Buck's fascia.
Answer = A

A crus of the penis continues into the shaft as the
A. corpus spongiosum.
B. corpus cavernosum.
C. bulb.
D. glans.
E. prepuce.
Answer = B

All of the following structures are innervated by branches of the pudendal nerve EXCEPT the
A. external anal sphincter.
B. skin lining the vestibule of the vagina.
C. ischiocavernosus muscle.
D. anterior wall of the scrotum.
E. deep transverse perineus muscle.
Answer = D

Choose the anal sphincters which are matched with the correct nervous control:
A. Internal and external anal sphincters - both involuntary control
B. Internal anal sphincter - voluntary; external anal sphincter - involuntary
C. Internal and external anal sphincters - both voluntary control
D. Internal anal sphincter - involuntary; external anal sphincter - voluntary
Answer = D

All of the following statements regarding the levator ani muscle are correct EXCEPT that it
A. originates in part from the arcus tendineus.
B. has fibers (puborectalis muscle) which form a sling around the rectum.
C. is covered inferiorly by the perineal membrane.
D. forms a large part of the pelvic diaphragm.
E. lies entirely inferior to the pelvic brim.
Answer = C

A tumor in the lesser sciatic foramen causing compression of the structures passing through this opening could cause a loss of nerve supply to all of the following EXCEPT the
A. external anal sphincter.
B. skin lining the vestibule of the vagina.
C. ischiocavernosus muscle.
D. anterior wall of the scrotum.
E. deep transverse perineus muscle.
Answer = D

Cutting the broad ligament during removal of the uterus would mean that the surgeon would need to ligate or "tie off" all of the following structures EXCEPT the
A. uterine tubes.
B. ovarian ligament.
C. suspensory ligament of the ovary.
D. round ligament of the uterus.
Answer = C

Superficial and deep inguinal lymph nodes should be examined in metastatic cancer occurring in all of the following regions EXCEPT the
A. thigh.
B. skin of the anterior abdominal wall inferior to the umbilicus.
C. labia majora.
D. lower half of the anal canal.
E. testes.
Answer = E

A 42-year-old male is brought to the Emergency Department with a severe laceration of the anal canal inferior to the clinical rectoanal junction. Which of the following structures carry fibers sensitive to pain from this region?
A. Pelvic splanchnic nerves
B. Sacra splanchnic nerves.
C. Pudendal nerves.
D. Lumbar splanchnic nerves.
E. Inferior hypogastric plexus.
Answer = C

Your mini-sub begins its journey up the penile urethra. After you pass through the superficial perineal pouch, you enter the deep perineal pouch which contains all of the following structures EXCEPT the
A. membranous urethrae.
B. Cowper's glands (bulbourethral glands).
C. deep transverse perineus muscle.
D. bulb of the penis.
E. sphincter urethae muscle.

Answer = D

During a pelvic exam on a 63-year-old female, the gynecologist you are working with indicates the patient has a prolapsed uterus. This occurs when the structures supporting the uterus weaken. In discussing this situation further, you indicate that the subserous fascia (endopelvic fascia) is modified to form one of the major supporting elements of the uterus commonly known as the

A. broad ligament.
B. cardinal ligament.
C. mesosalpinx.
D. perineal membrane.
E. round ligament of the uterus.

Answer = B

You are assisting a surgeon as she reconstructs the urogenital diaphragm. She asks you to name the muscle involved in this procedure. One of the muscles you would include in your answer is the

A. puborectalis.
B. bulbospongiosus.
C. piriformis.
D. deep transverse perineum.
E. coccygeus.

Answer = D

A 60-year-old male is diagnosed as having cancer involving the rectum. Surgery is scheduled to remove the tumor and the entire rectum. During the procedure you are asked to describe the blood supply to the rectum. Your response is that the rectum is supplied by all of the following arteries EXCEPT the

A. internal pudendal.
B. inferior mesenteric.
C. posterior division of the internal iliac.
D. inferior rectal.
E. anterior division of the internal iliac.

Answer = C

A 45-year-old female comes to your office with a large abdominal mass. After determining that it is an ovarian tumor, surgery is scheduled. During the surgical procedure, you are asked to indicate which ligament contains the ovarian vessels?

A. Cardinal (transverse cervical) ligament
B. Round ligament
C. Ovarian ligament
D. Suspensory ligament

Answer = D

You are assisting an obstetrician in a childbirth where it was necessary to use an episiotomy to prevent tearing of the tissue between the vagina and the anus. This procedure cuts through the perineal body (central tendon of the perineum). All of the following muscles attach to this structure EXCEPT the

A. deep transverse perineus.
B. external anal sphincter.
C. bulbospongiosus.
D. ischiocavernosus.
E. supervicial transverse perineus.

Answer = E

During grand rounds, a urologist is discussing the vascular supply to the penis. You are asked to summarize the important facts about the deep artery of the penis. You indicate that it

A. courses in the center of the corpus cavernosum.
B. contributes the major blood supply to the corpus cavernosum.
C. is a branch of the internal pudendal artery.
D. contributes the major blood supply to the bulbs of the penis.

Answer = A

You visit a 45-year-old male in the hospital who has lost the ability to control his anal sphincters. In discussing his problem with the other students and faculty, you are asked to identify the correct association of anal sphincters with their nerve supply from the following list:

A. internal and external anal sphincters - both involuntary control.
B. internal and sphincter - voluntary; external anal sphincter - involuntary.
C. internal and external anal sphincters - both voluntary control.
D. internal anal sphincter - voluntary; external anal sphincter - voluntary.

Answer = D

To reduce the pain from a growth on the posterior portion of the labia minora, the physician must anesthetize a branch of the

A. pudendal nerve.
B. sympathetic nervous system.
C. ilioinguinal nerve.
D. pelvic splanchnic nerves.
E. vagus nerve.

Answer = A

You are assisting a surgeon as he reconstructs the pelvic diaphragm of a 56-year-old female who was in an automobile accident. He asks you to name the muscles involved in this procedure. Your answer should include the

A. deep transverse perineus muscle.
B. bulbospongiosus muscle.
C. coccygeus muscle.
D. piriformis muscle.
E. sphincter urethrae muscle.

Answer = C

You are assisting a surgeon who is going to reconstruct the supportive elements of the uterus to treat a severe case of prolapse of the uterus. You remind yourself that at the base of the broad ligament, lateral to the cervix, is the

A. uterine tube.
B. ovarian artery.
C. mesosalpinx.
D. round ligament of the uterus.
E. cardinal ligament.

Answer = E
As you dissect the perineum, you stop at the inferior boundary of the urogenital diaphragm that is formed by

A. the perineal membrane.
B. the sphincter urethrae muscle.
C. the pelvic fascia.
D. Colle's fascia.
E. Buck's fascia.

Answer = A

During a reconstructive procedure in the region of the urogenital triangle of a 65-year-old female, a surgeon would find all of the following structures EXCEPT the

A. greater vestibular glands.
B. corpus spongiosum.
C. ischiocavernosus muscle.
D. superficial transverse perineus muscle.
E. crura of the clitoris.

Answer = B

A tumor obstructing the flow of blood in the internal pudendal artery could be located in all of the following areas EXCEPT the

A. pudendal canal.
B. lesser sciatic foramen.
C. pelvic inlet.
D. greater sciatic foramen.
E. obturator canal.

Answer = E

You and several of your classmates are discussing the structures in the pelvis and perineum. John suggests that it might be a good exercise to try and associate structures that have something in common. He presents several examples and asks which of these pairs are correctly associated:

A. The superficial dorsal vein of the penis and the prostatic plexus of veins.
B. The sphincter urethrae muscle and the superficial perineal space.
C. The greater vestibular glands and the deep perineal space.
D. The corpus cavernosum and the deep artery of the penis.
E. The ischiocavernosus muscle and parasympathetic innervation.

Answer = D

A surgeon has to remove the rectum of a 56-year-old male. Following the surgery, the man seems to have lost the function of his pelvic splanchnic nerves which

A. contain sympathetic fibers.
B. come from the lesser splanchnic nerves.
C. originate from the sacral spinal cord.
D. synapse in the inferior mesenteric ganglia.
E. supply the right colic flexure.

Answer = C