

CHOOSE THE SINGLE BEST ANSWER FOR QUESTIONS 1 - 80.

1. Choose the INCORRECT statement concerning the blood supply to the heart:
  - A. The anterior cardiac veins drain directly into the right atrium
  - B. The left and right coronary arteries usually anastomose via their interventricular branches
  - C. No equivalent vein accompanies the right coronary artery in its course along the right atrioventricular sulcus proximal to the origin of its marginal branch
  - D. In left coronary dominance, the left coronary artery provides the major (or only) blood supply to the interventricular septum
  - E. The left coronary artery usually supplies the sinuatrial (S-A) node
  
2. A tumor that compresses the contents of the left jugular foramen could result in all of the following deficits EXCEPT:
  - A. Decreased taste sensation on the left posterior third of the tongue
  - B. Hoarseness of the voice
  - C. Deviation of the protruded tongue to the right
  - D. Drooping of the left shoulder
  - E. Diminished bloodflow in the left internal jugular vein
  
3. Which one of the following paired items is an INCORRECT description of the structures which contribute to the formation of the boundaries of the axilla
  - A. Apex - posterior, lateral edge of clavicle
  - B. Lateral boundary - radial groove
  - C. Posterior wall - teres major muscle
  - D. Medial wall - first four ribs with their intercostal muscles
  - E. Floor - axillary fascia

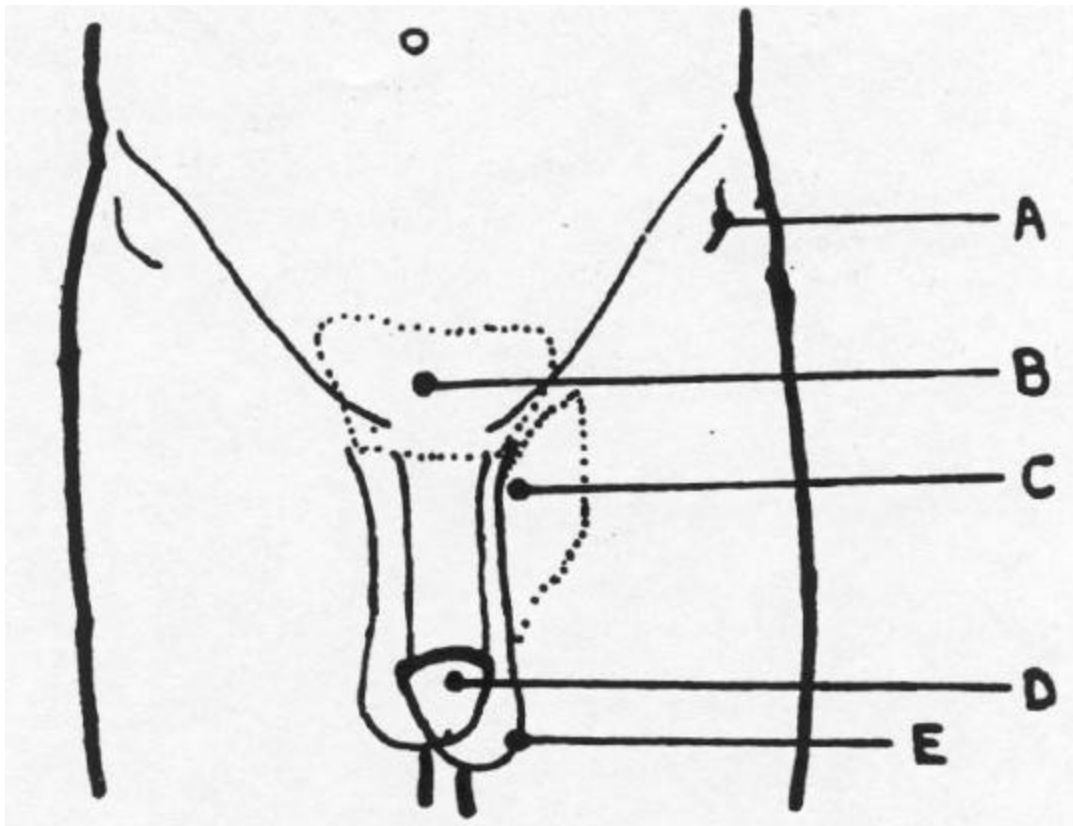
4. With regard to the bony pelvis, all of the following statements are CORRECT EXCEPT:
- A. The body of the pubis aids in supporting the urinary bladder
  - B. The pelvic inlet (superior pelvic aperture) includes the sacral promontory
  - C. The interosseous sacroiliac ligaments are important in stabilizing the bony pelvis
  - D. The ligament attaching to the ischial spine is crossed anteriorly and obliquely by the sacrotuberous ligament
  - E. The subpubic angle is usually greater in the female
5. A blow to the lateral aspect of the knee when the foot is fixed to the ground would most likely tear which of the following structures:
- A. Fibular (lateral) collateral ligament
  - B. Tibial (medial) collateral ligament
  - C. Oblique popliteal ligament
  - D. Posterior cruciate ligament
  - E. Posterior meniscomfemoral ligament
6. The tibial nerve is severed at the apex of the popliteal fossa. The resulting deficits would include each of the following EXCEPT:
- A. Loss of plantar flexion of the foot and toes
  - B. Loss of flexion at the knee joint
  - C. Sensory loss on the sole of the foot and plantar aspect of the toes
  - D. Impaired inversion of the foot
  - E. Difficulty in raising the heel off the ground in walking

7. Where would you place the stethoscope to BEST hear the aortic valve sound:
- A. Right half of the lower end of the body of the sternum
  - B. Medial end of 2nd right intercostal space
  - C. Medial end of 2nd left intercostal space
  - D. Left 5th intercostal space 5 cm from the midline (at the apex beat)
  - E. Fourth intercostal space at the left midclavicular line (over the nipple)
8. Choose the INCORRECT statement about the breast:
- A. Infiltration of cancer along the suspensory ligaments causes a dimpling of the skin
  - B. The glandular tissue is formed by 15-20 lobes which drain into lactiferous ducts
  - C. Cancerous breast cells can spread to the brain via intercostal vein connections with the vertebral venous plexus
  - D. Lymphatic vessels of the breast do not anastomose across the midline
  - E. The breast becomes less mobile when cancer invades the retromammary space and the deep fascia of the pectoralis major muscle
9. Each of the following matches of skin and sensory nerve is CORRECT EXCEPT:
- A. Skin of lower eyelid -- maxillary division of CN V
  - B. Skin over angle of mandible -- great auricular nerve
  - C. Skin over mastoid process -- greater occipital nerve
  - D. Skin of forehead -- ophthalmic division of CN V
  - E. Skin covering thyroid cartilage -- transverse cervical nerve

10. In regard to the superior mediastinum which of the following statements is CORRECT:

- A. The left phrenic nerve lies posterior to the brachiocephalic artery and posterior to the left pulmonary artery
- B. The superior vena cava receives the brachiocephalic veins and posteriorly the termination of the azygos vein
- C. The trachea lies posterior and to the left of the esophagus and anterior to the arch of the aorta
- D. The thoracic duct lies anterior to the esophagus and to the left of the left subclavian artery
- E. The left vagus nerve lies to the left of the brachiocephalic artery and anterior to the left pulmonary root

Questions 11 through 15 refer to the labeled structures in the accompanying illustration:



11. All of the following statements regarding the structure marked "A" are CORRECT EXCEPT:
- A. It is related to iliac crest and is a landmark for placing incisions for appendectomy
  - B. When standing erect, it is in the same plane as the pubic symphysis
  - C. It is in the same horizontal plane as the sacral promontory and is one of the boundaries of the pelvic inlet (superior aperture)
  - D. The external oblique muscle attaches to it
  - E. It is related to the inguinal ligament and helps to hold up your belt

12. All of the following statements regarding the area marked " B" are CORRECT EXCEPT:
- A. It is innervated by anterior cutaneous branches of the iliohypogastric nerve (L1)
  - B. Urine can accumulate here deep to the membranous layer of the subcutaneous fascia if the membranous urethra ruptures into the deep perineal compartment (Pouch)
  - C. A surgical incision here will provide access to the prostate gland and neck of the bladder without opening the peritoneal cavity
  - D. It is related to both the fundiform and suspensory ligaments of the penis
  - E. It is drained by the external pudendal veins
13. All of the following statements regarding the area labeled "C" are CORRECT EXCEPT:
- A. It overlies the adductor longus muscle
  - B. It is innervated by the cutaneous branch of the obturator nerve
  - C. Gentle stroking of the skin in this area will elicit the cremasteric reflex
  - D. It is medial to the great saphenous vein
  - E. It is innervated by ventral rami of L1 and L2 spinal nerves
14. Regarding the structure labeled "D", all of the following statements are CORRECT EXCEPT:
- A. It is part of the corpus spongiosum penis
  - B. Its lymphatic drainage is to the superficial inguinal lymph nodes
  - C. The primary sources of blood to its erectile tissue are the deep arteries of the penis
  - D. The venous blood from its erectile tissue drains to the prostatic venous plexus
  - E. It is maintained in a flaccid state by sympathetic innervation to the smooth muscle cells investing the helicine arteries

15. Regarding the structure marked "E", all of the following are CORRECT EXCEPT:
- A. It plays an important role in regulating the temperature of the testicles because it has abundant sweat glands and dartos muscle
  - B. Its innervation is provided by the genitofemoral, ilioinguinal, perineal and posterior femoral cutaneous nerves
  - C. Skin cancer here (at the point indicated) will metastasize (spread) via lymphatic ducts to the superficial inguinal lymph nodes
  - D. Its fascia is continuous with the deep penile fascia
  - E. Relative to its posterior surface, a spinal anesthetic must act at a higher cord level to anesthetize its anterior surface
16. Choose the INCORRECT statement concerning the components of synovial joints
- A. The synovial membrane does not cover the articular surfaces of a synovial joint
  - B. Articular cartilage often degenerates with aging or injury
  - C. The fibrous joint capsule is insensitive to pain
  - D. The nerves which innervate the muscles acting upon a joint will also innervate the joint
  - E. Synovial fluid not only lubricates articular surfaces but nourishes the articular cartilage

17. Regarding the thoracic wall, all of the following are CORRECT EXCEPT:
- A. Posterior intercostal arteries arise from the thoracic aorta and the superior intercostal artery
  - B. In order to avoid damaging intercostal nerves and vessels during an injection, a needle should be inserted just inferior to a rib
  - C. The "bucket-handle" inspiratory movement of the thoracic cage increases the transverse diameter of the thorax
  - D. In the anatomical position, a horizontal plane through the sternal angle will include (intersect) the arch of the aorta
  - E. The neurovascular bundle in an intercostal space is located between the internal and innermost intercostal muscles
18. Which of the following is the INCORRECT statement with regard to the erection and ejaculation reflexes in the male:
- A. Stimulation of the pelvic splanchnic nerves results in dilation of helicine arteries which supply the cavernous spaces of the penile corpora cavernosa and corpus spongiosum
  - B. Ejaculation is accompanied by clonic spasms of the bulbospongiosus and ischiocavernosus muscles
  - C. Stimulation of the hypogastric plexus results in contraction of the smooth muscle in the prostate gland and seminal vesicles
  - D. Ejaculation of semen is dependent on the bilateral integrity of the pudendal nerves
  - E. Erection is facilitated by the stretching of the tunica albuginea which constricts the veins draining the cavernous spaces in the penile erectile tissue

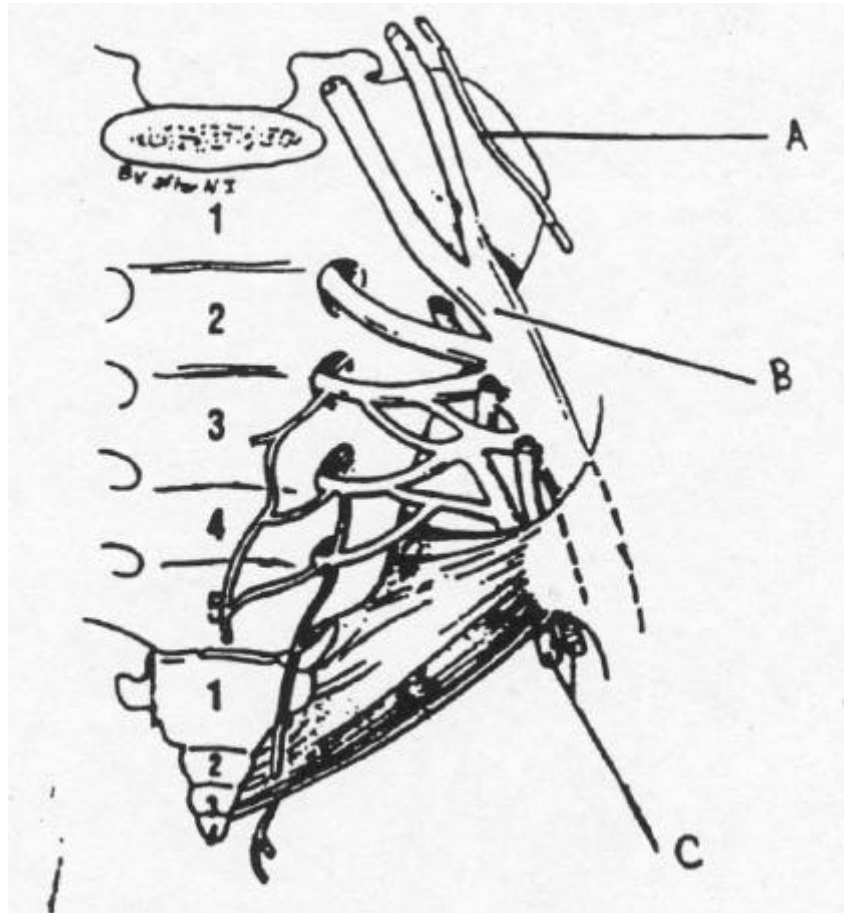


19. In the ER, a patient with hot coffee burns on the medial sides of both thighs just above the knees complains of severe pain from only the left thigh. You suspect previous damage to the cutaneous branches of which of the following nerves on the right:
- A. Sciatic
  - B. Obturator
  - C. Ilioinguinal
  - D. Lateral femoral cutaneous
  - E. Tibial
20. With regard to the liver all of the following statements are CORRECT EXCEPT:
- A. The proper hepatic artery travels in the free edge of the lesser omentum
  - B. Approximately 70% of its blood supply is from the right and left hepatic arteries
  - C. The hepatic veins are inferior to the diaphragm
  - D. Both sympathetic and parasympathetic nerves reach it via the hepatic plexus in the porta hepatis
  - E. Its bare area is devoid of peritoneum
21. Each of the following matches of muscle and action is CORRECT EXCEPT:
- A. Stylopharyngeus -- elevates pharynx
  - B. Styloglossus -- protrudes the tongue
  - C. Salpingopharyngeus -- opens pharyngeal orifice of auditory tube
  - D. Cricothyroid -- tenses vocal fold
  - E. Sternohyoid -- depresses hyoid bone

22. Concerning the uterus, each statement is CORRECT EXCEPT:
- A. The ascending branch of each uterine artery ascends within the mesometrium (part of the broad ligament) along the lateral margin of the body of the uterus
  - B. It receives parasympathetic innervation from the vagus nerve
  - C. Its principal support is the levator ani muscle, aided by the uterosacral and lateral cervical ligaments (cardinal ligaments)
  - D. The anterior fornix of the vagina is related to the base (fundus) of the urinary bladder
  - E. The uterine artery courses in a part of the uterosacral ligament and in the lateral cervical (cardinal) ligament to reach the uterus
23. Choose the CORRECT statement about the hand
- A. The princeps pollicis artery is a branch of the ulnar artery
  - B. Abduction of the thumb occurs at a right angle to the plane of the palm
  - C. The palmar aponeurosis is continuous with the flexor pollicis longus tendon
  - D. The tendons of the interosseous muscle pass anterior to the deep transverse metacarpal ligament
  - E. The lumbrical muscles insert on the medial aspect of the extensor expansion of digits 2-5

24. Which of the following is the CORRECT composition of nerve fibers in the pelvic (i.e., inferior hypogastric) plexus
- A. Preganglionic sympathetics, postganglionic parasympathetics, somatic motor
  - B. Preganglionic sympathetics, preganglionic parasympathetics, postganglionic parasympathetics
  - C. Preganglionic parasympathetics, postganglionic parasympathetics, visceral sensory
  - D. Postganglionic sympathetics, postganglionic parasympathetics, and visceral sensory
  - E. Postganglionic sympathetics, preganglionic parasympathetics, visceral sensory

Questions 25 through 28 refer to the accompanying illustration.



25. With regard to the structure labeled "A", all of the following statements are CORRECT EXCEPT:
- A. It is part of the lumbar plexus and arises in the abdomen
  - B. It crosses the pelvic brim and travels along the lateral wall of the pelvis minor
  - C. It is accompanied by an artery as it exits the pelvis via the obturator foramen
  - D. It is the principal innervation to the group of muscles used when squeezing your knees against a horse while riding
  - E. It is the principal innervation of the pectineus muscle

26. With regard to the structure labeled "B", all of the following statements are CORRECT EXCEPT:
- A. It is anterior to the piriformis muscle and to the ala of the sacrum
  - B. It joins the ventral ramus of S-1 to form the lumbosacral trunk
  - C. It passes obliquely over the sacroiliac joint and lies posterior to the parietal pelvic fascia
  - D. It contributes to the formation of the largest nerve in the body
  - E. It is related to the sacral promontory and to the superior guteal artery
27. With regard to the structures labeled "C", all of the following statements are CORRECT EXCEPT:
- A. They pass inferior to the piriformis muscle and exit the pelvic cavity via the greater sciatic foramen
  - B. They are related to the lateral wall of the ischioanal fossa
  - C. They pass anterior to the ischial spine and the sacrospinous ligament
  - D. They are related to the lunate fascia of the obturator internus muscle
  - E. Their branches supply structures in the superficial and deep perineal compartments
28. With regard to the plexus formed by the nerves exiting the anterior sacral foramina illustrated in the figure, all of the following statements are CORRECT EXCEPT:
- A. The main nerves of this plexus are external to the parietal pelvic fascia
  - B. All of its branches exit the pelvic cavity via the greater sciatic foramen
  - C. Its two main nerves are the sciatic and pudendal
  - D. Its S2, S3 and S4 components each contribute a branch to the formation of the pelvic splanchnic nerves
  - E. It innervates all of the muscles of the pelvic diaphragm

29. Severance of the ulnar nerve just distal to the elbow would result in all of the following deficits EXCEPT:
- A. The loss of sweating on the medial palm
  - B. Inability to abduct the little finger
  - C. Weakness in adduction at the wrist
  - D. Weakness in flexion of digit 3
  - E. Inability to adduct digits 2-5
30. All of the following matches between a nerve and a related structure are CORRECT EXCEPT:
- A. Sciatic nerve: adductor magnus muscle
  - B. Femoral nerve: Psoas fascia
  - C. Obturator nerve: adductor brevis muscle
  - D. Tibial nerve: fibularis (peroneus) tertius muscle
  - E. Deep fibular (peroneal) nerve: extensor digitorum longus muscle
31. All of the following statements regarding the stomach are CORRECT EXCEPT:
- A. Complete vagotomy (cutting of vagus nerves) relieves pain due to cancer of the stomach
  - B. Section of either vagal trunk reduces the production of acid by the parietal cells of the stomach
  - C. The postganglionic sympathetic nerve supply of the stomach is primarily from the celiac ganglion
  - D. The preganglionic sympathetic fibers to the celiac ganglion course with the greater splanchnic nerve
  - E. The anterior vagal trunk is derived primarily from the left vagus nerve and supplies hepatic and duodenal branches as well as branches to the lesser curvature of the stomach

32. Each of the following statements regarding the lymphatics of the head and neck are CORRECT EXCEPT:
- A. Lymph from the left side of the head and neck enters the venous system via the thoracic duct
  - B. Lymphatics from the palatine tonsil drain to the jugulo-digastric lymph node
  - C. The pharyngeal tonsil is located on the roof and posterior wall of the nasopharynx
  - D. The jugulo-digastric lymph node is located in the posterior triangle of the neck
  - E. Lymphatics from the tip of the tongue enter the submental lymph nodes
33. Each statement regarding the peritoneal cavity is CORRECT EXCEPT:
- A. The caudate lobe of the liver projects into the superior recess of the lesser sac (omental bursa).
  - B. At the epiploic (omental) foramen, the greater and lesser sacs of the peritoneal cavity communicate with each other.
  - C. An opening made through the transverse mesocolon will permit entry into the lesser sac (omental bursa).
  - D. The subphrenic spaces are located in the lesser sac (omental bursa).
  - E. In the left upper quadrant of the abdomen, the gastrosplenic and splenorenal ligaments separate the greater and lesser sacs of the peritoneal cavity

34. The following associations of eye muscles and their actions are CORRECT EXCEPT:
- A. Lateral rectus muscle--abduction of eye from the primary position
  - B. Superior rectus muscle--elevation of eye from the abducted position
  - C. Superior oblique muscle--depression of eye from the adducted position
  - D. Inferior rectus muscle--depression of eye from the adducted position
  - E. Inferior oblique muscle--elevation of eye from the adducted position
35. Concerning the vagina, each statement is CORRECT EXCEPT:
- A. Its posterior fornix is related to the uterovesical pouch (space)
  - B. Its inferior 1/3 is innervated by the pudendal nerve
  - C. Its posterior wall is apposed (related) to the cervix
  - D. Its long axis lies in a plane parallel to that of the pelvic inlet
  - E. Its anterior wall is related to the urethra
36. Choose the INCORRECT statement about the latissimus dorsi muscle
- A. It helps form the posterior axillary fold
  - B. It extends, adducts, and medially rotates the humerus at the shoulder joint
  - C. It is innervated by the thoracodorsal nerve
  - D. It originates, in part, from the thoracolumbar fascia
  - E. Its superior border is superficial to the trapezius muscle



37. Each of the following muscles participates (aid) in producing plantar flexion of the foot at the ankle joint EXCEPT:
- A. Fibularis (peroneus) longus
  - B. Medial and lateral heads of gastrocnemius
  - C. Soleus
  - D. Flexor digitorum longus
  - E. Tibialis anterior
38. A speck of dust irritates the cornea and you blink. The pathway for this reflex involves the:
- A. Lacrimal and oculomotor nerves
  - B. The facial and oculomotor nerves
  - C. The ophthalmic and facial nerves
  - D. The maxillary and ophthalmic nerves
  - E. The infratrochlear and ophthalmic nerves
39. Which of the following is the CORRECT description of structures found in the forearm?
- A. In the cubital fossa, the median nerve is located lateral to the brachial artery
  - B. The median cubital vein and the lateral antebrachial cutaneous nerve are found in the roof of the cubital fossa
  - C. The lateral portion of the flexor digitorum profundus muscle is innervated by the ulnar nerve while the medial portion is innervated by the median nerve
  - D. The median nerve passes between the two heads of the supinator muscle
  - E. The extensor pollicis brevis muscle inserts onto the base of the first metacarpal

40. Which of the following does NOT occur in defecation:
- A. Stimulation of visceral sensory fibers caused by distention of rectum
  - B. Relaxation of the internal anal sphincter
  - C. Increased tone of puborectalis and external anal sphincter muscles
  - D. Relaxation of pelvic floor muscles (i.e., pubococcygeus and iliococcygeus).
  - E. Contraction of abdominal muscles
41. The preganglionic parasympathetic fibers leave the brain in certain cranial nerves. The following is a list of cranial nerves and a corresponding parasympathetic function mediated by the nerve. Each is CORRECT EXCEPT:
- A. Facial nerve (VII) -- secretion of tears
  - B. Glossopharyngeal nerve (IX) -- parotid gland secretion
  - C. Oculomotor nerve (III) -- constriction of the pupil
  - D. Vagus nerve (X) -- laryngeal mucosal gland secretion
  - E. Facial nerve (VII) -- secretion by mucosal glands of the oropharynx
42. Which artery supplies the hip joint but does not contribute to the cruciate anastomosis:
- A. Inferior gluteal
  - B. First perforating from the profunda femoris
  - C. Obturator
  - D. Medial circumflex femoral
  - E. Lateral circumflex femoral

43. A sports injury resulted in a temporary inability to dorsiflex and evert the foot at the ankle joint. A sensory loss from the lateral leg and dorsum of the foot was reported. No other problems were noted. In the affected leg, where would you predict the location of the injury:
- A. Inferior border of the piriformis muscle
  - B. Femoral triangle
  - C. Medial superior thigh
  - D. Lateral side of knee
  - E. Posterior to the medial malleolus
44. Each of the following statements regarding the duodenum is CORRECT EXCEPT:
- A. The horizontal (3rd) part crosses anterior to the inferior vena cava and aorta
  - B. The descending (2nd) and horizontal (3rd) parts of the duodenum are retroperitoneal
  - C. The superior and inferior pancreaticoduodenal arteries are respectively branches of the gastroduodenal artery and superior mesenteric artery
  - D. The duodenal cap (bulb) is retroperitoneal.
  - E. The lymphatic drainage from the duodenum ultimately reaches the thoracic duct
45. Choose the INCORRECT statement about the wrist and palm
- A. The antebrachial fascia in the distal posterior forearm thickens to form the extensor retinaculum
  - B. The distal radius articulates with the scaphoid and lunate bones
  - C. The radial bursa encloses the tendon of the flexor pollicis longus muscle
  - D. Inflammation within the carpal tunnel can result in motor weakness of the thumb
  - E. The superficial radial nerve and the radial artery course through the roof of the anatomical snuffbox

46. Each of the following statements concerning the pelvis are CORRECT EXCEPT:
- A. In the upright (standing) position the most inferior part of the peritoneal cavity in the male is the rectovesical pouch
  - B. Peritoneum is reflected from the anterior aspect of the uterus at the level of the isthmus onto the superior surface and upper part of the base (fundus) of the urinary bladder
  - C. The inferolateral surfaces of the empty urinary bladder are not covered by peritoneum
  - D. Peritoneum is reflected on to the anterior aspect of the ampulla of the rectum
  - E. In the sitting position the most inferior part of the peritoneal cavity in the female is the rectouterine pouch
47. Each statement concerning the larynx is CORRECT EXCEPT:
- A. Unilateral severance of the recurrent laryngeal nerve will paralyze all the intrinsic muscles on the same side except the cricothyroid
  - B. The internal laryngeal nerve pierces the thyrohyoid membrane and is sensory above the vocal folds
  - C. The rima glottidis is at the level of the inferior margin of the laminae of the thyroid cartilage
  - D. Irritation of the mucosa on the cricoid cartilage would stimulate the recurrent laryngeal nerve (inferior laryngeal nerve)
  - E. The posterior cricoarytenoid muscles are the principal abductors of the vocal folds

48. Each statement regarding the spleen is CORRECT EXCEPT:
- A. It lies under cover of the left 9th - 11th ribs
  - B. It is the largest single mass of lymphoid tissue in the body but is not essential for life, especially in the adult
  - C. The small branches of the splenic artery that enter the hilum are end-arteries.
  - D. The diaphragmatic surface of the spleen is related to the lesser sac of the peritoneal cavity
  - E. The splenic vein joins the superior mesenteric vein to form the portal vein
49. All of the following are CORRECT EXCEPT:
- A. The femoral artery passes through the adductor hiatus to enter the popliteal fossa
  - B. The femoral triangle is bordered by the inguinal ligament and the sartorius and adductor longus muscles
  - C. The femoral sheath is formed anteriorly by the transversalis fascia and posteriorly by the fascia lata
  - D. The profunda femoris artery and the descending genicular artery arise from the femoral artery in the thigh
  - E. The saphenous nerve is a sensory nerve branch of the femoral nerve
50. Each of the following matches of abnormality and possible cause is CORRECT EXCEPT:
- A. Cerebrospinal fluid in the nasal cavity - fracture of the cribriform plate of the ethmoid bone
  - B. Pus drainage into the inferior nasal meatus - infection of the nasolacrimal sac
  - C. Loss of taste on the anterior two-thirds of the tongue - infection of the middle ear
  - D. Deviation of the protruded tongue to the left - lesion of the right hypoglossal nerve
  - E. Loss of lacrimation - lesion of facial nerve in posterior cranial fossa

51. Concerning the ovary, each statement is CORRECT EXCEPT:
- A. Its suspensory ligament contains the ovarian vessels and nerves
  - B. The surface of the ovary is covered by peritoneum
  - C. It is attached by the mesovarium to the posterior layer of the broad ligament
  - D. It may lie close to the ureter
  - E. It is attached to the uterus by the ligament of the ovary
52. Regarding the gluteal region, all of the following statements are CORRECT EXCEPT:
- A. The gluteus maximus muscle does not completely overlie the gluteus medius muscle
  - B. The tensor fascia lata muscle has an innervation and blood supply in common with some gluteal muscles
  - C. Under normal conditions, the sciatic nerve does not innervate any of the gluteal muscles
  - D. A stab wound just superior to the piriformis muscle could result in the inability to extend the thigh at the hip joint
  - E. The inferior gluteal nerve carries somatic motor, somatic sensory and postganglionic sympathetic nerve fibers

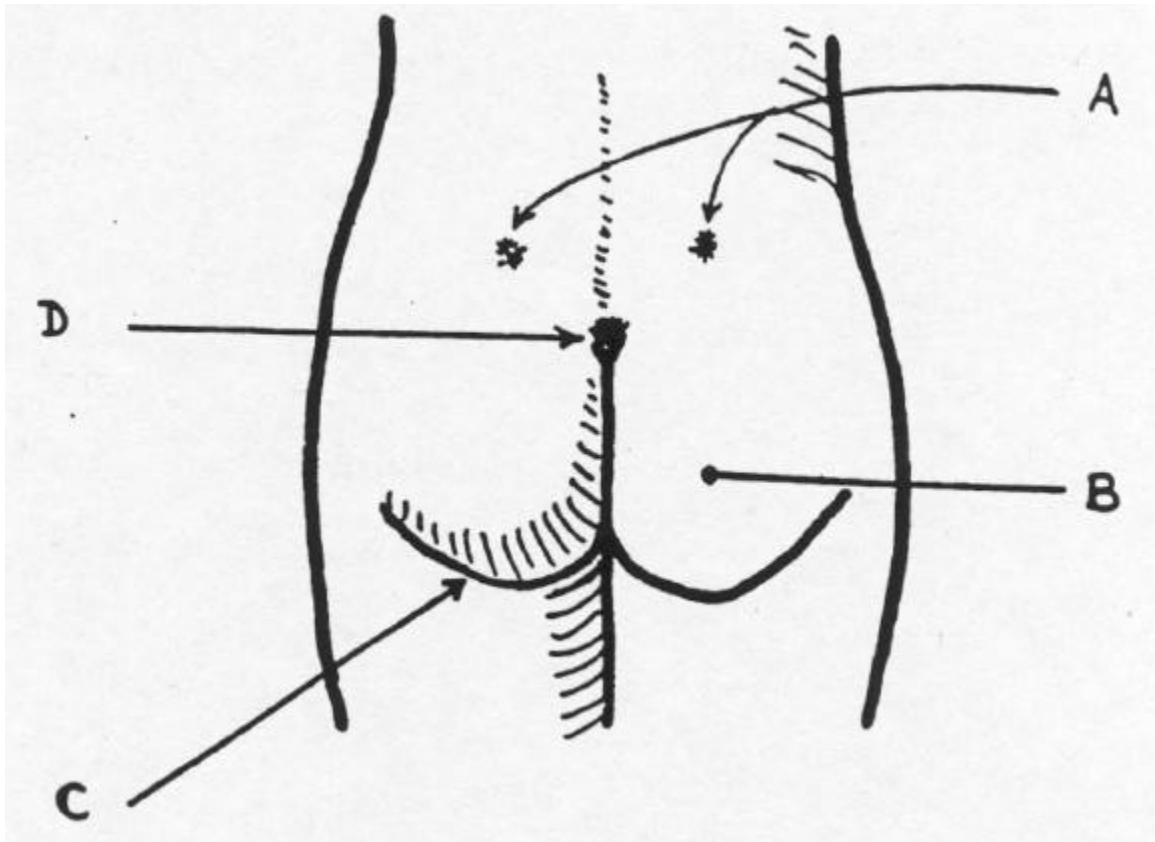
53. Regarding the thigh, each statement is CORRECT EXCEPT:
- A. Below mid thigh levels, the lateral intermuscular septum is bordered by the vastus lateralis muscle anteriorly and the short head of the biceps posteriorly
  - B. The ischial tuberosity and the lateral lip of the linea aspera are important attachment points (areas) for posterior thigh muscles
  - C. A tumor growing in the psoas major muscle could in time result in the loss of extension of the leg at the knee joint
  - D. A tumor inferior to the piriformis muscle could result in the loss of cutaneous sensibilities (pain, temperature and touch) from the lateral and anterior thigh
  - E. The extensor portion of the adductor magnus muscle attaches to the adductor tubercle of the femur and is innervated by branches of the sciatic nerve
54. With regard to the biliary ducts all of the following statements are CORRECT EXCEPT:
- A. The right hepatic duct drains the region of the liver supplied by the right hepatic artery
  - B. The common hepatic duct is joined by the cystic duct to form the bile duct (common bile duct)
  - C. The bile duct is found in the free edge of the lesser omentum
  - D. The bile duct courses anterior to the duodenum and to the left of the gastroduodenal artery
  - E. The choledochal (bile duct) sphincter is regulated by the autonomic nervous system

55. Each statement concerning the neck is CORRECT EXCEPT:
- A. The phrenic nerve courses on the anterior surface of the anterior scalene muscle
  - B. The internal laryngeal nerve pierces the thyrohyoid membrane to enter the larynx
  - C. The right recurrent laryngeal nerve courses in or near the groove between the esophagus and trachea medial to the right lobe of the thyroid gland
  - D. The portion of the accessory nerve that innervates the trapezius muscle crosses the posterior triangle of the neck
  - E. The hypoglossal nerve crosses the medial side of the internal carotid, external carotid and lingual arteries in its course to the tongue
56. Regarding structures in the thigh, all of the following are CORRECT EXCEPT:
- A. The adductor hiatus is a fibrous arch in the extensor portion of the adductor magnus
  - B. When the knee jerk reflex is elicited, the hamstring muscles must be concomitantly relaxed
  - C. The cruciate anastomosis involves linkages between branches of the internal and external iliac arteries
  - D. The descending genicular artery accompanies the femoral artery through the adductor hiatus to join the arterial anastomosis around the knee joint
  - E. Upon entering the superior thigh, the anterior branch of the obturator nerve lies between the obturator externus and adductor brevis muscles posteriorly and the pectineus and adductor longus muscles anteriorly



57. Damage to the radial nerve while in the axilla would result in all of the following deficits EXCEPT:
- A. "Wrist drop"
  - B. Loss of sensation on the dorsum of the hand
  - C. Loss of forearm extension
  - D. Loss of distal phalangeal extension
  - E. Weakness of hand adduction
58. Regarding the inferior vena cava all of the following are CORRECT EXCEPT:
- A. Some of its tributaries are the hepatic, renal and common iliac veins
  - B. The left lumbar sympathetic trunk and ureter lie posterior to the vein
  - C. The abdominal aorta lies on the left side of the vein
  - D. The right renal artery and anterior longitudinal ligament lie posterior to the vein
  - E. The portal vein, the root of the mesentery and pancreas are some of its anterior relations

Question 59 refers to the labeled structures in the accompanying illustration.



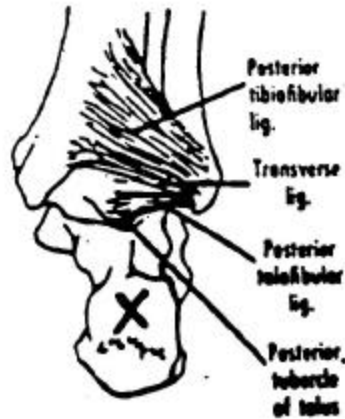
59. With regard to the labeled structure/area in the figure, all of the following statements are CORRECT EXCEPT:
- A. The skin dimples labeled "A" indicate the position of the posterior superior iliac spines
  - B. A line connecting the dimples labeled "A" indicates the level of the 2nd vertebra of the sacrum and crosses the middle of the sacroiliac joints
  - C. The point labeled "B" is in the "safe area" for making intramuscular injections
  - D. The feature labeled "C" is the gluteal fold and is related to cutaneous branches of the posterior femoral cutaneous nerve originating from the ventral rami of S1, S2, and S3
  - E. The feature marked "D" is the superior aspect of the natal cleft and is a site for the injection of epidural anesthetics into the sacral canal via the sacral hiatus

60. A tumor destroys the contents of the pterygopalatine fossa. This will likely result in all of the following ipsilateral deficits EXCEPT:
- A. Loss of lacrimation (tear production)
  - B. Loss of pain sensation from the teeth and gums of the maxilla
  - C. Loss of pain sensation from the mucosa covering the nasal conchae
  - D. Loss of pain sensation from the epiglottis
  - E. Loss of mucus production by the glands of the hard palate
61. Each statement concerning the foot is CORRECT EXCEPT:
- A. The chief movements at the transverse tarsal joints are plantar and dorsiflexion
  - B. The medial longitudinal arch is formed by the calcaneus, talus, navicular, cuneiform and first three metatarsal bones
  - C. The medial longitudinal arch is strengthened by the plantar calcaneonavicular (spring) ligament
  - D. The long plantar ligament supports the lateral longitudinal arch
  - E. The tendon of the fibularis (peroneus) longus muscle crosses the plantar surface of the foot diagonally from lateral to medial
62. The cuboid bone articulates with all of the following bones EXCEPT:
- A. Fifth metatarsal
  - B. Calcaneus
  - C. Navicular
  - D. Medial cuneiform
  - E. Fourth metatarsal

63. With regard to the urinary bladder, each of the following statements is CORRECT EXCEPT:
- A. The surface of the trigone is smooth since its mucous membrane is firmly attached to the detrusor muscle
  - B. Following a tear of the inferolateral surface of the bladder, the urine extravastes into extraperitoneal connective tissue
  - C. In the male the base of the bladder is related to the seminal vesicles, the ampullae of the ductus deferens and the rectum
  - D. Distension reflexly results in relaxation of the sphincter urethrae muscle
  - E. The neck of the bladder is anchored to the pubis by the pubovesical ligaments in the female
64. The ventral ramus of the spinal nerve at vertebral level C8 would contain all of the following functional components EXCEPT:
- A. Motor fibers to the pectoralis major muscle
  - B. Sensory fibers from the skin on the medial arm
  - C. Autonomic fibers to sweat glands
  - D. Motor fibers to the flexor digitorum profundus muscle
  - E. Motor fibers to the subscapularis muscle

65. Regarding the malleoli of the ankle, all of the following statements are CORRECT EXCEPT:
- A. The fibularis (peroneus) longus and brevis course posterior to the lateral malleolus
  - B. The tibialis posterior lies posterior to the medial malleolus and anterior to the flexor digitorum longus
  - C. Section of the tibial nerve resulting from a fracture of the medial malleolus would result in loss of sensation in the sole of the foot and "clawing" of the toes
  - D. A fracture of the lateral malleolus would transect the deep fibular (peroneal) nerve, resulting in loss of inversion of the foot
  - E. The flexor retinaculum helps maintain the structures traversing posterior to the medial malleolus
66. Each of the following relations is CORRECT EXCEPT:
- A. Inferior thyroid artery - recurrent laryngeal nerve
  - B. Vagus nerve - carotid sheath
  - C. Isthmus of thyroid gland - tracheal rings 2, 3 and 4
  - D. Cricoid cartilage - 4th cervical vertebra
  - E. Stylopharyngeus muscle - glossopharyngeal nerve

Question 67 refers to the accompanying illustration:



67. Choose the INCORRECT statement about the bone indicated by the "X":
- A. Its sustentaculum tali forms a groove for the flexor hallucis longus muscle
  - B. It forms part of the lateral longitudinal arch of the foot
  - C. It is the distal attachment of the quadratus plantae muscle
  - D. It forms part of the medial longitudinal arch of the foot
  - E. It is one of the attachments of the spring ligament
68. The popliteus muscle separates which two of the following structures in the region of the knee:
- A. Lateral meniscus and the fibular collateral ligament
  - B. Medial meniscus and the tibial collateral ligament
  - C. Anterior cruciate ligament and the posterior cruciate ligament
  - D. The capsule of the knee and the tibial collateral ligament
  - E. The plantaris muscle and the two heads of the gastrocnemius

69. In regard to the inguinal region which of the following statements is INCORRECT:
- A. The deep inguinal ring is the mouth of the evaginated transversalis fascia
  - B. The internal spermatic fascia is derived from the conjoined tendon
  - C. The inguinal triangle is formed by the inferior epigastric artery, the inguinal ligament and the semilunar line
  - D. The external or superficial inguinal ring is bounded by medial and lateral crura which are parts of the external abdominal oblique aponeurosis
  - E. The inguinal ligament is an inferior part of the external abdominal oblique aponeurosis
70. Choose the INCORRECT statement about the posterior circumflex humeral artery:
- A. It passes through the quadrangular space
  - B. It is accompanied by the axillary nerve as it exits the axilla
  - C. It is derived from the third part of the axillary artery
  - D. It passes superior to the teres minor muscle as it exits the axilla
  - E. It supplies blood to the deltoid muscle
71. Choose the INCORRECT statement about the spinal cord and its meningeal coverings:
- A. The arachnoid is separated from the dura by a thin areolar "sub-dural" space
  - B. The filum terminal is formed by pia mater
  - C. The coccygeal ligament begins at vertebral level L1
  - D. The cauda equina can be found in the lumbar cistern
  - E. The conus medularis is the most caudal tip of the spinal cord

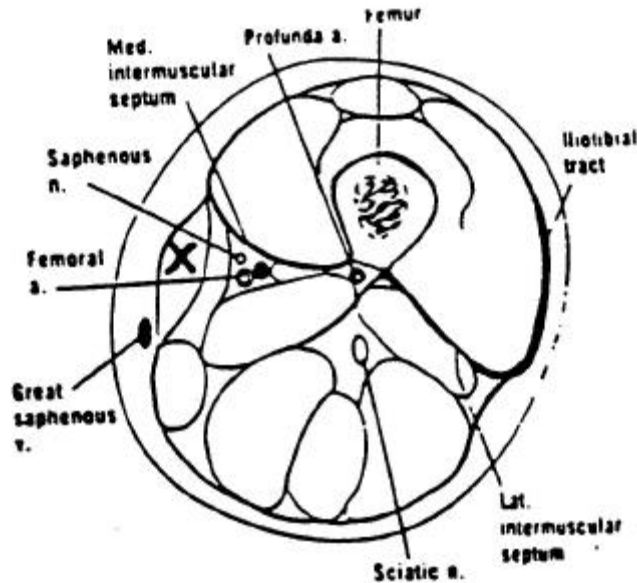
72. All of the following statements regarding the prostate gland are CORRECT EXCEPT:
- A. The position of the prostate gland may be influenced by the fullness of the urinary bladder
  - B. Cancer of the prostate is apt to spread to the vertebral column because there are valveless veins connecting the prostatic and vertebral venous plexuses
  - C. Prostatic fluid may be obtained by digitally massaging the gland per rectum
  - D. The base of the prostate gland is related to the urogenital diaphragm
  - E. Urethral obstruction because of benign hypertrophy of its middle lobe is a common cause of nocturia (need to void urine during the night)
73. Each statement regarding the autonomic plexuses related to the abdominal aorta and its branches is CORRECT EXCEPT:
- A. All of these plexuses are formed by pre and postganglionic sympathetic fibers, postganglionic sympathetic cell bodies, preganglionic parasympathetic fibers and visceral afferent fibers
  - B. Plexuses which extend along the branches of the celiac trunk innervate the stomach, duodenum, spleen, pancreas, liver and gallbladder
  - C. Stimulation of the thoracic splanchnic nerves that enter the plexuses increases gastric peristalsis and secretion and relaxes the pyloric sphincter
  - D. Prevertebral ganglia associated with these plexuses are named after major branches of the abdominal aorta
  - E. The synaptic transmitter released by preganglionic sympathetic terminals in the prevertebral ganglia is acetylcholine



74. Which of the following is the INCORRECT statement with regard to micturition:
- A. Filling of the bladder leads to stimulation of visceral sensory fibers which follow the pelvic plexus and pelvic splanchnic nerves
  - B. Visceral sensory fibers in the pelvic splanchnics enter the spinal cord at the L1-L2 spinal cord levels
  - C. Stimulation of visceral sensory fibers from the bladder causes facilitation of preganglionic parasympathetic neuron discharge at the level of the conus medularis
  - D. Postganglionic parasympathetic neuron activation results in contraction of the detrusor muscle
  - E. Inhibition of pudendal motor neuron discharge at the level of the conus medularis results in relaxation of the sphincter urethrae
75. Anterior movement of the tibia on the femur (anterior drawer sign) is indicative of damage to which structure of the knee joint:
- A. Medial meniscus
  - B. Posterior meniscomfemoral ligament
  - C. Anterior cruciate ligament
  - D. Lateral meniscus
  - E. Posterior cruciate ligament

76. Regarding structures in the leg, all of the following are CORRECT EXCEPT:
- A. In the posterior compartment, the tibial nerve is located between the soleus muscle posteriorly and the tibialis posterior muscle anteriorly
  - B. In its course, the posterior tibial artery lies successively on the tibialis posterior muscle, flexor digitorum longus muscle and posterior surface of the tibia
  - C. The flexor hallucis longus muscle will lie posterolateral to the tibialis posterior muscle
  - D. At the level of the superior extensor retinaculum, the tendon of the extensor hallucis longus muscle lies medial to the tendon of the tibialis anterior muscle
  - E. The inferior border of the popliteus muscle marks the point at which the popliteal artery divides into the anterior and posterior tibial arteries

Question 77 refers to the accompanying illustration:



77. Choose the INCORRECT statement about the structure indicated by the "X":
- A. It flexes the thigh
  - B. It flexes the trunk
  - C. It forms the roof of the adductor canal
  - D. Its tendon contributes to the pes anserina
  - E. It medially rotates the thigh
78. As the result of a car accident, an individual suffered injuries to the right lower limb. These included a ruptured posterior cruciate ligament and transection of the sciatic nerve at the level of the hip joint. You would expect to observe all of the following signs and symptoms in the affected limb EXCEPT:
- A. Posterior drawer sign
  - B. Atrophy of the triceps surae
  - C. Paralysis of the extensors of the leg
  - D. Loss of voluntary dorsiflexion of the foot at the ankle
  - E. Intact cutaneous sensibility (pain, temperature and touch) from the anteromedial leg

### MATCHING ITEMS

In each of the following groups there are two numbered lists. Mark on the answer sheet in the line corresponding to each question number in the lower list (79-80) the letter of the related item of the upper list.

DIRECTIONS: Match the nerves (A-H below) to the correct response for questions 79 and 80.

- A. Lateral femoral cutaneous
- B. Lateral plantar
- C. Medial femoral cutaneous
- D. Medial plantar
- E. Obturator
- F. Posterior femoral cutaneous
- G. Saphenous
- H. Sural

- 79. It provides cutaneous innervation to the skin of the roof of the popliteal fossa
- 80. Pain from a cut on the sole of the foot just superficial to the tuberosity of the fifth metatarsal will be carried by this structure