

BIO 733 - EXAM #4
Spring 2009

Please mark your answers on a scantron.

1. Which of the following is a space or fluid in which you would NOT expect to find a hormone?
 - A) blood plasma
 - B) interstitial fluid
 - C) duct
 - D) capillaries

2. The ability of a hormone to affect the activities of a particular cell depends on that cell having specific receptors with which the hormone molecules can bind. The number of receptors present in a target cell is a constant, invariable number.
 - A) Both statements are true.
 - B) Both statements are false.
 - C) The first statement is true; the second is false.
 - D) The second statement is true; the first is false.

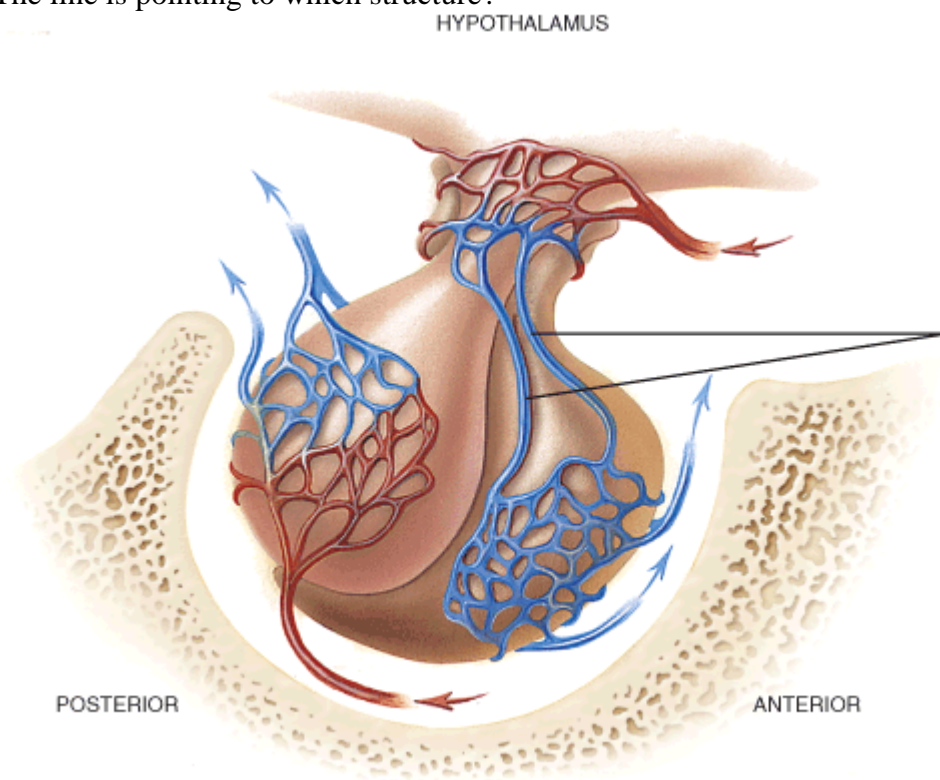
3. Which of the following pairs of terms is incorrectly matched?
 - A) insulin; secreted by beta cells
 - B) glucagon; secreted by alpha cells
 - C) somatostatin; secreted by delta cells
 - D) pancreatic polypeptide; inhibits secretion of insulin and glucagon

4. Estrogen is produced by cells in the:
 - A) ovaries.
 - B) placenta.
 - C) adrenal cortex.
 - D) both A and B.

5. Which of the following is NOT part of the pancreatic islets (islets of Langerhans)?
 - A) acini
 - B) alpha cells
 - C) beta cells
 - D) F-cells

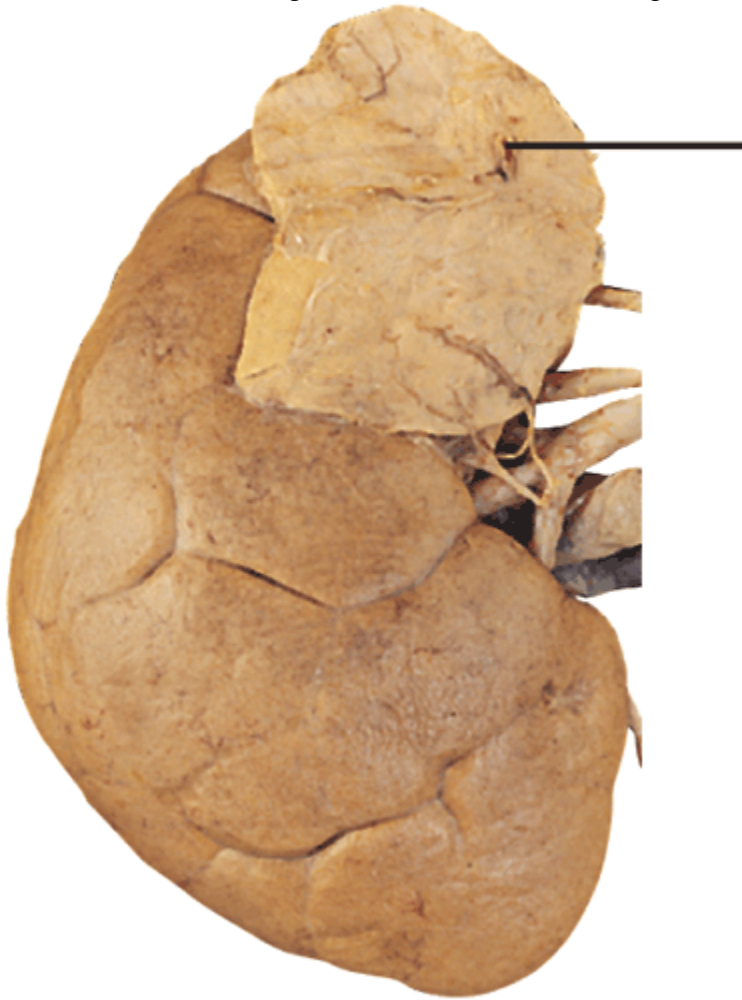
6. The two lobes of the thyroid gland are joined by a mass of tissue called the _____.
A) isthmus
B) parathyroid
C) infundibulum
D) follicle
7. Suprarenal arteries branch from the abdominal aorta immediately inferior to the diaphragm. Which endocrine gland receives its blood supply from these suprarenal arteries?
A) thymus
B) ovary
C) adrenal
D) testicle
8. Which endocrine gland will be located directly posterior to the sternum and anterior to the pericardium of the mediastinum?
A) pituitary
B) adrenal
C) thymus
D) thyroid

9. The line is pointing to which structure?



- A) superior hypophyseal artery
- B) hypophyseal portal veins
- C) inferior hypophyseal artery
- D) posterior hypophyseal veins

10. What is the endocrine gland is indicated on the diagram?



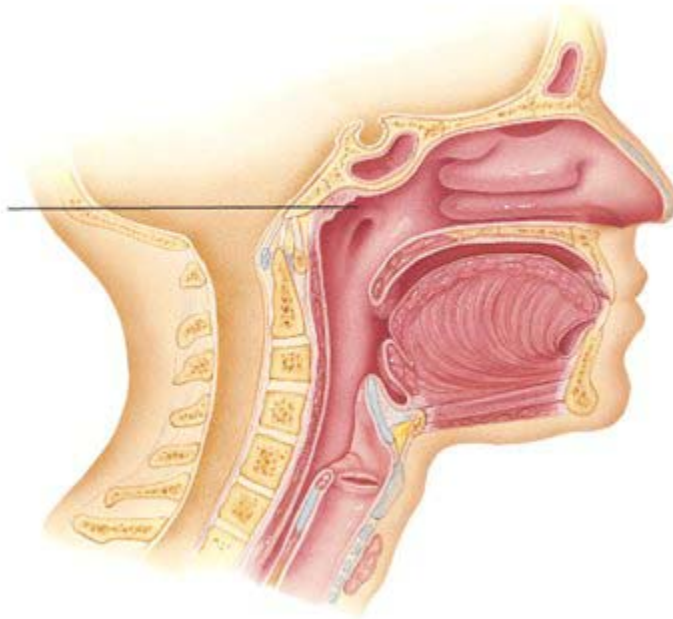
- A) adrenal
- B) pineal
- C) thymus
- D) testis

11. The portions of the respiratory system that are capable of gas exchange include:

- A) respiratory bronchioles.
- B) alveolar ducts.
- C) alveoli.
- D) all of the above.

12. The floor of the internal nose:
- A) is also the hard palate.
 - B) separates the internal nose from the external nose.
 - C) is formed entirely by the palatine processes of the maxillae.
 - D) is also called the nasal septum.
13. Olfactory epithelium:
- A) is found on the superior nasal conchae and superior portion of the nasal septum.
 - B) is the mucous membrane lining of the nasal cavity.
 - C) lines the superior, middle, and inferior nasal meatuses.
 - D) all of the above.
14. The epiglottis:
- A) consists of a leaf-shaped piece of hyaline cartilage.
 - B) is attached posteriorly to the thyroid cartilage.
 - C) serves to route food and liquids into the esophagus.
 - D) all of the above.
15. The _____ is/are the first portion(s) of the respiratory tract to enter lung tissue.
- A) trachea
 - B) primary bronchi
 - C) secondary bronchi
 - D) tertiary bronchi
16. Which of the following features of the lungs face(s) the heart?
- 1) costal surface
 - 2) hilus
 - 3) base
 - 4) mediastinal surface
- A) 1, 2
 - B) 3, 4
 - C) 2, 4
 - D) 1 only
17. Compared to the left lung, the right lung:
- A) is broader.
 - B) is shorter.
 - C) has one more lobe.
 - D) all of the above.

18. What is the name of the area indicated?



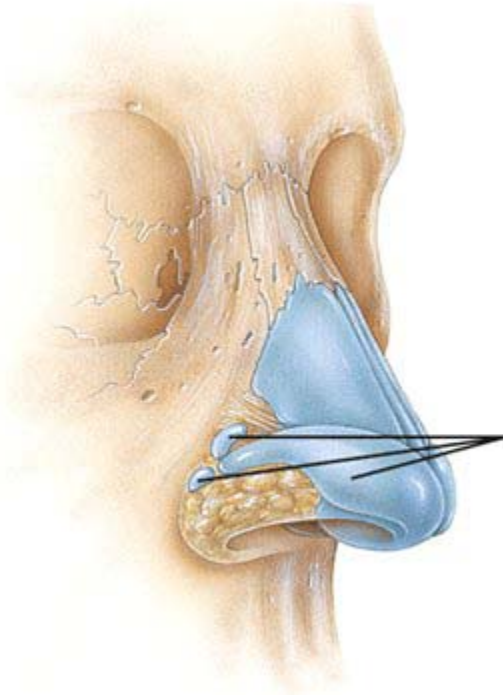
- A) nasopharynx
- B) sphenoidal sinus
- C) oropharynx
- D) frontal sinus

19. The line is pointing to which structure of the larynx?



- A) thyrohyoid membrane
- B) tracheal cartilage
- C) vocal fold
- D) cuneiform cartilage

20. Which cartilage(s) is/are indicated in the figure?



- A) nasal
- B) lateral
- C) septal
- D) alar

21. Place the following in the correct order, as found in the muscularis layer of the stomach, from outermost to innermost:

- 1) oblique layer
- 2) circular layer
- 3) longitudinal layer

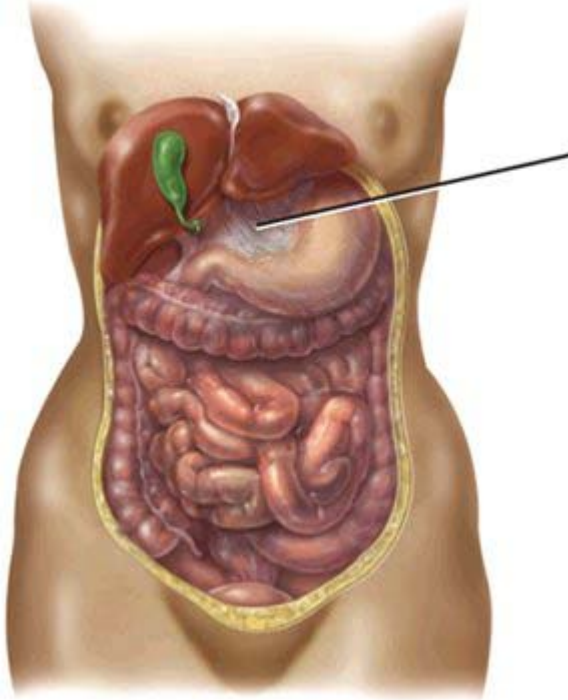
- A) 2, 1, 3
- B) 3, 1, 2
- C) 1, 2, 3
- D) 3, 2, 1

22. The layer of connective tissue underlying the epithelium of the mucosa of the GI tract is called the _____.

- A) adventitia
- B) lamina propria
- C) submucosa
- D) peritoneum

23. The structure attached to the soft palate that helps close off the nasopharynx during swallowing is the _____.
- A) fauces
 - B) uvula
 - C) epiglottis
 - D) tongue
24. The salivary glands whose ducts open on either side of the lingual frenulum are the:
- A) parotid glands.
 - B) sublingual glands.
 - C) submandibular glands.
 - D) buccal glands.
25. The material of a tooth that attaches it to the periodontal ligament is _____.
- A) dentin
 - B) enamel
 - C) cementum
 - D) gingiva
26. Peristaltic contractions:
- A) occur in the stomach, esophagus, small intestine, and large intestine.
 - B) are primarily responsible for mixing the food with the digestive juices.
 - C) are of similar strength throughout the digestive tract.
 - D) all of the above.
27. Which of the following is an anatomical feature of the small intestine that serves to increase the surface area for digestion and absorption?
- A) lacteals
 - B) microvilli
 - C) rugae
 - D) all of the above
28. Which region of the stomach is positioned nearer to the liver?
- A) fundus
 - B) cardiac
 - C) greater curvature
 - D) pylorus

29. Identify the structure indicated in the figure.



- A) gallbladder
- B) sigmoid colon
- C) greater omentum
- D) lesser omentum

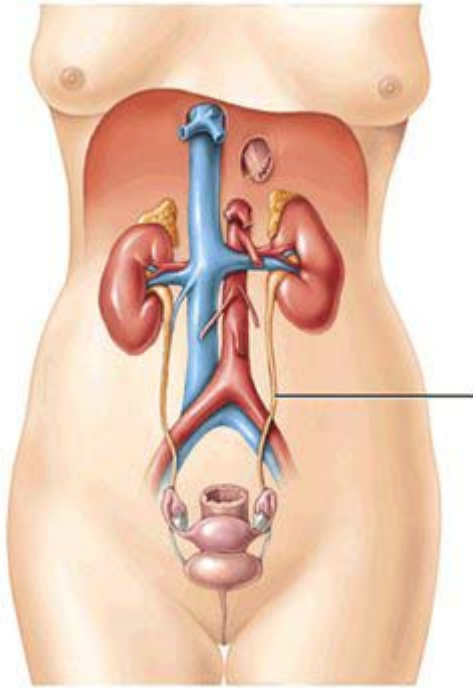
30. What is the structure the arrow is pointing to?



- A) parotid duct
- B) mylohyoid duct
- C) submandibular duct
- D) sublingual duct

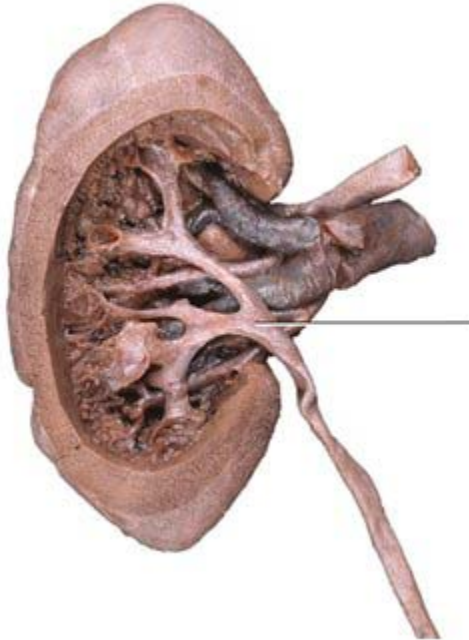
31. Three layers of tissue surround each kidney. They are, in order from innermost to outermost:
- 1) renal capsule
 - 2) visceral peritoneum (serosa)
 - 3) adipose capsule
 - 4) renal fascia
- A) 1, 3, 4
B) 2, 3, 4
C) 1, 3, 2
D) 4, 3, 1
32. A nephron consists of two portions:
- A) renal corpuscle and renal tubule.
 - B) glomerulus and glomerular capsule.
 - C) proximal and distal convoluted tubules.
 - D) glomerulus and collecting duct.
33. Which of the following structures is not a portion of a nephron?
- A) vasa recta
 - B) loop of Henle
 - C) distal convoluted tubule
 - D) proximal convoluted tubule
34. The two portions of a nephron that commonly contribute to the juxtaglomerular apparatus are the:
- A) glomerulus and distal convoluted tubule.
 - B) descending limb of loop of Henle and efferent arteriole.
 - C) distal portion of ascending limb of loop of Henle and afferent arteriole.
 - D) glomerulus and collecting duct.
35. The shortest portion of the male urethra is the _____.
- A) spongy urethra
 - B) membranous urethra
 - C) prostatic urethra
 - D) penile urethra

36. What is the structure that is indicated on the diagram?



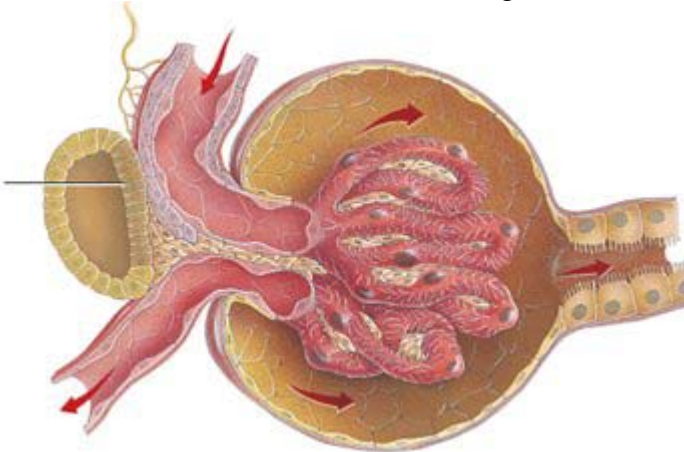
- A) right renal artery
- B) left renal vein
- C) left ureter
- D) left urethra

37. What is the structure indicated in the diagram?



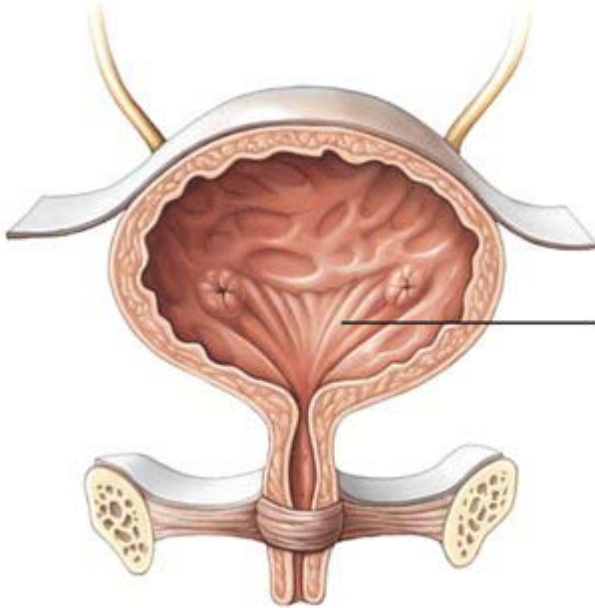
- A) renal pelvis
- B) minor calyx
- C) renal vein
- D) major calyx

38. What is the structure indicated in the diagram?



- A) mesangial cells
- B) pedicels
- C) parietal layer of capsule
- D) macula densa

39. What is the structure or area that the arrow is pointing to?



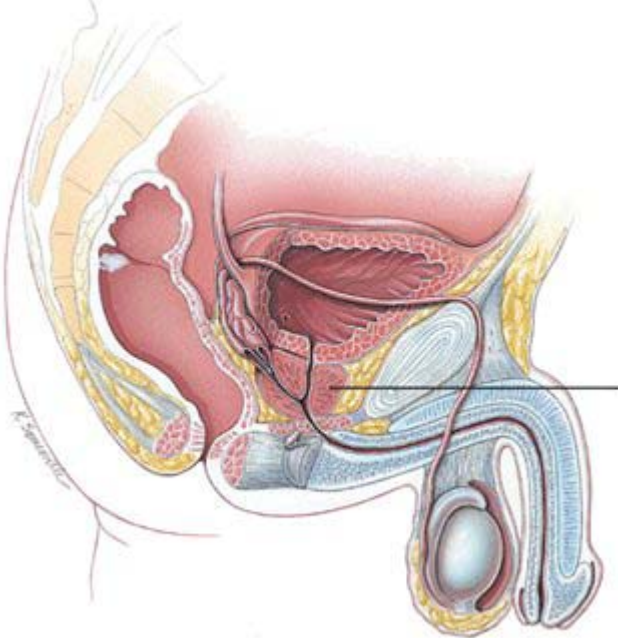
- A) peritoneum
- B) internal urethral sphincter
- C) detrusor muscle
- D) trigone

40. Trace the route of an oxygenated red blood cell from the time it passes into the kidney in a renal artery until it enters a venule as a deoxygenated red blood cell by placing the following vessels in their correct order:

- 1) segmental artery
 - 2) arcuate artery
 - 3) interlobar artery
 - 4) peritubular capillary
 - 5) afferent arteriole
 - 6) peritubular venule
 - 7) efferent arteriole
 - 8) interlobular artery
 - 9) glomerular capillaries
- A) 1, 3, 2, 8, 5, 9, 7, 4, 6
 - B) 3, 2, 1, 8, 4, 7, 9, 5, 6
 - C) 1, 8, 2, 3, 7, 9, 5, 4, 6
 - D) 1, 2, 3, 8, 5, 9, 7, 6, 4

41. The male reproductive duct that is six meters long but is tightly coiled into a 3.5-cm distance is the _____.
A) rete testis
B) ductus epididymis
C) ductus deferens
D) ejaculatory duct
42. Place the following ducts in the correct order, from the site of sperm production to the point of exit from the body.
1) ductus (vas) deferens
2) straight tubules
3) prostatic urethra
4) ductus epididymis
5) ejaculatory duct
6) efferent ducts
7) spongy urethra
8) rete testis
9) membranous urethra
A) 6, 1, 8, 2, 4, 3, 5, 7, 9
B) 2, 8, 6, 4, 1, 5, 3, 9, 7
C) 5, 6, 2, 8, 4, 1, 9, 3, 7
D) 6, 8, 2, 4, 1, 3, 5, 9, 7
43. The midventral mass of erectile tissue in the penis is a:
A) corpus spongiosum.
B) corpus cavernosum.
C) spongy urethra.
D) tunica albuginea.
44. The uterine tubes are:
1) the site of zygote formation
2) also called oviducts
3) lined by cells that have microvilli called fimbriae
4) consist of two-thirds ampulla and one-third isthmus
5) attach the ovaries firmly to the uterus
A) 1, 2, 3, 4
B) 1, 3, 5
C) 2, 4, 5
D) 1, 2, 4

45. Which of the following is not a type of ligament that helps maintain the position of the uterus?
- A) suspensory ligament
 - B) round ligament
 - C) cardinal ligament
 - D) broad ligament
46. The tunica albuginea of an ovary:
- A) is a layer of loose connective tissue that divides the ovaries into lobes.
 - B) is the outermost covering of the ovary.
 - C) is the tissue that contains and surrounds a developing oocyte.
 - D) is a tissue layer located deep to the germinal epithelium.
47. What is the structure indicated in the figure?



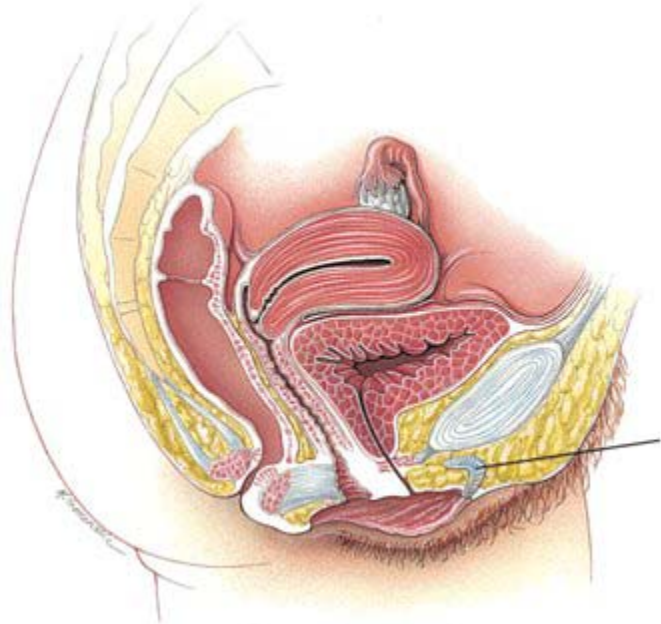
- A) urinary bladder
- B) testis
- C) bulbourethral gland
- D) prostate

48. Name the structure indicated in the figure.



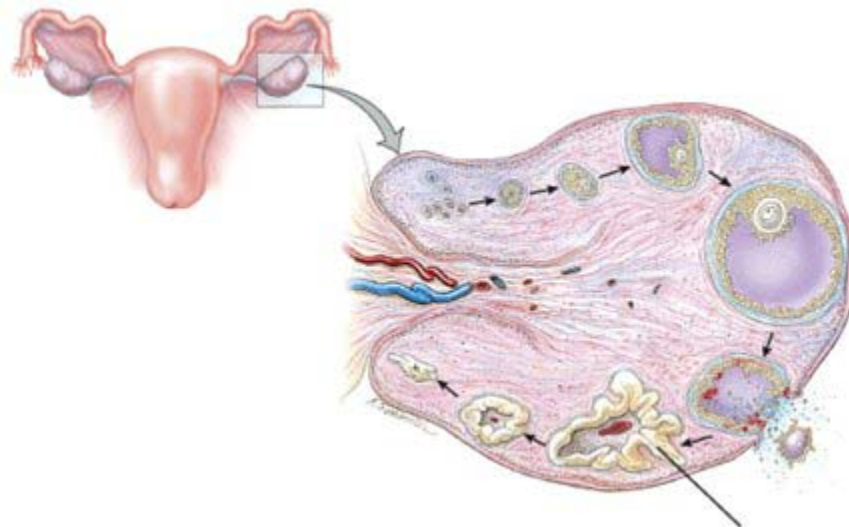
- A) body
- B) acrosome
- C) neck
- D) tail

49. What structure is indicated in the diagram?



- A) ovary
- B) uterus
- C) vagina
- D) clitoris

50. What structure is indicated?



- A) secondary follicle
- B) corpus luteum
- C) mature (Graafian) follicle
- D) corpus albicans