

PROSTATE, MALE URETHRA & FEMALE URETHRA

PROSTATE GLAND

1. What is the measurement of the prostate?

ANS: 4cm x 3cm x 2cm

2. What is the female homologue of the prostate in a human being?

ANS: paraurethral glands of Skene

3. What % of seminal fluid is provided by the prostate?

ANS: 30%

4. What do the puboprostatic ligaments connect?

ANS: connects the anterior surface of the prostate to the bodies of the pubic bone

5. What clasps the inferolateral surfaces of the prostate?

ANS: pubourethralis (parts of the levator ani)

6. The ejaculatory ducts pierce the posterior surface of the prostate at the level of the bladder. T/F

ANS: False [it pierces the posterior surface just below the bladder, not at the level of it]

7. The ejaculatory ducts pass obliquely through the prostate gland for about 2 inches to open into the prostatic urethra about halfway down. T/F

ANS: True

8. Where is the prostatic plexus of vein located?

ANS: between the true capsule and false capsule of the prostate

9. The prostatic urethra, which is 3-4cm in length, passes through the substance of the prostate, closer to the anterior than the posterior surface of the gland. T/F

ANS: True

10. What is the urethral crest?

ANS: it is a midline ridge that projects into the lumen of the prostatic urethra from its posterior wall to run throughout most of the prostatic urethra

11. What is the prostatic sinus?

ANS: it is the shallow depression of either side of the urethral crest

12. What forms a midline rounded eminence at about the midlength of the urethral crest?

ANS: seminal colliculus / verumontanum

13. What represents the fused ends of the paramesonephric (Mullerian) ducts?

ANS: prostatic utricle

14. The prostatic utricle opens on to the middle of the verumontanum while the ejaculatory ducts open on either side of the utricle. T/F

ANS: True

15. What is the function of the cylinder of smooth muscle that surrounds the proximal part of the prostatic urethra?

ANS: it prevents seminal regurgitation into the bladder during ejaculation

16. Where is the apex of the central zone of the prostate?

ANS: verumontanum

17. Which zone of the prostate surrounds the ejaculatory ducts as they course through the gland?

ANS: central zone

18. The peripheral zone, unlike the central zone of the prostate, does not reach up to the base of the prostate. T/F

ANS: True

19. The ducts of the transition zone of the prostate open on the verumontanum, at the same point where the ducts of the peripheral zone open into the prostatic sinuses. T/F

ANS: False [it opens just above where the ducts of the peripheral zone open into the prostatic sinuses and not at the same point]

20. All the zones of the prostate are involved in various disease processes except the central zone. T/F

ANS: True

21. The transition zone is not susceptible to benign prostatic hyperplasia. T/F

ANS: False

22. Which disease of the prostate exclusively arises from the peripheral zone?

ANS: carcinoma of the prostate

23. There is very little glandular tissue anterior to the prostatic urethra since the anterior part of the prostate is mainly fibromuscular. T/F

ANS: True

24. The main arterial supply to the prostate is from the prostatic branch of the inferior vesical artery. T/F

ANS: True

25. The vesicoprostatic plexus, which is situated at the groove between bladder and prostate, is the direct venous drainage of the prostate. T/F

ANS: False [the veins that drain it directly form a plexus which later joins the vesicoprostatic plexus]

26. The veins that drain the prostate directly run into a plexus that receives the deep dorsal vein of the penis. T/F

ANS: True

27. The acini of the prostate receive parasympathetic innervation while the muscle fibres of the prostate's stroma receive sympathetic innervation. T/F

ANS: True

28. The central zone accounts for the most part of the glandular substance of the prostate. T/F

ANS: False [the central zone occupies only 20% with the peripheral zone occupying 70% and the transition zone only 5%]

29. The main lymph drainage of the prostate is to the internal iliac nodes and less go to the external iliac nodes. T/F

ANS: True

30. The posterior surface of the prostate lies against the upper rectum being separated from it by the rectovesical fascia. T/F

ANS: False [it lies in front of the lower rectum]

MALE URETHRA

31. What are the 3 parts of the male urethra?

ANS: 1) prostatic 2) membranous 3) spongy parts

32. What is the total length of the male urethra?

ANS: 20cm

33. What is the length of the prostatic urethra?

ANS: 3 – 4 cm

34. The prostatic urethra in passing through the substance of the prostate, is closer to the anterior than the posterior surface of the gland. T/F

ANS: True

35. The urethral crest projects into the lumen of the prostatic urethra from the anterior wall throughout most of the length of the prostatic urethra. T/F

ANS: False [it projects from the posterior wall, not anterior wall]

36. How long is the membranous urethra?

ANS: 1.5cm

37. How far behind the pubic symphysis does the membranous urethra pierce the perineal membrane?

ANS: 2.5cm

38. The membranous urethra is the shortest and most dilatable part of the urethra. T/F

ANS: False [it is the shortest and least dilatable part of the urethra]

39. What is the length of the spongy/penile urethra?

ANS: 15cm

40. The penile urethra is within the corpus spongiosum of the penis and can be divided into bulbous, pendulous and erectile parts. T/F

ANS: False [it can only be divided into bulbous and pendulous parts]

41. The posterior part of the corpus spongiosum is enlarged as a bulb. T/F

ANS: True

42. The navicular fossa is just distal to the external urethral meatus at the tip of the glans penis. T/F

ANS: False [is proximal to the external urethral meatus]

43. Every part of the urethra has scanty mucous urethral glands (of Littre). T/F

ANS: False [they are numerous]

44. What is responsible for the spiral stream of urine?

ANS: the horizontal cross-section of the empty urethra and the vertical slit of the meatus

45. The urethra is narrowest at the internal meatus. T/F

ANS: False [it is narrowest at the external meatus]

46. Where are the dilatations of the urethra?

ANS: i) prostatic part ii) bulb iii) navicular fossa

47. Why should any instrument being passed through the external meatus be initially pointed towards the floor of the fossa?

ANS: it is because a large lacuna rests on the roof of the fossa

48. The blood supply to the urethra is solely from the deep artery of the penis. T/F

ANS: False [there is no single 'artery to the urethra.' Blood supply is from any adjacent vessels as it passes through the prostate, sphincter urethrae and corpus spongiosum]

FEMALE URETHRA

49. How long is the female urethra?

ANS: 4cm

50. Every part of the female urethra is embedded within the anterior vaginal wall except its uppermost end. T/F

ANS: True

51. Which muscle fibres lie adjacent to the female urethra as it leaves the bladder?

ANS: muscle fibres of pubovaginalis (part of the levator ani)

52. What is the possible urethral length during birth?

ANS: 10cm

53. How is the urethra arterially supplied with blood?

ANS: Upper part → i) inferior vesical artery ii) vaginal arteries

Lower part → contributions from internal pudendal artery

54. How far behind the clitoris is the external urethral meatus?

ANS: 2.5cm

55. The paraurethral glands (of Skene) open by a single duct on each side just inside the external meatus. T/F

ANS: True

56. The urethral circular muscle is orientated mainly longitudinally and its contraction during micturition shortens the urethra and widens its lumen. T/F

ANS: False [it is the urethral smooth muscle, not circular muscle]

57. Superficial trigonal muscle fibres of the bladder extend into the upper urethra. T/F

ANS: True

58. The external urethral sphincter is thickest near the middle of the urethra, and is thicker at the back than at the front. T/F

ANS: False [it is thicker in front than at sides or back]

59. The external urethral sphincter is controlled by the sympathetic nervous system. T/F

ANS: False [it is supplied by the pudendal nerve, which is a somatic nerve]

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