

- The male reproductive system is sub-peritoneal, all components sits below the abdominal peritoneum
- Infolding of peritoneal sac between the bladder and the rectum - rectovesicular pouch.
- Testes:
 - Located in the scrotum. Scrotum bad external to body keep low temperature (25°C) maintained by dartos muscle contracting and relaxing
 - Functions: production of sperms and testosterone
 - Structure:
 - Globules of convoluted seminiferous tubules separated and surrounded by tunica albuginea
 - The two layered tunica vaginalis derived from processes vaginalis from peritoneum wraps around the tunica albuginea, except the epididymis part
 - Seminiferous tubule transition to straight tubule, joins the rete testis.
 - Rete testis joins the epididymis head, which travels down along the testes, then up medially through the testes, into the vas deferens
 - Vas deferens travel up through the inguinal canal, front and over the pubis bone, dorsalateral of the bladder, over the ureter, then downwards.
- Semen
 - Vas deferens joined by seminal vesicles, an exocrine gland that provide fructose, proteins and alkaline solution, Vit C, 70% of semen volume
 - Ejaculatory duct joins the urethra in the prostate inferior to the bladder. 25% of semen volume, sugar, zinc, enzymes
 - Benign prostatic hyperplasia: proliferation of epidermis or stromal cells of the prostate, constriction of the urethra.
 - Symptoms: Dysuria(difficult urination), Nocturia(night urination), Urgency to urinate
 - Treatments: α-blockers relaxes the prostate muscle
 - Prostate cancer:
 - Can metastasise to other regions such as the brain, pelvic bones, heart and lungs.
 - Symptoms: Frequent urination
 - Diagnosis: prostate exam, touching palpate the posterior rectum for hardening
 - Bulbourethral gland: provides lubrication and alkaline solution for neutralisation of residual urine
- Penis
 - Structure:
 - Two dorsal structures: corpora cavernosa, contains deep artery
 - septum between corpora separate at the base, at crura attached to the pelvic bone
 - Tunica albuginea around the corpora albuginea
 - One ventral structure: corpus spongiosum: contains the spongy urethra
 - Prepuce = foreskin
 - Dorsally located superficial vein and deep vein, dorsal arteries
 - Enlarged corpus spongiosum at base of the penis - bulbus
 - Glans at the tip of the penis, supplied by deep arteries from corpora cavernosum and dorsal arteries
- Urethra: from prostate to external
 - Intramural: within the walls of the bladder

- Prostatic: within the prostate
- Intermediate: at external sphincter muscle
- Spongy urethra: part after bulbourethral gland
- Internal sphincter at base of bladder, smooth muscle autonomic control, sympathetic ejaculation lead to contraction, prevent semen from entering bladder
- External sphincter below prostate, skeletal muscle, voluntary control by pudendal nerve
- Ruptures of the urethra
 - Intermediate urethra rupture: impact on the pelvic bone leak of urine into the peritoneum
 - Spongy urethra rupture: impact to the perineum, leak of urine into fascia of perineum, e.g. scrotum
- Erection and ejaculation
 - In flaccid state blood bypass the corpora cavernosum through arteriovenous anastomosis at base of the penis
 - During erection, parasympathetic input from S2-4 control sphincter, closes anastomosis, blood directed into the penis,
 - Helices artery relaxes, allow blood inflow, increase bloodflow into the body of the penis
 - Bulbospongiosus and ischiocavernosus contract at the base of the penis, reduce bloodflow away from penis in veins
 - Emission: movement of sperm through vas deferens, addition of prostate fluid into seminal fluid
 - Ejaculation:
 - Sympathetic: close internal urethral sphincter
 - Parasympathetic: contraction of urethra
 - Somatic: contraction of bulbospongiosus and ischiocavernosus
 - Remission: Opening of arteriovenous anastomosis, bloodflow out of the penis, return to flaccid state
 - The bulbospongiosus and ischiocavernosus is supplied by internal pudendal arteries, innervated by pudendal nerves
- Genital swelling occur posterior to the genital tubercle, lateral to the urogenital opening and urogenital fold.
 - After cloacal membran degeneration, fusion of urogenital fold forms the urethra
 - Genital swelling becomes the scrotum