Know the location of each anatomical part as well as their physiological function.

**Scrotum**
- skin
- tunica dartos
- stratum subdarticum

**Testis**
- tunica albuginea
- parenchyma
- mediastinum testis
- seminiferous tubules – produces spermatozoa
- unilateral and bilateral cryptorchid

- sertoli cells – produces inhibin
- leydig cells – produces testosterone
- rete testis
- efferent ducts
- blood testis barrier

**Epididymis**
- ductus epididymis
- caput (head)

- corpus (body)
- cauda (tail)

**Spermatic Cord**
- inguinal ring
- pampiniform plexus

- cremaster muscle
- spermatic artery and veins

**Ductus Deferens (Vas Deferens)**
- ampulla

- colliculis seminalis

**Accessory Sex Glands**
- seminal vesicles (vesicular glands)
- prostate gland - body and disseminate prostate

**Urethra**
- pelvic urethra

- penile urethra

**Penis**
- urethra

- sigmoid flexure

- root (crura of penis)

- ischiocavernosus muscle

- shaft or body - corpus cavernosum penis

- retractor penis muscle

- glans penis (urethral process - ram)

- bulbospongiosus muscle

- Dog: penis has bulbus glandis and fibrocartilaginous end of Os penis
- Cat : glans penis has penile spines

**Prepuce and Sheath**
Erection

Penis types:
- Fibroelastic - bull, boar, and ram have sigmoid flexure.
- Vascular - stallion and human (increases in diameter as it engorges with blood).
- Bulbus glandis – dog has bulb that engorges with blood increasing diameter of penis

Process:
Ischiocavernosus muscle pushes blood into corpus cavernosum penis through the crura, which prevents blood drainage out of the penis to increase and regulate blood pressure in the penis.

Muscular pressure in the cowper’s gland of bull and ram cause release of alkaline fluids as erection is complete.

Emission

Sperm are also transported out of the cauda epididymis and up through the vas deferens by muscle contractions to the ampulla.

Sperm are released from the ampulla into the pelvic urethra.

Seminal plasma is released from the prostate, cowper’s gland, and seminal vesicles.

Sperm + Seminal plasma = SEMEN

Ejaculation

Ejaculation is the transport of semen through the urethra and expulsion out end of penis.

Emission occurs before semen can be ejaculated, but both processes can be active concurrently.

Process:
- Glans penis is temperature and pressure sensitive.
- Contraction of pelvic urethral muscle pushes semen into ischial arch.
- Contraction of bulbocavernosus muscle:
  - Pushes penile bulb, sends a pressure wave down corpus cavernosum urethra.
  - Semen is pushed down the penile urethra by the pressure wave in most species.

Ejaculation Time and Semen Volume

<table>
<thead>
<tr>
<th>Species</th>
<th>Ejaculation time</th>
<th>Volume of semen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ram</td>
<td>Fraction of seconds</td>
<td>0.5 – 2.0 mL</td>
</tr>
<tr>
<td>Bull</td>
<td>Fraction of seconds</td>
<td>2 – 7 mL</td>
</tr>
<tr>
<td>Stallion</td>
<td>Fraction of minutes</td>
<td>60 - 90 mL</td>
</tr>
<tr>
<td>Boar</td>
<td>Several minutes</td>
<td>100 – 300 mL</td>
</tr>
<tr>
<td>Dog</td>
<td>5 – 45 minutes (repeated matings)</td>
<td>&lt; 30 mL</td>
</tr>
<tr>
<td>Cat</td>
<td>Fraction of seconds (repeated matings)</td>
<td>50-250 µL</td>
</tr>
</tbody>
</table>