

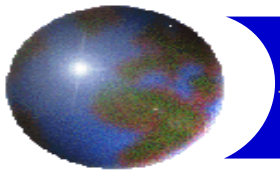
Male Reproductive Pathology: General Considerations

Common diseases

Uncommon diseases

Pathogenesis

VetReproPath.com



Normal Anatomy

“Recent” changes

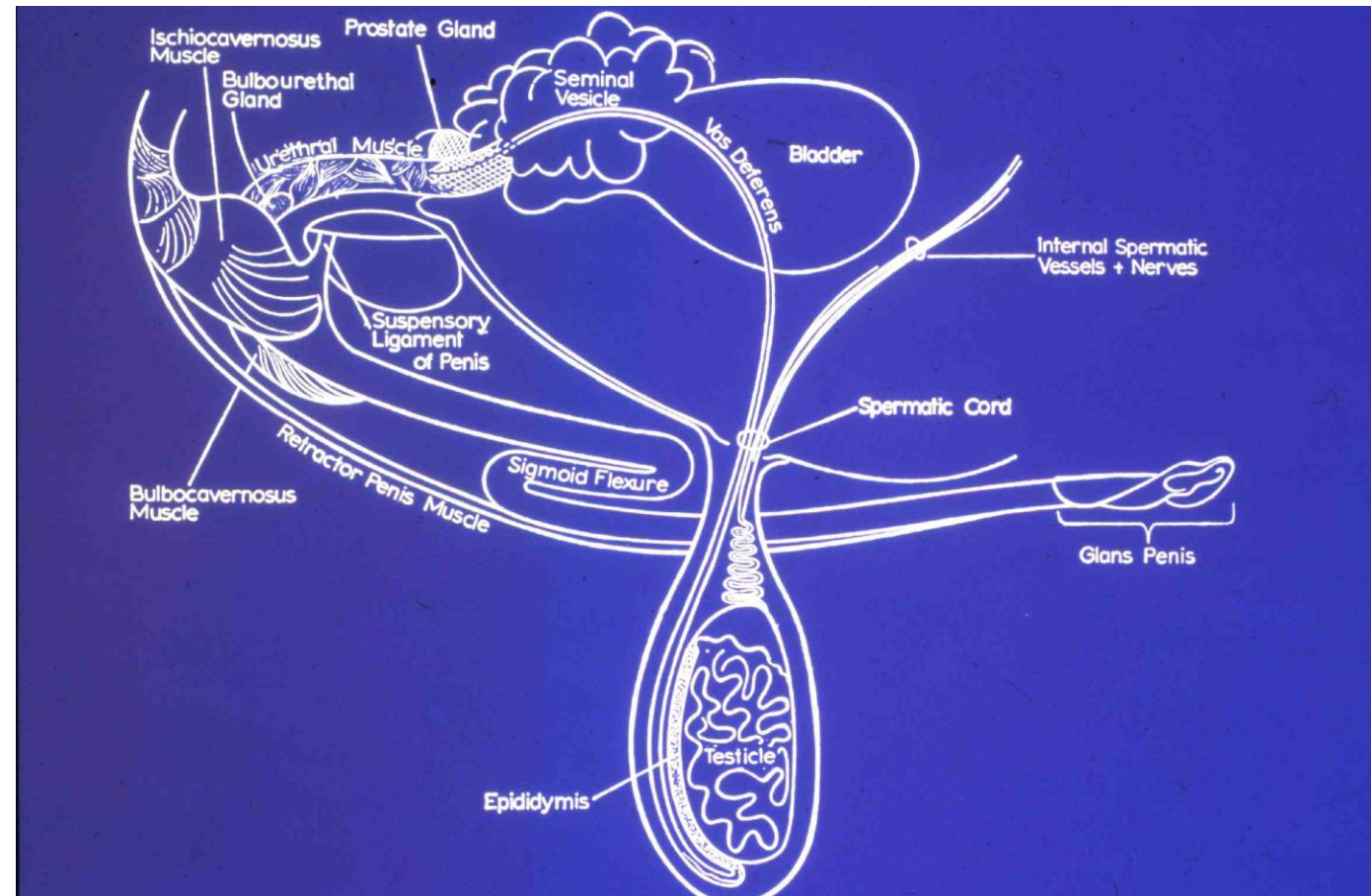
Testis

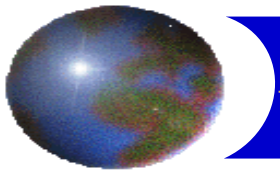
Vaginal tunics

Deferent duct

Vesicular gland

Head of penis





Some cells of the testis

Seminiferous tubule

⊕ Testicular sustentacular (Sertoli) cells

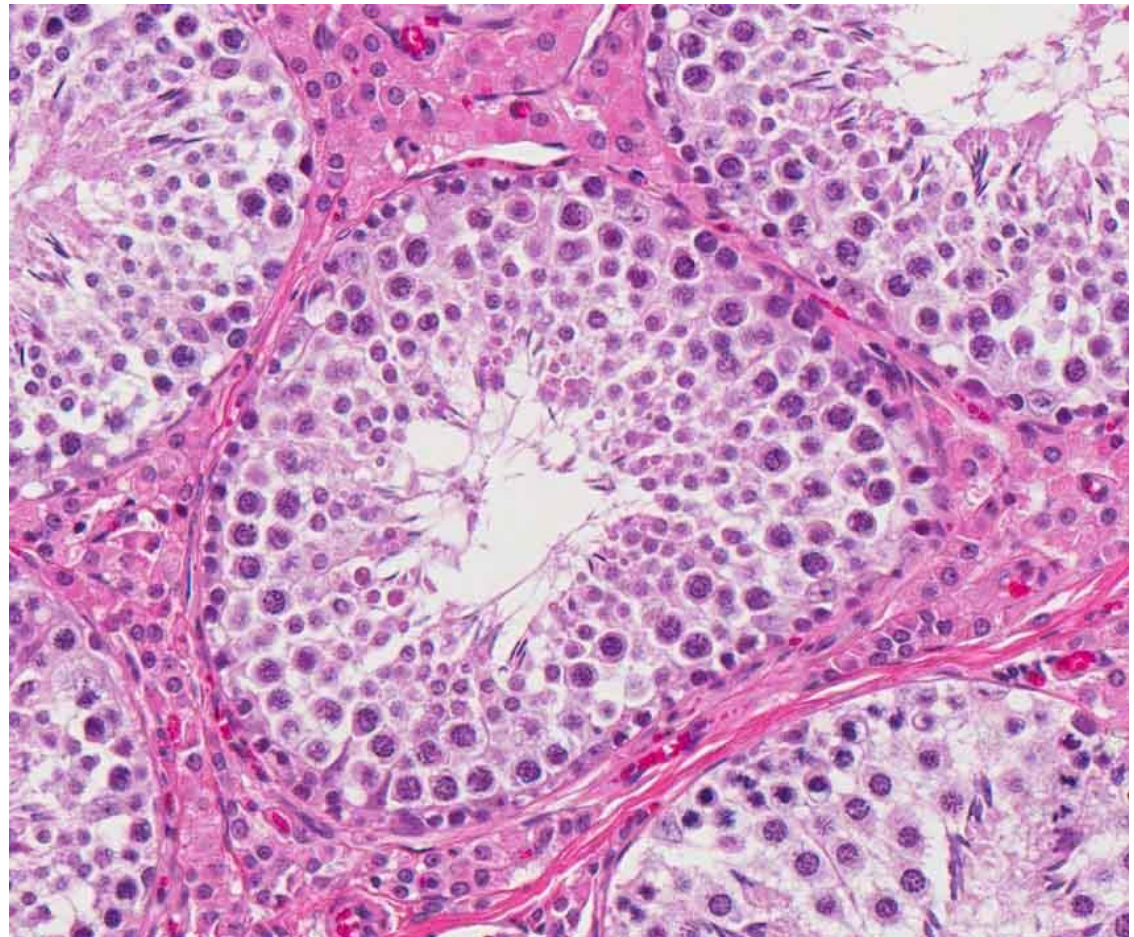
⊕ Germ cells

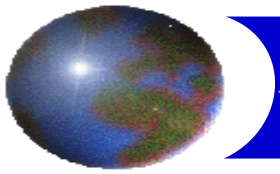
⊞ Spermatogonia

⊞ Spermatocytes

⊞ Spermatids

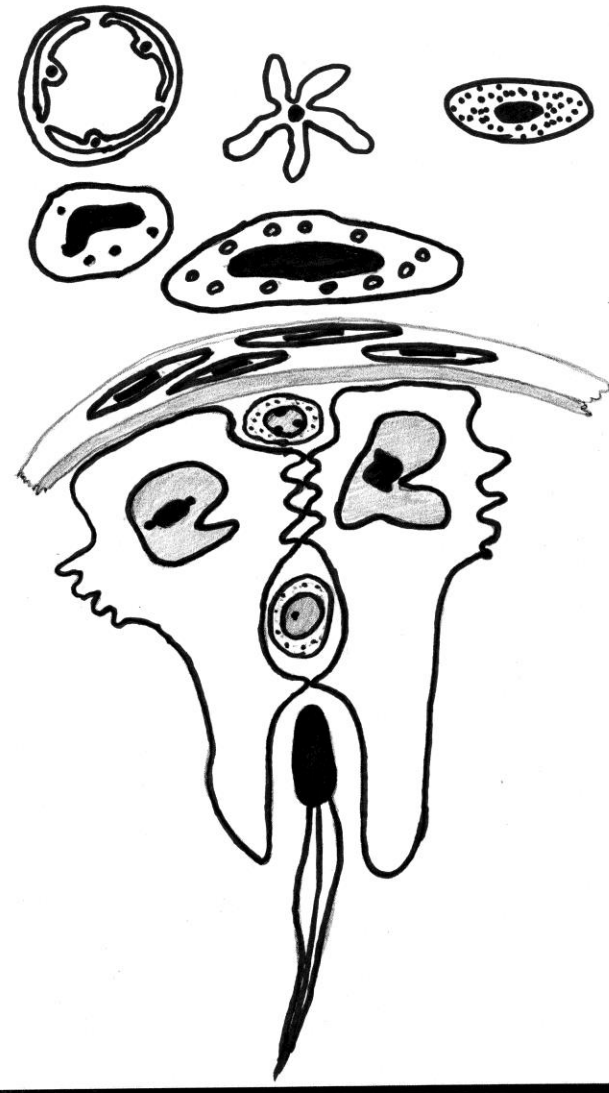
Interstitial endocrine cells

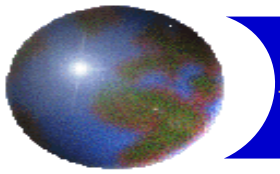




Spermatic Granuloma

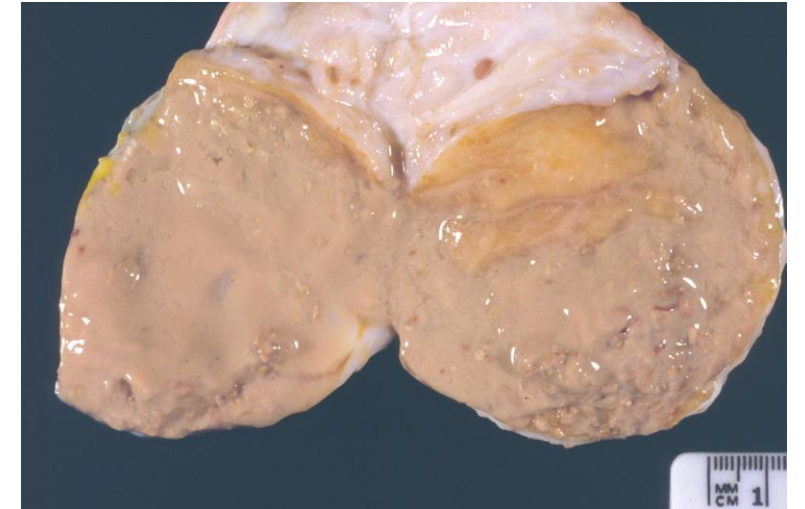
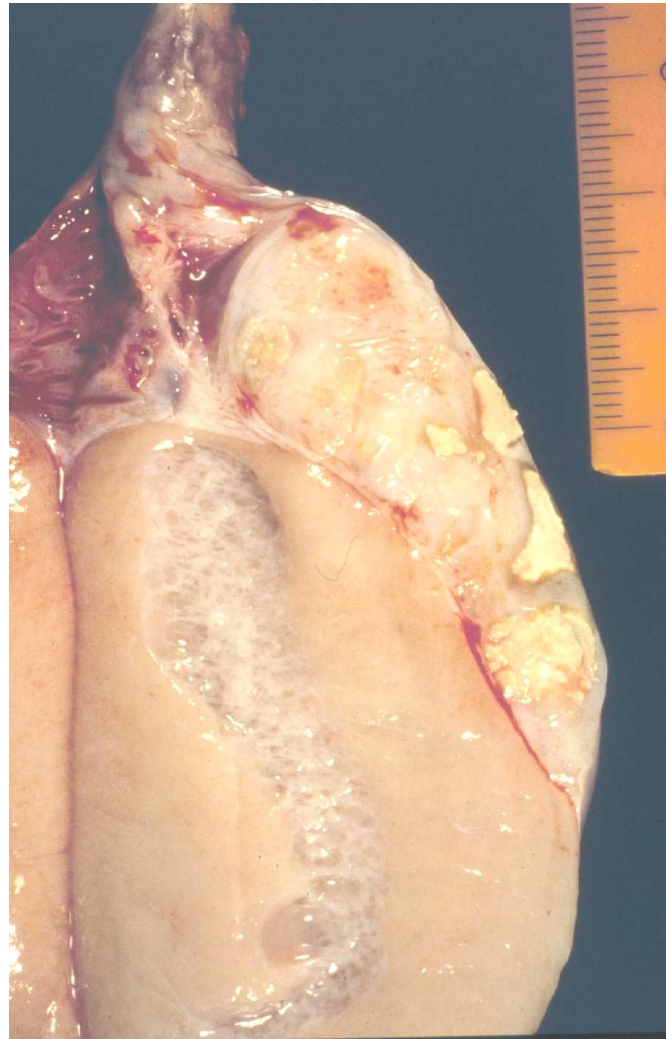
- ✚ Male tract is a unique area immunologically
 - ▣ Spermatozoa are 'outside' the body
 - ▣ Blood testis barrier
- ✚ Spermatozoa are foreign
- ✚ Spermatozoa are immunogenic
 - ▣ spermiostasis
 - ▣ spermatocele
 - ▣ spermatic granuloma

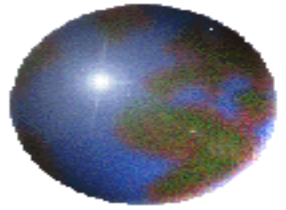
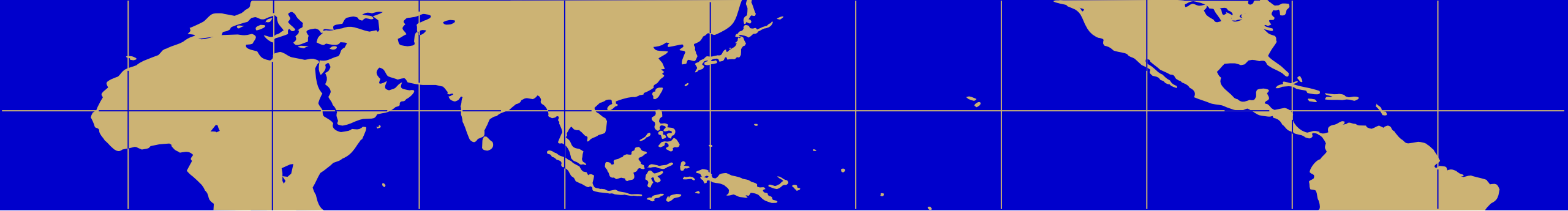




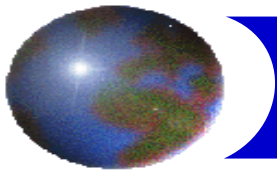
Spermatic granulomas

Think its pus?
It may not be!



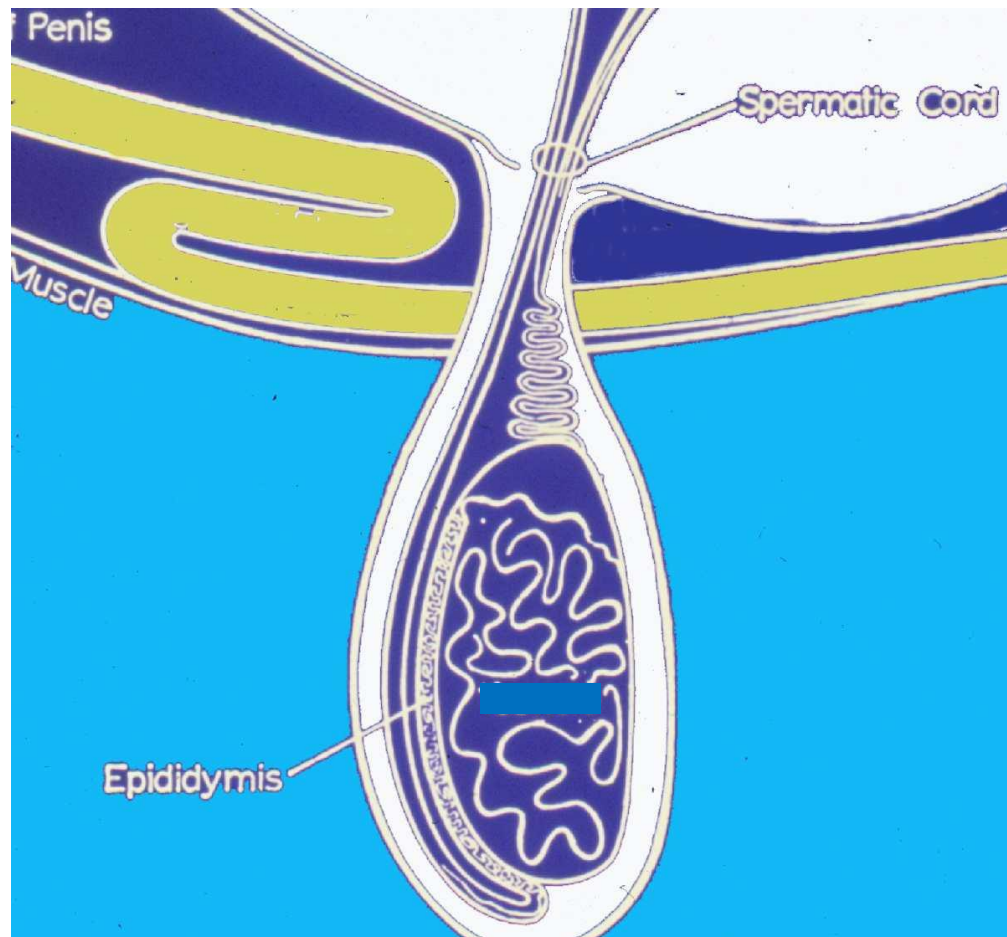


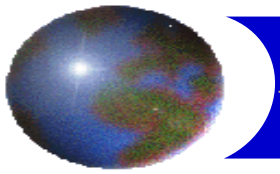
Male Reproductive Pathology
Scrotal contents



Clinical scenario

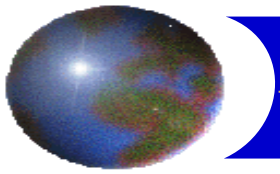
Dog with swollen scrotum – why?





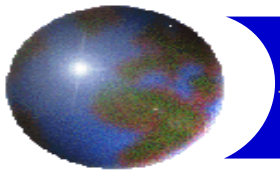
Dog with swollen scrotum

- ✚ Consider anatomy and physiology
 - ✚ Scrotal skin
 - ✚ Vaginal tunics
 - ✚ Testis
 - ✚ Epididymis (head, body, and tail; usually tail)
 - ✚ Spermatic cord (cremaster muscle, deferent duct and pampiniform plexus)
 - ✚ Inguinal ring and area
 - ✚ Superficial inguinal (scrotal) lymph node.
- ✚ Any enlargement of the scrotum or contents can result in swelling



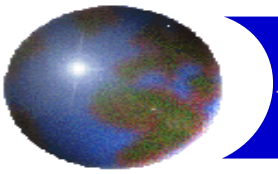
Ancillary tests

- ✦ urinalysis
- ✦ semen evaluation
- ✦ fine needle aspiration/impression smears
- ✦ incisional biopsy
- ✦ excisional biopsy



Scrotal skin disease

- ✚ Phase 3 Dermatology/Dermatopathology
- ✚ Can be secondary to periorchitis/epididymitis



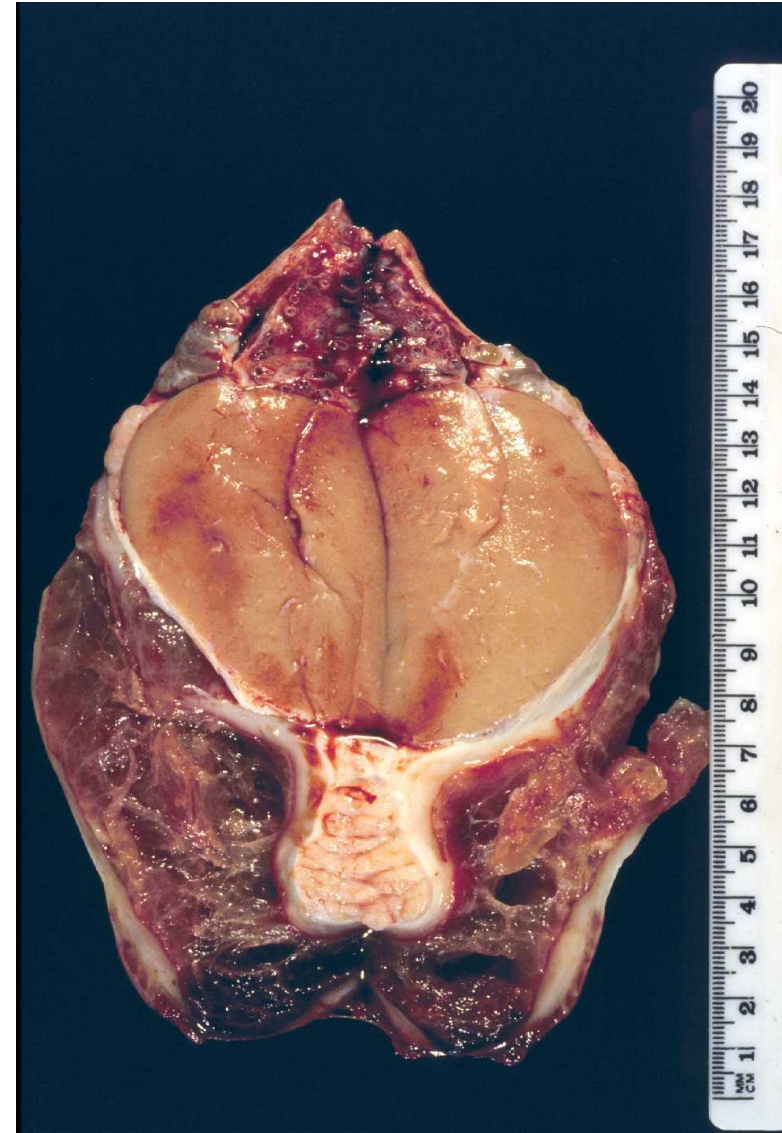
Vaginal tunics

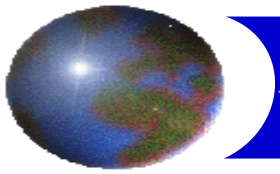
✦ Periorchitis

- ✦ All species gets this
- ✦ Often from epididymitis
- ✦ Can be from peritonitis

✦ Cat is exception

- ✦ Feline infectious peritonitis

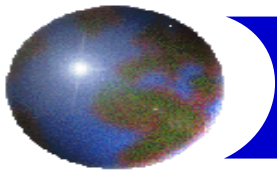




Testis: Small - Hypoplasia

✚ Hypoplasia

- ✚ Failure to reach 'normal' at puberty
- ✚ systemic and or local effect?
- ✚ has reduced tubular diameter, length, germ cell number
- ✚ Causes
 - Hereditary?
 - Disorders of Sexual Development
 - Sex chromosome DSD - XXY cats, freemartin
 - XX testicular DSD – dogs, goats
 - XY testicular DSD – all species

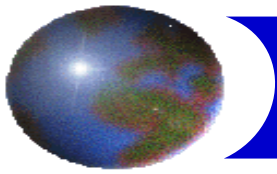


Testis: Small - Hypoplasia

⊕ Hypoplasia

All these testes were from rams of the same age

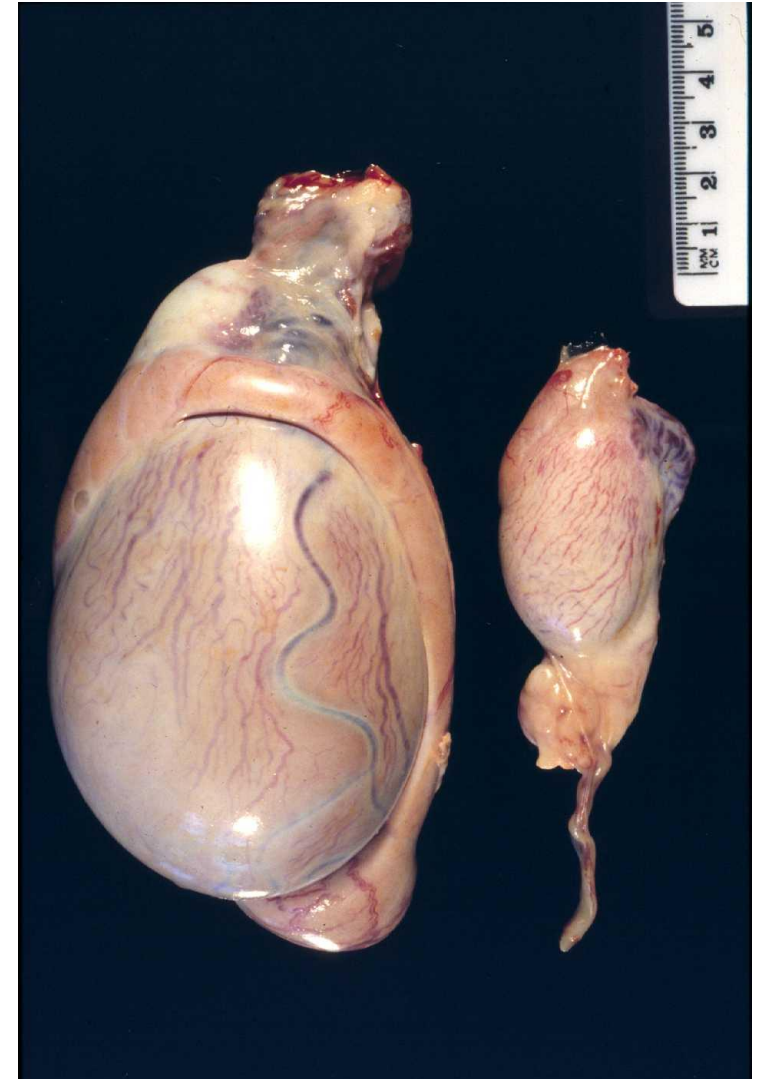




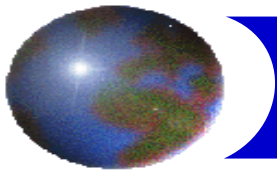
Testis: Small – Cryptorchidism

✚ Cryptorchidism

- ✚ XY testicular DSD
- ✚ Why was there maldescent
 - genetic
 - hormonal
 - structural
 - environmental (outbreaks)



DSD = Disorder of Sexual Development



Testis: Small – Cryptorchidism

✦ Is it a cryptorchid?

❑ All species

- Serum hormone testing (Testosterone, AMH, Inhibin)

❑ Cat

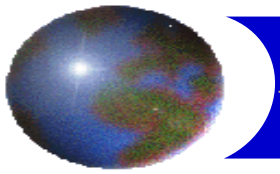
- Penile spines (barbs, papillae)

❑ Dog

- Palpate prostate

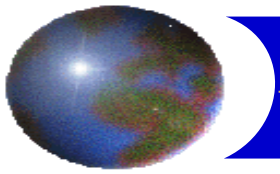
❑ Horse

- rectal palpation



Testis: Small – Cryptorchidism

- ✚ Your dog is a cryptorchid – why neuter?
 - ✚ Adverse outcomes of cryptorchidism
 - Torsion
 - Neoplasia
 - Reduced fertility
 - Heritable trait



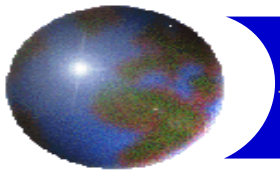
Testis: Small – Atrophy

⊕ Atrophy/degeneration

- ⊞ Atrophy is a gross term, degeneration is histology
- ⊞ Brown coloration

- ⊞ Mineralization
- ⊞ Fibrosis





Testis: Large

- ✚ Compensatory hypertrophy

- ✚ Neoplasia

- ✚ DDX epididymitis

- ✚ Dog

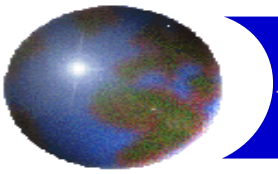
- sustentacular (Sertoli) cell tumor

- interstitial cell tumor

- seminoma

- ✚ Horse

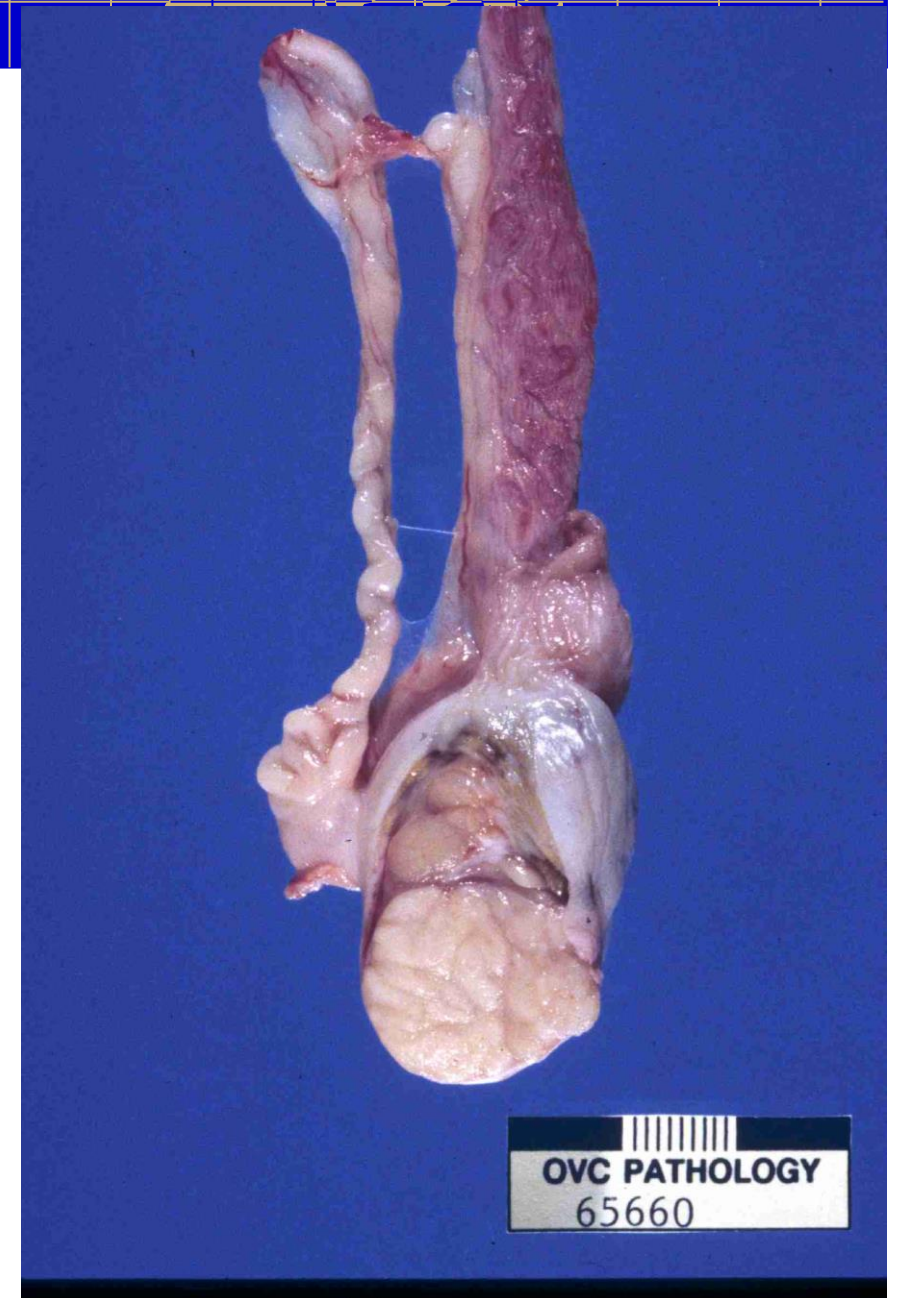
- seminoma (old), teratoma (young)

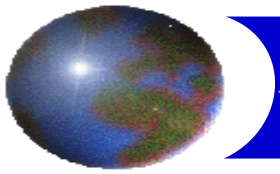


Testis: Large; Neoplasia

- ✚ Sustentacular (Sertoli) cell tumor
 - ▣ Is white and tough

 - ▣ Hyperestrogenism syndrome
 - Not all have inc. serum estrogen
 - Feminisation
 - Gynecomastia
 - Alopecia
 - Bone marrow suppression



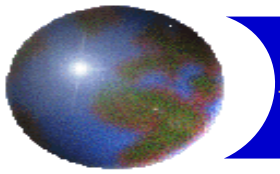


Testis: Large; Neoplasia

- ❖ Interstitial cell tumour
 - ❖ Tan with haemorrhage
 - ❖ Bulges

- ❖ Testis is brown from?





Testis: Large; Neoplasia

✚ Seminoma

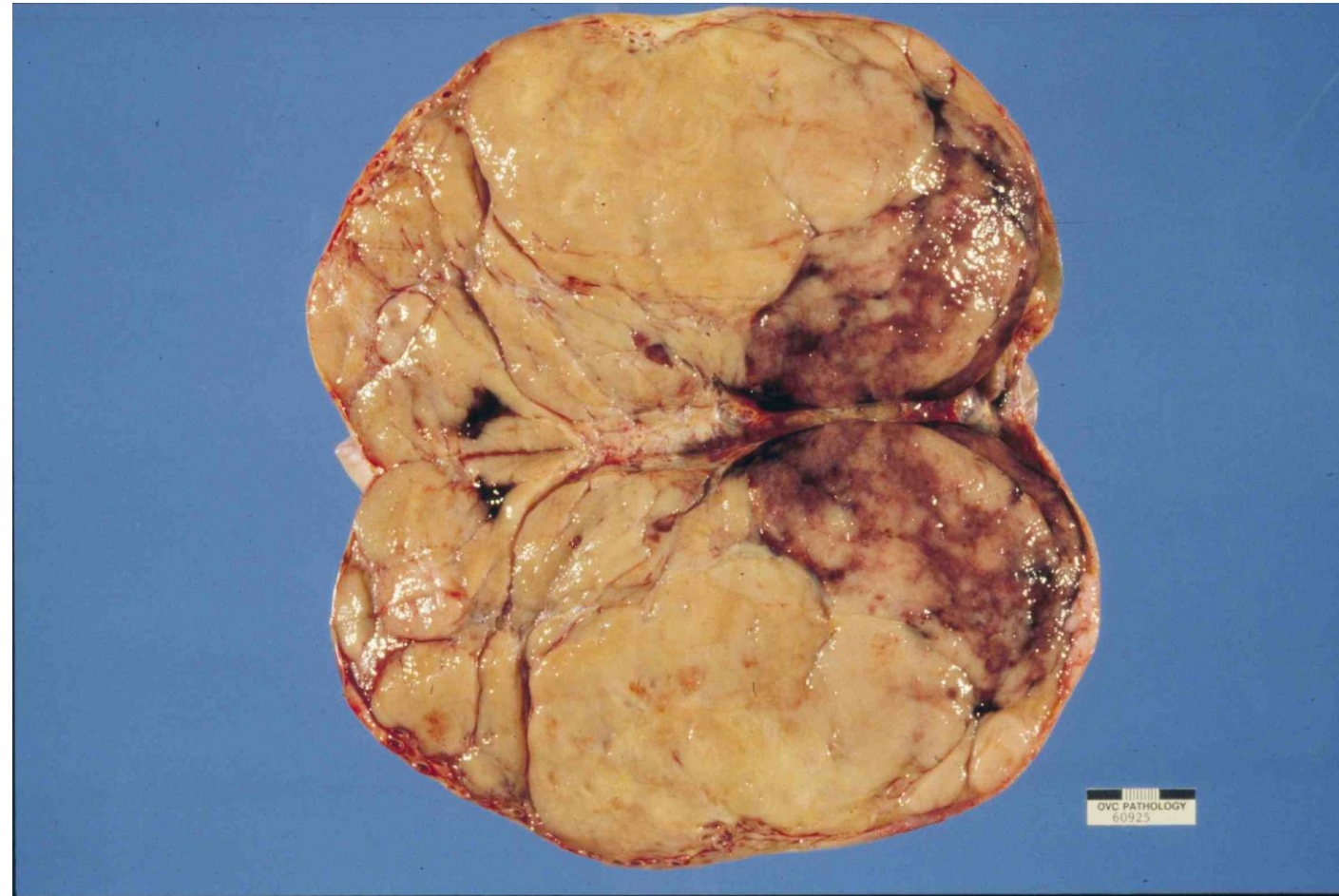
✚ Dog

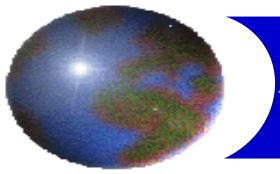
- White, bulges and is homogeneous

✚ Horse

- Pale yellow and lobulated

✚ Which species is this one?



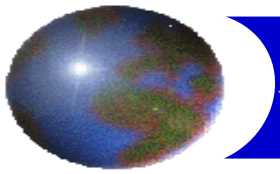


Testis: Torsion

- ✚ Testicular torsion
 - ▣ Retained testis all species
 - ▣ Stallions

- + retained testis
- + sustentacular (Sertoli) cell tumor





Epididymis

- ⊕ Epididymis is one duct and meters long.
- ⊕ 'Too big or too small'
- ⊕ Congenital disease
 - ⊞ Spermatic granuloma of the epididymal head
 - ⊞ Hypoplasia
 - ⊞ Segmental aplasia of mesonephric duct
- ⊕ Epididymitis

