Bulls
Hematoma of the Penis
(Broken Penis)
Pressure in the corpus cavernosum penis (CCP) can be 200-400 lbs/sq in. at breeding.
Hematoma of the Penis
Rule-outs

“Water belly”

Cellulitis
Prognosis
Treatment

- Surgery is probably indicated:
  - If the hematoma is >10-20 cm wide and
  - If the injury is recent (<~7 days)
- Small or old lesions should be treated conservatively
  - Sexual rest, antibiotics, hydrotherapy, ultrasound, etc.
Complications

- Abscess formation
- Adhesions
- Nerve damage
- Recurrence
- Pain at breeding
- Erection failure
  - Thrombosis
  - Cavernosal venous shunts
Hemosemen (Hemospermia)

- Caused by lesions on the penis or prepuce or in the urethra

Treatment

- Treat inciting cause
- Sexual rest and antibiotic therapy
Apical Ligament

Firm attachment on the left but loose on the right
Deviations of the Penis

- Result from abnormalities of the apical ligament
- Often develop over time
- Diagnosed by observing mounting
- Treatment is surgical but may not be advisable
  - Usually involves reinforcing the apical ligament and establishing a fibrous tissue connection between it and the tunica albuginea
Spiral Deviation

Fig. 3. Left lateral view of the incised corneal stroma, showing the effect of spiral deviation on the anatomy of the scleral flap surgical site.
Deviation of the Penis

- **Spiral deviation**
  - Apical ligament (AL) slips off the left side of the penis prior to intromission

- **Ventral deviation**
  - Insufficiency or excessive length of the AL or defects in the CCP or tunica albuginea

- **S-shaped curve of the penis**
  - The AL may be too short
  - Treatment is not possible but may not be necessary
Persistent Frenulum

- May be heritable
Penile Warts
Treatment and Control

- Excise under local anesthesia
- Ligation of the base to cause sloughing
- Autogenous (and commercial) vaccines can be used for prevention
Treatment

- Cryotherapy or electrocautery
  - Controls hemorrhage
  - May slow healing
Balanoposthitis

- Granular posthitis
- Infectious pustular balanoposthitis
- Miscellaneous

Treat with sexual rest and local application of oily antibiotic preparations. Guard against venereal spread.
Hair Rings
Preputial Injuries

- Polled and *Bos indicus* breeds are more susceptible because of deficiency of the retractor prepuce muscle
- *Bos indicus* breeds can also have pendulous sheaths, large preputial orifices and excessive preputial mucosa
Lacerations of the Prepuce

- Minor lacerations not involving the elastic membrane may heal spontaneously with sexual rest.
- Lacerations involving the elastic membrane usually require treatment.
Treatment of Laceration with Phimosis
Laceration with Prolapse
Treatment
Initial goal – Replace the prolapse
Treatment
After the prolapse has been reduced

- Reduce the size of the preputial orifice to prevent re-prolapse
- A Penrose drain sutured on the end of the penis provides urine drainage.
- Treat as for laceration with phimosis
Complications

- Stenosis or fibrosis of the prepuce
- Longitudinal laceration heals transversely
- Retropreputial abscess
  - Poor prognosis for breeding
Surgery

- To remove stenotic portion of prepuce or pendulous portions
- Should only be attempted after all swelling and infection have gone

Techniques
  - Reefing operation
  - Amputation of a portion of the prepuce
Prevention by Selection
Lacerations of the Penis
Congenitally Short Penis
Stallions

- Injuries can result from breeding accidents, kicks, fences, whips, etc.
  - Always make sure urine output is normal
Trauma from Devices Used to Prevent Masturbation
Traumatic Injuries
Hematoma of the Penis
Hematoma of the Penis

- External vessels are involved
Treatment

- Local therapy
- Systemic therapy, as indicated
- Support
- Once the penis can be replaced into the prepuce, it needs to be retained there
Treatment
Surgery may be required

- E.g., Circumcision = the reefing operation
Priapism and Paralysis
Treatment

- Priapism
  - Medical
    - First 6 hours: 8 mg benztropin mesylate slowly IV
    - 10 mg phenylephrine in 10 ml saline into CCP
    - Compression
    - Flushing the CCP with heparinized saline or LRS
Treatment

- Paralysis
  - Local therapy, replace and retain in prepuce
    - May not be a permanent solution
  - Special collection techniques
    - Artificial vagina
    - Warm compresses
    - Ex copula ejaculation
Paralysis of the Penis and Priapism

Amputation or surgical retraction may be necessary.
Neoplasms
Neoplasms

- Biopsy to diagnose
- Treat squamous cell carcinomas with 5-fluorouracil, and surgery, as indicated
Habronemiasis (Summer Sores)

Ivermectin is effective against the parasite
Equine Coital Exanthema
Hemosemen

- **Source**
  - Check mare if natural breeding used
  - Surface of penis
  - Seminal vesiculitis
  - Urethra
  - Unknown
Venereal Diseases

- Contagious Equine Metritis
  - Reportable
  - Recent outbreak in the USA
  - Discussed in VHM 321
- Equine Viral Arteritis
  - Major concern
- *Klebsiella, Pseudomonas, Streptococcus*
  - Uncommon since washing the penis with disinfectant soaps has been discontinued
Boars
Persistent Frenulum
Trauma to the Penis
Conditions of the Preputial Diverticulum
Conditions of the Preputial Diverticulum

‘Balling up’
Surgical Removal of the Preputial Diverticulum
Penile hypoplasia, cavernosal venous shunt
Preputial prolapse and ????
Rams
Enzootic Balanoposthitis (Pizzle Rot)

- High-protein diets
  - *Corynebacterium renale* breaks down urea to ammonia
  - High ammonia content causes irritation
Damage to the Urethral Process

- May not always affect fertility
Goats - Intersexes

- XX Male pseudohermaphrodites
  - Wide spectrum of phenotypes
- Linked to the dominant polled gene
  - Affected goats must be homozygous for the polled gene
  - Condition absent if one or both parents are horned
Dogs

- Balanoposthitis
- Congenital defects, e.g.,
  - Persistent frenulum
  - Hypoplasia
- Retrograde ejaculation
Paraphimosis
Urethral Prolapse
Trauma to the Penis

- Sometimes can result in fracture of the os penis
Transmissible Venereal Tumor
Accessory Sex Glands
Bulls – Seminal Vesiculitis
Stallions – Seminal Vesiculitis
Scrotum, Testicles, Epididymides, Vas Deferens and Spermatic Cord
Cryptorchidism
Hormonal Tests as Diagnostic Aids

- **Stallions**
  - Resting testosterone levels
    - Values may overlap those of castrated males
  - Cox test
    - Resting levels of testosterone are compared to levels after hCG (LH) stimulation
  - Estrone sulphate levels
    - Usually elevated in stallions or cryptorchids >3-years-old

- **Dogs**
  - Stimulation test using GnRH
Torsion of the Spermatic Cord (or Testicle)

- Cause acute pain
- Most common in canine cryptorchid testicles
- Occasionally are normal developmental abnormalities
Testicular tumors

- **Dogs**
  - Much more common in cryptorchid testes
  - Can metastasize
  - Types
    - Interstitial cell, seminoma, Sertoli cell, mixed

- **Stallions**
  - Seminomas are most common
  - Teratomas may be more common in cryptorchid testicles or in young stallions
Testicular Tumors

Canine Sertoli cell tumors
Lesions of the Scrotal Skin
Normal Scrotal Shape

Abnormal - Effects on spermatogenesis may vary
Inguinal Hernia
Hematocele and Hydrocele
Orchitis
Epididymitis
Epididymitis in Rams

- Caused by *Brucella ovis*
- Transmission
  - Venereal
  - Homosexual activity among rams
  - Mucous membranes
  - Orally
- Can cause abortions, infertility, etc.
Epididymitis in Rams

- Rams are the reservoir
  - Infections can be active, transient or subclinical
- Diagnosis
  - Serum ELISA test
  - Also
    - Clinical signs
    - Culture or staining of the semen
    - WBC in the semen
    - Pathology and culture of specimens
Epididymitis in Rams

- **Treatment**
  - Usually ineffective and inadvisable

- **Control**
  - Vaccination is not recommended
  - Eradication based on
    - Scheduled ELISA testing
    - Culling infected rams
    - Biosecurity measures
    - Periodic semen culture
Lamb Epididymitis/Orchitis

- Caused by *Actinobacillus* and *Histophilus* spp.
- Occurs at 4-18 months of age
- Can be subclinical or clinical
- Need to rule out Brucellosis
- Tetracyclines can be used for control or to treat subclinical cases
Segmental Aplasia of the Wolffian Duct
Spermatoceles and Sperm Granulomas
Sperm Occluded Ampullae in the Stallion

- Few or no sperm in the ejaculate
- Sperm may be tailless

**Diagnosis**
- Palpation
- Ultrasonography
- Semen AP levels

**Treatment**
- Massage
- Frequent collection +/- oxytocin or PGF
Testicular Hypoplasia
Testicular Hypoplasia

- Hereditary
  - Common in double-muscled breeds
- Varies in severity
- Produce less sperm and may progress to testicular degeneration
Testicular Degeneration

- Important cause of male infertility
- Variety of causes or idiopathic
- Testicles become soft, and sometimes smaller or fibrotic
Testicular Degeneration

Recovery can take months or not occur
Testicular Aplasia

- Rare condition
Tortoiseshell or Calico Cats

- The orange and black/brown colours are both linked to X genes.
- Males are usually sterile as they will have two X chromosomes.
Behavioral Problems in Stallions
Libido and Mating Problems

- Causes
  - Physical
  - Management
  - Inherited
    - Treatment may not be advisable