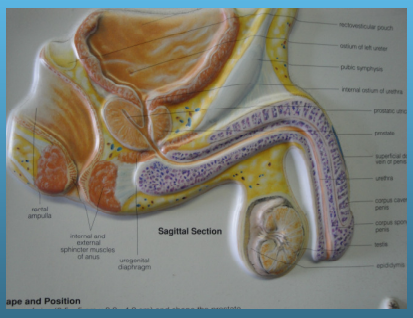
GENITOURINARY TRAUMA

INTRODUCTION AND BASIC PRINCIPLES

Dr E M Moshokoa
UROLOGY
UNIVERSITY OF PRETORIA

Lower Urinary tract



Bladder	fullness
Urethra	anterior
	posterior

Injuries

- Life threatening
- QOL

- Blunt and penetrating trauma
  - Extraperitoneal rupture- 60%
  - Intraperitoneal rupture-30%
  - Combined-10%
- 80% pelvic fractures
- 15% associated with urethral rupture

BLADDER TRAUMA

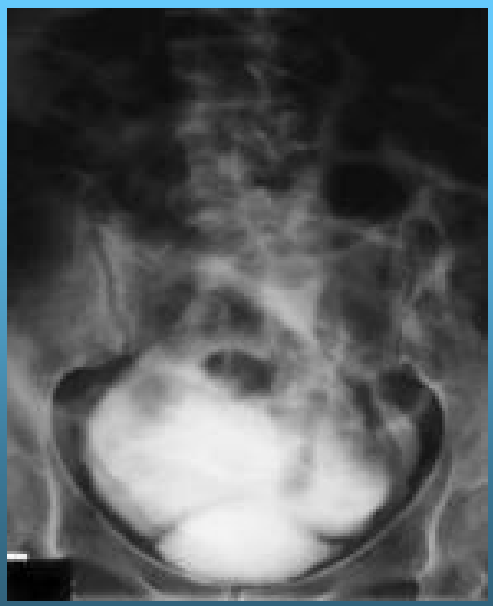
- Clinical picture
  - Gross heamaturia – 95%
  - S/P tenderness
  - Pelvic/perineal bruising
  - Ileus
  - Absent bowel sounds
  - sepsis(late) + High urea and creatinine

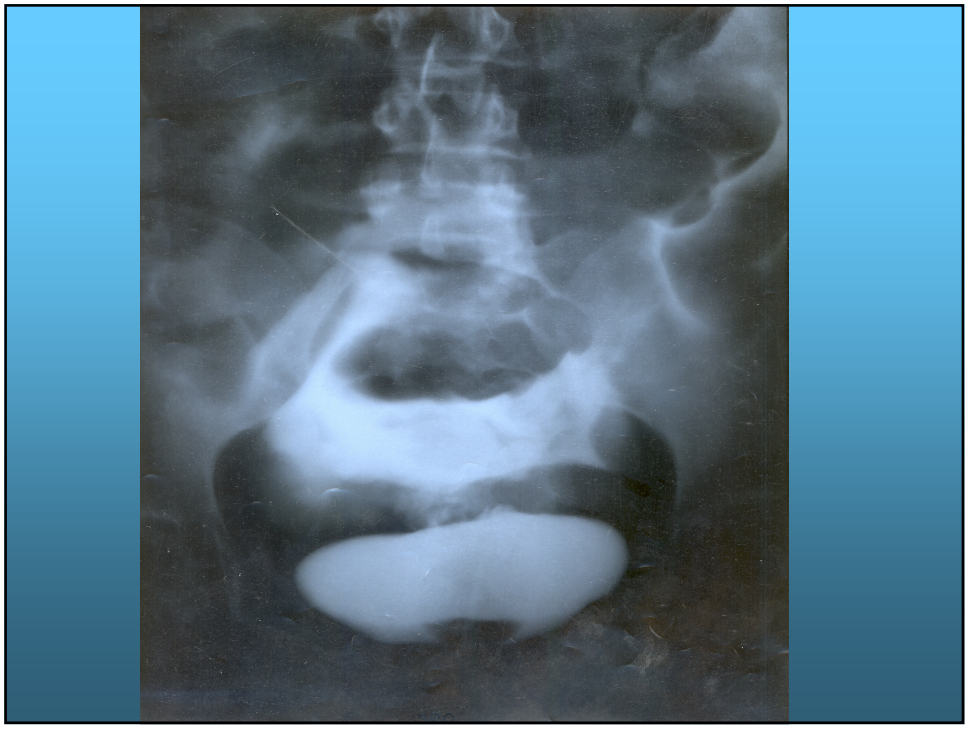
BLADDER TRAUMA

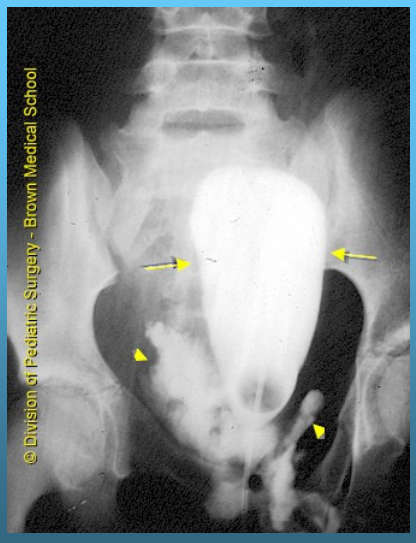
- Diagnosis
  - Urethragram – normal – pass catheter
  - Cystogram
    - Control X – Ray
    - 300 – 400 ml contrast
    - AP + lateral
    - Empty bladder
    - AP

BLADDER TRAUMA
Management

- Intraperitoneal rupture
  - Surgical repair
- Extraperitoneal rupture
    - Look for bone fragment
    - Concomitant injuries
    - Two options
      - » Large bore catheter – F20
      - » Surgical repair



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- Intraperitoneal rupture
  - High mortality rate
  - Surgical repair
- Penetrating injuries
  - Surgical repair

URETHRAL TRAUMA

The urethra in the male is divided for treatment purposes

- anterior- (penile and bulbar) segments
- posterior (membranous and prostatic) segments.

Urethral trauma in the female is much less common than in the male

Mechanism of injury

Posterior

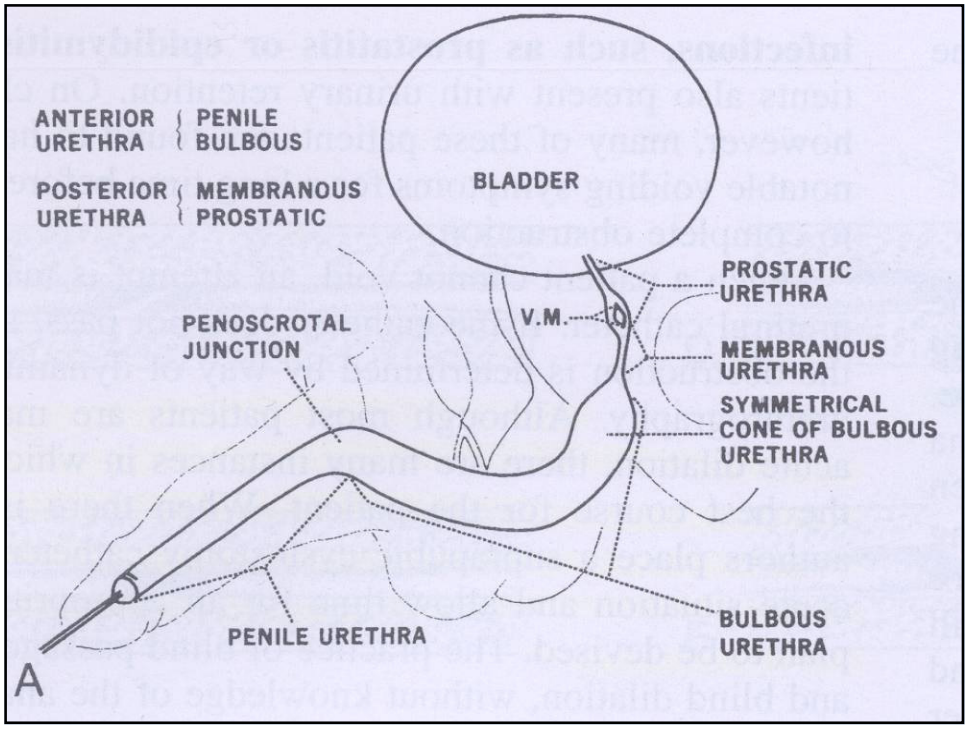
- Pelvic rami fracture
- Penetrating injury

Anterior

- Straddle injury
- Blunt trauma
- Penetrating trauma

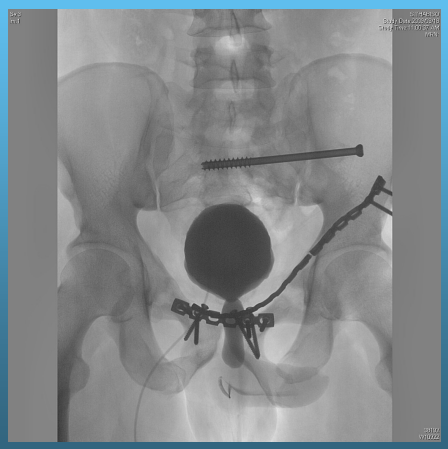
Aim is to restore

- Patency
- Potency
- Continence
  - Failure to restore
    - bladder
    - outlet
  - Failure to empty
    - bladder
    - outlet



URETHRAL TRAUMA

- Clinical picture
  - Meatal blood
  - Urinary retention
  - Heamatoma/bruising of perineum
  - Heamaturia
  - Swollen penis
  - Floating prostate

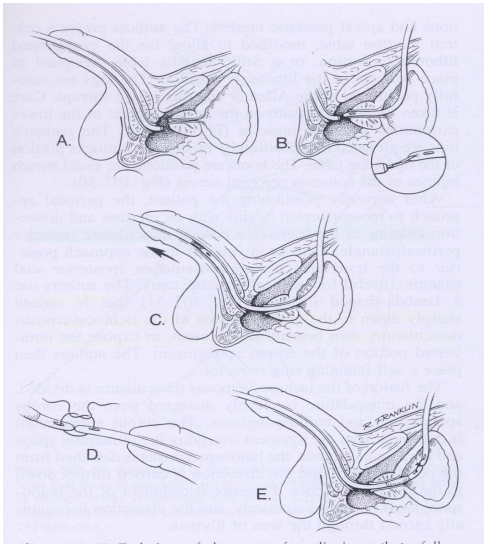


URETHRAL INJURY
TREATMENT

Posterior

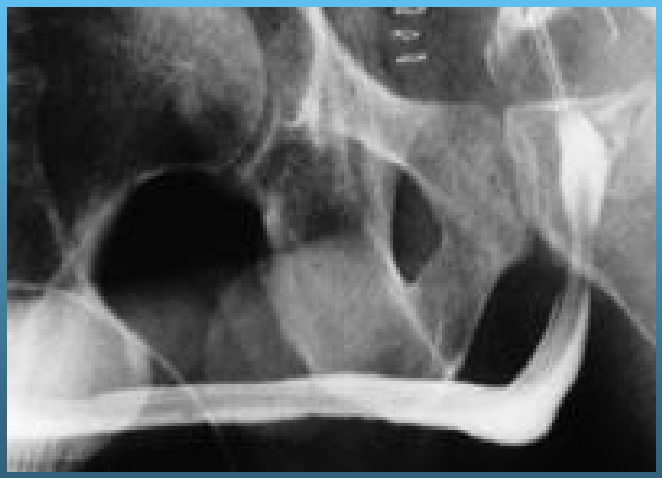
- Manage life threatening injuries
- Urethragram
  - Intact = catheterize ➡ cystogram
  - Partial = Gentle catheterization
  - Complete = suprapubic catheter cystogram (10-17%) surgical + endoscopic re alignment - 72hours (surgeon's preference)

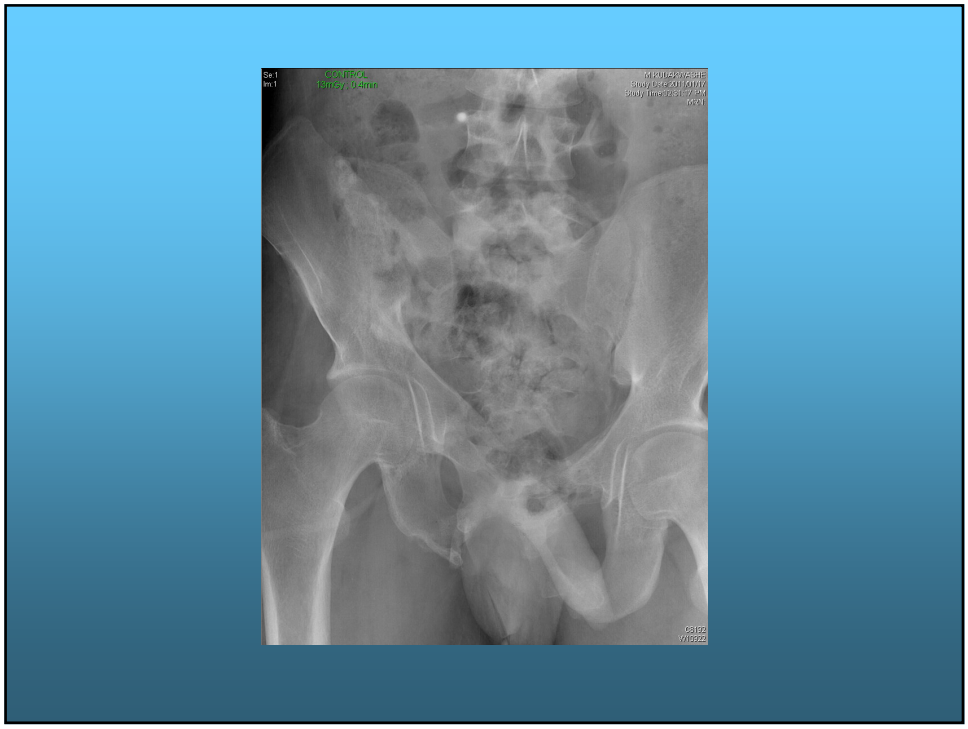
TREATMENT

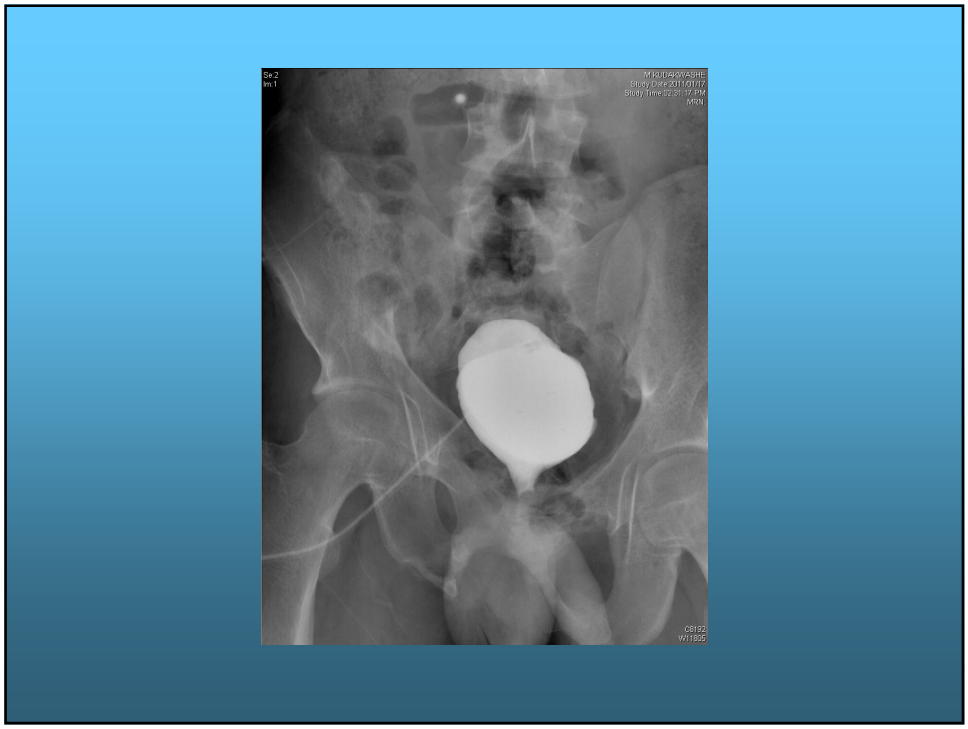


Rail roading

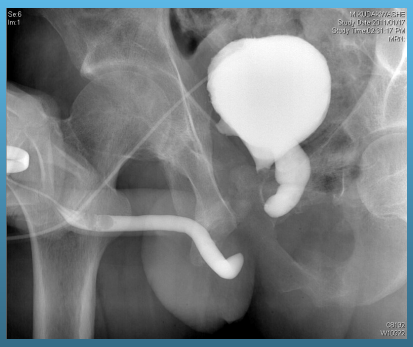
Normal Urethragram



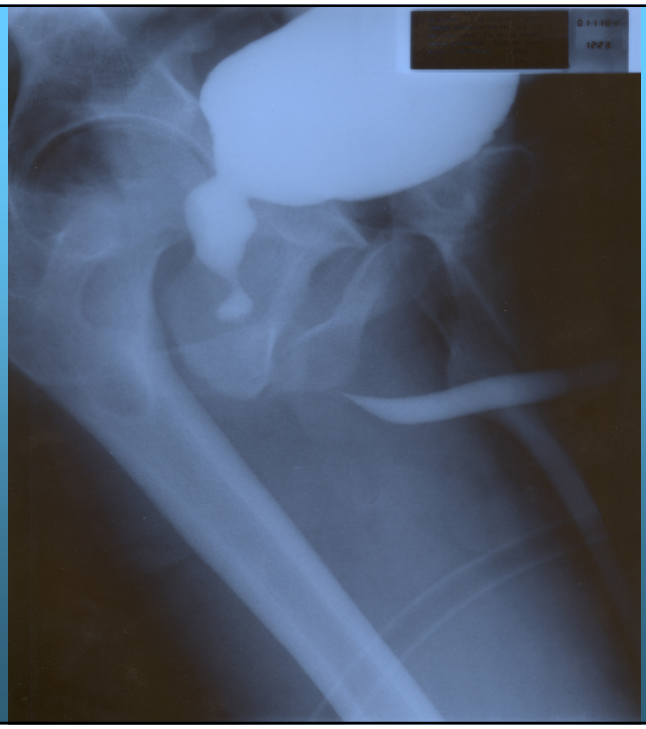




Concerns!



- Bladder size
- Alignment of the urethra
- Sphincter function



URETHRAL TRAUMA

TREATMENT

Anterior

- Penetrating – explore surgically (caution with debrediment) – primary anastomosis (bowing of penis) –
  - Unsure = dressings + s/p catheter
- Blunt/crushing injuries – urethragram suprapubic catheter

Urethral trauma

- Complications
  - Stricture
  - Impotence
  - Incontinence

GENITOPERINEAL INJURY

Initial management

- Analgesia
- Sedation
- Antibiotics
- Irrigation
- Debridement

CLASSIFICATION OF GENITOPERINEAL INJURY

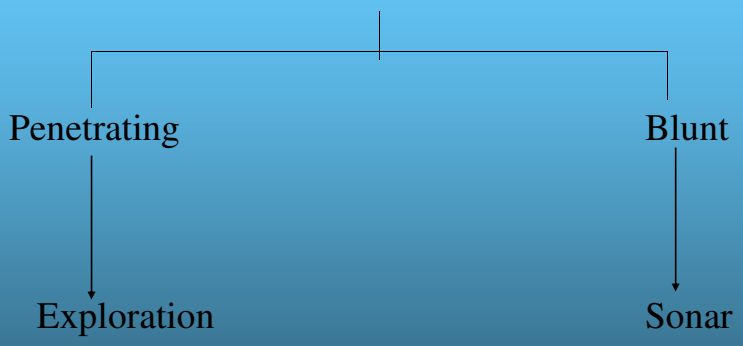
1. Penetrating trauma
2. Blunt trauma
3. Zipper entrapment
4. Burns (thermal, chemical or electrical)
5. Avulsion injuries
6. Penile fracture
7. Penile amputation
8. Penile strangulation
9. Human and animal bites

Penile fractures

- Clinical
  - Popping sound
  - Pain
  - Immediate detumescence
  - Penile heamatoma + bruising
- Surgical exploration
  - Circumsision skin incision
  - Deglove penile skin
  - Repair tunica albuginea

SCROTUM AND TESTIS

SCROTAL TRAUMA

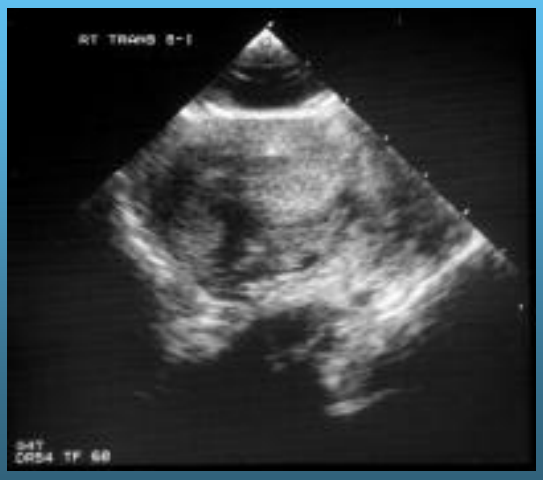


SCROTUM AND TESTIS

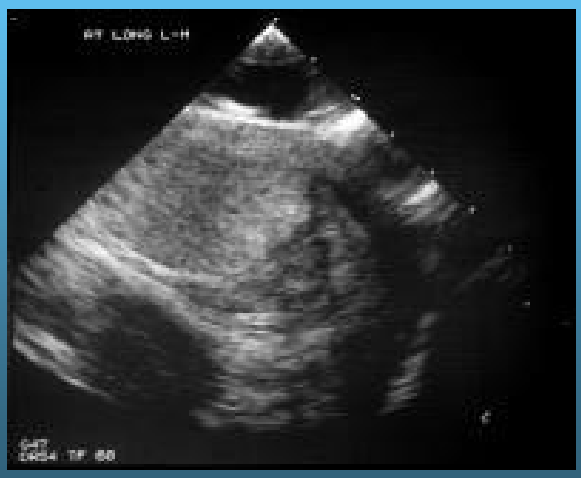
BLUNT TRAUMA – WHO TO EXPLORE

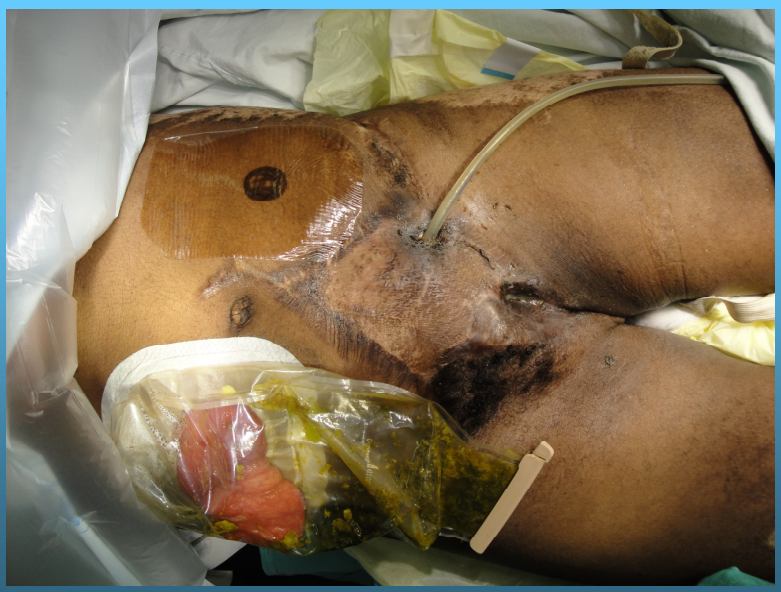
- Uncertain clinical/sonar findings
- Massive heamatocele
- Intra testicular heamatoma
- Testicular rupture

Testicular rupture



Intra testicular haematoma





- Life threatening
- Fertility
- Impotence
- others : Metabolic Syndrome