

# GENITOURINARY (GU) TRAUMA MANAGEMENT

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## HEMODYNAMICALLY STABLE

- CT with contrast, arterial and delayed
- CT cystogram – bladder injury suspected
- Identify hemorrhage
- Identify collecting system injuries
- Establish urinary drainage

## HEMODYNAMICALLY UNSTABLE

- Laparotomy/hemorrhage control
- On-table Intravenous Pyelogram (IVP) (if available) or methylene blue administration → ureters
- Retrograde fill bladder (300cc)

## HEMATURIA

- Blood at meatus + retrograde urethrography - catheter attempt
- Unsuccessful → suprapubic catheter
- Gross hematuria → Cystogram

## Kidneys

### Repair vs. nephrectomy? Nephrectomy if unstable

#### Blunt

- Nonexpanding hematoma → observe
- Expanding/midline hematoma → Explore possible hilar/aortic/ caval injury

#### Penetrating

- Explore all zone 2 retroperitoneal hematoma

## Ureters

- High index of suspicion with Injuries near path of ureter

- Repair requires stent, tension free, watertight

#### Transection

Avoid skeletonizing ureter distal to iliac vessels → re-implant

#### Contusion

Stent vs excise/re-anastomose with wide spatula

#### Laceration

Primary closure

## Bladder

- Evaluation with CT cystogram or retrograde fill at laparotomy

- Intraoperative injury: Repair. 2-layer closure

#### Extraperitoneal:

- Simple → catheter 10-14 days
- Complex → ? Repair
- Vaginal/rectal injury
- Bladder neck injury

#### Blunt

- Associated with pelvic fracture
- Gross hematuria

#### Penetrating

Index of suspicion based on trajectory

## Urethra

- Blood at meatus or unable to pass foley → RUG
- Anterior Urethra Injury – place suprapubic catheter
- Posterior Urethra Injury – place suprapubic catheter
- Urethral Transection - place suprapubic catheter

*An increased incidence of GU injuries is associated with complex blast injuries*

## External Genitalia

- Hemorrhage control
- Tissue preservation

- Foreign body removal
- Copious irrigation

- Debride non-viable tissue

- Low threshold for bilat scrotal exploration 2° small entry wounds

#### Testicular Injury

- Easily missed ( FB + air on CT)
- Blunt trauma → ultrasound
- Debride necrotic seminiferous tubules
- Close tunica albuginea

#### Penile Injury

- Corpora cavernosa-approximate tunical margins
- Corpus Spongiosum-avoid aggressive oversewing
- Glans-interrupted sutures
- Dorsal shaft-precise cautery

#### Scrotal Injury

- Wide suture
- Penrose drain

Clinical tips based on the Genitourinary Trauma Management CPG. JTS CPGs can be found at:

[HTTPS://JTS.HEALTH.MIL/INDEX.CFM/PI\\_CPGS/CPGS](https://jts.health.mil/index.cfm/pi_cpgs/cpgs)



- ✓ Document a GU exam
- ✓ Attempt renal salvage in HD stable
- ✓ Urethral injury managed with suprapubic catheter
- ✓ Hematuria prompt evaluation for GU injury
  - Blood at urethral meatus → RUG
  - Blunt trauma/pelvic fx & hematuria → cystogram