

A. Blunt trauma

A. Physical exam

(1) Meatal blood-

- (a) Don't put a catheter in with meatal blood

(2) Hematuria

- (a) >5 rbc's/hpf
- (b) the degree of hematuria does not correspond to the degree of injury

(3) imaging

- (a) ct- majority
- (b) angiography- gold standard
- (c) IVP- one shot IVP used in unstable patients in the ER/OR. Can give info about contralateral kidney
- (d) Cystography- bladder injuries, urethral injuries. Highly recommended to use wash out view. Make sure no pelvic angiography or embolization is needed first

B. Special situations

(1) Pediatric blunt trauma

- (a) Degree of hematuria does correlate with degree of injury (opposite adults)
- (b) <50 RBC's/ HPF do not have significant injury

(2) Rapid deceleration forces Problem

- (a) no hematuria is present in the majority of cases therefore imaging is indicated based on mechanism alone

B. Penetrating trauma

- (a) All stable patients with penetrating trauma to GU tract need further imaging based on trajectory and weapon ballistics
- (b) CT is the study of choice (unstable patients can have a one shot IVP in OR)

C. Specific injuries

a) Renal

GRADE	INJURY	MANAGEMENT	OR INDICATIONS
1	Contusion w/ normal imaging	Observation	1. Uncontrolled renal hemorrhage
2	Lac. < 1 cm only cortex Non-expanding hematoma confined to retroperitoneum	Observation	2. Penetrating injuries 3. Multiple kidney lacs 4. Shattered kidney
3	Lac. > 1cm w/ extravasations or collecting system rupture	Observation Possible surgery	5. Extensive extravasations
4	Lac. to collecting system Pedicle injury Contained hemorrhage	Surgery	6. Avulsed major Vessel
5	Shattered kidney (devascularized)	Surgery	

b) Ureteral

- (a) management
- (b) operative repair

c) Bladder

(1) contusion

- (a) CT
- (b) Observation rupture

(2) Intraperitoneal rupture

- (a) laceration at dome
- (b) urine spilled into peritoneal cavity causing peritonitis
- (c) cystogram
- (d) operative repair

(3) extraperitoneal rupture

- (a) lac at bladder neck
- (b) pelvic ring fractures
- (c) triad-ab pain, hematuria, inability to void
- (d) Cystogram

(e) indwelling urethral catheter 2 weeks repeat before removing

d) Urethral injuries

(1) contusion

- (a) blood at meatus
- (b) normal retrograde urethrogram
- (c) spontaneous healing

(2) Partial ant. Lac.

- (a) Extravastation + proximal contrast
- (b) indwelling urethral catheter

(3) Complete ant. Lac

- (a) extravastation with no proximal contrast
- (b) surgical repair

(4) Posterior urethral injury

- (a) detached prostate
- (b) urethral catheter/ suprapubic cystostomy

e) Testicular and scrotal injuries

(1) Rupture or contusion

- (a) ultrasound
- (b) conservative

f) Penile

(1) Foreign bodies

- (a) removal, debridement, reconstruction