CLINICAL PATHWAY:

Renal Injury

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Inclusion Criteria: Blunt trauma to abdomen/back +/- gross hematuria with concern for renal injury
Exclusion Criteria: Penetrating injury to chest or abdomen, clinically significant central nervous system (CNS) or thoracic injury, suspected physical abuse (see **Suspected Physical Abuse Pathway**)

Initial care in the ED:

- Consult Pediatric Surgery/Trauma via Intellidesk or page 860-220-4311
- History and physical exam by Surgery/Trauma team
- Trauma labs: "Trauma panel" (comprehensive metabolic panel, LFTs, amylase, lipase, CBC with differential, coags), type and cross, urinalysis (UA)
- Consider focused assessment with Sonography in Trauma (FAST) exam
- Establish reliable peripheral intravenous (PIV) access with 2 PIVs

Hemodynamic instability and/or peritonitis?

- Yes → Treat off pathway
  - Consider IR/OR or ICU at attending pediatric surgeon discretion
- No → CT scan of abdomen and pelvis with IV contrast

CT shows renal injury?

- No → Evaluate off pathway for other injuries
- Yes → **Perform Delayed CT images 15-60 minutes after IV contrast administration to evaluate for extravasation**

Grade I-III Kidney Injury →

Admit to MS unit on Pediatric Surgery/Trauma Service

Labs:

- Hematocrit (Hct) on admission, then q6hr x1
- Further Hct at the discretion of pediatric surgeon

FEN/GI:

- Advance as tolerated
- **Miralax** 1 g/kg/day to a max of 17 g daily until stooling

Other:

- Vital signs q4hr
- Activity as tolerated
- Sequential compression device (SCD) if age > 16 years
- Tertiary survey and CRAFFT screen (for adolescent substance abuse) by MS RNs within 24 hours

Grade IV-V Kidney Injury →

Admit to PICU on Pediatric Surgery/Trauma Service

Labs:

- Hct q6hr until vitals are normal for age

FEN/GI:

- NPO until vitals are normal for age and Hct stable

Other:

- Vital signs q2hr x24 hrs, then q4hr if stable
- Bedrest until vitals are normal for age, then increase as tolerated
- Sequential Compression Device if age > 16 years
- Consult Pediatric Urology via Intellidesk

Hemodynamically stable and no other injuries?

- Yes → **Transfer to MS floors on Pediatric Surgery/Trauma Service**

  Labs:

  - Hematocrit (Hct) daily

  FEN/GI:

  - Clears and advance as tolerated
  - **Miralax** 1 g/kg/day to a max of 17 g daily until stooling

  Other:

  - Activity as tolerated
  - Tertiary survey and CRAFFT screen if not completed

- No → **Failure of non-operative management:**

  - Continued non-operative management OR
  - Angiography and embolization OR
  - Laparoscopy/Laparotomy

  Treatment plan at the discretion of the attending pediatric surgeon

Discharge Criteria:

- Hgb/Hct stable x 3
- Afebrile, normal heart rate, and urine output
- Resolution of gross hematuria
- Tolerating diet
- Pain controlled with oral medications

Discharge Medications:

- **Hydrocodone-acetaminophen** 0.2 mg/kg q4hr PRN pain (max 5-10 mg/dose) OR **Oxycodone** 0.1 mg/kg/dose (max 5-10 mg/dose). * Dispense only 3 days worth.
- **Acetaminophen** 15 mg/kg/dose q4hr PRN pain (max 75 mg/kg/day OR 4000 mg/day)
- *NO NSAIDs

Discharge Instructions:

- No strenuous activity or contact sports for grade of injury + 2 weeks (ex: grade III injury = 5 weeks). Only activities that keep 2 feet on the ground (no trampolines, no bikes, no dirt bikes, no horseback riding, no ATV, no skiing, etc)
- Follow up in 4-6 weeks with attending pediatric surgeon

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