



# UCLA DEPARTMENT OF UROLOGY

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## Emergency Department Clinical Pathway: Evaluation & Treatment of Children with Suspected Nephrolithiasis

### 1. Initial Assessment

#### Triage & Team Evaluation

- Obtain history and perform physical examination.
- Order laboratory studies:
  - BMP
  - Phosphorus
  - CBC
  - Urinalysis
  - Urine culture
  - HCG (if applicable)
- Imaging:
  - **Preferred:** Renal & Bladder Ultrasound (RBUS)
  - **As indicated:** CT Abdomen/Pelvis (non-contrast)

### 2. Ultrasound Findings

#### A. No Stone Seen on Ultrasound

##### Assess for Secondary Signs

- Pelvicalyceal dilation
- Ureterectasis
- Increased renal size
- Uroepithelial thickening

#### If **NO** secondary signs + low clinical suspicion

→ Consider alternative diagnoses.

#### If **secondary signs OR high clinical suspicion**

→ Proceed with **CT Abdomen/Pelvis (non-contrast)**.

#### CT Results

1. **No stone present** → Consider alternative diagnoses.

#### 2. Stone present

- **Non-ureteral stone**
  - Discharge
  - Refer to urology for outpatient evaluation
- **Ureteral stone**
  - Assess for infection
    - **If no concern for infection:**
      - Discharge if:
        - Pain controlled
        - Tolerating oral hydration
        - No signs of infection
      - Urology follow-up in 3–4 weeks
      - Provide ureteral stone discharge instructions
    - **If concern for infection:**
      - Consult urology

## **B. Stone Seen on Ultrasound**

- Consult urology
- **Admission criteria:**
  - Concern for infection
  - Fever
  - UTI
  - Sepsis
  - Solitary kidney
  - Bilateral renal obstruction
  - Renal insufficiency
  - Kidney transplant
  - Complex medical history

## **3. Imaging Considerations**

### **Renal & Bladder Ultrasound (Preferred)**

- May miss:
  - Very small stones
  - Calyceal stones
  - Pelvic stones
  - Ureteral stones
- Identifies structural anomalies

### **CT Abdomen/Pelvis (Non-Contrast)**

- More sensitive
- Detects ureteral stones and stones < 1 mm
- Involves low-dose ionizing radiation
- Consider CT if:
  - Concern for pyelonephritis
  - Patient weight > 100 kg
  - Severe scoliosis