

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
 - Phosphorous
 - 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 < 1mm
- Involves low-dose ionizing radiation
- Consider CT if:
 - Concern for pyelonephritis
 - Patient weight > 100kg
 - Severe Scoliosis