
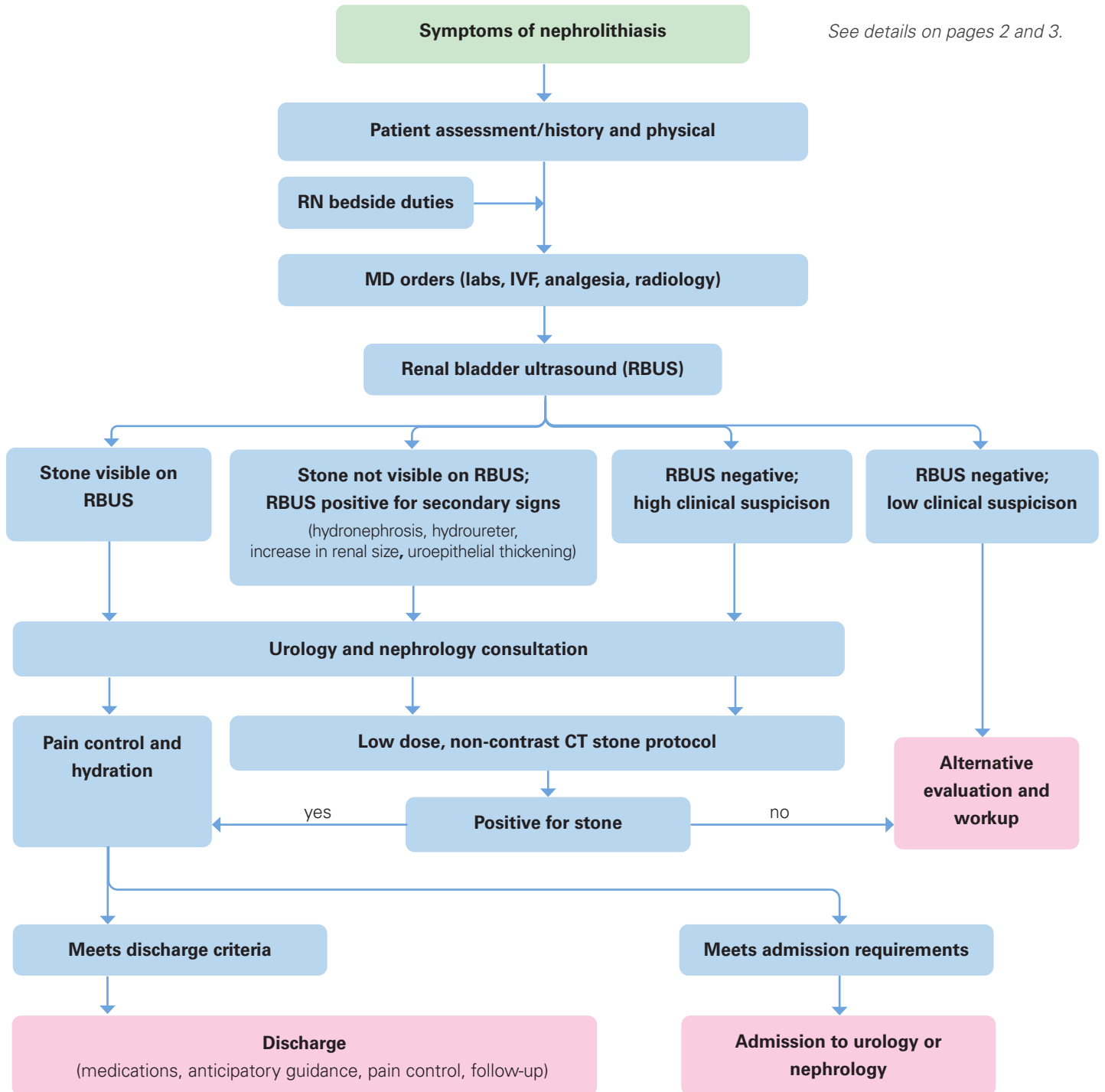


Clinical Guideline

 This guideline should not replace clinical judgment.

Nephrolithiasis

Pediatric ED



Nephrolithiasis

Pediatric ED

Symptoms of nephrolithiasis

- Abdominal/flank pain that is sharp, intermittent, usually unilateral (“colicky”)
- With or without the following:
 - History of nephrolithiasis
 - Pain radiation to pelvic region
 - Hematuria
 - Dysuria
 - Nausea/vomiting

Patient assessment/history and physical

History

- Abdominal, flank, penile, scrotal or vaginal pain
- Hematuria (more common in children)
- Dysuria
- Nausea/vomiting
- Fever
- h/o urinary tract infection

Pertinent past medical history

- Nephrolithiasis
- Urologic surgeries (i.e. bladder augmentation)
- Metabolic disorders

Medical examination

- Assess overall appearance/comfort
- Abdominal exam
- CVA tenderness
- GU exam (particularly testicular exam in boys—can present as testicular pain)

RN bedside duties

- Urine collection
 - Strain all urine
 - Perform urine dip (urinalysis)
 - Prepare specimen for possible culture
- Pregnancy test for all females ≥ 12 or known post-menarche
- NPO until instructed otherwise by provider
- IV placement if clinically indicated; prepare to obtain tubes for CBC with diff/BMP/CRP

Nephrolithiasis

Pediatric ED

MD orders (labs, IVF, analgesia, radiology)

- Intravenous fluids
 - For clinical dehydration
 - Normal saline bolus 20cc/kg
- Laboratory
 - CBC, CRP—for concern of infectious component
 - BMP—concern for electrolyte abnormality and renal status
 - Urine culture if positive UA
 - HCG—if age appropriate and XRAY or CT imaging will be performed
- Analgesia
 - Assess and treat pain (using visual analog scale)
 - IV
 - FIRST LINE: Ketorolac 0.5mg/kg (unless renal insufficiency or solitary kidney or other contraindication)
 - Morphine
 - Oral
 - Acetaminophen
 - Ibuprofen

Meets discharge criteria

- Adequate pain control
- Ability to maintain PO hydration
- No concern for systemic infection
- Normal kidney function
- Normal renal anatomy
 - Two kidneys
 - Non-transplant patient
- No significant medical/urologic surgical history

Meets admission requirements

- Poor pain control
- Unable to maintain hydration
- Concern for infection
- Renal insufficiency
- Anatomic considerations
 - Solitary kidney
 - Kidney transplant
 - Complex medical/urologic surgical history

Discharge

- Send patient home with urine strainer and they should strain all urine
- Rx for Tamsulosin (Flomax)
 - 4 y/o or less: 0.2mg qHS (capsule opened, split and sprinkled)
 - 4 y/o or more: 0.4 mg qHS
 - Side effects: orthostatic hypotension, dizziness, somnolence
- Aggressive PO hydration with water
- Ibuprofen 10mg/kg PO every 6 hours
- Follow-up in 2 weeks with CHoR urology and nephrology (804-628-1587)
- Return to ER if:
 - FEVER (emphasize danger)
 - Uncontrollable pain
 - Recurrent nausea/vomiting

Admission to urology or nephrology

Urology

- Non-complex medical history
- Nephrology will co-manage/consult

Nephrology

- Complex medical history, acute renal failure, chronic kidney disease
- Urology will co-manage/consult

Nephrolithiasis Guideline

Executive Summary

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Retrieval website: **<http://www.chrichmond.org/clinical-guideline-nephrolithiasis>**

Example:

Children's Hospital of Richmond at VCU, Nelson E, Lo M, Silverman J. Nephrolithiasis Guideline. Available from:

<http://www.chrichmond.org/clinical-guideline-nephrolithiasis>