

# RENAL CALCULI PATHWAY

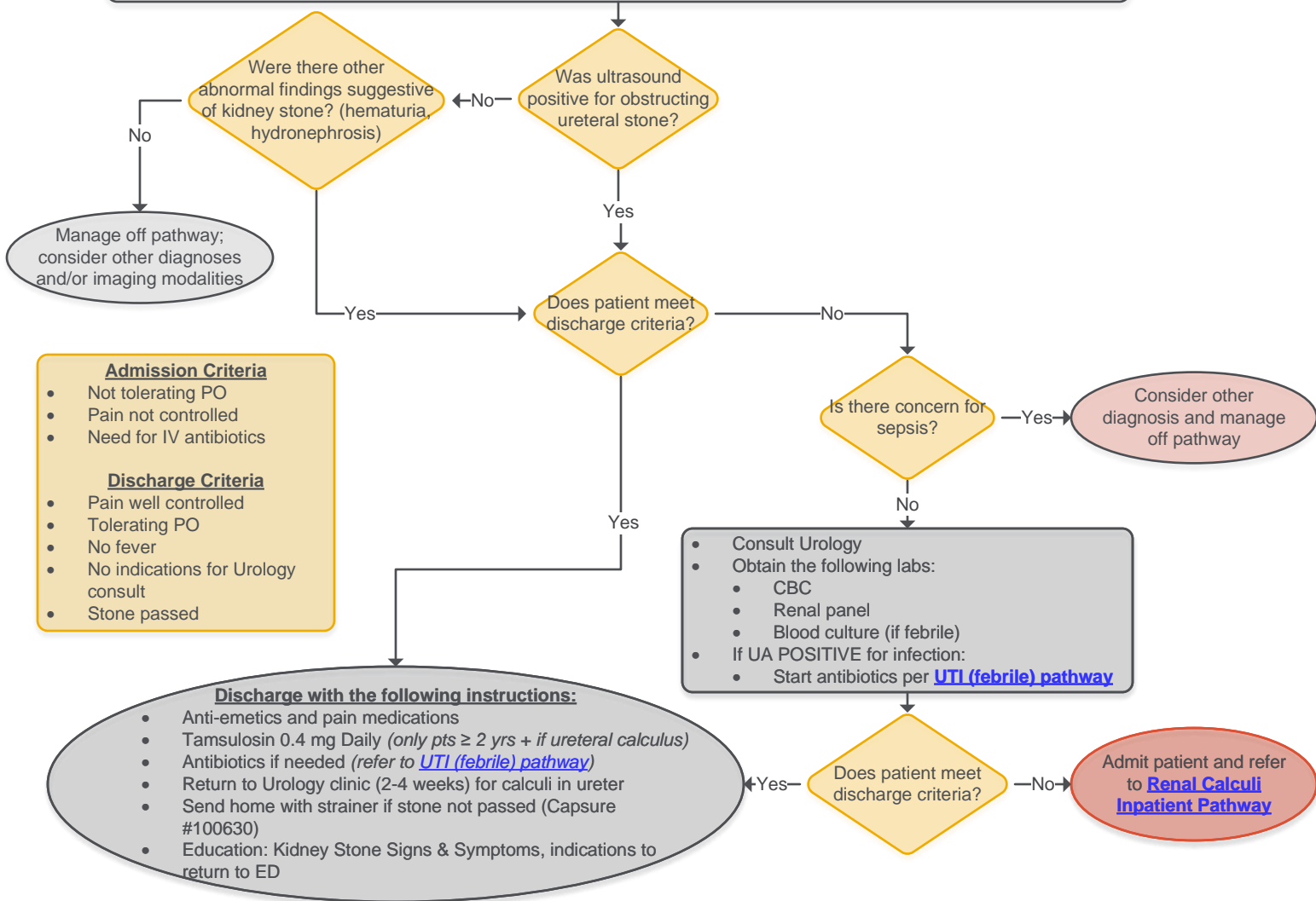
## EMERGENCY DEPARTMENT AND URGENT CARE

Patient presents with the following symptoms:

- Flank, Abdominal, or back pain
- Nausea
- Vomiting
- Hematuria

**Initial Management**

- NPO (if not tolerating PO)
- Urinalysis with Microscopic with reflex culture
- IV Fluids (if IV available): 20 mL/kg normal saline, 1L max
- Pain Management for all severity of pain levels: (NSAIDs recommended first line to reduce renal colic)
  - First line: PO acetaminophen/ibuprofen PRN or IM/IV ketorolac PRN
  - Second line: IV morphine PRN
  - For patients in severe pain, unable to tolerate PO, and/or do not have IV access consider intranasal fentanyl PRN
- Anti-emetics
  - Ondansetron
- Imaging: US RENAL (KIDNEYS, URETER, BLADDER) w/o Doppler (include 1 of the following indications: calcium nephrolithiasis, flank pain, hydronephrosis, hematuria, nephrolithiasis, and/or renal colic)



**Admission Criteria**

- Not tolerating PO
- Pain not controlled
- Need for IV antibiotics

**Discharge Criteria**

- Pain well controlled
- Tolerating PO
- No fever
- No indications for Urology consult
- Stone passed

Consult Urology

Obtain the following labs:

- CBC
- Renal panel
- Blood culture (if febrile)
- If UA POSITIVE for infection:  
• Start antibiotics per [UTI \(febrile\) pathway](#)

**Discharge with the following instructions:**

- Anti-emetics and pain medications
- Tamsulosin 0.4 mg Daily (only pts ≥ 2 yrs + if ureteral calculus)
- Antibiotics if needed (refer to [UTI \(febrile\) pathway](#))
- Return to Urology clinic (2-4 weeks) for calculi in ureter
- Send home with strainer if stone not passed (Capsure #100630)
- Education: Kidney Stone Signs & Symptoms, indications to return to ED

**Disclaimer:** Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement and taking into account individual patient and family circumstances.

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## EMERGENCY DEPARTMENT AND URGENT CARE



### Dosing Guidelines

#### Ketorolac (Toradol) IV

- 0.5 mg/kg/dose Q6H for 3-5 days
- <50 kg max 15 mg/dose
- ≥ 50 kg max 30 mg/dose

#### Morphine IV

- 0.05-0.1 mg/kg/dose

#### Tamsulosin PO

- 0.4 mg daily (only pts ≥ 2 yrs + ureteral calculus)

#### Ondansetron PO

- 8-15 kg = 2 mg
- 15-30 = 4 mg
- >30 kg = 8 mg

#### Ondansetron IV

- 0.15 mg/kg/dose; max 4 mg

### Indications for Urology Consult:

- Calculi confirmed on US and does not meet discharge criteria
- No calculi seen on screen but provider maintains high suspicion
- Obstructing calculi with concern for Urinary Tract Infection (UTI)
- Obstructing calculi with solitary kidney
- Obstructing calculi with Acute Kidney Injury (AKI)
- Bilateral obstructing calculi

### Indications for Nephrology Consult:

- Chronic Kidney Disease Stage II or worse