Created by Martin Wiese and Jerry Raju

LRI Emergency Department

Managing acute flank pain in adults

Version 58

For effective investigation and management of ureteric colic and its mimics

Do not use if urinary calculi known to be present or if patient is pregnant but seek senior urology advice

Disclaimer:
This is a clinical template; clinicians should always use judgment when managing individual patients

Reapproved by ED guidelines committee on 26Apr23 . Trust Ref: C71/2016
Review due Apr26

Patient details

Full name

DoB

Unit number

(use sticker if available)

① Blood results

WBC		Na	
Hb		K	
Platelets		Urea	
Corrected Ca		Crea	
Urate		eGFR	

② Atypical features?

☐ **YES**, at least one of the below

- Haemodynamic instability ☐
- Expansile abdominal mass or known AAA ☐
- Abdominal tenderness +/- peritonism ☐
- New-onset abdominal distension ☐
- Diarrhoea ☐
- Non-colicky pain character ☐
- Temperature >37.9° C ☐
- <1+ blood on urine dip (see box 2) ☐
- Low Hb suggesting acute blood loss ☐

☐ **NO**, none of the above

③ Admission necessary?

☐ **YES**, as at least one of the below

- Temp >37.9° C ☐
- Other abnormal vital signs ☐
- Significantly raised WCC ☐
- Acute renal impairment
- Stone in single functioning or transplanted kidney ☐
- Bilateral obstructing stones ☐
- Inadequate pain/nausea control ☐

☐ **NO**, as none of the above

Flowchart

Avoid NSAID if

- Allergic to **ANY** NSAID
- Worsening asthma following previous use of **ANY** NSAID
- Known current peptic ulcer
- Known or obvious heart failure or CAD
- Currently taking aspirin
- Renal impairment
- Current illness that might cause renal hypoperfusion
- Aged >65 (check U&E first; if eGFR normal consider PO ibuprofen 400mg instead)

- Obtain IV access and the following bloods: FBC, U&E, LFT, bone profile and urate/uric acid
- Control pain (go to NC Meds > Emergency Medicine (ED) > Analgesia (ED) > Systemic analgesia):
  - Paracetamol PO
  - **Unless reason to avoid**, Diclofenac 100mg PR
  - Dihydrocodeine (older pts: codeine) 30mg PO
  - If pain score still >4 after 15min, morphine IV
- Offer metoclopramide if nausea/vomiting
- Perform dipstick urinalysis, including
  - Urine culture if dip suggestive of UTI
  - ß-HCG in all women who might be pregnant

Atypical features (see box 2)?
- N ☐ → Request CTKUB
- Y ☐ → Consider differential diagnosis (*) with ED senior

CTKUB still indicated?
- N ☐ → Manage as advised by ED senior
- Y ☐ → Ask ED **SENIOR** to request CTKUB for you

Temp <38°C AND other obs stable?
- Y ☐ → Admit on EDU flank pain pathway; Await CTKUB report
- N ☐ → Await CTKUB report in the ED; Start sepsis assessment if appropriate

Symptoms explained by non-stone CT findings?
- Y ☐ → Referral / disposition as appropriate
- N ☐ ↓

Signs of recent stone passage only AND pt not taking Indinavir?
- Y ☐ → Discharge unless still in pain or other reasons to admit. Notify GP if calcium or urate are raised
- N ☐ ↓

Stone reported OR (invisible) Indinavir stone suspected?
- N ☐ →
  - If any haematuria with persistent pain, acute renal impairment (or renal infarct or papillary necrosis) → discuss with renal 'registrar' *
  - If visible (frank) haematuria → refer to urology OPD by sending completed urology referral letter template (on EDU guidance page) to 'urologyadmin@uhl-tr.nhs.uk'
  - Otherwise discharge home and recommend the following to GP:
    - If persistent non-visible haematuria → to refer to urology OPD
    - If recurrent episodes of severe flank pain without obvious cause → to consider renal US with renal vessel Doppler to rule out NCS
- Y ☐ ↓

Admission needed (see box 3)?
- Y ☐ → **If patient still in ED** Complete urology NC e-referral for 'cross-site admission'. **If patient on EDU** Refer to urology junior doctor on bleep [***87 for LGH**] **3372**
- N ☐ → Complete discharge bundle - box 4

(*) Differentials

- Pyelonephritis
- Musculoskeletal pain
- Appendicitis
- Cholecystitis
- Diverticulitis
- Leaking AAA
- Aortic dissection
- Pulmonary embolism
- Basal pneumonia
- Testicular torsion
- Ovarian pathology
- Ectopic pregnancy
- Renal cell carcimona
- Renal vein thrombosis
- Renal infarction
- Renal cysts
- Nutcracker syndrome (NCS = left renal vein compression between aorta and SMA)
- Bowel obstruction
- Pancreatitis
- Hepatitis
- Peptic ulcer
- Colitis
- Herpes zoster
- 'Clot colic' caused by
  - Loin pain haematuria syndrome (LPHS)
  - Papillary infarction
  - Ureteral TCC

* **NB**: Exceptionally, if patient remains in severe & unremitting pain, ED senior (in consultation with renal team) *might* consider CT urogram to exclude a renal infarct or papillary necrosis

④ Discharge bundle

Arrange

- ☐ KUB X-ray before discharge (**ALWAYS** needed for follow-up arrangements
- ☐ Follow-up by completing ICE referral (Service Refs > Urology > Stone MDT) ensure Ca^{2+} and urate results available

Provide

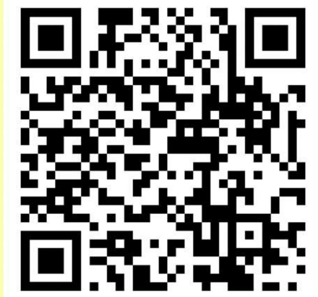
- ☐ Diclofenac TTO – **NB**: If NSAID ☐ (tick here if contraindicated)
- ☐ Tamsulosin 0.4mg OD TTO for 4/52 **IF** stone in distal ureter **AND** >5mm **AND** no contraindications as per BNF ☐ (tick here if not needed or unsuitable

Recommend

- ☐ Taking regular Paracetamol
- ☐ Stone retrieval (if patient aware of it passing and able to 'catch' it)
- ☐ Return to ED if they develop uncontrolled pain, temperature or rigors, or urinary retention
- ☐ Accessing the British Association of Urological Surgeons 'BAUS' advice page for patients with urinary calculi (advise them to search online for

baus patients kidney stones

or point their mobile to the QR code)



Assessment carried out by

Print name | Signature | Role | Date