Acute Urinary Retention

Disclaimer

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Red flags

- Straddle injury (fall, kick, cycle) or possible fractured pelvis
- Suspected cauda equina syndrome
- Acute retention with renal failure, hydronephrosis or sepsis
- Recent prostate or urethral surgery including slings
- Artificial urinary sphincter
Assessment

1. Consider cause:
   - **Benign prostatic hypertrophy** is the most common cause.
   - **Obstructive**

### Obstructive causes

**Male:**
- Meatal stenosis
- Phimosis
- Prostate cancer

**Female:**
- Prolapse
- Pelvic mass

**Both:**
- Bladder calculi
- Urethral strictures or stones
- Bladder cancer
- Faecal impaction
- Clot retention (if preceding haematuria)

- **Infective and inflammatory**

### Infective and inflammatory causes

**Male:**
- Balanitis
- Prostatitis

**Female:**
- Vulvovaginitis
- Lichen planus
- Lichen sclerosis

**Both:**
- Cystitis or urethritis
- Herpes simplex virus (HSV)
- Varicella zoster virus e.g., chickenpox

- **Neurological**

### Neurological causes

- Stroke
- Diabetes
- Multiple sclerosis
- Disc herniation
- Spinal trauma
- Cord compression (can be disc, tumour, abscess or vascular)
2. Consider *precipitating factors*. Unprovoked retention increases the likelihood of requiring surgery.

**Precipitating factors**

- Alcohol
- Recent neurological or urological surgery
- Urinary tract infection (UTI)
- Constipation
- New medications
- Infrequent voiding
- Previous instrumentation or trauma

3. Assess for any neurological symptoms.

4. Check for *medications* associated with urinary retention.

**Medications**

- Anticholinergics
- Opioids
- Benzodiazepines
- NSAIDs
- Calcium channel blockers
- Antihistamines
- Sympathomimetic agents e.g., cold and flu preparations

5. Perform an appropriate *examination*.

**Examination**

- General – fever
- Abdominal – enlarged, tender bladder
- Genitourinary:
  - Men – phimosis, meatal stenosis, urethral discharge
  - Women – vulval/vaginal infection, cystocele/rectocele/prolapse, pelvic mass
- Rectally – prostate size, consistency, nodularity and tenderness, exclude faecal impaction
- Neurological – lower limb tone, power, reflexes, and anal tone

6. Arrange *investigations*.

**Investigations**

- FBE, electrolytes, urea, and creatinine, and catheter specimen of urine (CSU) for all patients.
- If available, a bladder scan can confirm the diagnosis.
- If new, abnormal renal function, ultrasound of kidney, ureter, and bladder.
- Prostate specific antigen (PSA) will usually be elevated at the time of retention. Test PSA once retention resolved.
Management

1. If any red flags, refer to the nearest emergency department. If history of urethroplasty or radical prostatectomy < 6 weeks or artificial urinary sphincter, do not attempt to catheterise the patient.

Red flags

- Straddle injury (fall, kick, cycle) or possible fractured pelvis
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2. Arrange catheter insertion – this will vary depending on the practice. Catheters should be inserted in the community rather than referring to the emergency department unless there are significant risk factors.

Risk factors

- Prostate or urethral surgery in the last 6 weeks e.g., transurethral resection of the prostate (TURP), urethrotomy, bladder neck incision.
- Known urethral stricture.
- History of difficult urethral catheterisation previously.

3. Ensure appropriate equipment is available.

Equipment required

- Sterile gloves – check for latex allergy. If allergic, use a silicone catheter and latex-free gloves.
- Sterile normal saline, dressing or catheter pack, suitable antiseptic
- Antiseptic local anaesthetic lubricating gel in a syringe with urethral applicator attached
- Appropriate catheters:
  - Male – Foley 16 Fr
  - Female – Foley 10 to 14 Fr
- A syringe and 10 mL of water to inflate the balloon
- A leg drainage bag and appropriate straps or catheter valve to connect to the catheter

4. Consider antibiotic prophylaxis if:
   - current urinary tract infection (UTI) – start appropriate antibiotic.
   - artificial heart valves, as indicated by cardiologist.
   - presence of joint replacement or prosthesis.

Routine antibiotic use is not recommended unless clinical indication exists in surgical patients, short-term or long-term catheterisation.

7. If appropriate, follow male urethral catheterisation procedure:
   - Once the catheter is inserted, measure the volume of urine drained and note whether abdominal discomfort has been relieved.
   - If insertion is unsuccessful or pain persists, arrange immediate urology referral or admission.
6. Manage potential complications.

Potential complications

- Urinary tract infection (UTI), with associated fever.
- Post-obstructive diuresis, generally in setting of urinary tract abnormality:
  - 24 to 72 hours and self-limiting
  - If > 200 mL per hour, refer to emergency department.
- Post-retention haematuria (usually self-limiting).

7. If catheter removal (trial of void) is indicated, see Catheter Removal (Trial of Void) or Change pathway.

- Following retention, catheters should not be removed before 3 days.
- If benign prostatic hypertrophy, treat with an alpha blocker and have a trial of void in 2 to 3 days.

8. Arrange urgent or routine urology referral if:

- retention patient without an identified precipitating factor.
- further assessment and treatment of the underlying cause is required. Include details of primary care management (including trial of void) so this is not duplicated.

9. Advise patients to see Education – The You and Your Catheter booklet for practical advice.

Referral

- Refer to the Emergency Department if:
  - red flags.
  - post-obstructive diuresis, if > 200 mL per hour.
  - history of urethroplasty or radical prostatectomy < 6 weeks or artificial urinary sphincter.
- If patient in acute retention and urethral catheterisation fails, phone urology service to arrange immediate urology referral or admission.
- Arrange urgent or routine urology referral if:
  - failure to remove catheter despite the suggested techniques in the Catheter Removal (Trial of Void) or Change pathway.
  - retention patient without an identified precipitating factor.
  - further assessment and treatment of the underlying cause is required. Include details of primary care management (including trial of void) so this is not duplicated.
Information

For health professionals

Further information

- MedScape – Urethral Catheterisation in Men [video, 23 seconds]
- Patient – Catheterising Bladders

For patients

The Urology Associates & the Canterbury Continence Forum – You and Your Catheter

Sources

References


Select bibliography


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