

Sudden inability to pass urine. May have retention with small amounts of overflow. It is usually painful and requires emergency catheterisation.

### Causes (Most common highlighted)

Aetiology	Men	Women	Both
<b>Obstructive:</b>	BPH / Prostate Ca Penile meatal stenosis Phimosis/paraphimosis	Prolapse Pelvic mass (gynae tumour) Retroverted gravid uterus	UT calculi / Ca Constipation GI malignancy Urethral strictures FB
<b>Infectious and inflammatory:</b>	Balanitis Prostatitis	Acute vulvovaginitis Vaginal lichen planus/sclerososis Vaginal pemphigus	UTI / Cystitis Genital herpes Periurethral abscess VZV Bilharzia
<b>Other</b>	Penile trauma	Postpartum Cx and LSCS Urethral sphincter dysfn	Post-op (drugs, pain, etc) Bladder distension Pain / Psychogenic Pelvic trauma Iatrogenic
<b>Men &amp; Women</b>			
<b>Neurological</b>	Spinal cord (e.g. PID, meningomyelocele, MS, spina bifida occulta, spinal cord trauma/abscess, spinal stenosis, spinovascular disease, transverse myelitis, tumours, cauda equina) Autonomic or peripheral nerve (e.g. DM, PA, Guillan Barre, polio, tabes dorsalis) Brain (e.g. CVD, Ca, normal pressure hydrocephalus, Parkinson's disease)		
<b>Drug-related</b>	Anticholinergics (incl. antipsychotic drugs, antidepressant agents) Opioids and anaesthetics Alpha-adrenoceptor agonists Benzodiazepines NSAIDs Detrusor relaxants Calcium channel blockers Antihistamines Alcohol		

### Presentation

- History: duration, fever, urinary/bowel symptoms, trauma/surgery, PMHx, drugs
- Agitated, distressed, in pain/discomfort
- Tender, distended palpable, bladder.
- Check for neurological deficits: perineum & lower limbs
- Rectal exam: BPH, prostatitis, faecal loading, tone
- Genital exam: trauma or inflammation

### Investigations

*Urine:* UA, MSU

*Bloods:* FBC, UEC, PSA (though this may be elevated in setting of retention or PR exam), BSL

*Imaging studies:* Bladder USS: pre-/post-void residual volumes. Formal USS for hydronephrosis or renal anomalies. CT, MRI spine/brain may be req.

*Special:* cystoscopy, retrograde cystourethrography or urodynamic studies may also be done.

## Management

### *Initial management*

- Urethral catheterisation with Foley urinary catheter.
- If residual >400ml leave catheter in for 12-24hrs for return of bladder tone.
- Rapid decompression (>1L residual) may → self-limiting haematuria.

### *Treat underlying cause*

*Consider admission:* if infection, unable to cope with catheter at home, chronic obstruction, SPC  
*Organise a TWOC in several days (e.g. in urology clinic)*

## Complications

- Urinary tract infections
- Renal failure
- Post-obstructive diuresis (marked natruresis and diuresis with electrolyte disturbance including hypokalaemia, hyponatraemia, hypernatremia, and hypomagnesaemia) more common if chronic

## Prognosis

- One year mortality in men admitted to hospital for AUR is 2x general male population.
- Mortality rate increases strongly with age and comorbidity.

# Chronic Urinary Retention

## Causes

Usual cause is bladder outlet obstruction from:

- BPH (by far the commonest)
- Prostatic carcinoma
- Drugs causing bladder sphincter dysfunction (incl antispasmodics, antihistamines, anticholinergics, Botulinum toxin)
- Iatrogenic e.g. following colposuspension.
- Congenital deformities:
- Urethral strictures resulting from infection or trauma (pelvis #, iatrogenic)
- Women - uncommon. ~50% due to Fowler's syndrome (20-30y: Urethral sphincter dysfn)

## Presentation

### Symptoms

Gradual onset of urinary frequency, urgency, hesitancy, poor stream, incontinence.

- Post-micturition dribbling & a sensation of incomplete voiding.
- Nocturia
- New onset enuresis
- Increasing lower abdominal discomfort (?acute-on-chronic-retention)
- Acute urinary retention
- Lethargy, pruritus, recurrent infections, hypertension due to renal failure

### Signs

- Check blood pressure as possible indicator of renal impairment.
- Abdominal and genito-urinary examination:
  - ? palpable enlarged bladder or kidneys
  - Digital rectal examination for prostatomegaly / prostatic carcinoma.
  - Examine external genitalia in children, men and women for urethral abnormalities
- Neurological examination

## Investigations - As for Acute Urinary Retention

## Management

If symptoms mild, exam & inv normal then:

- Stop any precipitating/aggravating medication.
- General lifestyle advice: Regulate fluid intake, EtOH/caffeine, regular voiding
- Consider  $\alpha$ -blockers (**tamsulosin**, **prazosin**)  $\pm$  5 $\alpha$ -reductase inhibitors (**finasteride**) in BPH

### Otherwise

- Optimise medical therapy with alpha-blockers/5-alpha reductase inhibitors.
- Referral to urology for consideration of inv/surgery (TURP or rarely now open procedure)

## Complications

- Acute retention of urine
- Hypertrophy of detrusor muscle and diverticula formation
- Hydronephrosis due to chronic back pressure on kidneys, can  $\rightarrow$  renal impairment
- Urinary incontinence due to overflow

## Prognosis

In BPH, the trend is for symptoms to worsen slowly over time.