key points

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Urinary retention is the most common urological emergency and more than 95% of cases occur in men. Acute urinary retention (AUR) is defined as the sudden inability to pass any urine voluntarily associated with a painful, palpable or percussable bladder. In chronic urinary retention (CUR) there is a non-painful bladder, which remains palpable or percussable after the man has passed urine, with a post-void residual volume > 300 ml. In acute on chronic urinary retention no urine can be voluntarily passed but the condition is relatively painless and the residual volume on catheterisation is > 1.5 litres.

Urinary retention may result from bladder outflow obstruction, neurological impairment, or impaired detrusor smooth muscle function. It may also be linked to medication (anticholinergic and sympathomimetic drugs) and a detailed pharmacological history is vital.

Patients with AUR present with inability to pass urine, associated with suprapubic pain or discomfort. CUR is usually painless. Men with low pressure CUR may complain of hesitancy, slow stream, and a feeling of incomplete emptying, while those with high pressure CUR may be asymptomatic or complain of urgency. Recent onset of bedwetting in a man is almost pathognomonic of high pressure CUR.

Examination should include a digital rectal examination to evaluate for prostate size and possible malignancy, rectal masses, faecal impaction, perineal sensation, and rectal sphincter tone. A normal prostate examination does not rule out BPH as a cause of obstruction as small prostates can also cause retention. If a neurological cause is suspected or there is obvious spinal trauma, examination should include assessment of muscle tone, power, reflexes and sensation.

Once AUR is diagnosed, decompression should be carried out immediately, either with urethral or suprapubic catheterisation. An initial attempt at urethral catheterisation should be made in most patients, but is contraindicated after recent urological procedures such as urethral reconstruction. Intermittent self-catheterisation should be offered before an indwelling catheter for men with CUR who are still voiding, unless they have impaired renal function or hydronephrosis secondary to CUR. Haematuria, hypotension, and post-obstructive diuresis are potential complications of rapid decompression after CUR. However, there is no evidence that gradual bladder decompression will reduce these complications.

The decision whether to remove the catheter for a trial of voiding (TWOC) will depend on the presence or absence of reversible factors. Optimally, a TWOC should be performed 5-7 days after AUR ideally after the patient has been taking an alpha-blocker for this period. A TWOC is more likely to be successful in younger men with smaller prostates who have had a precipitated AUR e.g. related to constipation, alcohol or a recent anaesthetic. It is very unlikely to be successful in older men (> 80), with high residual volumes (> 1.5 L) and larger prostates.