

Acute Urinary Retention



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KEYWORDS

- Acute urinary retention • Benign prostatic hypertrophy • Urinary catheter
- Voiding trial

HOSPITAL MEDICINE CLINICS CHECKLIST

1. Although not very common in patients at large, acute urinary retention does become more common with age in male patients. It is relatively uncommon in female patients.
2. Acute urinary retention can lead to delirium, infection, bladder dysfunction, or renal impairment if left untreated.
3. Risk factors for acute urinary retention include male sex, advanced age, baseline lower urinary tract symptoms, presence of benign prostatic hyperplasia (BPH), certain medications, and recent surgery.
4. Acute urinary retention can be categorized as precipitated or spontaneous. It can also be categorized by the mechanism of retention (obstructive vs neurologic vs bladder overdistention).
5. Major medication classes associated with acute urinary retention include anticholinergics, sympathomimetics, nonsteroidal antiinflammatory drugs, and opioids.
6. The initial management step in acute urinary retention is catheter placement to drain the bladder.
7. After a period of bladder drainage, most patients undergo a trial without catheterization.
8. Alpha blockers can be used during trial without catheterization to improve chance of success.
9. Men with BPH who are not successful in voiding trial are generally referred for prostatectomy.
10. Indications for hospitalization include renal failure, sepsis, concern for spinal cord pathology, concerns about the ability to manage the catheter at home, and other active medical issues.

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DEFINITIONS

How do you define acute urinary retention?

Acute urinary retention (AUR) is defined as a sudden inability to urinate in the setting of a full bladder.¹ Depending on the etiology, it can present as an inability to urinate at all, inability to completely empty the bladder with voiding, or overflow incontinence.¹ It is frequently associated with pain.¹ There is not a clearly defined volume of retained urine used to define AUR.¹

EPIDEMIOLOGY

How common is acute urinary retention in males?

When looking at the male population as a whole, AUR is not very common.² One population study looking at male health professionals aged 45 to 83 years found overall incidence to be 5.2 cases per 1000 person-years.² However, when separated out for age, the incidence was found to be much greater in males at more advanced ages.² In this study, incidence ranged from 0.7 cases per 1000 person-years in males aged 45 to 49 years to 12.2 cases per 1000 person-years in males aged 80 to 83 years.²

An earlier study looking at a cohort of men in Olmsted County, Minnesota, aged 40 to 79 years found the incidence of AUR in this group to be similar at 6.8 cases per 1000 person-years.³ In this study, men aged between 70 and 79 years carried a 1 in 10 chance of developing AUR in the next 5 years.³ Moreover, it has been estimated that 1 in 3 men aged 80 to 89 years have experienced an episode of AUR.⁴

How common is acute urinary retention in females?

Urinary retention is much less common in women, with the annual incidence estimated to be 3 cases per 100,000 person-years.⁵

CLINICAL FEATURES

Why are we concerned about acute urinary retention?

Aside from being quite painful for the patient, if left unaddressed, AUR can lead to renal or bladder dysfunction.⁶ Urinary tract infection can also result from failure to relieve urinary retention.⁶ Furthermore, it can also result in delirium in elderly patients.⁶

What are the risk factors for acute urinary retention?

Given the lower incidence in females, male sex is identified as a risk factor for AUR. As mentioned, age is also a risk factor, with the incidence of AUR increasing with each decade in older males.² The Olmsted County cohort study found that men aged 70 to 79 years were at 8 times greater risk of having AUR than men aged 40 to 49 years.³

Other risk factors associated with increased incidence of AUR include severity of lower urinary tract symptoms as well as the presence of benign prostatic hyperplasia (BPH).² The Olmsted study found that men with moderate-to-severe lower urinary tract symptoms were at 3 times greater risk than men with only mild symptoms.³ Decreased urinary flow rates were also found to be associated with increased risk of AUR (**Box 1**).³

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