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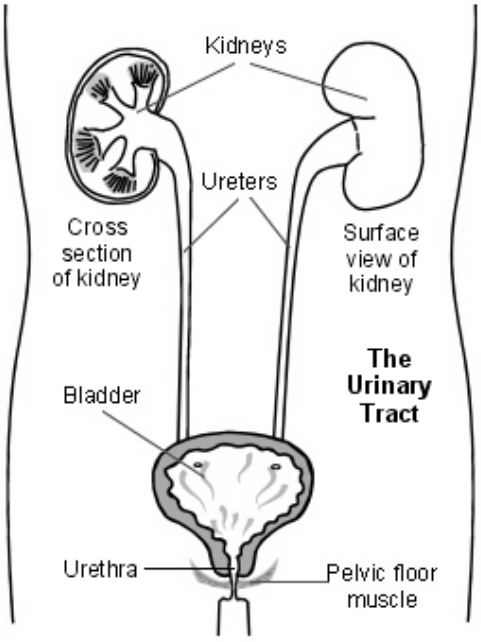
Urinary retention

Urinary retention means that you are having problems emptying the bladder completely. It may occur suddenly (acute urinary retention) or it may develop over a longer period of time (chronic urinary retention). Acute urinary retention is a medical emergency.

Urinary retention is more common in men than in women. It becomes more common as you become older. In men aged in their 70s, urinary retention occurs in about 1 in every 100 men. For men in their 80s, urinary retention occurs in about 3 in every 100 men.

You may need tests to help find the cause of your urinary retention. The treatment and outcome for both acute and chronic urinary retention will depend on the underlying cause.

You should see a doctor immediately if you are unable to pass any urine when your bladder feels full and painful.



Urinary retention symptoms

Acute urinary retention

The symptoms of acute urinary retention may include being unable to pass any urine despite a strong urge to pass urine. There is often also pain and bloating of the lower tummy (abdomen).

You should see your doctor immediately if you are completely unable to pass any urine or if you have bad pain in your lower abdomen.

Chronic urinary retention

Some people with chronic urinary retention may not have any symptoms. They may not be aware that they are unable to empty their bladder properly.

People with chronic urinary retention may not become aware they have this condition until they develop another problem, such as urinary incontinence or a urinary tract infection (UTI).

The symptoms of chronic urinary retention may include:

- Passing urine more frequently (urinary frequency).
- Difficulty passing urine (dysuria).
- A weak or an interrupted urine stream.
- An urgent need to pass urine with little success.
- Constantly feeling the need to pass more urine, even after just passing urine.
- Mild and constant discomfort in the lower abdomen.

See also the separate leaflets called Lower urinary tract symptoms in men and Lower urinary tract symptoms in women (LUTS).

What causes urinary retention?

Urinary retention can result from many different causes.

Blockage (obstruction) of the tube passing urine out from the bladder (the urethra)

A common cause of a blockage for men is due to an enlarged prostate gland. See the separate leaflet called Prostate gland enlargement.

Other causes include a narrowing of the urethra (urethral stricture) and constipation. Urinary retention in women can also be caused by genitourinary prolapse (when one of the organs inside the pelvis drops down).

Problems with the nerves supplying the bladder

Urinary retention can result from problems with the nerves that control the bladder and the valves (sphincters) that control the urine flow from the bladder.

Even when the bladder is full, the bladder muscles that squeeze urine out may not receive the signal to push. The sphincters may not receive the signal to relax and allow the bladder to empty.

Possible causes of nerve problems that may cause urinary retention include diabetes, a stroke, multiple sclerosis or after an injury to the pelvis.

Some children are born with conditions that may affect the nerve signals to the bladder. For example spina bifida may cause urinary retention in new born babies.

After an operation

Many people have urinary retention right after surgery. However, normal bladder function usually returns once the anaesthetic wears off. Urinary retention after an operation doesn't usually cause any long-term problems. If urinary retention is expected, then a catheter will be used.

Medications

Some medicines may sometimes cause urinary retention. Examples include:

- Some antidepressant medicines (particularly tricyclic antidepressants).
- Some muscle relaxants (eg, diazepam and baclofen).

- Medicines that relax the bladder and are used to treat an overactive bladder and urinary incontinence (eg, oxybutynin).
- Medicines for nasal congestion that can be bought over the counter without a prescription (eg, ephedrine).

Weakened bladder muscles

Weakened bladder muscles may not squeeze (contract) strongly enough or long enough to empty the bladder completely. This may result in urinary retention. This is much more common in the elderly.

How is urinary retention diagnosed?

Your doctor will take a history which will include:

- Your urinary symptoms.
- Any past history of any medical problems.
- A review of the medicines that you are taking (including prescription medicines and medicines bought over the counter).

Your doctor will also perform an examination of your tummy (abdomen) to feel for any increase in size (enlargement) of the bladder and any abnormality of your kidneys. An examination of the prostate gland may be required for men. A vaginal examination may be required for women in order to help find the cause of the urinary retention.

Your doctor may be able to diagnose and treat the cause of your problems passing urine on the basis of the history and examination. Blood tests may be arranged, including a test of how well your kidneys are working.

If you have sudden (acute) urinary retention and cannot pass any urine then you will need to be seen straightaway in hospital. If you have persistent (chronic) urinary retention your doctor will often refer you to see a urology specialist for tests. These are undertaken to find out the cause of your urinary retention and the best ways to treat the problem.

Post-voiding residual volume

This test measures the amount of urine left in your bladder after you have tried to empty your bladder. This test can be done using an ultrasound scan to measure the amount of urine left in your bladder.

Another way to measure the amount of urine is to pass a thin flexible tube (catheter) through the tube through which you urinate (your urethra) and into your bladder. This will drain the bladder's remaining urine, which can then be measured.

Cystoscopy

Cystoscopy is a procedure that requires a tube-like instrument, called a cystoscope, to look inside the urethra and bladder. An anaesthetic is required but this may be a local anaesthetic or a general anaesthetic.

A healthcare professional may use cystoscopy to diagnose a urethral stricture or look for a bladder stone blocking the opening of the urethra.

Computerised tomography (CT) scans

For a CT scan, a healthcare professional may give you a special solution to drink and an injection of a special dye, called contrast medium. CT scans help to identify the cause of the urinary retention, such as urinary tract stones, tumours or any fluid-containing sacs (cysts).

Urodynamic tests

Urodynamic tests look at how well the bladder and urethra store and release urine. See the separate leaflet called Urodynamic tests for more information.

Electromyography

Electromyography uses special sensors to measure the electrical activity of the muscles and nerves of the bladder. Special sensors are placed on the skin near the opening of your urethra and your back passage (anus).

Alternatively, the sensors can be placed on a catheter which is inserted into your urethra or your back passage. The patterns of the nerve impulses show whether the messages sent to the bladder and sphincters are working properly.

Urinary retention treatment

The treatment for urinary retention will depend on the cause. For example, an enlargement of the prostate gland may be treated with medicines or surgery.

Bladder drainage

Bladder drainage involves passing a thin, flexible tube (catheter) to drain the urine from your bladder. A catheter needs to be used as soon as possible if you have sudden (acute) urinary retention. A catheter is not always needed straightaway if you have persistent (chronic) urinary retention.

However, if the cause of your chronic urinary retention cannot be treated or the urinary retention is causing damage to your bladder or kidneys, you may need a long-term catheter, which might stay in all the time, or which you might be taught to insert regularly to empty the bladder.

Medical treatments

Medicines may be needed to treat the underlying cause of the urinary retention. For example, medicines may be needed to treat prostate gland enlargement or constipation.

Surgery

Depending on the underlying cause of urinary retention, surgery may be a treatment option. Examples of surgical treatments include the following:

Urethral dilatation

Widening of the urethra (urethral dilatation) treats a urethral stricture by inserting increasingly wider tubes into the urethra to widen the stricture.

Urethral stents

Another treatment for a urethral stricture involves inserting an artificial tube, called a stent, into the urethra to the area of the stricture. The stent then keeps the urethra open and allows urine to flow normally.

Internal urethrotomy

A special catheter is inserted into the urethra until it reaches the stricture. A special knife or laser is then used to make a cut (incision) that opens the stricture.

Prostate gland surgery

For men with urinary retention caused by prostate gland enlargement, prostate surgery may cure the urinary retention. Transurethral resection of the prostate is when a small amount of the prostate is removed, in an operation carried out via the urethra.

Cystocele or rectocele repair

Women may need surgery to lift a fallen bladder, uterus or rectum into its normal position. See also the separate leaflet called Pelvic organ prolapse.

Other surgery

Removal of tumours from the bladder or urethra may reduce urethral obstruction and urinary retention.

Complications of urinary retention

The complications of urinary retention and its treatments may include:

UTIs

The normal flow of urine usually prevents germs (bacteria) from infecting the urine. With urinary retention, bacteria may be able to infect the urine because the urine cannot flow out of the bladder.

Bladder damage

If the bladder becomes stretched too far or for long periods, the muscles may become damaged and unable to work properly.

Chronic kidney disease

For some people, urinary retention causes urine to flow backwards into the kidneys. This backward flow is called reflux and it may damage or scar the kidneys.

Urinary incontinence

This may occur together with chronic urinary retention or after surgery (eg, for prostate enlargement).

Prostate gland surgery may cause urinary incontinence in some men. This problem is often temporary and gets better quite quickly. Most men recover their bladder control in a few weeks or months after surgery.

What is the outcome?

The outcome (prognosis) will depend on the underlying cause of urinary retention and whether the urinary retention has caused any damage to your kidneys:

- Some causes of urinary retention resolve quickly without any long-term problems - eg, urinary retention after a general anaesthetic.
- In other cases, urinary retention will resolve once the underlying cause has been treated - eg, prostate gland enlargement.
- Occasionally the cause of urinary retention cannot be cured and a long-term small, flexible tube (catheter) is needed. Sometimes this can be done by regularly inserting a catheter into the bladder and then removing the catheter once the bladder is emptied.

Further reading

- Lower urinary tract symptoms in men: assessment and management; NICE Guidelines (June 2015)
- Negro CL, Muir GH; Chronic urinary retention in men: how we define it, and how does it affect treatment outcome. BJU Int. 2012 Dec;110(11):1590-4. doi: 10.1111/j.1464-410X.2012.11101.x. Epub 2012 Mar 27.
- Guidelines on the Management of Non-Neurogenic Male Lower Urinary Tract symptoms (LUTS), incl. Benign Prostatic Obstruction (BPO); European Association of Urology (2022)
- LUTS in men; NICE CKS, March 2024 (UK access only)

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