Advanced IC
Indwelling and suprapubic vs IC

Patients experiencing urinary retention are faced with a problem. Urine that is left behind in the bladder may contain pathogenic bacteria that can potentially thrive. This may increase the risk of UTIs and can possibly have a negative impact on quality of life for patients.[1-3]

Intermittent catheterisation (IC) can be used to effectively drain urine by inserting the catheter through the urethra into the bladder. The catheter is inserted only when needed and removed once catheterisation is completed.

"Currently intermittent catheterisation is the recommended treatment for voiding."

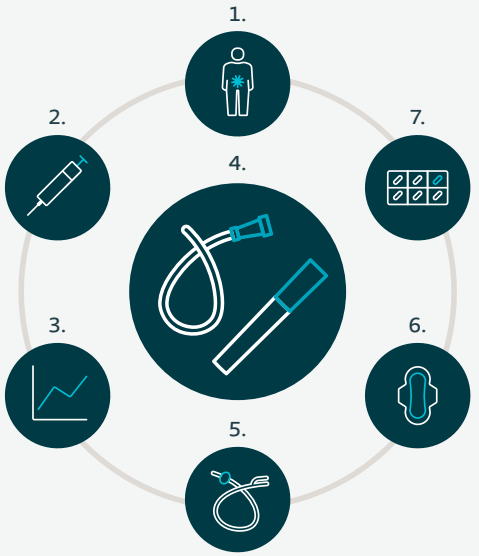
Elena | Senior nurse

There are different bladder management options available for people with urinary retention

1. Suprapubic indwelling catheters
A catheter is inserted into the bladder via the anterior abdominal wall. The catheter is held in place by a balloon and is connected to a urine bag, often placed on the leg.

2. Botox
Often used in combination with other treatment options such as IC. Botox can offer control of the bladder and requires regular repeated injections.

3. Sacral nerve stimulation
A medical treatment that involves the use of electrical impulses to modulate the sacral nerves' function, which controls the bladder, bowel, and pelvic floor muscles.



4. Intermittent catheterisation
Used to effectively drain urine Padsby inserting the catheter through the urethra into the bladder. The catheter is inserted only when needed and removed once the catheterisation is completed.

5. Urethral indwelling catheters
A catheter that's inserted with a balloon through the urethra for bladder drainage. A urine bag will collect the urine.

6. Pads
Often used in combination with other treatment options. This solution may cause leakage, odour, skin issues and a wet feeling, however, it can be an easy solution to manage for users.

7. Medication
Medication will often be used in combination with other treatment options. It can be a gateway to patient acceptance for some users, however for other users, it can have low efficacy.

IC is the gold standard in bladder management[4]

Guidelines
Guidelines from professional associations in Europe and the US promote IC as standard treatment (gold standard) for patients who are unable to empty their bladder.[4-6]

How
The European Association of Urology Nurses Guidelines state that IC can have a positive impact on patients' quality of life.[4]

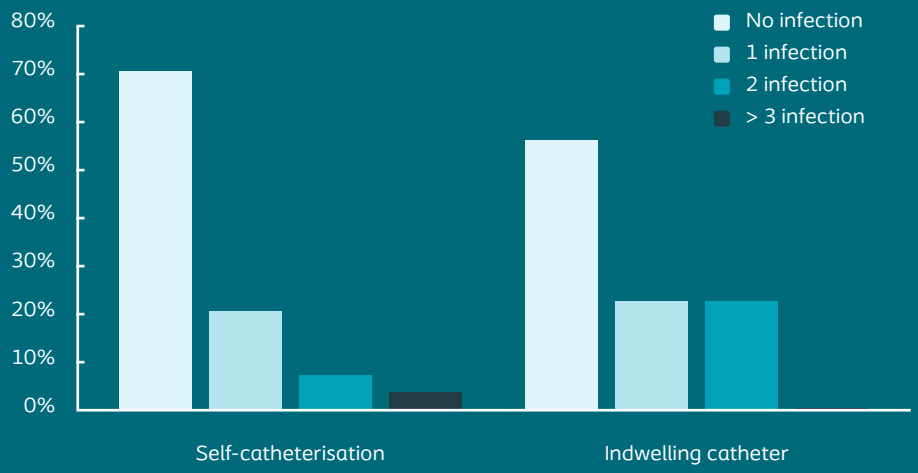
Who
The European Association of Urologists (EAU) Guidelines on Neuro-Urology recommend IC for patients who are unable to empty their bladder.[5]

IC has a lower risk of UTIs

Compared with indwelling catheters, IC is associated with a lower risk of UTIs. This has been reported in multiple studies with various patient populations.[7-12]
Patients using IC show significantly less episodes of bacteriuria and UTIs than indwelling catheters (see Figure 1).[13] A retrospective study found the rate of symptomatic UTI was lower in patients using IC (70.5%) compared with patients with indwelling catheters (83.3%).[11]

The same study found that the rate of recurrent UTIs for people using IC was 31.2% whereas the rate in people with an indwelling catheter was 50%.[11]

Figure 1
Self-catheterisation using IC showed a significantly lower number of bacteruria and UTIs than indwelling catheters in SCI (spinal cord injury) patients.[13]



IC may reduce the use of antibiotics

Antibiotics are a type of antimicrobial and overuse can lead to Antimicrobial Resistance (AMR). AMR occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines, making infections harder to treat and increasing the risk of disease spread, severe illness and death.[14]

Reducing the risk of UTI with IC can help in the global fight against antibiotic resistance. With the high frequency of UTI in patients[11,15] and antibiotics required for some cases,[4,16] the consequences can be great.

Antibiotic resistance in bacteria that cause UTI is widespread and a major problem.[17,18] Reducing the prevalence of UTI can help the antibiotic resistance problem.

IC has a lower risk of vesicoureteral reflux

Vesicoureteral reflux is when urine moves backwards from the bladder to the kidneys. In a retrospective study of spinal cord injury (SCI) patients, the occurrence of vesicoureteral reflux was significantly lower with IC compared with urethral indwelling catheters ($p<0.001$) and suprapubic indwelling catheters ($p=0.003$).[7]

IC has a lower risk of bladder stones

Results from a long-term study of SCI patients found that bladder stones were observed in 11% of suprapubic catheter patients, in 6.6% of indwelling catheter patients, and 2% of IC patients.[19]

In the same study, a shorter period to bladder stone development was found in patients with an indwelling catheter or suprapubic catheter. The longest time interval was found in patients performing IC.[19]

In a retrospective study of patients, bladder stones were significantly less frequent in IC compared with urethral and suprapubic indwelling catheters ($p<0.001$).[7]

IC can increase patient quality of life

Self-intermittent catheterisation has a better satisfaction level or overall quality of life (QoL) than an indwelling catheter.[20]

A recent study reported adherence to an intermittent catheterisation (IC) routine of up to 84% after one year and significantly improved QoL in patients performing IC compared with indwelling catheterisation.[4]

IC increases patient independence

One of the most important factors contributing to compliance with long-term IC are continence and the ability to perform IC independently.[21]

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