

# Urinary catheters 4: teaching intermittent self-catheterisation

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**Abstract** This article is the fourth in a six-part series on urinary catheters. It gives a step-by-step guide to the procedure for teaching intermittent self-catheterisation.

**Citation** Yates A (2017) Urinary catheters 4: teaching intermittent self-catheterisation. *Nursing Times* [online]; 113: 4, 49-51.

## Box 1. Advantages and limitations of ISC

### Advantages

- Improves independence and body image as the patient does not have to use an indwelling catheter or other continence aids (Dougherty and Lister, 2015)
- Reduces risk of urethral trauma and urinary tract infection associated with indwelling catheterisation (Yates, 2013)
- Maintains normal bladder function
- Patients can remain sexually active and take more responsibility for their own care as they do not have a catheter permanently in situ (Yates, 2013)

### Limitations

- Intermittent self-catheterisation may not be possible with patients who have:
- Physical disabilities, poor eyesight and/or poor manual dexterity (Dougherty and Lister, 2015)
  - Psychological barriers to using the technique, such as fear of pain
  - Poor understanding of the anatomy of the urinary tract
  - Small bladder capacity (below 200ml) as this would require frequent catheterisation
  - Episodes of incontinence between ISC

The bladder has two functions: storing urine once it has been made by the kidneys, and eliminating it when it is convenient. Indwelling urinary catheterisation is often used to empty the bladder when it cannot carry out these functions, but these catheters are associated with a number of complications, including urinary tract infection (Loveday et al, 2014). As a consequence, indwelling catheters should only be inserted when all other options have been considered, and should be removed as soon as possible (Loveday et al, 2014).

An alternative for patients with bladder emptying problems is intermittent catheterisation (IC), which involves passing a catheter into the bladder to drain urine and then removing it immediately (Dougherty and Lister, 2015); this technique is associated with a reduction in catheter-associated infections (Yates, 2013). A specially designed Nelaton catheter is used, which does not have a balloon (Fig 1a).

### Indications for IC

Patients may need to undertake IC for a number of reasons, including:

- Failure of the bladder outlet to open to allow the passage of urine through it – for example, as a result of prostate enlargement in men or after surgery for stress urinary incontinence;
- Detrusor hypocontractility/failure – this occurs when the muscles of the bladder wall (detrusor muscle) fail to contract and expel urine. This can be as a result of, for example, spinal injuries and neurological disorders such as multiple sclerosis;
- Procedures/drugs affecting the contractility of the detrusor – for example, Botox may be injected into the bladder wall to treat urge incontinence but may result in short-term retention of urine;
- Instilled drugs, for example, chemotherapy drugs;
- Managing urethral stricture – IC may be used following urethrotomy and stricture dilatation to prevent recurrence and maintain the patency of

the urethral orifice. This procedure is normally known as urethral dilation.

It is important that IC is carried out often enough to prevent bladder distension. The frequency will depend on the individual's bladder assessment, and may be up to six times daily for bladder emptying.

The technique can be performed by a patient's spouse, carer or health professional, or by patients themselves – this is known as intermittent self-catheterisation (ISC). Training patients in ISC should be done by a competent health professional (Royal College of Nursing, 2012) at the patient's own pace; it may take more than one session. Advantages and limitations are outlined in Box 1.

### Criteria for successful intermittent self-catheterisation

Patients must:

- Be able to store urine in their bladder;
- Be able to understand the technique for ISC;
- Have reasonable dexterity and enough strength to be able to correctly hold and insert the catheter
- Be able to position themselves into a suitable position to undertake the procedure;
- Be motivated to commit to the procedure, which could be a lifelong commitment.

### Catheter selection

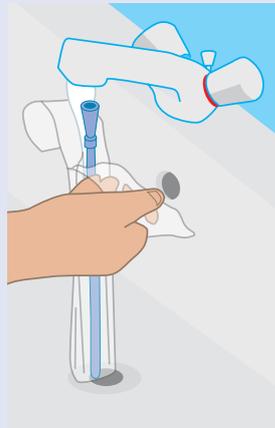
A wide range of intermittent catheters is available on the drug tariff:

- Hydrophilic-coated (single-use) – these require water to activate and hydrate the coating (Fig 1b) and some come with their own water supply;
- Pre-gelled (single use) – these have gel in the pack;
- Reusable Nelaton catheters (single-patient use) – these can be used with water-soluble lubricating/anaesthetic gel. This type of catheter can be reused at home as it can be cleaned with soap and water/boiled/disinfected/microwaved, air dried and stored in a plastic bag/box (Fig 1c) according to the manufacturer's instructions.

Fig 1. Intermittent self-catheterisation



**1a.** Catheters for intermittent catheterisation are inserted and removed immediately after the bladder is empty



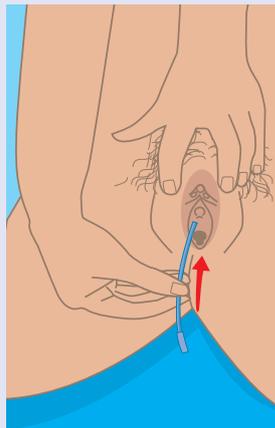
**1b.** Hydrophilic-coated (single-use) catheters require water to activate and hydrate the coating



**1c.** Nelaton catheters (single-patient use) can be reused at home. They must be cleaned and stored dry



**1d.** A mirror can be used to visualise the urethra



**1e.** The patient should avoid touching the part of the catheter that is to be inserted into the bladder



**1f.** Urine can be drained directly into the toilet or a clean receptacle

on lifestyle and sexual relationships (Prinjha and Chapple, 2013; RCN, 2012).

### The procedure

If the procedure is carried out in hospital by a health professional, an aseptic technique must be used (RCN, 2012). A clean technique is used in the patient's home (Vahr et al, 2013).

#### 1. Assemble equipment including:

- Lubricating gel if required;
- Catheter;
- Receptacle for urine drainage if required;
- Mirror if required.

#### 2. Patients should identify a position that is comfortable for them to undertake ISC, for example:

- Sitting on the toilet;
- Standing over the toilet;
- Sitting on a chair or side of the bath;
- One leg slightly elevated on a stool;
- Sitting in a wheelchair;
- Lying on one side in bed.

Patients with a large abdomen may find it easier to stand in front of a mirror so they can see what they are doing (Dougherty and Lister, 2015).

#### 3. Patients must be taught the importance of hand hygiene, including cleaning their nails. They should wash their hands before starting the procedure to prevent infection.

**4.** Patients should prepare the catheter according to the manufacturer's instructions. They should try to pass urine before performing catheterisation if possible to empty the bladder as normal. The true residual volume is based on the volume drained during ISC and these volumes are used to calculate the number of times the procedure needs to be performed in 24 hours.

**5.** Wash the genital area. Female patients should wash from the urethra towards the anus to prevent infection. They should be advised to part the labia with the index and middle fingers of their non-dominant hand, and identify the urethra. Some women like to use a mirror (Fig 1d), others prefer to identify the urethra by touch.

Male patients should retract the foreskin to clean the glans and be advised to hold the penis with their non-dominant hand pointing in an upward direction towards the stomach. This helps to extend the urethra and makes it easier to insert the catheter.

The type of catheter used should be guided by research and patient choice (RCN, 2012). The Charrière (Ch) or French gauge is the external diameter of the catheter. Sizes range from 6-24Ch. Normally, the following sizes would be used for the following groups or situations:

- Children – 6-10Ch;
- Adults – 10-14Ch;
- For dilatation – 16Ch or higher.

ISC catheters also come in different lengths:

- Standard;
- Female;
- Paediatric.

Some manufacturers produce compact

and telescopic catheters, which extend to produce the correct length.

### Preparation

A thorough risk assessment should be carried out before training a patient in ISC. The patient must be fully assessed, not only for bladder dysfunction but also for lifestyle requirements, ability to undertake the procedure, and daily activities and how these fit in with ISC (RCN, 2012).

As with all procedures, where possible the patient's informed consent should be obtained and documented. Consent should be obtained after a discussion of the benefits and risks of ISC, and its effects

# Nursing Practice

## Practical procedures

### Box 2. Common problems

#### Blood on tip of catheter during catheterisation

This is caused by the catheter scratching the lining of the urethra on insertion and/or removal. If bleeding is heavy or clots appear, the patient should seek medical help or contact their specialist nurse.

#### Insertion difficulties

Men may have difficulty inserting the catheter past the prostatic bed or through tense sphincter muscles. They should be advised to:

- Relax;
- Take some deep breaths;
- Give a slight cough when they insert the catheter.

If this fails, they should contact their specialist nurse as the prostate may be causing an obstruction.

Women may have difficulty identifying the urethra. Instruction by a professional skilled in teaching intermittent self-catheterisation will help to alleviate some of these difficulties. Specially designed assistance aids are available – for example, a device that helps in parting the thighs for patients who have difficulty keeping their legs apart.

#### Urinary tract infections

If recurrent infections occur it is important to review ISC technique, frequency, levels of hygiene and type of catheter used.

#### Removal difficulties

Advise the patient to relax and the catheter will usually come out. Coughing may help, while rotating it may help ease removal if the bladder mucosa is sucked into the eyes of the catheter.

#### False passage

False passage is rare. It occurs when a catheter has been inserted aggressively through a weak part of the urethra. Symptoms include pain, bleeding and no drainage of urine. Patients need immediate medical attention.

#### Leakage between catheterisations

This can occur for a variety of reasons including:

- Stress urinary incontinence;
- Too long an interval between catheterisations, resulting in overflow;
- Overactive bladder symptoms.

These problems require individual assessment and an appropriate treatment plan.

6. The patient should gently insert the catheter into the bladder using the dominant hand (Fig 1e), while pointing the funnel end into the toilet or collection receptacle for urine drainage (Fig 1f).

7. While inserting the catheter all patients should avoid touching the part of the catheter that will enter the urethra as this can increase the risk of infection.

8. The patient should continue to insert the catheter until urine starts to flow.

9. When urine stops flowing, the patient should slowly remove the catheter. If urine starts to flow again, the patient should wait then gently begin to withdraw the catheter to catch any last drops. To avoid any dribbles or spillage, they should place a finger over the funnel to trap the residual urine in the catheter before finally removing it from the urethra and emptying it into the toilet or receptacle.

10. The patient should dispose of the catheter according to the manufacturer's instructions. Catheters should not be flushed down the toilet as they may cause a blockage. Single-patient-use (reusable) catheters should be cleaned – according to

the manufacturer's instructions – after every use and disposed of after one week of use (Dougherty and Lister, 2015).

11. The patient should wash and dry their hands.

12. Patients should be provided with information leaflets and monitoring charts. They should also be advised on:

- Hygiene needs;
- Fluid intake;
- Signs of infection;
- The make and type of catheter they use, and how to order further supplies.

Patients who perform ISC need regular reviews to monitor how they are coping and to help them maintain the procedure. Common problems patients may experience are described in Box 2.

### Combining catheterisation methods

Patients can use a combination of ISC and indwelling catheters. For example, wheelchair users who regularly perform ISC may wish to have a temporary indwelling catheter if they are going on a long journey where access to appropriate toilet facilities may be limited. Having access to disabled toilets can help patients to maintain ISC when they are outside the home, as they have more space to carry out the procedure. **NT**

- Professional responsibilities: this procedure should be taught only after approved training, supervised practice and competency assessment. It must be carried out in accordance with local policies and protocols.

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### Urinary catheter series

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