

Nursing Times Learning has launched a unit on catheter care, focusing on the safe and appropriate use of indwelling urinary catheters to reduce patients' risk of infection

Managing indwelling urinary catheters in adults

Urinary catheters are used for a wide range of reasons. They are associated with a number of complications including:

- » Catheter-associated urinary tract infection (CAUTI);
- » Tissue damage;
- » Bypassing and blockage.

Because of these risks, catheters should be used only after alternatives have been considered, and should be removed from patients as soon as possible (Loveday et al, 2014).

Clinical indicators of CAUTI include pyrexia, tachycardia, abdominal pain and changes in urine characteristics, such as aroma and appearance. In older people, the signs and symptoms may be less specific and include confusion, disorientation and falls (Royal College of Nursing, 2012).

Indications for catheter insertion

Clinical indications for inserting urinary catheters include to:

- » Address acute or chronic urinary retention;
- » Empty the bladder, for example before pelvic surgery;
- » Accurately measure urinary output in patients who are acutely ill;
- » Irrigate the bladder, for example following prostate surgery;
- » Bypass an obstruction, for example an enlarged prostate or urethral stricture;
- » Manage acute or chronic urinary retention;
- » Administer drugs directly into the bladder – for example cytotoxic drugs to treat bladder cancer;
- » Carry out bladder function tests;
- » Relieve incontinence and maintain skin integrity after all other conservative strategies have been attempted (RCN, 2012).

Inserting an indwelling urinary catheter is an invasive procedure that has associated risks, can cause pain and has implications for body image and mobility. Where possible, therefore, the patient's informed consent should be obtained and documented following a discussion of the benefits and risks, and the effects on lifestyle and sexual relationships (RCN, 2012). Patients can continue to have sexual intercourse with a catheter in situ.

Catheter selection

There are many types of urinary catheter and selection depends on the reason for catheterisation and the length of time the catheter is likely to be required (Loveday et al, 2014).

The latex Foley balloon catheter is the most commonly used device, but some patients are sensitive to latex so will require a device made of other materials.

Catheter circumference is measured in Charriere (Ch). It is important to use the smallest gauge possible that allows the free

flow of urine (Loveday et al, 2014). Using the smallest catheter size possible helps to minimise urethral trauma, mucosal irritation and residual urine in the bladder, all of which contribute to CAUTI.

Using the correct balloon size reduces the risk of CAUTI and leakage due to catheter bypassing (Pellowe, 2009). A 5-10ml balloon is recommended for adults and the correct quantity of water must be used to inflate it.

Catheters are available in three length categories:

- » Standard: 40-44cm;
- » Female: 23-26cm;
- » Paediatric: 30cm.

Male patients aged 16 and over always have standard catheters fitted; insertion of female-length catheters can result in the balloon being inflated in the urethra, causing serious complications including haematuria, penile swelling, urinary retention, haemorrhage and impaired renal function (National Patient Safety Agency, 2009). Female catheters tend to be more discreet for women, and are more comfortable than standard length as movement in and out of the urethra is reduced.

Drainage devices

Drainage device selection depends on the reason for and the likely duration of catheterisation, and patient preference.

Patients requiring hourly urine measurements will need a urometer bag, while leg bags are useful for patients who are mobile or undergoing rehabilitation. Catheters bags should be changed according to clinical need or according to manufacturers' instructions (Loveday et al, 2014).

The catheter and drainage bag must be well supported to ensure the balloon is not pulled into the bladder neck by the weight of the drainage bag as it fills. Straps and catheter sleeves can be used to secure leg bags and reduce traction-related problems

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CATHETER CARE LEARNING OUTCOMES

This learning unit is free to subscribers and £10+VAT for non-subscribers at nursingtimes.net/catheters. After studying this unit, you will be able to:

- 1 List the indications for inserting/removing indwelling urinary catheters
- 2 Identify the care required to reduce the risk of catheter-acquired urinary tract infection
- 3 List potential complications linked to indwelling urinary catheters
- 4 List data that should be recorded about catheters in patients' notes
- 5 Identify the needs of patients with indwelling catheters to achieve maximum independence and maintain dignity
- 6 Explain the possible impact of catheters on patients' quality of life

such as bypassing of urine and discomfort and soreness around the catheter.

Catheter valves are an alternative to drainage bags. These are attached to the end of a catheter and allow the bladder to fill and be emptied at regular intervals. This encourages normal bladder function, helps to prevent CAUTI and maximises dignity and independence.

NHS Quality Improvement Scotland (2004) recommends that catheters and attached drainage systems are secured in a comfortable position for the patient after insertion. The catheter can be secured to the thigh using specifically designed devices that prevent movement of the catheter and urethral traction, and can improve comfort and bladder drainage. The method used to secure the catheter should suit the patient's lifestyle and be simple to use.

Catheter removal

Infection is a significant risk for patients with urinary catheters, especially in hospital. Catheters can also affect patients' body image and mobility, and can cause pain (RCN, 2012). They should therefore be removed as soon as possible.

Removal should be planned carefully with the patient, who should be informed that irritation of the urethra as the catheter is removed may cause symptoms of urgency, frequency and discomfort. Proximity to a toilet should be considered and patients in hospital should be given a call bell to summon help. They should be encouraged to drink normally after removal, and reassured that any incontinence will be treated and/or managed once the catheter has been removed.

Fluid intake and urine output should be monitored for 24 hours after removal of the catheter or until the patient is passing urine normally. The patient should be observed for signs of urinary retention; a bladder ultrasound should be performed if this is suspected (Loveday et al, 2014; RCN, 2012). It may be useful to complete a frequency volume chart plotting fluid intake, urine output and any episodes of incontinence. This forms the basis of a continence assessment and will help to identify underlying

problems that may have led to catheterisation being needed.

It may be necessary to refer patients to a continence specialist if there are problems following catheter removal.

Documentation

Documentation is crucial to ensure catheters are managed appropriately and removed as early as is clinically justified to reduce the risk of complications.

Documentation of catheter insertion should include the reason for catheterisation, date and time, catheter type (length and size), volume of water in the balloon, batch number and manufacturer, any problems encountered during the procedure and a review date for the need for the catheter or a date for catheter change.

Patient self-management

Patients in the community with an indwelling catheter (or their carers) should know how to manage their catheter and be provided with a written plan. They require an initial supply of equipment and information about how to obtain repeat prescriptions for supplies. They should also be taught how to minimise the risk of infection and recognise potential complications, and be advised about who to contact if they have concerns (RCN, 2012). **NT**

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References

- Loveday H et al (2014) epic3: national evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England. *Journal of Hospital Infection*; 86: S1, S1-S70.
- National Patient Safety Agency (2009) *Female Urinary Catheters Causing Trauma to Adult Males*. [Bit.ly/NPSACatheters](http://bit.ly/NPSACatheters)
- NHS Quality Improvement Scotland (2004) *Best Practice Statement on Urinary Catheterisation and Catheter Care*. [Bit.ly/cath2004](http://bit.ly/cath2004)
- Pellowe C (2009) Reducing the risk of infection with indwelling urethral catheters. *Nursing Times*; 105: 36, 29-32.
- Royal College of Nursing (2012) *Catheter Care: RCN Guidance for Nurses*. [Bit.ly/RCNCatheterCare](http://bit.ly/RCNCatheterCare)

TEST YOUR KNOWLEDGE

Can you answer these questions? To check whether you are correct, go to our learning unit at nursingtimes.net/catheters

1 Which of the following are reasons for inserting a urinary catheter?

- A. To measure urinary output in acutely ill patients
- B. To manage incontinence in any circumstances
- C. To manage incontinence when no other strategy is appropriate
- D. To administer drugs into the bladder

2 Which of the following does NOT need to be considered when selecting a urinary catheter?

- A. The reason for inserting the catheter
- B. The volume of urine in the bladder
- C. The sex of the patient
- D. The length of time the catheter will be in place
- E. The consistency of urine

3 What is the usual length and diameter of a Foley catheter used in male patients?

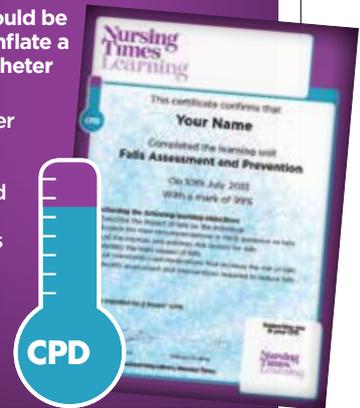
- A. Length 40-44cm, diameter 16Ch
- B. Length 40-44cm, diameter 12-14Ch
- C. Length 44-49cm, diameter 16Ch
- D. Length 44-49cm, diameter 12-14Ch

4 A nelaton catheter is used to:

- A. Empty the bladder intermittently?
- B. Irrigate the bladder following urological surgery?
- C. Instil drugs directly into the bladder?
- D. Manage incontinence in children?

5 What should be used to inflate a Foley catheter balloon?

- A. Sterile water
- B. Sterile water or fluid recommended by manufacturers
- C. Tap water
- D. Normal saline
- E. Air



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