Urinary catheters 6: removing an indwelling urinary catheter

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rinary catheterisation is associated with a number of complications including catheter-associated urinary tract infection (CAUTI), tissue damage, and bypassing and blockage. The risk of complications means catheters should only be used after considering other continence management options, and should be removed as soon as clinically appropriate (Loveday et al, 2014).

It is important to understand the reason for removal and whether the catheter is being removed permanently or in a planned or unplanned change due to problems encountered by the patient, such as a blocked catheter. The procedure differs depending on whether the insertion site is urethral or suprapubic.

The removal of a urinary catheter should be a simple, uncomplicated procedure but there are recognised competencies. Nurses removing a catheter must be aware of:

- Local policies and procedure;
- Anatomy and physiology of the genitourinary system (Figs 1 and 2);
- Care of the patient before, during and after removal;
- What action to take if they encounter a problem;
- Infection prevention and control issues relating to catheter care;
- The balloon mechanism used to retain catheters in the bladder (Box 1 and Fig 3a).

Patient anxiety

Patients may be anxious about pain and discomfort during the procedure, and about passing urine afterwards. In particular, those who have previously failed a trial without their catheter may be concerned about passing urine independently. Some may also be anxious about bladder control and urinary incontinence. These concerns may be heightened if the catheter has been in place for a long period of time.

Nurses need to discuss with patients the procedure and the possible complications that can occur after catheter removal (Royal College of Nursing, 2012). They should also ensure patients know who to contact if they experience problems. Box 2 lists the complications that can occur following catheter removal.

Routine urethral catheter removal

Timing of catheter removal

Catheters are routinely removed early in the morning. This means that any problems, such as urinary retention, will normally present during the day and can be dealt with by appropriate health professionals (Dougherty and Lister, 2015).

Equipment

- Dressing pack containing paper towel, swabs and gallipot;
- Kidney dish to receive the catheter;
- Syringe for deflating the balloon (usually a 10ml syringe);
- Disposable gloves and apron (Dougherty and Lister, 2015);
- Cleansing solution, for example 0.9% sodium chloride.

The procedure

1. Ensure the patient understands the procedure and gain consent to remove the catheter. Explain any symptoms that may occur after removal, such as urgency, frequency and discomfort, and what action to take if these occur.

2. Check the patient’s records to see how much water was used to inflate the catheter balloon. The same volume should be removed to completely deflate the balloon, before attempting to remove the catheter.

3. Assemble the relevant equipment. Screen the patient to maintain privacy and protect bed linen using protective covering.

Box 1. Foley catheters

Foley catheters have an inflatable balloon that anchors the catheter in the bladder. The catheter has two channels – one drains urine while the other is used to inflate and deflate the balloon.

Balloons are inflated with sterile water or using liquid in syringes supplied by manufacturers. The water is usually inserted and removed using a syringe that is attached to a valve on the catheter.

Balloons vary in size but adults usually require a 5–10ml balloon. Always check manufacturers’ instructions. Balloons must not be overinflated as they can rupture, leaving fragments in the bladder (Dougherty and Lister, 2015).

Professional responsibilities

This procedure should be undertaken only after approved training, supervised practice and competency assessment, and carried out in accordance with local policies and protocols.

References

Loveday et al, 2014

Royal College of Nursing, 2012

Dougherty and Lister, 2015

Citation


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4. Ask the patient to lie in a supine position so the catheter is easily accessible and the patient can relax.

5. Release any catheter fixation devices to allow easy removal (Fig 3b).

6. Empty the patient’s catheter bag or drain the bladder via a catheter valve to prevent any spillage of urine during removal (Fig 3c).

7. Wash your hands and put on non-sterile gloves to reduce the risk of cross infection.

8. Place the paper towel under the patient and a kidney dish between the patient’s legs to receive the used catheter and to catch any urine spillage.

9. If necessary, clean around the meatus using an appropriate solution (usually 0.9% sodium chloride – check local policy). Always swab away from the urethral opening to reduce the risk of introducing infection into the urethra. In women, never clean from the perineum or vagina towards the urethra as this can transfer bacteria and potentially cause urinary tract infection (Dougherty and Lister, 2015).

10. If necessary, clean round the meatus and catheter using an appropriate solution (usually 0.9% sodium chloride – check local policy). Always swab away from the urethral opening to reduce the risk of introducing infection into the urethra. In women, never clean from the perineum or vagina towards the urethra as this can transfer bacteria and potentially cause urinary tract infection (Dougherty and Lister, 2015).

11. Following the manufacturer’s instructions, attach the syringe to the inflation/deflation valve to deflate balloon. Do not pull on the syringe but allow the solution to flow back naturally as the balloon deflates (Fig 3d).

12. Check that the volume of fluid in the syringe is equal to the volume inserted; this indicates that the balloon is completely deflated (although silicon catheters may not give back the same volume as fluid can be lost from the balloon by osmosis).

13. Ask the patient to relax, and to breathe in and out as this relaxes the pelvic floor muscles (Dougherty and Lister, 2015).

14. Ask the patient to exhale and gently remove the catheter using continuous traction (Dougherty and Lister, 2015) (Fig 3e). In male patients, extend the penis as this straightens the urethra. Men should be warned about potential discomfort as the deflated balloon passes through the prostatic urethra. Women can experience a stinging sensation and discomfort.

15. Clean and dry the meatus if necessary and make the patient comfortable.

16. Inspect the removed catheter for any signs of encrustation, especially if a new catheter has been inserted.

Box 2. Complications following catheter removal

**Urinary retention (inability to pass urine)**
- Abdominal discomfort and pain
- A palpable bladder
- Anuria (no urine output) or passing small and frequent amounts of urine
- A weak stream
- Hesitancy
- Straining, feelings of incomplete emptying and after-dribble (Abrams et al, 2002).

If retention is suspected, it is important to perform a bladder ultrasound (Yates, 2016) and recatheterise the patient if indicated.

**Dysuria (pain when passing urine)**
Stinging and burning may occur when passing urine; symptoms can last for a few days. It is important that patients drink 2-3L of fluids a day to dilute their urine.

**Frequency (need to urinate more often than usual) and urgency (sudden and compelling urge to urinate)**

These symptoms can occur immediately after catheter removal. It is important that patients can reach the toilet or are supplied with appropriate aids, such as a urinal, and are able to call for assistance if required. Symptoms usually resolve in a few days but if they persist or are accompanied by signs of urinary tract infection or urinary retention, they will require further investigation.

Patients with frequency and/or urgency may be reluctant to drink but should be advised that concentrated urine can irritate the bladder and cause unwanted contractions/spasms. Drinking fluids, especially water, will dilute the urine so the bladder will become less irritable and tolerate holding urine for longer periods.

**Haematuria (bloodstained urine)**
This can occur following catheter removal but if it persists or gets worse, the patient should report it to a heath professional for further assessment.

**Incontinence**
Patients may experience incontinence problems immediately after catheter removal; these may settle within a few days or take longer, depending on how long the catheter has been in situ. Patients may need management aids such as absorbent pads temporarily to help them remain dry; however, this should not be considered a long-term solution.

If symptoms persist the patient should be assessed and referred for specialist support. If the catheter has been in situ for a long period of time, the patient may need bladder retraining instruction.
3a. Foley catheters have an inflatable balloon that anchors the catheter in the bladder. The catheter has two channels – one drains urine while the other is used to inflate and deflate the balloon.

3b. Catheter fixation devices are used to support the catheter and prevent excessive movement. These should be released to allow easy removal of the catheter.

3c. If the patient uses a catheter valve, ensure they have drained their bladder before catheter removal. This prevents urine leakage.

3d. Follow manufacturer’s instructions and attach a syringe (usually 10ml) to the inflation/deflation valve on the catheter to deflate the balloon. Do not pull on the syringe but allow the solution to flow back naturally as the balloon deflates.

3e. As the patient exhales, gently remove the catheter using continuous traction (Dougherty and Lister, 2015).

3f. Clean and dry the meatus if necessary and make the patient comfortable. Remove gloves and dispose of equipment appropriately.

Fig 3. The procedure

Critical care

This helps to flush out any bacteria that may be present in the urinary tract and prevent infections, which in turn will prevent burning/pain on passing urine. Concentrated urine can also irritate the bladder and cause unwanted contractions and spasms.

23. Ask the patient to observe for any signs of voiding difficulties and report these immediately.

Troubleshooting

All Foley catheters have balloons that must be deflated before the catheter is removed. If the balloon will not deflate, some simple techniques can be tried before referral to a urologist. These include:

- Trying a different syringe;
- Leaving the syringe attached to the inflation valve, with the plunger removed, for 20 minutes;
- ‘Milking’ the catheter along its length to help unblock any debris or obstruction;
- Inserting a few millilitres (ml) of sterile water – this may help clear a blockage;
- Attaching a 25-gauge (orange) needle into the inflation chamber just above the cuff and drawing back – this will bypass a faulty valve.

What to avoid

Do not:

- Attempt to burst the balloon by overinflation – this could break it into fragments within the bladder;
- Cut the inflation arm or catheter, as the balloon may not deflate and, if there is any traction on the catheter, it could retract into the bladder. NT

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