Urinary catheters 1: male catheterisation

Urine catheterisation involves the insertion of a tube into the bladder using aseptic technique (Dougherty and Lister, 2015). The procedure is carried out for a variety of reasons including to:

- Address acute or chronic urinary retention;
- Empty the bladder, for example before pelvic surgery;
- Accurately measure urinary output in acutely ill patients;
- Irrigate the bladder, for example following prostate surgery;
- Bypass an obstruction such as an enlarged prostate or urethral stricture;
- Administer drugs directly into the bladder;
- Carry out bladder function tests;
- Improve comfort for patients receiving end-of-life care;
- Relieve incontinence and maintain skin integrity when all other conservative continence management strategies have been attempted (Dougherty and Lister, 2015; Royal College of Nursing, 2012).

Complications associated with catheterisation
Catheterisation is associated with a number of complications including:

- Catheter-associated urinary tract infection (CAUTI);
- Tissue damage;
- 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).

Preparation
A thorough risk assessment should be carried out before inserting a catheter (Box 1). As with all procedures, where possible the patient’s informed consent should be obtained and documented following a discussion of the benefits and risks of catheterisation, and its effects on lifestyle and sexual relationships (Prinjha and Chapple, 2013; RCN, 2012).

Male catheterisation
Male urethral catheterisation is a skilled procedure (RCN, 2012); health professionals carrying it out should be aware of:

- Nationals and local policies relating to catheterisation;
- The anatomy and physiology of the male lower urinary tract and continence, including normal micturition, role of the prostate, and voiding dysfunction (Fig 1);
- Care and support of the patient including informed consent, respect, privacy and dignity, and use of a chaperone where required;
- Indications for male urethral catheterisation, the procedure and possible complications;
- Materials and equipment required, including types of catheters, drainage systems and lubrication gels;

Health professionals should also have achieved the level of competency required by their employer before undertaking male urethral catheterisation, and should adhere to the relevant local policies and procedures, for example on continence management, catheterisation and infection prevention.

Catheter selection
Indwelling catheterisation is undertaken using Foley urethral catheters. These have a self-retaining balloon that, when filled...
with sterile water or solution provided by the manufacturer, remains in the bladder.

The correct catheter for patients depends on factors such as the likely duration of use and the catheter material type, diameter, length and balloon size.

Catheter size is expressed using the charriere (Ch) size or French gauge. The smallest size that will allow effective drainage should be selected.

Only standard length catheters should be inserted in male patients aged 16 and over. Insertion of female-length catheters in males can result in the balloon being inflated in the urethra, causing serious complications including haematuria, penile swelling, urinary retention, haemorrhage and impaired renal function (Greener, 2009; National Patient Safety Agency, 2009).

For short-term use (under 28 days), an uncoated latex, PVC, polytetrafluoroethylene (PTFE) or silver alloy catheter should be used. If a latex catheter is being considered, the health professional will first need to check the patient does not have a latex allergy. For longer-term use, all-silicone, silicone elastomer or hydrogel-coated catheters should be used.

For routine drainage, a 10ml balloon size should be used; this is usually inflated with 10ml of sterile water. Some catheters are supplied with a prefilled syringe of glycerine solution or a prefilled 10ml balloon of sterile water.

The health professional undertaking catheterisation is responsible for selecting a suitable catheter and using it in accordance with the manufacturer’s instructions (RCN, 2012).

The procedure

1. Discuss the procedure with the patient, explaining any associated risks or benefits, to gain valid informed consent. Document this in the patient’s notes. Check for allergies to the lubricating or anaesthetic gel (Yates, 2015). Screen the bed.

2. Wash hands and clean a trolley according to local policy.

3. Obtain the equipment that is needed for a male catheterisation procedure (Fig 2a), following aseptic non-touch technique (ANTT) guidance (antt.org/ANTT). Equipment should include:
   - Sterile pack suitable for catheterisation (receiver, low-linting swabs, gallipots, disposable towels);
   - Sterile gloves;
   - Cleansing fluid;
   - Syringe and sterile water for non-prefilled catheters;
   - Sterile individual antiseptic/lubricating gel;
   - Disposable apron;
   - Appropriate catheter;
   - Drainage system/catheter valve.

   Assemble the equipment on the trolley and take it to the patient’s bedside.

4. Prepare the patient by assisting him into a supine position with legs extended. Remove trousers or pyjama bottoms and ensure the patient is not unnecessarily exposed by covering the thighs and genital area with a towel. Use a protective covering for bedlinen to prevent it getting wet.

5. Wash and dry your hands. Put on the apron and open the catheterisation pack using an aseptic non-touch technique.

6. Open additional equipment using an aseptic non-touch technique. Leave the urinary catheter in its inner sterile plastic protective wrapping until the time of insertion to protect it from potential physical and environmental contamination. Remove the towel covering the patient’s genital area.

7. Wash hands, put on sterile gloves and place sterile towels to cover the patient’s genitals and legs. This creates a sterile field.

8. Place a sterile swab around the penis, retracting the foreskin if necessary, and clean the glans penis with a cleansing solution of sterile sodium chloride (0.9%) (Loveday, 2014) (Fig 2b).
**Box 2. Anaesthetic and lubricating gels**

- Catheterisation can be a painful procedure and can cause urethral trauma, which in turn increases the risk of CAUTI.
- The EPIC guidance recommends that an “appropriate lubricant from a sterile single-use container” is used for catheterisation (Loveday et al, 2014). Many practitioners use lubricant gels with a topical anaesthetic (lidocaine 2%), but local policies should be followed.
- Anaesthetic gels should be instilled directly into the patient’s urethra at least five minutes before catheterisation to have an anaesthetic effect (Dougherty and Lister, 2015).
- If a plain aqueous gel is used the catheter can be inserted immediately.
- Anaesthetic gels should be used with caution in older people and those with cardiac dysrhythmias (Yates, 2015).
- Lidocaine is a topical drug and local medicines administration policy should be followed. As with any drug it is essential to check for allergies before use (Dougherty and Lister, 2015).

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9. Insert the nozzle of the lubricating or anaesthetic gel into the urethra. Squeeze the gel into the urethra, remove the nozzle and discard (Fig 2c). Hold the glans firmly in your non-dominant hand and inserted directly into the urethral meatus from the sterile packaging, adding a further layer of physical protection for the duration of the insertion procedure (Fig 2d).

10. Wipe away any excess gel, dispose of gloves, wash and dry hands and put on new sterile gloves.

11. Place the receiver containing the catheter on a sterile towel under the penis between the patient’s legs. Open the catheter but leave it in its sterile packaging to reduce the risk of contamination.

12. Hold the penis firmly in your non-dominant hand, raising it until it is almost fully extended. This helps to facilitate catheterisation. The catheter should be held in your dominant hand and inserted directly into the urethral meatus from the sterile packaging, adding a further layer of physical protection for the duration of the insertion procedure (Fig 2d).

13. Gently insert the catheter through the urethra and into the bladder. If the patient complains of any pain stop the procedure and seek medical advice. If resistance is felt at the external sphincter, ask the patient to strain gently as if trying to pass urine or to cough. At the same time try to insert the catheter gently into the bladder. If resistance is still experienced or the patient has discomfort or bleeding, stop the procedure and seek medical advice.

Insert the catheter for about 15–25cm or until you see urine flow. Insert it almost to its bifurcation before inflating the balloon to ensure it has cleared the prostatic bed and is in the bladder (Fig 2e). Inflation of the balloon in the urethra is painful (Dougherty and Lister, 2015).

14. When urine flows, gently inflate the balloon with 10ml of sterile water or solution according to the manufacturer’s instructions (Fig 2f). For prefilled balloons, remove the clip and gently squeeze the reservoir of sterile water.

Observe the patient for any signs of discomfort as inflation should be pain-free. If there is pain, deflate the balloon, insert the catheter slightly further into the urethra and reinflate the balloon. Withdraw the catheter slightly until it sits on the bladder neck.

15. The catheter will either be already attached to a preconnected drainage bag or you should attach it to a drainage system or catheter valve as required (see part 4 of this series).

16. Ensure the glans penis is clean, then reduce or reposition foreskin. Make sure the patient is comfortable. Help them into their clothes and ensure their bed is clean and dry.

17. Dispose of equipment in a clinical waste bag or according to local policy. Wash hands.

18. Fully document the procedure, adding the following information:

- Reason for insertion;
- Date and time of catheterisation;
- Catheter type;
- Length;
- Balloon size and amount of water inserted;
- Batch/lot number;
- Manufacturer;
- Expiry date;
- Meatal cleansing solution;
- Lubricant;
- Name and signature of professional and any problems encountered on insertion;
- Date of removal or change.

If it is the first catheterisation, the urine output on insertion should be measured and recorded to assist in monitoring renal function and fluid balance. The volume also provides important information about bladder capacity in patients with urinary retention (Dougherty and Lister, 2015).

19. Provide the patient with information on the maintenance and care of his catheter and drainage system.

**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.

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**References**


**National Patient Safety Agency** (2009) Female Urinary Catheters Causing Trauma to Adult Males. Bit.ly/MaleLengthCatheter


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**Urinary catheter series**

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