



University
of Glasgow

University of Glasgow

Medical School

Year 3

Clinical Procedural Skills

FEMALE CATHERISATION

Aim

GMC Practical Skills and Procedures-(20) *Newly qualified junior doctors should be able to carry out urethral catheterisation of female patients safely under direct supervision*

Learning Outcomes

At the end of this session, students should be able to:

- Define the reasons why female urethral catheterisation may be necessary.
- State the common risk factors that may arise as a result of the procedure being carried out.
- Discuss the reasons why insertion of a urinary catheter in female patients may be contraindicated.
- Describe the process of inserting a urinary catheter in a female patient.
- Describe the information required for the completion of patient care plan documentation.

Indications for female urinary catheterisation

Indication	Comments
Urinary Retention	Retention of urine can be caused by mechanical urethral obstruction or neurological disorders affecting voiding. A urinary catheter allows bladder drainage.
Monitoring Urine Output	In a number of different clinical conditions including shock and renal failure it is desirable to accurately measure hourly urine output to calculate accurate fluid balance
Unable to void urine in the normal manner	Unconscious patients, patients undergoing operative procedures or those with particular injuries (for example, fractured neck of femur)
Facilitating continence	Urinary incontinence and the use of some continence equipment can result in skin problems
Medication administration	Medication such as chemotherapy agents may require to be administered intravesically (via the bladder).

Contraindications

CONTRAINDICATIONS TO CATHERISATION

- No consent from the patient
- Urethral stricture
- Blood at the urinary meatus following trauma

Urethral stricture is typically caused by scar tissue narrowing the urethral lumen and making passing a catheter difficult or even impossible. Catheterisation should both be routinely attempted on patients with known urethral stricture.

Blood at the urinary meatus in the presence of trauma suggests a possible urinary tract injury and imaging **MUST** be conducted to establish the extent of any such injury before attempting catheterisation.

Pre-Procedure

PRE-PROCEDURE

- Obtain consent from the patient
- Prepare equipment
- Position the patient ensuring dignity

Obtain consent from the patient:

- Explain the indications for the procedure to the patient
- Explain the procedure to the patient
- Explain potential complications
- Estimate how long the catheter will be required
- Check for allergies (latex/local anaesthetic gel)

OBTAIN CONSENT

Prepare equipment

The equipment required for catheterisation includes:

- A cleaned procedure trolley
- Catheter Female catheters are shorter than male catheters reflecting the shorter urethra of females
Catheters are sized using the French gauge (Charriere scale) where 1Ch is 1/3mm. Most female patients require a 10Ch (3.3mm) or 12Ch (4mm) in external diameter
- Dressing pack
- Chlorhexadine for cleaning the patient
- 10mls of water for injection in a 10ml syringe (many catheters have this included)
- 2 pairs of appropriately sized gloves
- An apron
- A urine drainage bag and sterile foil bowl for urine collection
- Local anaesthetic gel (this typically comes in a pre-filled syringe)



Local anaesthetic gel



Catheter shown with the balloon inflated



A procedure trolley being cleaned before catheterisation

Position the patient ensuring dignity: OFFER A CHAPERONE

Catherisation is an intimate and invasive procedure which is also frequently uncomfortable for the patient.

Position the patient lying on a bed ensuring that they are comfortable. The patient should remove their underwear or have it removed if they are unable to do so.

The patient is asked to bend their knees and then externally rotate their hips bringing the plantar aspects of their feet together. The patient must remain covered until the moment the procedure is to begin



Patient position for urinary catherisation

Place an absorbent pad underneath the patient to lessen the likelihood of soiling bed linen.

Procedure

PROCEDURE

- Ensure patient comfort throughout the procedure
- Don apron and 2 pairs of gloves
- Expose the patient and clean the external genitalia
- Identify the external urethral meatus
- Remove the first pair of gloves
- Insert local anaesthetic gel and allow to have effect
- Place the sterile foil bowl between the patient's legs
- Remove the catheter tip from the wrapper
- Insert catheter into urethral meatus gently- no force should be required.
- Advance the catheter whilst gradually removing the catheter wrapper
- When urine is obtained- Inflate the catheter balloon with 10mls of sterile water
- Attach the urine drainage bag and ensure this is below the level of the patient's bladder



Don apron prior to the procedure



ENSURE STERILE PROCEDURE

Open the dressing pack

Open the catheter ensuring it is a female catheter and is of the correct size and is in date.

Open the urine drainage bag

Open 2 pairs of appropriately sized gloves



Don 2 pairs of sterile gloves

Identify the urethral opening

An assistant may be required and sometimes additional lighting may help

TOP TIP

If the urethral meatus is difficult to find-
apply a little anaesthetic gel

This may dilate the meatus and allow for
easier identification

Clean the urethral meatus using a top to bottom approach, left labia, right labia and urethral orifice.

Use a new swab for each wipe and dispose into the waste bag.

Once cleaning is completed- remove one pair of gloves and dispose of them.

Insert the local anaesthetic into the urethral meatus and leave for a short time to have effect.



Place the sterile foil bowl between the patient's legs

Remove the catheter tip from the wrapper being careful NOT to touch the catheter.

Warn the patient that you are about to insert the catheter

Insert the catheter into the urethral meatus



Gently advance the catheter whilst simultaneously withdrawing the wrapper.

When urine begins to collect in the bag- gently remove it and allow urine to drain into the sterile foil bowl

The urine in the bowl can be tested using urinalysis and sent for bacteriological examination.

TOP TIP

If resistance is encountered on insertion- rotate the catheter or ask the patient to cough.

TOP TIP

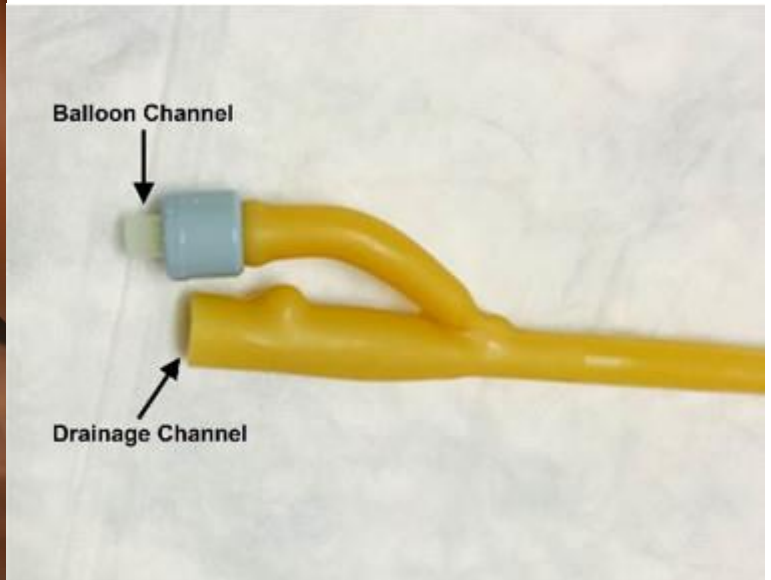
Beware when inserting a catheter in patients with urinary retention that a large volume of urine can drain very quickly from the catheter.



Foil bowl used for urine collection



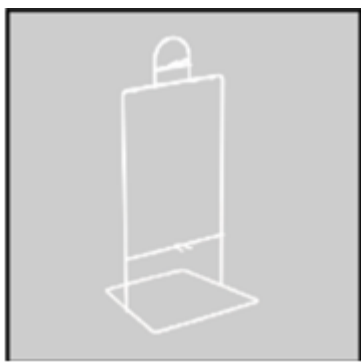
Attach the catheter to the urine drainage bag.



Slowly inflate the balloon with 10mls of sterile water.

Ask the patient if there is any discomfort on inflation of the balloon.

If the patient complains of discomfort-, stop inflation immediately and reposition the catheter.



A urine bag stand helps to ensure the urine drainage bag stays below the level of the patient's bladder.

Post Procedure

Post Procedure

Explain to the patient that the procedure is completed and check on their comfort.

Reassure the patient that any urine will be collected in the urine drainage bag. Patients often report a feeling of urgency to void urine once a catheter is inserted.

Ensure that urine is draining into the urine drainage bag.

Dispose of the equipment following local clinical waste procedures

If required- undertake urinalysis and/or obtain a specimen for bacteriological analysis.

Complete the local catheter care documentation- this varies across different health boards.

Document the procedure in the patient's notes

TOP TIP

Catheter documentation often requires a sticker from the catheter packaging to be attached.

Check local procedures before disposing of equipment



Where hourly urine volume measurement is required- a urometer should be attached to the catheter.

Urometers typically have hooks to attach to the patient's bed.



For ambulant patients- the urine drainage bag can be attached to the patient's leg using straps.

Complications of catheterisation

Urinary Tract Infection:

This is the most common complication. UTI can be caused by lack of sterile technique during catheter insertion or by prolonged catheter use. In high risk patients (those with compromised immunity or with a significant history of UTI) prophylactic antibiotics are often administered.

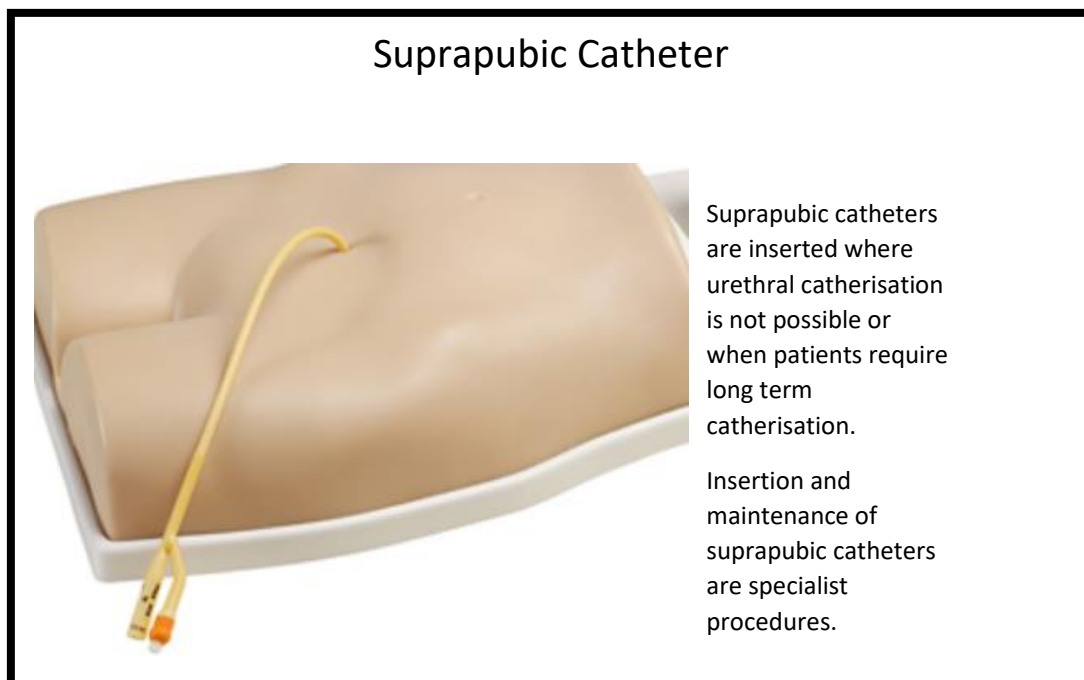
Bladder spasm/Loss of bladder tone:

Spasms are caused by bladder contraction against the catheter balloon. Bladder tone can be compromised by long term catheter use resulting in difficulty in voiding urine.

Urethral trauma:

Use of incorrect equipment or anatomical variability can result in urethral trauma during catheterisation. Any evidence of bleeding during catheterisation should result in the procedure being abandoned.

CATHETERS MUST NOT BE FORCEABLY INSERTED. This can result in the creation of a “false passage” and can compromise the patient’s capability to void urine in future.



Female Catherisation Checklist

- ✓ Explain the procedure to the patient and obtain consent
- ✓ Gather the necessary equipment
- ✓ Position the patient comfortably ensuring dignity
- ✓ Prepare the equipment trolley and open the sterile equipment
- ✓ MAINTIAN A STERILE ENVIRONMENT AT ALL TIMES
- ✓ Don apron and 2 pairs of sterile gloves
- ✓ Clean the external genitalia and identify the urinary meatus
- ✓ Remove one pair of gloves
- ✓ Apply local anaesthetic gel and give time for effect.
- ✓ Take the catheter- remove the tip form the wrapper and gently insert into the urinary meatus.
- ✓ Advance the catheter when gradually withdrawing the wrapper
- ✓ When urine is recovered- inflate the balloon with 10mls of sterile water
- ✓ Check for patient discomfort on balloon inflation
- ✓ Attach the urine-bag ensuring it is below the level of the patient's bladder
- ✓ Dispose of the equipment correctly
- ✓ Complete the local catheter care documentation