SOP
URINARY CATHETERIZATION

Department of Surgery
Faculty of Medicine
UWUSL

Standard Operating Procedure (SOP) of Sterile Technique of Urinary catheterization

Title

Urinary catheterisation– Sterile Technique

Issued By

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1. Purpose

To ensure correct, aseptic insertion of a urinary catheter in order to maintain a sterile field and prevent catheter-associated urinary tract infections (CAUTIs), while protecting both the patient and the healthcare worker during urinary catheterization

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2. Scope

This SOP applies to all medical students, interns, nurses, and healthcare professionals involved in sterile urinary catheterization, including indwelling (Foley) and intermittent catheterization procedures in ward, and operating theatre settings.

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3. Responsibilities

3.1 Consultant / Medical Officers

- Supervise and ensure compliance with sterile technique.
- Address any breaches in sterile technique during the procedure.
- Obtain informed consent from the patient prior to catheterization

3.2 Circulating Nurse / Assistant

- Verify correct catheter size before opening the package.
- Assist with maintaining the sterile field during the procedure.
- Prepare and hand over equipment using aseptic non-touch technique

3.3 Medical Students and Health Care Staff

- Perform the procedure according to this SOP.
- Report any difficulty or breach in sterile technique to the supervising clinician immediately.

3.4 Infection Control Team

- Monitor adherence to catheterization protocols and CAUTI prevention bundles.
- Provide training and competency assessment.

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4. Indications

- Acute urinary retention
- Chronic urinary retention or neurogenic bladder
- Accurate measurement of urine output in critically ill patients
- Bladder irrigation (3-way catheter)
- Perioperative bladder decompression
- Administration of intravesical medications
- Urodynamic studies and bladder irrigation
- Facilitation of healing in patients with urinary incontinence and sacral or perineal wounds

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5. Contraindications

- Suspected urethral injury or disruption (e.g., pelvic fracture)
- Known urethral stricture (relative contraindication – use flexible cystoscopy guidance)
- Known allergy to catheter material (e.g., latex allergy – use latex-free alternative)
- Acute prostatitis (relative contraindication)

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6. Prerequisites and Materials Required

Ensure the following are available before commencing the gloving procedure:

Item	Specification
Sterile catheter	Appropriate size (Foley or straight); latex-free as per policy
Sterile catheterization kit	Cotton balls, Gauze, Drape, Swabs.
Sterile gloves	Correct size; powder-free, latex or latex-free
Antiseptic solution	Povidone-iodine or chlorhexidine for meatal cleansing
Sterile lubricant	Water-based or lignocaine gel (especially for males)
Sterile drainage bag	Closed drainage system; calibrated
Syringe + distilled water	For balloon inflation (Foley catheter)
Sterile kidney dish/receiver	To collect initial urine flow
Sterile drapes/fenestrated drape	To maintain sterile field around urethral meatus
Approved PPE	Apron, mask

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7. Procedure

7.1) Assemble Equipment

Before starting the procedure, gather all necessary equipment and place it on a procedure trolley:

- Arrange items so they are within easy reach and visible
- Ensure the procedure trolley is clean and decontaminated
- Keep the workspace organized and at appropriate height
- Ensure the patient privacy

7.2) Required Equipment

- Sterile urinary catheter (appropriate size and type)
- Sterile catheterization pack (drapes, forceps, swabs, receiver)
- Sterile gloves (correct size, powder-free)
- Antiseptic solution (povidone-iodine or chlorhexidine)
- Sterile lubricant or lignocaine gel
- Sterile closed drainage bag and tubing
- Syringe with distilled water (for Foley balloon)
- Sterile kidney dish

7.3) Steps

Choose the proper catheter size.

Catheters are sized using the French (Fr) scale; larger numbers indicate larger diameters. Select the smallest catheter that will drain effectively. Reference guide:

Patient Group	Catheter Size	Notes
Adult Female	12–14 Fr	Start with smaller size; use lubricant
Adult Male	14–16 Fr	Use generous lignocaine gel lubrication
Elderly / Post-op	16–18 Fr	Larger if debris or clots expected
Paediatric	6–10 Fr	As guided by age and weight

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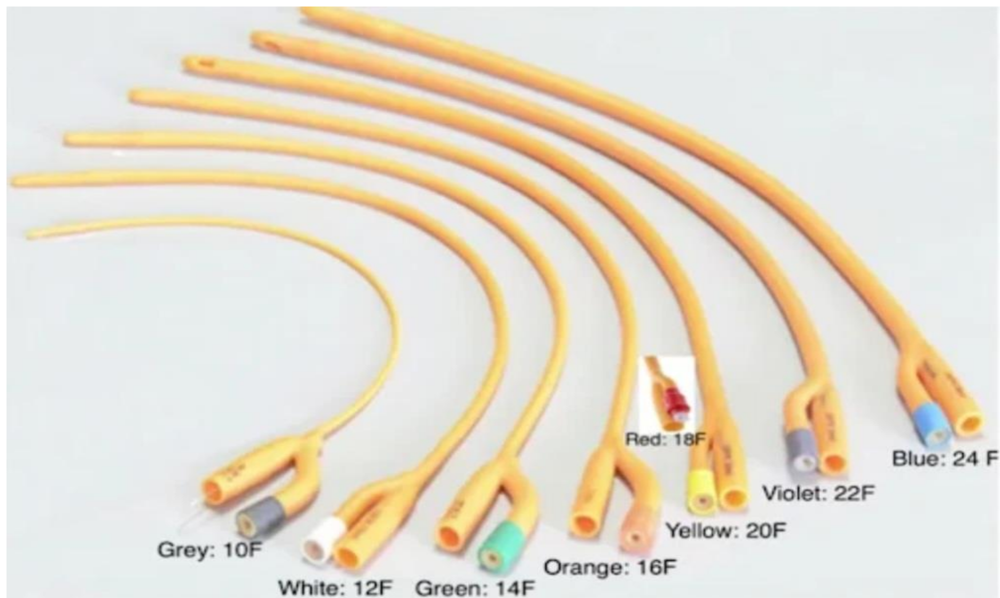
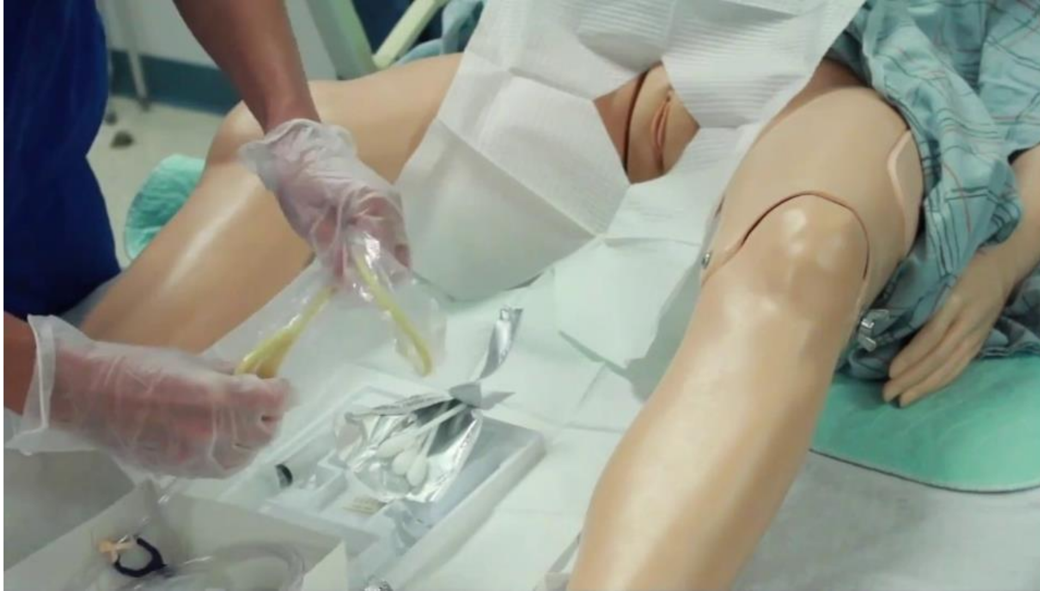


Obtain informed consent.

Explain the procedure clearly to the patient.

Position the patient

for females, position supine with knees flexed and legs apart (dorsal recumbent).



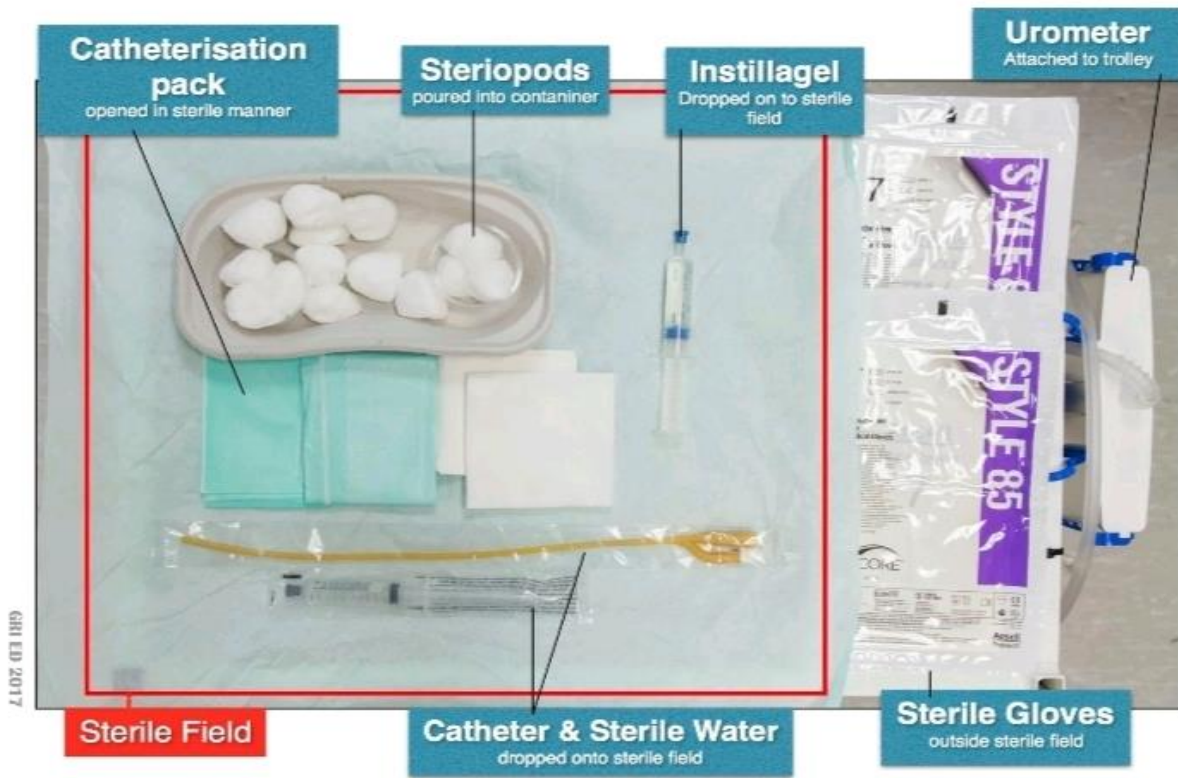
For males, position supine with legs extended.
Ensure privacy with appropriate draping.

Perform hand hygiene.

Perform a thorough surgical hand wash using chlorhexidine gluconate or alcohol-based hand rub following the WHO 6-step technique for a minimum of 20 seconds. Do not touch any non-sterile surfaces after hand washing.

Open the sterile catheterization pack.

Inspect the outer package for tears, discolouration, dampness, or expiry date. Discard if compromised. Open the outer wrap using a non-touch technique, opening top, then bottom, then sides. This creates a sterile inner field. Do not reach over the sterile field.



Wear sterile gloves.

Apply sterile gloves using the open gloving technique (refer to SOP for Surgical Hand Gloving – Sterile Technique). Ensure gloves are intact and fit correctly before proceeding.

Arrange the sterile field.

Using sterile forceps or gloved hands, arrange equipment within the sterile field: place drapes, open antiseptic solution into the sterile receiver, apply lubricant/gel to sterile surface, and attach the drainage bag to the catheter.

Apply the sterile drape.

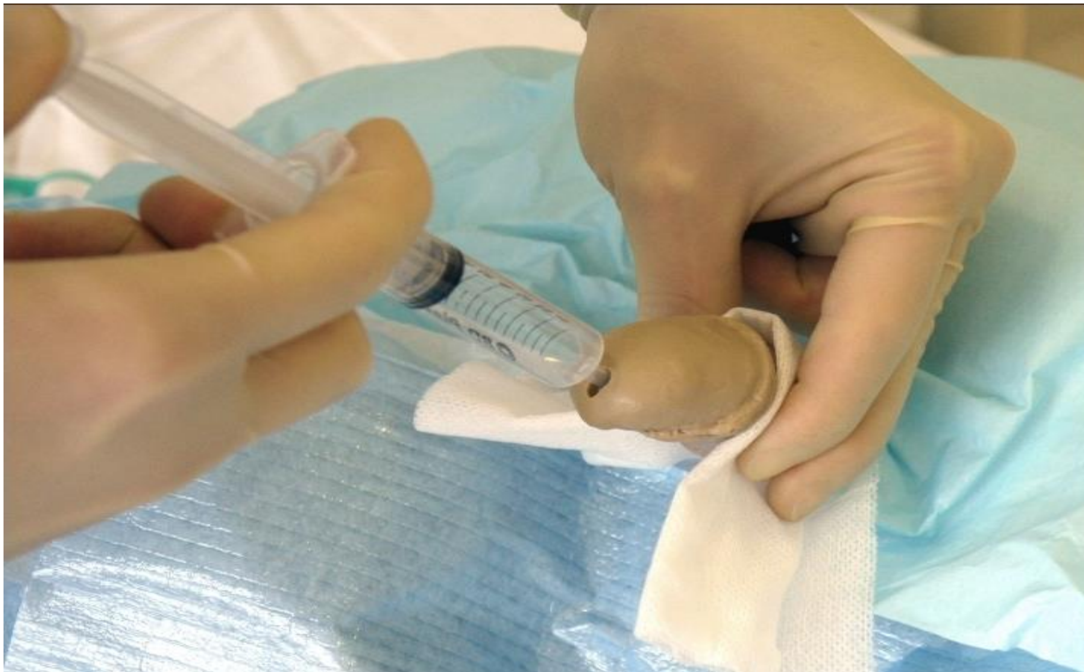
Place a fenestrated sterile drape over the patient's perineal area to expose only the urethral meatus, maintaining the sterile field throughout.

Cleanse the urethral meatus.

Female: With your non-dominant hand, separate the labia minora to expose the urethral meatus and maintain this position throughout. Using sterile forceps and antiseptic-soaked swabs, cleanse from front to back, using a fresh swab for each stroke – labia majora, labia minora, and finally the urethral meatus.

Male: Retract the foreskin (if uncircumcised) with your non-dominant hand and maintain retraction throughout. Cleanse the glans in a circular outward motion using antiseptic swabs.

Apply lignocaine gel into the urethra and wait 3–5 minutes.



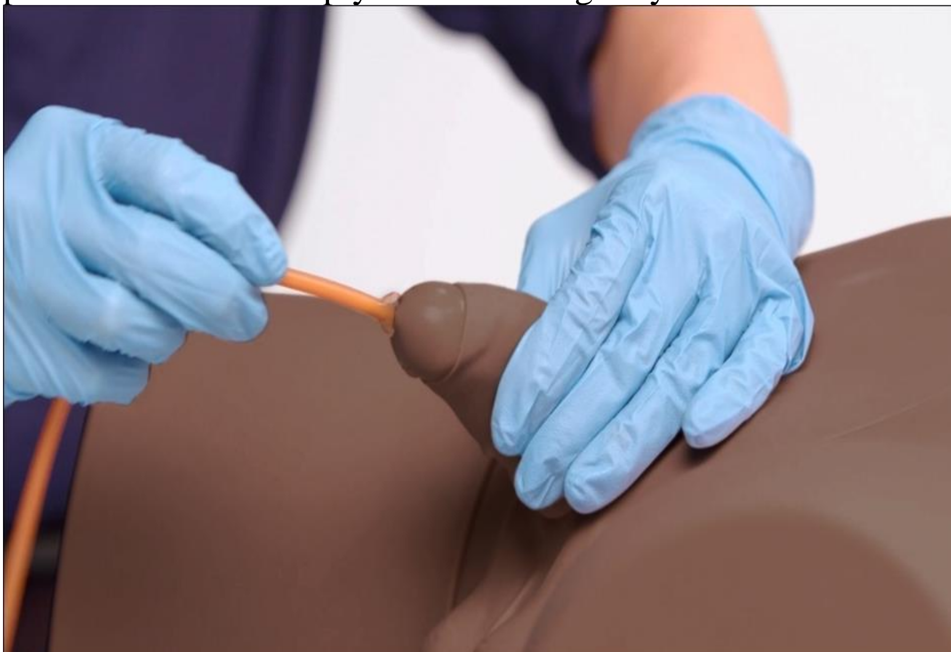
It is better to use double gloves and remove the first pair after cleaning and before catheterization to maintain sterility.

Insert the catheter.

Using your dominant (sterile) hand and sterile forceps or directly, gently introduce the catheter into the urethral meatus. Insert slowly and steadily:

- Female: Insert 5–7 cm until urine flows

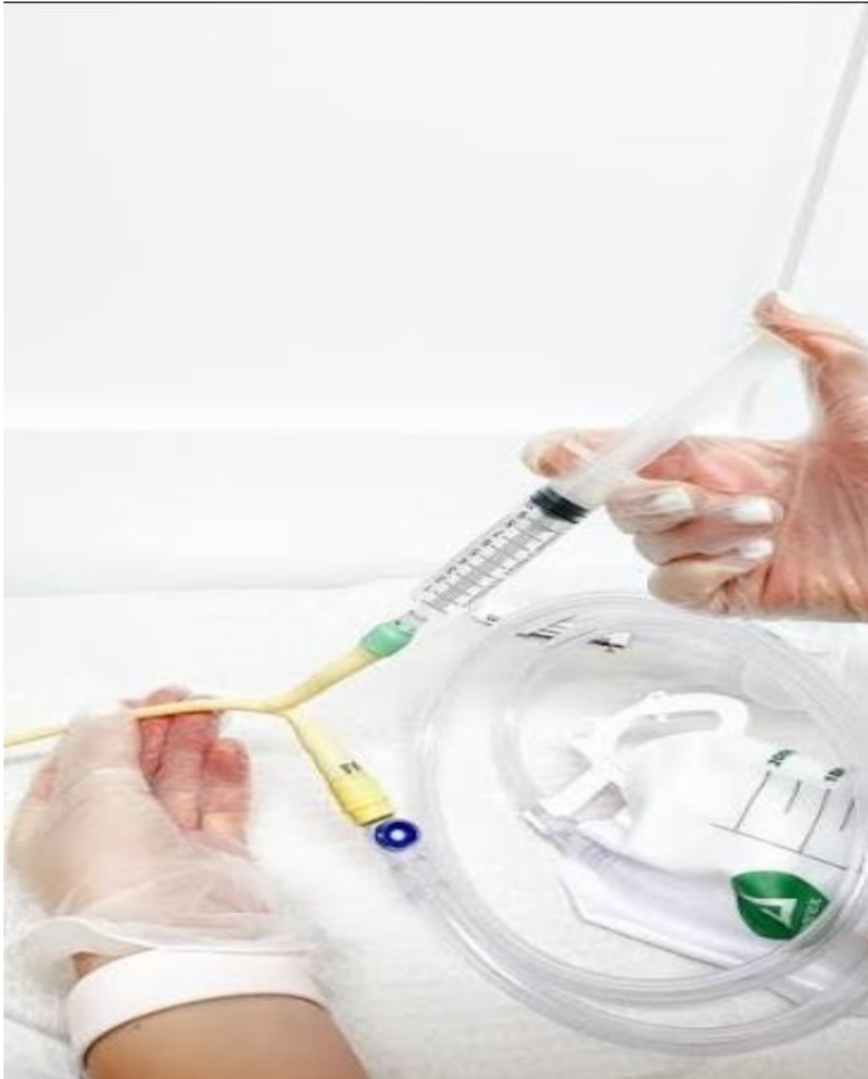
- Male: Insert 15–25 cm; slight resistance at the sphincter is normal – ask the patient to breathe deeply and advance gently



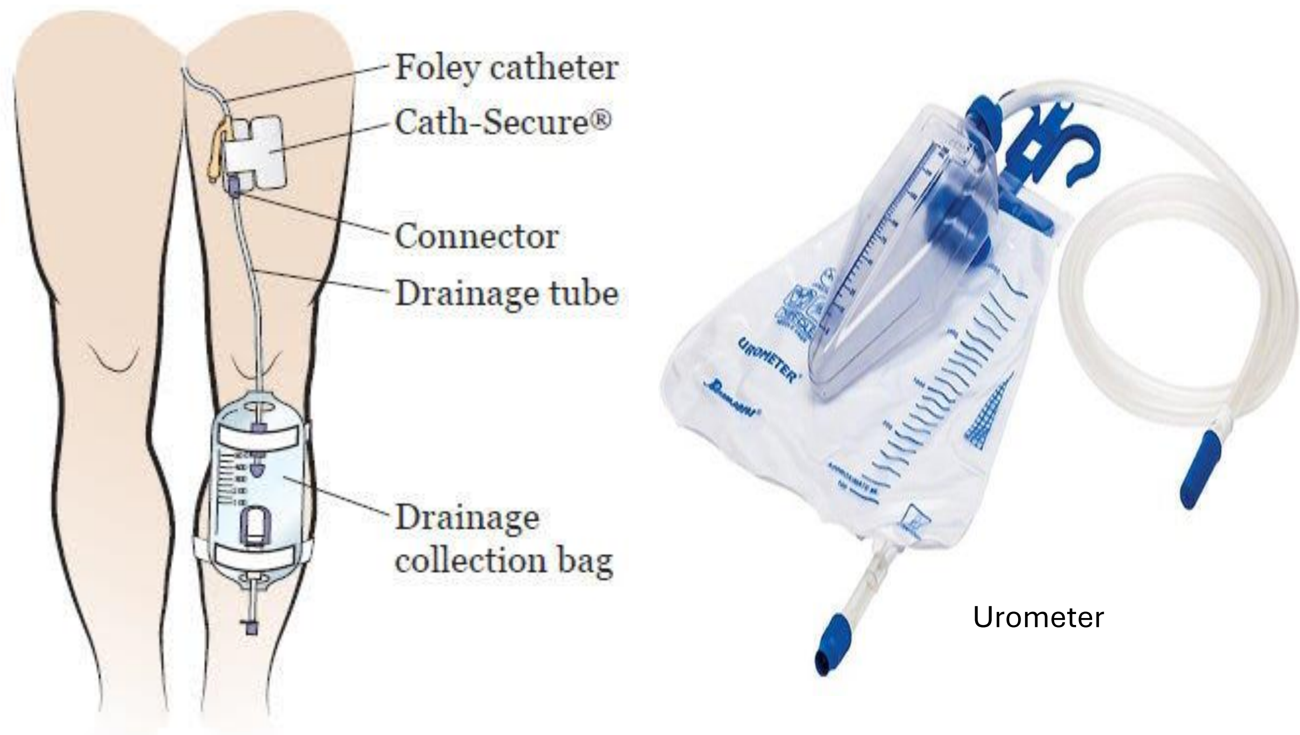
- Advance a further 2–3 cm after urine flow begins before inflating the balloon

Inflate the balloon and secure the catheter.

Once urine flow is confirmed (Foley catheter), inflate the balloon with 10 mL of sterile water using the pre-filled syringe. Gently retract the catheter until resistance is felt, confirming balloon placement.



Attach the closed drainage bag and secure the catheter to the inner thigh using a catheter securement device to prevent traction.



Replace foreskin (if applicable).

In male patients, ensure the foreskin is returned to its natural position after the procedure to prevent paraphimosis.

Document and dispose.

- Record the catheter type, size, batch number, balloon volume, and urine colour/volume in the patient's clinical notes
- Dispose of all sharps and waste according to local infection control policy
- Remove gloves and perform hand hygiene
- Ensure patient comfort and explain ongoing catheter care

Post-procedure monitoring.

- Monitor urine output hourly for the first 4 hours in retention cases
- Inspect for haematuria, leakage, or patient discomfort
- Maintain closed drainage system at all times
- Hydrate the patient well following catheterization in chronic retention.

Review catheter necessity daily and remove as soon as clinically appropriate

Keep the drainage bag below the level of the bladder at all times to prevent reflux and potential infection. Never clamp the catheter without a specific clinical indication

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8. References

1. World Health Organization (WHO). Prevention of Hospital-Acquired Infections: A Practical Guide. 2nd ed. WHO Press.

2. National Institute for Health and Care Excellence (NICE). Healthcare-associated infections: prevention and control in primary and community care.

3. Centers for Disease Control and Prevention (CDC). Guideline for Prevention of Catheter-Associated Urinary Tract Infections (CAUTI).

4. Royal College of Nursing (RCN). Catheter Care: RCN Guidance for Nurses.

5. Association of Surgical Technologists (AST). Standard of Practice for Urological Procedures

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