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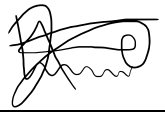
Signature		Signature	
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Table of Contents

Acknowledgment:

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Acronyms:

MOH	Ministry of Health
HQ	Headquarters
DGNA	Directorate General of Nursing Affairs
DGQAC	Directorate General of Quality Assurance Centre
DoN	Director of Nursing
HoN	Head of Nursing
SOP	Standard Operating Procedure

Urinary Catheterization Standard Operation Procedure for Nurses

1. Introduction

Insertion of a urinary catheter is an invasive procedure that must be carried out using an aseptic technique, either by a well-trained competent nurse, or by a physician, if complications or difficulties with insertion are anticipated. Catheterization of the urinary tract must be performed when there is a specific and adequate clinical indication, as it carries a risk of infection and trauma. The Directorate General of Nursing Affairs (DGNA) at the Ministry of Health (MOH) Headquarters (HQ) provides this Standard Operating Procedure (SOP) to standardize the procedure in all health care institutions within the Ministry of Health.

2. Purpose

This SOP aims to offer a consistent, standardized, and safe framework for patients requiring catheterization and ensure that all nurses involved in the process of urinary catheterization are:

- Aware of their role in the process of urinary catheterization
- Aware of best practice guidelines
- Knowledgeable about the risks associated with urinary catheterization and actions to be taken accordingly
- Able to complete the documentation of the procedure according to the documentation policy

3. Scope

This document is applied to all nurses working in health care institutions within the Ministry of Health in the Sultanate of Oman.

4. Definitions

4.1 Urinary catheter: a specially designed tube passed into the bladder using aseptic technique, for the purposes of draining urine, the removal of clots/debris or the instillation of medication.

4.2 Urinary catheterization: is the procedure of inserting a urinary catheter.

4.3 Catheter–Associated Urinary Tract Infection (CAUTI): occurs when pathogens gain access to the bladder via the outer surface of the catheter causing symptoms such as fever and supra pubic tenderness. A known risk of having a urinary catheter in situ.

4.4 Urinary tract infection: successful invasion, establishment, and growth of microbes in the urinary tract causing infection. Any factor interfering with the normal flow of urine can increase susceptibility to infection.

4.5 Suprapubic Catheterization: refers to the placement of a drainage tube into the urinary bladder just above the pubic symphysis. This is typically performed for individuals who are unable to drain their bladder via the urethra.

4.6 Intermittent catheterization (IC): is the insertion of urinary catheters several times a day, for just long enough to drain the bladder, and then removed.

4.7 Catheter Drainage: A catheter drains urine from the bladder into a drainage bag which may be supported at thigh or calf level. The leg drainage bag requires changing every 5 to 7 days depending on manufacturer's instructions.

5. Details: Procedure

5.1 The insertion of the urinary catheter should always be done using aseptic technique

5.2 Urinary catheters should be inserted only when necessary and left in place only as long as necessary

5.3 All possible alternatives must be considered to eliminate the need for catheterization including intermittent urethral catheterization before a decision is made to introduce a catheter into a patient.

5.4 Informed consent must always be obtained in accordance with national guidelines. Any issues regarding capacity to consent must be documented in the nursing records.

5.5 The attending physician shall regularly review the clinical needs of the patient for continued catheterization and shall order for its removal when no longer indicated.

5.6 Urinary catheter insertion and maintenance must be performed by nurses who have undergone relevant training.

5.7 Periodic in-service training on urinary catheter insertion and maintenance to be conducted as per the health care institutions' training needs.

5.8 Patients and caregivers must be given information and training on how to care correctly and safely, including hand hygiene, follow-up care and when to seek medical consultation.

5.9 Document the date and time, indication for catheterization, the catheter size and type, and the patient's response. Record the amount, odor, color, and consistency of urine and whether a specimen was obtained. Health education given to the patient and caregivers in regard to catheter care and follow-up should also be documented.

5.10 Catheter insertion and maintenance in the community health care settings require discussion between the community health nurse and the treating physician to ensure patient safety and to avoid potential complications that may arise.

5.11 Insertion of Foley's catheter should be done as follows:

Male Catheterization: Based on cultural considerations, patients should be given the preference to decide to be catheterized by trained and competent registered male nurses if available except in emergency situations or in patient's best interest.

Female Catheterization: Female patients to be catheterized by trained and competent female registered nurses / female physician except in an emergency situation or in patient's best interest.

Unmarried females: Unmarried female patients to be catheterized by a trained and competent female registered nurse / female physician/ Obstetrics/ Gynaecology specialist except in an emergency situation.

Newborn babies: Newborn babies to be catheterized by a physician or referred to a surgeon.

Pediatric: Pediatric patients above 5 years of age to be catheterized by trained and competent registered nurse/ physician/ pediatrician and those under 5 years to be catheterized by a physician/ pediatrician.

Patients with urinary complications such as enlarged prostate, bladder incontinence, bladder infections, kidney infections, etc. to be catheterized by a physician or referred to a specialized healthcare institution.

5.12 The choice of the catheter depends upon clinical indications and the expected duration of catheterization.

5.13 After completing two failed attempts at catheterization, the nurse/ physician must refer the case to an urologist.

5.14 Access to ambulance/ emergency services is recommended in case of any complications that may arise.

For detailed procedure find attached Lippincott Nursing Procedures (2022), 9th edition as Appendix (A) Indwelling urinary catheter insertion and Appendix (B) Indwelling urinary catheter care and removal.

6. Responsibilities

6.1 Directorate General of Nursing Affairs

6.1.1 Provide guidance and follow up on the implementation of this SOP as per MoH policy.

6.1.2 Standardize the SOP in all the Governorates and communicate if any updates are available.

6.2 Directors/ Heads of Nursing

6.2.1 Ensure all nurses are aware about the SOP and can access it

6.2.2 Monitor nurses to check on the adherence and compliance to the SOP

6.2.3 Ensure all nurses are trained and have the competencies required

6.2.4 Act appropriately on any adverse incidents reported and take corrective action

6.2.5 Notify nurses if updates to the SOP are available

6.3 Nurses

6.3.1 Must undertake relevant training and competency assessment and deliver care as outlined in this SOP and within their scope of practice

6.3.2 Perform urinary catheterization procedure under aseptic technique and adhere to infection prevention and control policy guidelines

6.3.3 Report any incidents or near misses concerning this SOP

6.3.4 Complete related nursing documentation

6.3.5 Provide health education to patients and caregivers and document it

Document History and Version Control

Version	Description	Review Date
1	Initial Release	July 2026

7. References:

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Annexes:

Appendix (A): Indwelling urinary catheter insertion

An indwelling urinary (Foley) catheter remains in the bladder to provide continuous urine drainage. A balloon inflated at the catheter's distal end prevents it from slipping out of the bladder after insertion.

An indwelling urinary catheter should be inserted only when absolutely necessary, because its use is associated with an increased risk of developing a urinary tract infection, with the risk increasing with each day of use.

HOSPITAL-ACQUIRED CONDITION ALERT

To reduce the risk of Catheter-associated Urinary Tract Infection (CAUTI) when caring for a patient with an indwelling urinary catheter, be sure to follow CAUTI prevention practices, such as performing hand hygiene before and after any catheter manipulation; maintaining a sterile, continuously closed drainage system; maintaining unobstructed urine flow; emptying the collection bag regularly; replacing the catheter and collection system using sterile technique when a break in sterile technique, disconnection, or leakage occurs; and discontinuing the catheter as soon as it's no longer clinically indicated.

To reduce the risk of CAUTI, consider alternatives to indwelling urinary catheterization when appropriate, such as external catheter application, bladder ultrasonography, intermittent catheterization, use of optimal incontinent products, prompted toileting, urinal and bedside commode use, and daily weight as alternative methods for collecting and measuring urine and monitoring fluid balance. Insert an indwelling urinary catheter only for appropriate indications, such as acute urinary retention or bladder outlet obstruction; the need for accurate urine output measurements in a critically ill patient; perioperative use for a patient undergoing urologic surgery or another procedure on structures of the genitourinary tract; prolonged surgery (with removal of catheters inserted for this purpose in the post anesthesia care unit); large-volume infusions or diuretic administration anticipated during surgery; intraoperative monitoring of urinary output; assistance in the healing of open sacral or perineal wounds or skin grafts in certain incontinent patients; prolonged immobilization (such as potentially unstable thoracic or lumbar spine and

multiple traumatic injuries, including pelvic fractures); and improved comfort for end-of-life care, if needed.

Indwelling urinary catheter insertion is contraindicated in a patient who has a urethral injury, which is typically associated with pelvic trauma. Relative contraindications include urethral stricture, recent urinary tract surgery (such as urethra or bladder surgery), and the presence of an artificial sphincter. For these issues, a practitioner should be consulted to perform the procedure.

Use sterile technique when inserting, manipulating, and maintaining the indwelling urinary catheter. Maintain a sterile, continuously closed drainage system; don't disconnect the catheter from the drainage bag unless absolutely necessary. Avoid irrigation unless necessary. When the patient has an indwelling urinary catheter inserted for surgery, ensure its discontinuation within 24 hours of surgery unless another indication exists. Review the need for the indwelling urinary catheter daily, and remove it as soon as it's no longer necessary.

Equipment

Sterile indwelling urinary catheter (smallest-bore catheter possible that will support adequate urine drainage) ▪ syringe filled with 10 mL of sterile water ▪ fluid-impermeable pad ▪ gloves ▪ sterile gloves ▪ sterile drape ▪ sterile fenestrated drape ▪ sterile, presaturated antiseptic swabs; or antiseptic solution, sterile water, or sterile saline and either sterile swabs or sterile cotton balls and plastic forceps, ▪ single-use packets of soap-containing wipes, or soap and water and a washcloth ▪ single-use packet of sterile water-soluble lubricant ▪ sterile drainage collection device ▪ catheter securement device or tape ▪ Optional: insertion checklist, towel, examination light or flashlight, bladder ultrasonography device, gown, mask with face shield or mask and goggles.

Preparation of equipment

Inspect all equipment and supplies. If a product is expired, is defective, or has compromised integrity, remove it from patient use, label it as expired or defective, and report the expiration or defect, as directed by your facility.

Implementation

- Verify the physician's order.

- Assess the patient to make sure that an indwelling urinary catheter is indicated; assess for alternatives to indwelling urinary catheter use. If necessary, use bladder ultrasonography to measure the volume of urine in the patient's bladder to avoid unnecessary catheterization.
- Check the patient's medical record for allergies, including to latex and iodine.
- Gather and prepare the necessary equipment and supplies. Use the smallest bore catheter possible that will support adequate urine drainage (unless otherwise clinically indicated) to minimize bladder neck and urethral trauma.
- Obtain the assistance of a coworker, as necessary, to help with patient positioning and to ensure that sterile technique is maintained during insertion.
- Ensure adequate lighting.
- Perform hand hygiene.
- Confirm the patient's identity
- Provide privacy.
- Explain the procedure to the patient and family (if appropriate) according to their individual communication and learning needs to increase their understanding, reduce their fears, and enhance cooperation. Inform them of the reason for catheterization and what to expect in the way of discomfort. Discuss the risks associated with indwelling urinary catheter use and the necessary measures to reduce the risk of CAUTI. Advise the patient and family to remind staff to perform hand hygiene before and after handling the catheter if not done.
- Raise the patient's bed to waist level before providing care to prevent caregiver back strain.
- Perform hand hygiene.
- Put on gloves and personal protective equipment, as needed, to comply with standard precautions.

For a female patient

- Place the patient in the supine or lithotomy position with her knees bent and legs abducted to allow visualization of the urinary meatus. Alternatively, position the patient on her side in a knee-chest position if she's unable to tolerate supine or lithotomy positioning.
- Place a fluid-impermeable pad on the bed between the patient's legs and under her hips to avoid soiling the linens.
- Wash the patient's periurethral area with soap-containing wipes. Alternatively, clean the area with warm water and soap using a washcloth. Rinse and dry thoroughly.

- Remove and discard your gloves.
- Perform hand hygiene.
- Using sterile no-touch technique, open the insertion kit wrap.
- Put on sterile gloves.
- Place a sterile underpad beneath the patient; shield your gloves by cuffing the drape material under your gloved hands to prevent contamination.
- Place a sterile fenestrated drape over the perineal area to create a sterile field. Take care not to contaminate your gloves.
- Tear open the packet of presaturated antiseptic swabs, or saturate sterile swabs of cotton balls with antiseptic solution, sterile water, or sterile saline as directed by your facility. Be careful not to spill the solution on the equipment.
- Open the packet of water-soluble lubricant and deposit the lubricant into the insertion kit tray.
- Open the catheter and place it on the tray with the lubricant.
- If the drainage bag is not preconnected, attach it to the other end of the catheter.
- Attach the syringe filled with sterile water to the balloon inflation port. Don't inflate the balloon before insertion unless directed by the manufacturer, because doing so can cause microtears, which increase the risk of infection.
- Separate the labia majora and labia minora as widely as possible with the thumb, middle, and index fingers of your nondominant hand so you have a full view of the urinary meatus. Keep the labia well separated throughout the procedure so they don't obscure the urinary meatus or contaminate the area when it's cleaned.
- With your dominant hand, use an antiseptic swab or, using plastic forceps, pick up a cotton ball soaked with sterile antiseptic, sterile water, or sterile saline to clean the labium minus furthest from you using a downward stroke; then discard the swab or cotton ball. Repeat for the labium closest to you. Use another antiseptic swab or solution-soaked cotton ball to clean the area between the labia minora.
- Maintaining sterile technique, pick up the catheter with your dominant hand and lubricate the catheter tip with the water-soluble lubricant.
- Hold the catheter 2″ to 3″ (5 cm to 7.6 cm) from the tip and slowly insert the lubricated catheter tip into the urinary meatus; expect to be able to advance the catheter without meeting resistance**.**

- Continue to hold the labia apart until urine begins to flow, and advance the catheter about 2″ to 3″ (5 to 7.6 cm) further to make sure the balloon is in the bladder and not in the urethra. If urine doesn't begin to flow, ask your coworker to apply gentle pressure to the suprapubic region, which may initiate urine flow. If the catheter is inadvertently inserted into the vagina, leave it there as a landmark, then begin the procedure over again using new supplies.
- Inflate the balloon using the water-filled syringe, instilling the recommended amount of sterile water specified on the catheter to secure the catheter inside the bladder. Gently pull the catheter until the inflated balloon is snug against the bladder neck.
- Secure the catheter to the patient's thigh using a securement device (or tape if a securement device isn't available) to prevent possible tension on the urogenital trigone.
- Keep the catheter and drainage tube free from kinking to prevent obstruction of urinary flow.
- Position the drainage bag below the level of the patient's bladder to facilitate drainage and prevent stasis of urine, which increases the risk of CAUTI. Don't place the drainage bag on the floor, to reduce the risk of contamination and subsequent CAUTI.
- Return the bed to the lowest position to prevent falls and maintain patient safety.
- Discard used supplies in the appropriate receptacles.
- Remove and discard your gloves and any other personal protective equipment worn.
- Perform hand hygiene.
- Document the procedure.

For a male patient

- Position the patient in the supine position with his legs extended and flat on the bed or his knees flexed and legs apart. Ask the patient to hold the position to give you a clear view of the urinary meatus and to prevent contamination of the sterile field.
- Place a fluid-impermeable pad on the bed between the patient's legs and under his hips to avoid soiling the linens.
- Wash the patient's periurethral area using soap-containing wipes. Alternatively, you may clean the area with warm water and soap using a washcloth. Rinse and dry the area thoroughly.
- Remove and discard your gloves.
- Perform hand hygiene.
- Using sterile no-touch technique, open the insertion kit wrap.
- Put on sterile gloves.

- Place a sterile underpad beneath the patient; shield your gloves by cuffing the drape material under your gloved hands to prevent contamination.
- Place a sterile fenestrated drape over the patient's lower abdomen and upper thighs so that only the genital area remains exposed. Take care not to contaminate your gloves.
- Tear open the packet of presaturated antiseptic swabs, or saturate the sterile swabs or cotton balls with antiseptic solution, sterile water, or sterile saline solution as directed by your facility. Be careful not to spill the solution on the equipment.
- Open the container of water-soluble lubricant and deposit the lubricant into the insertion kit tray. Open the catheter and place it in the tray with the lubricant.
- If the drainage bag is not preconnected, attach it to the other end of the catheter.
- Attach the syringe filled with sterile water to the balloon inflation port. Don't inflate the balloon before insertion unless directed by the manufacturer, because doing so can cause microtears, which increase the risk of infection.
- Hold the penis with your nondominant hand. If the patient is uncircumcised, retract the foreskin. Then gently lift and stretch the penis to a 60- to 90-degree angle. Hold the penis this way throughout the procedure to straighten the urethra and maintain a sterile field.
- Use your dominant hand to clean the glans with a sterile, antiseptic swab or solution-soaked sterile cotton ball held in the forceps. Clean in a circular motion, starting at the urinary meatus and working outward.
- Repeat the procedure, using another antiseptic swab or solution-soaked cotton ball, taking care not to contaminate your sterile glove.
- Maintaining sterile technique, pick up the catheter with your dominant hand and lubricate the catheter tip with the water-soluble lubricant. Additionally, if ordered, instill 5 mL to 10 mL of sterile water-soluble lubricant into the urethra to prevent trauma to the urethral lining and to facilitate insertion.
- Hold the catheter 2″ to 3″ (5 cm to 7.6 cm) from the tip and prepare to insert the lubricated tip into the urinary meatus. To facilitate insertion by relaxing the sphincter, ask the patient to cough as you insert the catheter. Tell him to breathe deeply and slowly to further relax the sphincter and help prevent spasms.
- Continue to advance the catheter to the catheter bifurcation and check for urine flow. If urine fails to flow, ask a coworker to apply gently pressure to the suprapubic area. If the foreskin was retracted, replace it to prevent compromised circulation and painful swelling.

- Once urine starts to flow, inflate the balloon using the water-filled syringe attached to the inflation port, instilling the recommended amount of sterile water specified on the catheter. Gently pull the catheter until the inflated balloon is snug against the bladder neck.

NURSING ALERT Never inflate a balloon without first establishing urine flow, which confirms that the catheter is in the bladder.

- Secure the catheter using a catheter securement device. If a securement device isn't available, tape the catheter to the patient's abdomen or thigh to prevent pressure on the urethra at the penoscrotal junction, which can lead to formation of urethrocutaneous fistulas. Taping this way also prevents traction on the bladder and alteration in the normal direction of urine flow in males.
- Keep the catheter and drainage tube free from kinking and avoid dependent loops to prevent obstruction of urine flow.
- Hang the collection bag below the level of the patient's bladder to prevent urine reflux into the bladder, which can cause CAUTI, and to facilitate gravity drainage of the bladder. Don't place the drainage bag on the floor.
- Return the bed to the lowest position to prevent falls and maintain patient safety.
- Discard used supplies in appropriate receptacles.
- Remove and discard your gloves and any other personal protective equipment worn.
- Perform hand hygiene.
- Document the procedure.

Special considerations

- Patients at high risk for latex hypersensitivity include those with spina bifida, spinal cord injury, atopy, certain food allergies, and occupational exposure. Provide these patients with a latex-free environment by avoiding all products containing latex proteins, including gloves, catheters, condoms, drains, and injection ports.
- In addition to hypersensitivity reactions, latex urethral catheters have been associated with an increased risk of cytotoxicity, urethritis, stricture, urinary tract infection, and encrustation. Selection of an alternative material, such as 100% silicone, reduces these risks, particularly when you anticipate long-term catheterization.

- Empty the drainage bag at least once per shift using a separate, clean collecting container for each patient; avoid splashing, and prevent contact of the drainage spigot with the collecting container.
- If you need a small urine sample for laboratory examination (for culture or urinalysis), thoroughly disinfect the needleless sampling port with a disinfectant pad and allow it to dry, and aspirate urine from the sampling port using a sterile adapter or syringe. If you need a large volume for special analysis (not culture), obtain the sample from the drainage bag using sterile technique.
- Monitor and record the patient's intake and output.
- Intermittent catheterization is preferable to indwelling urethral catheters in patients with bladder emptying dysfunction.
- After the first unsuccessful insertion attempt, consult a urologist.
- Explain the basic principles of gravity drainage so that the patient realizes the importance of keeping the drainage tubing and collection bag lower than the bladder at all times.

Patient teaching

If the patient will be discharged with a long-term indwelling catheter, teach the patient and family (if appropriate) all aspects of daily catheter maintenance, including care of the skin and urinary meatus, signs and symptoms of urinary tract infection or obstruction, how to irrigate the catheter (if appropriate), and the importance of adequate fluid intake to maintain patency.

Complications

Complications associated with indwelling urinary catheter use include CAUTI, genitourinary trauma, retained balloon fragments, bladder fistula (with prolonged use), bladder stone formation, and incontinence.

Documentation

Urinary Catheter bundle is a group of evidence-based interventions for patients with Urinary Catheter that, when implemented together, result in better outcomes (reduce CAUTI) than when implemented individually. Nurses are required to fill the form of CAUTI maintenance and insertion bundle (Appendix C). The bundle is maintained from the time of insertion of the catheter and maintenance, until the catheter is removed.

Document your assessment findings and the indication for catheter use. Record the date and time of insertion, the size and type of catheter you used, and the amount of sterile water you used to inflate the balloon. Record the patient's intake and output. Note the characteristics of the urine you obtained. Document any complications, the date and time that you notified the practitioner, the prescribed interventions, and the patient's response to those interventions. Document teaching provided to the patient and family (if applicable), their understanding of that teaching, and any need for follow-up teaching.

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Appendix (B):Indwelling urinary catheter care and removal

The Centers for Disease Control and Prevention estimates that 15% to 25% of hospitalized patients have an indwelling urinary (Foley) catheter inserted at some time during their hospitalization. Inappropriate or unnecessary use of an indwelling urinary catheter can result in catheter-associated urinary tract infection (CAUTI). CAUTI is the most common type of health care–associated infection in adult patients. Researchers estimate that as much as 70% of these infections are preventable by following a variety of evidence-based practices.

Equipment

Gloves ▪ washcloth and soap and water or plain disposable wipe ▪ urine collection container ▪ Optional: light source, tape, gown, goggles, mask, mask with face shield, perineal cleaner, catheter securement device.

For catheter removal

Fluid-impermeable pad ▪ gloves ▪ drape ▪ 10-mL Luer lock syringe ▪ perineal care supplies ▪ graduated container ▪ Optional: gown, mask and goggles or mask with face shield, adhesive remover, cotton-tipped applicator, gauze pads, and oral fluids.

Preparation of equipment

Inspect all equipment and supplies. If a product is expired, is defective, or has compromised integrity, remove it from patient use, label it as expired or defective, and report the expiration or defect as directed by your facility.

Implementation

Catheter care

- Gather and prepare the necessary equipment and supplies.
- Perform hand hygiene.
- Confirm the patient's identity
- Provide privacy.
- Explain the procedure to the patient and family (if appropriate) according to their individual communication and learning needs to increase their understanding, reduce their fears, and

enhance cooperation. Discuss the risks associated with indwelling urinary catheter use and the measures necessary to reduce the risk of CAUTI. Advise the patient to remind staff to perform hand hygiene before and after handling the catheter if they fail to do so.

- Make sure the lighting is adequate so that you can clearly see the perineum and catheter tubing.
- Review the necessity of continued urinary catheter use; remove the catheter (as ordered or according to facility protocol) as soon as it's no longer clinically indicated to reduce the risk of CAUTI.
- Raise the patient's bed to waist level before performing patient care to prevent caregiver back strain.
- Perform hand hygiene.
- Put on gloves and other personal protective equipment, as needed, to comply with standard precautions.
- Inspect the urinary catheter system for disconnections and leakage, because a sterile, continuously closed system is required to reduce the risk of CAUTI. Replace the catheter and drainage system using sterile no-touch technique when a break in sterile technique, disconnection, or leakage occurs.
- Provide routine hygiene for meatal care; note that cleaning the meatal area with antiseptic solutions isn't necessary. To avoid contaminating the urinary tract, always clean by wiping away from—never toward—the urinary meatus. Use a washcloth and soap and water (or a perineal cleaner, if used in your facility) or a plain disposable wipe to clean the periurethral area. Clean after each bowel movement; avoid frequent and vigorous cleaning of the area. Gently retract the foreskin of an uncircumcised male and clean the area, and then return the foreskin to its normal position.

NURSING ALERT When cleaning the periurethral area, clean the area carefully to prevent catheter movement and urethral traction, which increase the risk of CAUTI.

- Inspect the periurethral area for signs of inflammation and infection.
- Make sure the catheter is properly secured. Assess the securement device daily, and change it when clinically indicated and as recommended by the manufacturer. If a new securement device is needed, connect it to the catheter before applying the device to the skin. If a securement device isn't available, use a piece of adhesive tape to secure the catheter. If using

tape, retape the catheter on the side opposite from where it was previously to prevent skin hypersensitivity and irritation.

NURSING ALERT Provide enough slack before securing the catheter to prevent tension on the tubing, which could injure the urethral lumen and bladder wall.

- Monitor intake and output, as ordered. Monitor for changes in urine output, including volume and color. Notify the practitioner of abnormal changes.
- Empty the drainage bag regularly when it becomes one-half to two-thirds full to prevent undue traction on the urethra from the weight of urine in the bag. Use a separate collecting container to empty the drainage for each patient. During emptying, avoid splashing, and don't allow the drainage spigot to come in contact with the nonsterile collecting container.
- Keep the catheter and drainage tubing free from kinks and avoid dependent loops to allow the free flow of urine.
- Keep the drainage bag below the level of the patient's bladder to prevent backflow of urine into the bladder, which increases the risk of CAUTI. Don't place the drainage bag on the floor, to reduce the risk of contamination and subsequent CAUTI.
- Return the bed to the lowest position to prevent falls and maintain patient safety.
- Discard used supplies in appropriate receptacles.
- Remove and discard your gloves and any other personal protective equipment worn.
- Perform hand hygiene.
- Document the procedure.

Catheter removal

- Verify the physician's order, if necessary, or follow your facility's protocol for indwelling urinary catheter removal.
- Gather and prepare the necessary equipment and supplies.
- Perform hand hygiene.
- Confirm the patient's identity
- Explain the procedure to the patient and family (if appropriate) according to their individual communication and learning needs to increase their understanding, reduce their fears, and enhance cooperation. Tell the patient to expect slight discomfort.
- Provide privacy.

- Raise the patient's bed to waist level before performing patient care to prevent caregiver back strain.
- Perform hand hygiene.
- Put on gloves and other personal protective equipment, as necessary, to comply with standard precautions.
- Place a fluid-impermeable pad under the patient to protect the bed linens.
- Position the patient for easy access to the urinary catheter, and drape the patient for privacy.
- Remove the urinary catheter securement device gently according to the manufacturer's directions, or remove the tape that secures the catheter and catheter tubing. Apply adhesive remover with a cotton-tipped applicator or gauze pad, if needed, to assist with removal and to prevent skin tearing or shearing.
- Assess the patient's perineum and meatus for redness, irritation, or discharge.
- Trace the tubing from the patient to the point of origin to make sure that you're accessing the proper port. Attach a 10-mL Luer-lock syringe to the Luer-lock mechanism on the urinary catheter.
- Allow the pressure within the urinary catheter's balloon to force the plunger back and to fill the syringe with all of the sterile water in the balloon to deflate the balloon. The amount of sterile water injected usually is indicated on the tip of the catheter's balloon lumen and in the patient's medical record. Avoid vigorous aspiration, because this may cause the balloon inflation lumen to collapse; use only gentle aspiration, if needed, to encourage deflation. Allow adequate time (about 30 seconds) for the pressure within the balloon to fill the syringe. If the balloon doesn't deflate or if deflation is slow, remove and reapply the syringe to the Luer-lock mechanism. If the balloon still doesn't deflate, consider severing the balloon valve arm, if permitted by your facility. If necessary, contact the physician or other specially trained professional for assistance, as indicated by your facility.
- Ask the patient to take a deep breath in and then out to help relax the pelvic floor muscles; as the patient exhales, gently remove the catheter by withdrawing it slowly and evenly. If you meet resistance while withdrawing the catheter, stop and notify the practitioner. Warn a male patients that he may feel discomfort as the deflated balloon passes through the prostatic urethra.
- If the patient is able to perform perineal self-care, provide the necessary supplies. If not, provide perineal care.
- Remove and discard the fluid-impermeable pad, and position the patient for comfort.

- Measure and record the amount of urine in the collection bag before discarding it.
- Encourage the patient whose condition allows it to maintain an oral intake of 30 mL/kg/day to flush the bladder of microorganisms that might be associated with indwelling urinary catheter use.
- Return the bed to the lowest position to prevent falls and maintain patient safety.
- Discard used supplies in the appropriate receptacles.
- Remove and discard your gloves and any other personal protective equipment worn.
- Perform hand hygiene.
- Monitor the patient for first voiding after indwelling urinary catheter removal. Assess the volume and characteristics of the voided urine.
- Perform hand hygiene.
- Document the procedure.

Special considerations

- Unless obstruction is anticipated (for example, from bleeding after prostate or bladder surgery), bladder irrigation isn't recommended. If obstruction is anticipated, continuous irrigation is suggested to prevent obstruction.
- If you need to collect a small urine specimen or culture, thoroughly disinfect the needleless sampling port with a disinfectant pad and then allow it to dry completely. Collect the sample by aspirating urine from the needleless sampling port with a sterile syringe or sterile urine collection tube system and a cannula adapter.
- If a large volume of urine is needed for special analysis, obtain the sample from the drainage bag using sterile technique.
- When possible, attach a leg bag to allow the patient greater mobility.
- Encourage a patient with unrestricted fluid intake to increase intake to at least 30 mL/kg/day to help flush the urinary system and reduce sediment formation.
- Unless otherwise clinically indicated, consider using the smallest bore catheter possible, consistent with good drainage, to minimize bladder neck and urethral trauma.
- After catheter removal, assess the patient for incontinence, dribbling, urgency, persistent dysuria or bladder spasms, fever, chills, and palpable bladder distention. Report these conditions to the practitioner.

- Make sure to trace the tubing and catheter from the patient to the point of origin before connecting or reconnecting any device or infusion, at any care transition (such as a new setting or service), and as part of the hand-off process; route tubes and catheters having different purposes in different standardized directions; when there are different access sites or several bags hanging, label the tubing at the distal and proximal ends; use tubing and equipment only as intended; and store medications for different delivery routes in separate locations.

Patient teaching

If the patient will be discharged with an indwelling catheter, teach the patient how to use a leg bag. (See Teaching about leg bags.) Instruct the patient to wash the urinary meatus and perineal area with soap and water as part of routine hygiene, and to wash the anal area after each bowel movement. Provide the patient and family (if appropriate) with information regarding additional methods of infection control as well as the signs and symptoms of urinary tract infection and obstruction. Also review with the patient reasons to notify the practitioner.

Teaching about leg bags

A urine drainage bag attached to the leg provides the catheterized patient with greater mobility. Because the bag is hidden under clothing, it may also help the patient feel more comfortable about catheterization. Leg bags are usually worn during the day and are replaced at night with a standard drainage bag.

If the patient will be discharged with an indwelling urinary catheter, teach the patient how to attach and remove a leg bag. To demonstrate, you'll need a bag with a short drainage tube, two straps, an alcohol pad, adhesive tape, and a screw clamp or hemostat.

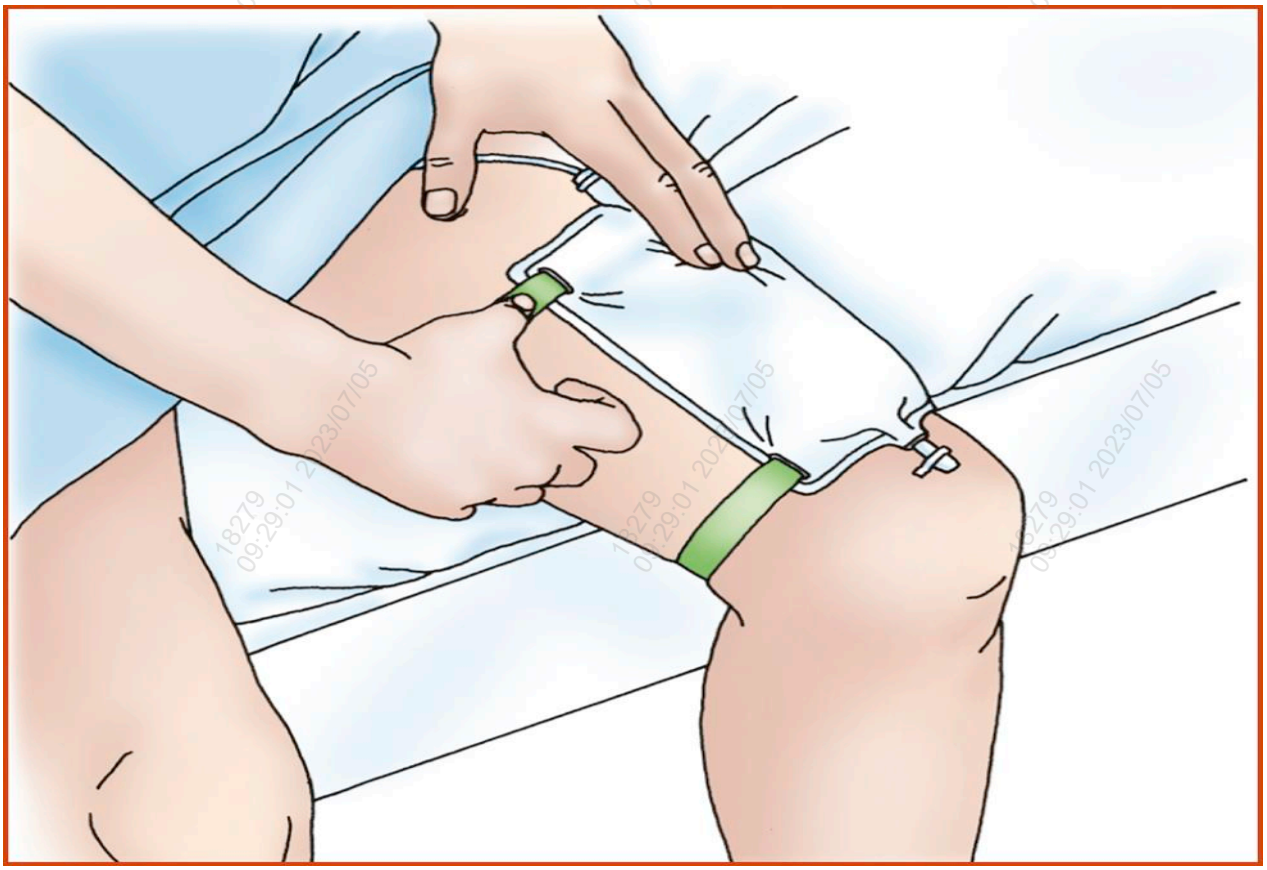
Attaching the leg bag

- Perform hand hygiene and instruct the patient to do so as well.
- Provide privacy.
- Explain the procedure according to the patient's individual communication and learning needs. Describe the advantages of a leg bag, but caution the patient that a leg bag is smaller than a standard drainage bag and may have to be emptied more frequently.

- Remove the protective covering from the tip of the drainage tube. Then show the patient how to clean the tip with an alcohol pad, wiping away from the opening to avoid contaminating the tube.
- Show the patient how to attach the tube to the catheter.
- Place the drainage bag on the patient's calf or thigh. Have the patient fasten the straps securely (as shown at right), and then show the patient how to tape the catheter to the leg. Emphasize that the patient must leave slack in the catheter to minimize pressure on the bladder, urethra, and related structures. Excessive pressure or tension can lead to tissue breakdown.

Avoiding complications

- Although most leg bags have a valve in the drainage tube that prevents urine reflux into the bladder, urge the patient to keep the drainage bag lower than the bladder at all times, because urine in the bag is a perfect growth medium for bacteria. Caution the patient also not to go to bed or take long naps while wearing the leg bag.



- To prevent a full leg bag from damaging the bladder wall and urethra, encourage the patient to empty the bag when it's half full, or every 3 to 6 hours. The patient should also inspect the catheter and drainage tube periodically for compression or kinking, which could obstruct urine flow and result in bladder distention.
- Instruct the patient to avoid fastening the straps too tightly, because doing so may impede circulation.
- Tell the patient to wash the leg bag with soap and water or a bacteriostatic solution before each use to prevent infection.
- Inform the patient that transient incontinence, urinary urgency and frequency, dysuria, discomfort, and urine retention can occur after indwelling urinary catheter removal. Advise the patient to notify the practitioner if these signs and symptoms persist for more than 48 hours.

Complications

Complications associated with indwelling urinary catheter use include CAUTI, genitourinary trauma, epididymitis (in men), retained balloon fragments, bladder fistula (with prolonged use), bladder stone formation, and incontinence. Indwelling urinary catheter balloon rupture can occur during indwelling urinary catheter removal. If resistance is met, failure to stop the procedure can lead to trauma, bleeding, and scar tissue formation, which can lead to urethral stricture.

Documentation

Document the indication that necessitates continued catheter use, the maintenance care you provided, and your assessment findings. Document teaching you provided to the patient and family (if appropriate), their understanding of that teaching, and any need for follow-up teaching. Also record any specimens you collected and the collection method you used.

Document the date and time you removed the indwelling urinary catheter, the amount of sterile water removed from the urinary catheter balloon, perineal assessment findings, and the patient's tolerance of the procedure. Record any complications of catheter removal, your interventions, and the patient's response to those interventions. Also record the time, volume, and characteristics of the patient's first voiding after indwelling urinary catheter removal. Document teaching provided to the patient and family (if applicable), their understanding of that teaching, and any need for follow-up teaching.

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Appendix (C)

URINARY CATHETER INSERTION AND MAINTENANCE

BUNDLE FORM (Adult and Pediatrics)

A. Patient information

Ward:	Bed No:
Admission date:	Admission diagnosis:
Catheter insertion date:	Date:
Name of person who inserted:	Removal date:

B. URINARY CATHETER INSERTION BUNDLE

INSERTION BUNDLE	No	Yes	NA
1. Avoid unnecessary urinary catheters			
2. Insert using aseptic technique: a. Hand hygiene before insertion of UC b. Use sterile equipment (Gloves, a drape, and sponges, Sterile or antiseptic solution for cleaning the urethral meatus and single-use packet of sterile lubricant for insertion) c. Use of small catheter as possible			

URINARY CATHETER INSERTION AND MAINTENANC

BUNDLE FORM (Adult and Pediatrics

C. URINARY CATHETER MAINTENANCE BUNDLE

Date	Hand Hygiene			Maintain catheter bases on recommended guidelines			Review urinary catheter necessity daily and remove promptly		
	Y	N	N/A	Y	N	N/A	Y	N	N/A

**** Recommended Guidelines: Y- yes N- no N/A- not applicable***

- *Maintain a sterile, continuously closed drainage system.*
- *Keep catheter properly secured to prevent movement and urethral traction.*
- *Keep collection bag below the level of the bladder at all times.*
- *Maintain unobstructed urine flow.*
- *Empty collection bag regularly*
- *Routine hygiene (e.g., cleansing of the meatal surface during daily bathing) is appropriate.*
- *Collection of urine samples should follow aseptic technique.*

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