Urinary Catheter, Indwelling (Foley): Inserting in the Male Adult Patient

What is an Indwelling Foley Urinary Catheter Insertion in the Male Adult Patient?

› A urinary catheter is a tube inserted into the bladder via the urethra, called transurethral catheterization. Because the catheter permits urine to drain freely, a collection unit is typically attached to the distal end of the catheter if the catheter is to remain within the patient (indwelling). The most commonly used indwelling urinary catheter is a straight-tipped Foley catheter (FC), which is the topic of this paper. See the series of Nursing Practice & Skill papers for information regarding condom catheters, Coudé (i.e., curved at the tip) catheters, catheter insertion for female adult patients, male and female pediatric patients, intermittent (straight) catheterization, and care of the suprapubic catheter

• What: An FC is a relatively short (~ 40 cm/15.7 inches), double-lumen tube constructed of flexible latex, silicone, or polyurethane (Figure 1). The sizes most commonly used for adults range from 14 Fr to 18 Fr. The proximal end of the primary lumen includes several drainage holes to permit urine to flow from the bladder through the tube. The second, smaller lumen includes a valve on the distal end and a balloon, commonly made of silicone or natural rubber, near the proximal end. Immediately following insertion, the balloon is inflated with sterile water, which serves to anchor the catheter within the bladder. Note: Some clinicians have found that inflating the balloon with normal saline (NS; i.e., 0.9% sodium chloride in sterile water) to inflate the balloon is associated with crystal formation within the balloon and impedes removal

Figure 1: Foley catheter 14 Fr with inflated balloon.
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• How: Transurethral catheterization requires adherence to aseptic technique and involves insertion of a catheter into the urethra until the tip extends into the bladder. The catheter is secured in place by inflating the balloon. A drainage bag is attached to the distal end of the drainage lumen and positioned at a level below the bladder, which permits
drainage by gravity. The procedure is moderately invasive and can be painful to patients with inflamed urinary tissue or who have urethral strictures or other obstructions.

- Note: Transurethral catheterization differs from suprapubic catheterization, which is a surgical procedure that requires anesthesia. Suprapubic catheterization involves insertion of a catheter through an incision in the abdominal wall into the bladder and is indicated when placement of a transurethral catheter is contraindicated or is not possible.

- Where: Transurethral catheterization is commonly performed in inpatient, outpatient, and homecare settings.

- Who: Transurethral catheterization can be performed by registered nurses, physicians, nurse practitioners, and physician assistants. Patients can learn to self-perform intermittent catheterization at home when indicated for certain medical conditions and ordered by the treating clinician. These tasks should not be delegated to assistive healthcare staff. Because of privacy concerns and the need to maintain aspera, it is usually not appropriate for visitors to be present during insertion of the catheter. Exceptions are made for young children because the presence of a parent or other supportive adult known to the child typically reduces the child’s anxiety and promotes cooperation with the procedure.

What is the Desired Outcome of Inserting an Indwelling Foley Urinary Catheter?

- The desired outcome of inserting an indwelling urinary catheter is to permit urine drainage from the bladder.
- Placement of a urinary catheter may be indicated following urinary tract surgery, for relief of urinary retention, to obtain a sterile urine specimen for laboratory testing, or to facilitate urine collection in patients who are incontinent and/or incapacitated.

Why is Insertion of an Indwelling Foley Urinary Catheter Important?

- Insertion and use of an indwelling urinary catheter are important for monitoring and treatment of numerous medical conditions, such as:
  - obtaining the precise measurement of urinary output in postoperative, injured, or critically ill patients or for measuring residual bladder volume in patients with a voiding dysfunction. Precise measurement of urinary output is a crucial monitor for fluid volume alteration, which can lead to a deterioration in clinical status, and the subsequent administration of medications (e.g., diuretics) based on urinary output.
  - for diagnostic studies, such as:
    - collection of sterile urine specimen—intermittent catheterization is used if sterile specimen collection is the only goal.
    - imaging study of the lower urinary tract requiring instillation of fluid into the bladder for a diagnostic procedure (e.g., pelvic ultrasound, cystoscopy).
  - delivery of medication to the bladder for therapeutic purposes (e.g., treatment of bladder cancer).
  - treatment of:
    - urinary retention and to decompress the bladder when overdistended due to acute or chronic obstruction, benign prostatic hyperplasia, or neurogenic bladder. Urinary retention can result in hydronephrosis (i.e., distention and dilation of the renal pelvis and calyces due to urine backing up into the kidney), inflammation, and renal failure—due to the risk of hydronephrosis, extreme caution should be used when clamping the catheter or tubing and it should only be done for a brief period of time.
      - Note: Typically, an intermittent catheter is used to treat nerve-related bladder dysfunction; however, an indwelling catheter can be used in the immediate acute phase of treatment.
    - urethral obstruction (e.g., due to prostatic cancer or hypertrophy). Insertion can be difficult in these cases and early urological consultation is advisable.
    - incontinence when other methods have proven unsuccessful and when it is essential to keep the perineal area clean of urine (e.g., for a patient at risk for a pressure ulcer or with an existing pressure ulcer).
  - for irrigation (e.g., following transurethral resection of the prostate [TURP]). For more information see the Nursing Practice & Skill: Urinary Catheter: Insertion and Care — Patients following TURP.

Facts and Figures

- Researchers who videotaped 13 Baccalaureate nursing students with prior documentation of competency in urinary catheterization performing the skill on a task trainer reported that 10 students (77%) breached aseptic technique at least once, with 7 participants (54%) incorrectly cleansing the meatus. The researchers concluded that a one-time competency evaluation using a simulator was not sufficient to determine competency performing aseptic procedures such as urinary catheterization, and that additional skills training and practice time was needed (Gonzalez et al., 2014).
- Researchers in the United Kingdom performed a retrospective audit of the records of patients who died on 2 oncology wards and a hospice at a large teaching hospital, and found that 63% of patients had an indwelling catheter during their admission,
confirming that urinary catheters are used prevalently to managing voiding difficulties at the end of life (Farrington et al., 2014)

› National Patient Safety Goal (NPSG.07.06.01) in regards to Health care-associated infections requires hospitals to implement evidenced based practices to prevent indwelling catheter-associated urinary tract infections (CAUTI) (The Joint Commission, 2017)

› The Foley catheter was designed in the 1930s by Frederic Foley, a Massachusetts surgeon (Foley, 1937)

What You Need to Know Before Inserting an Indwelling Foley Urinary Catheter

› Prior to inserting an FC, the clinician should be familiar with the following:
  • Anatomy and physiology of the male urinary system (Figure 2) (Figure 3)
    – The kidneys perform the primary filtering function of the urinary system. The two bean-shaped organs are ~ 11 cm/4.3 inches in length and are primarily retroperitoneal (i.e., located behind the peritoneum that lines the abdominal cavity). They are held against the posterior abdominal wall and are partially protected by the lower ribs
    – A ureter drains from the renal pelvis of each kidney into the bladder. Each of the two ureters is 25–30 cm/9.8–11 inches long. Urine moves to the bladder via peristaltic wave-like motion of the smooth muscle walls
    – The bladder is a hollow, muscular reservoir that, on average, stores ~ 500 mL of urine—most bladders will feel full when the urine volume reaches 250–300 mL
    – The urethra extends from the neck of the bladder through the pelvic diaphragm to the external urethral orifice. In a functioning adult bladder, when urine volume in the bladder reaches 250–300 mL, sensory impulses cause a reflex contraction of the bladder and the urethral sphincter to permit urine flow
    - The male urethra is ~ 18–20 cm/7–8 inches in length and extends from the bladder to the external urethral orifice at the glans penis (tip of the penis)—a sphincter that controls urine flow is located near the bladder. Unlike the female urethra, which functions as an outlet for the urinary system only, the male urethra serves as an outlet for both the urinary and reproductive systems

Figure 2: Urinary system. Copyright© Jordi March i Nogué, 2010. Licensed under Creative Commons Attribution-Share Alike 3.0 Unported License
• Anatomy of the male urethra (Figure 4)
  – The male urethra is a narrow tube that serves as a conduit from the bladder and ejaculatory ducts. Although the urethra is a single structure, it is composed of four portions: preprostatic (between the bladder and the prostate), prostatic (lies within the prostate gland and includes the terminus of the ejaculatory ducts), membranous (between the prostate and the bulb of the penis), and spongy (through the penis).

• Standard precautions and demonstrated competence in adherence to aseptic technique to prevent bacterial contamination of the urinary tract
  – The definition of “aseptic technique” varies somewhat depending on the clinical situation and is generally distinguished as either surgical aseptic technique or general aseptic non-touch technique (ANTT; i.e., the skin should be not touched after it has been prepared with antiseptic cleanser and any item introduced into the patient is sterile prior to insertion).
  - Surgical aseptic technique is practiced in the operating room (OR) under strict conditions and may be adapted for use outside the OR for situations that require similarly strict application of aseptic technique (e.g., intravascular procedures, including insertion of a central venous catheter; wound care).
  - General ANTT is used for simpler and less invasive procedures and refers to a variety of precautions, but primarily to the use of nonsterile gloves coupled with a “no-touch” technique so that sterile items and equipment are used and the sterile part of the item/equipment does not come into contact with anything that is not sterile.

• To reduce risk of contamination, prevent pooling of urine in the tubing and reflux of urine into the bladder, avoid kinking of the tubing or clamping of the tubing, empty the drainage bag at least every 8 hours.

• Type of urinary catheter to be used for insertion (e.g., Foley, Coudé, triple-lumen [typically used when continuous closed bladder irrigation is needed], silver alloy, antibiotic-impregnated).
Catheter sizes vary widely (14–48 Fr) and should be selected based on individual patient needs. The following table can be used as a general guide to catheter selection:

<table>
<thead>
<tr>
<th>Adults</th>
<th>FC 14–18 Fr. Note: FCs are available in sizes up to 48 Fr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults with gross hematuria</td>
<td>FC 20–30 Fr</td>
</tr>
<tr>
<td>Adult males with prostatic obstruction</td>
<td>Coudé-tipped catheters ≥ 18 Fr</td>
</tr>
</tbody>
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- Indications for insertion of indwelling urinary catheter (see Why is Insertion of an Indwelling Foley Urinary Catheter Important?, above)
- Contraindications for insertion of indwelling urinary catheter, e.g.,
  - traumatic injury to the lower urinary tract (e.g., urethral tear)
  - Note: Suspected extraperitoneal bladder injury is not a contraindication to urinary catheter insertion. Intraperitoneal bladder injuries typically require surgical repair
- Potential complications of catheter insertion (for details, see Red Flags, below)
  - Topical anesthesia (e.g., 2% lidocaine gel) can be applied via a gel applicator inserted into the urinary meatus prior to FC insertion
  - Preliminary steps to be taken before inserting an FC include the following:
    - Review the facility/unit specific protocol for FC insertion, if one is available
      - Protocols may dictate that a chaperone of the patient’s gender be present when the patient and clinician are different genders
      - Be aware that due to sociocultural background, religious beliefs, or personal reasons, some patients may prefer that a clinician of the same gender perform the procedure
    - Review the treating clinician’s order for inserting the FC
      - Note the type and size of the FC to be inserted and the purpose for which it has been ordered (e.g., urine drainage, diagnostic testing, administration of medication or other agents)
    - Familiarize yourself with the manufacturer’s instructions for the type of FC to be inserted
    - Verify completion of facility informed consent documents, if appropriate. Typically, the general consent for treatment that is executed by patients on admission to a healthcare facility includes standard provisions that encompass insertion of an FC
    - Review the patient’s medical record for
      - history of any renal-related injury, surgery, or medical condition
      - any allergies (e.g., to latex, medications, or other substances); use alternative materials if appropriate
      - The 2011 guidelines for skin preparation issued by the Centers for Disease Control and Prevention (CDC) and the Healthcare Infection Control Practices Advisory Committee (HICPAC) recommend that clean skin be prepared with an antiseptic, such as 70% alcohol; tincture of iodine; an iodophor; or an alcohol-based chlorhexidine gluconate solution and that skin be allowed to air dry (O’Grady et al., 2011)
      - laboratory test results to check for coagulopathies or blood dyscrasias (e.g., CBC, PTT if the patient is receiving heparin, or PT if the patient is using warfarin)
        - Advise the treating clinician if the laboratory test results indicate the patient is at increased risk for bleeding
    - Gather the supplies necessary for inserting the FC, which typically include (Figure 5):
      - Sterile gloves and nonsterile gloves. Other personal protective equipment (PPE; e.g., eye protection, gown, and mask) may be necessary if exposure to body fluids is anticipated. Note: Many commercially prepared insertion kits include sterile gloves
      - FC of the appropriate size
      - Bath blanket or clean sheet. This can be placed over the patient, above the pelvis, to keep the patient warm and to promote privacy
      - Topical anesthesia (2% lidocaine) with gel applicator, if prescribed
      - Patient label and biohazard bag if urine specimen is required
      - Graduated container to collect urine, optional
      - The following items are usually found in a commercially available kit but may be gathered separately:
        - Sterile gloves
How to Insert an Indwelling Foley Urinary Catheter

› Verify that good lighting is available
› Perform hand hygiene
› Identify the patient according to facility protocol
› Establish privacy by closing the door to the patient’s room and/or drawing the curtain surrounding the patient’s bed
› Introduce yourself to the patient and family member(s), if present; explain your clinical role; assess the coping ability of the patient and family and for knowledge deficits and anxiety regarding insertion of the FC
  • Determine if the patient/family requires special considerations regarding communication (e.g., due to illiteracy, language barriers, or deafness); make arrangements to meet these needs if they are present
    – Follow facility protocols for using a professional certified medical interpreter, either in person or via phone, when a language barrier exists
  • Explain the procedure and its purpose; answer any questions and provide emotional support as needed
    – Advise the patient that you will ask him to bear down or cough as the catheter is inserted to facilitate passage through the urethra; however, it will be important to try and relax as much as possible after the initial cough
    – Teach that it is important for the insertion site to remain untouched during the procedure and he will need to remain still until the procedure is complete
    – Advise the patient that he may feel some discomfort as the tube is inserted, but indicate the tube will be lubricated to ease its passage
    – Tell the patient you will not force the FC, but that some pressure is necessary. Ask the patient to communicate with you if he wants to stop briefly during the insertion
  • Obtain the patient’s verbal consent prior to beginning the procedure
  • As appropriate, request family members and other visitors to leave the patient’s room in order to promote privacy
› Observe general ANTT throughout the procedure
› Assess the patient to determine if the patient meets the criteria for FC placement (see What You Need to Know Before Inserting an Indwelling Foley Urinary Catheter, above). Also
   • percuss the bladder for distention to provide baseline information. Recall that a dull (flat) sound without echoes is indicative of fluid, a tympanic (higher pitch sound) reflects the presence of air. Because it is usually not possible to percuss the bladder unless it is distended above the symphysis pubis, note how high the bladder rises above the symphysis pubis
   • assess for mental status (Will the patient be able to cooperate with the FC placement?). If the patient will not be able to cooperate, it may be necessary to request assistance from staff members
   • Because you will use your dominant hand to insert the catheter, stand on the patient’s right side if you are right-handed or on the patient’s left side if you are left-handed
   • Lower the side rail on the side of the bed where the procedure will be performed and raise the bed to a comfortable working height. Position and drape the patient for privacy and accessibility
   • Assist the patient into the preferred position: a supine or sitting position in bed or on the examining table with the head elevated or flat, depending upon the patient’s preference, and with the thighs slightly abducted, knees flexed
     • Request the assistance of a clinical staff member if the patient is weak, confused, or unable to slightly abduct the legs
     • Patients who are confused may need to be gently restrained during the procedure
   • Cover the areas (e.g., the upper torso) that will not be exposed with a bath blanket or a clean sheet
   • Place a waterproof pad beneath the patient to prevent the bed linen from becoming soiled
   • Don non-sterile gloves and wash the perineum with warm soapy water and rinse thoroughly
   • Open the outer wrapping of the catheter kit. If not using a catheter kit, using sterile technique, unwrap all items and place onto a sterile field within easy reach
   • Place the inner wrapped box on the bed nearby for easy access (some clinicians place the inner wrapped container between the patient’s legs); set the outer wrapper near the end of the bed for waste disposal upon completion of the procedure
   • Using sterile technique, fold back the flaps on the sterile wrap so that the catheter kit supplies are accessible and the tray rests within a sterile field
   • Position the square drape under the patient’s buttocks
   • Using sterile technique, touching the edges of the fenestrated drape, remove it from the tray and position over the patient’s pelvis so that the penis is exposed
   • Remove and dispose of the non-sterile gloves; perform hand hygiene
   • Apply sterile gloves using sterile technique
   • Remove supplies from the catheter tray and organize them within the sterile field (Figure 6)
     • If a urine sample is to be collected, loosen the lid on the specimen collection container
     • Apply antiseptic solution over cotton balls or open the packages of pre-moistened antiseptic swabs
     • Open lubricant and spread it into a small area of the sterile tray
     • If topical anesthesia is ordered, open the prefilled applicator

   ![Figure 6: Supplies prepared for insertion of indwelling urinary catheter. Copyright©2014, EBSCO Information Services](image)

   › If the catheter has a cover, remove it
     • Check the condition of the FC for obvious defects (e.g., intact, rough edges)
     • Attach the prefilled syringe to the inflation valve of the appropriate lumen
– Pretesting balloons on silicone catheters is discouraged because the deflation can cause a crease that is associated with urethral trauma during insertion
– Note: Some manufacturers discourage pre-inflation of the balloon due to increased risk of infection—always review the manufacturer’s recommendations prior to use of supplies and equipment
• Verify the distal end of the catheter is attached to a drainage collection bag because any urine in the bladder will drain from the catheter once it is inserted. Note: If a urine specimen is needed, do not attach the drainage bag at this time but have the specimen container readily available
• Set the catheter aside on the sterile field
› Maintaining general ANTT, cleanse the external urethral orifice. Although HICPAC did not issue a recommendation in favor of antiseptic solutions vs. sterile water or saline for periurethral cleaning prior to FC insertion in its most recent guidelines (Gould et al., 2009), most clinicians use antiseptic solution as follows (Figure 7):
  • Using the non-dominant hand, hold the penis and gently retract the foreskin, if applicable. Once the external urinary orifice is exposed, keep the foreskin retracted by holding the non-dominant hand in this position for the remainder of the procedure
  • Using the dominant hand, use forceps to apply antiseptic-soaked swabs or cotton balls to the glans using a downward stroke from the tip of the glans to the foreskin. Use a separate swab for each cleansing pass until the entire glans has been cleansed. **Do not wash back and forth across the urethral opening**
• Do not reuse cotton balls or swabs over previously cleaned tissue

![Figure 7: Use a separate antiseptic-soaked swab for each cleansing circuit. Copyright© Richiex. Licensed under Creative Commons Attribution-Share Alike 3.0 Unported License](image)

› If prescribed, insert the catheter tip of the syringe containing the 2% lidocaine into the external urinary orifice and inject ~ 5–10 mL of the gel; place a gloved finger over the urethral tip to permit absorption and allow 2–3 minutes for the topical anesthetic to take effect before proceeding with the insertion
  • Be aware that a rapid instillation of the entire amount of prescribed lidocaine can cause a burning sensation and tissue irritation. Some clinicians prefer to place a small amount of lidocaine on a cotton ball and hold it against the tissue for 1–2 minutes and then inject the remaining medication into the external urinary orifice
  • Generously lubricate the proximal tip of the catheter ~ 5 cm/2 inches; some clinicians use the remaining lidocaine to lubricate the catheter tip
  • Using the dominant hand, grasp the catheter ~7.5–10cm/3–4 inches from its insertion tip and coil the remainder of the catheter in the palm
  • Insert the FC. Although some resistance is expected as the catheter passes the urethral sphincter, **never force the catheter**

Contact the treating clinician for a urological consult if resistance continues after repositioning the patient and catheter
• Hold the penis at a 70–90° angle to the patient’s legs. Gently stretch it upward to create a straight path through the penile portion of the urethra
• Ask the patient to bear down or cough as the catheter is inserted into the urethra
• Slowly advance the catheter through the external urethral orifice toward the bladder. Encourage the patient to breathe deeply to try to relax to reduce the incidence of spasm or strictures
• Continue to advance the catheter until the Y-shaped distal ports are near the urethral orifice, ~18–20 cm/7–8 inches in adult males or until urine begins to flow. Once urine appears, continue to advance the catheter an additional 2.5–5 cm/1–2 inches to make certain that the catheter tip rests within the bladder.

• If a urine specimen has been ordered, allow the urine to drain into the specimen container; pinch the FC to briefly stop the flow of urine. Note: Some clinicians prefer to collect the urine in a graduated container and then attach the FC to the drainage bag.

• Attach the drainage bag to the FC and place the drainage bag below the level of the bladder to allow urine to flow out of the bladder by gravity.

  – **Do not attach the drainage bag to the bed rails because the bag and catheter can pulled when the rails are adjusted.**

  ▶ Secure the catheter within the bladder as follows:

  • Using the dominant hand, slowly instill the sterile water into the catheter to inflate the balloon—**never instill more than the recommended volume shown on the inflation valve**. If the patient complains of pain during balloon inflation, the balloon is most probably in the urethra, withdraw the fluid, advance the catheter, and slowly re-instill the fluid. After the fluid has been instilled, apply gentle traction to the catheter until resistance is met to verify that the balloon is adequately inflated and the indwelling catheter will not be expelled.

  – The balloon should be slowly inflated to ascertain if it is within the urethra. Urethral tearing can occur if the balloon is inflated within the urethra.

  ▶ Clean the excess antiseptic and lubricant from the patient’s genital area.

  ▶ Secure the catheter and tubing to prevent movement and traction against the urethra that could damage urethral tissue. Typically the catheter is strapped to the patient’s inner thigh using a commercial tube holder and the drainage tubing is clipped to the mattress or to the bed frame—avoid any dependent loops or kinks to permit unobstructed urine drainage. Allow for enough slack in the drainage tubing so the patient can move his thigh without pulling the catheter.

  • If commercial securement device is unavailable, utilize one of following methods:

    – Create a reverse “gutter” with tape to reduce tubing tension against the skin.

    – The reverse “gutter” technique can be prepared with three pieces of tape as follows (Figure 8):

      - Center one piece of tape over the catheter/drainage bag tubing and pinch the edges together to create a short tab, and then extend the ends of the tape over the patient’s thigh. The reverse “gutter” created by elevating the catheter/tubing above the thigh with tape reduces traction against the skin and the urethra.

      - Place the two remaining pieces of tape over the tape on the patient’s skin.

  ![Figure 8: Secure the urinary catheter to the patient’s thigh using the reverse “gutter” technique. Copyright©2014, EBSCO Information Services](image)

  – Apply a piece of hydrocolloidal dressing (e.g., DuoDerm) to the skin—hold the hydrocolloid material against the skin for a brief period to allow the gel to mold to the skin, place the FC tubing over the dressing, and use tape/occlusive bandage to secure the tube to the dressing. (Figure 9)
Figure 9: Secure the catheter and drainage tube to the patient’s leg with hydrocolloidal dressing and tape/occlusive bandage. Copyright©2014, EBSCO Information Services

- Reassess the patient’s bladder to verify the distention has resolved
- Remove the underpads and assist the patient into a comfortable position; raise the bed rail and lower the bed to a safe position
- Arrange for transport of the labeled urine specimen to the laboratory in a biohazard bag
- Discard all soiled materials appropriately; perform hand hygiene
- Update the patient’s plan of care and document the following information in the patient’s medical record:
  - Date and time of FC insertion
  - Type and size of FC inserted; volume of sterile water instilled into the balloon
  - Administration of topical anesthetic, if applicable
  - Volume and characteristics of urine drainage (e.g., color, clarity, odor, presence of sediment/clots); record all output in the I & O section of the patient’s medical record
  - Specimen forwarded to laboratory for analysis, if applicable
  - Patient assessment information including any change in bladder distention and the patient’s tolerance of the procedure
  - Any unexpected patient events or outcomes, interventions performed, and whether or not the treating clinician was notified
  - Patient/family education and response to the teaching

Other Tests, Treatments, or Procedures That May Be Necessary Before or After Inserting an Indwelling Foley Urinary Catheter

- Routine catheter care will be performed to confirm that the system is intact and to prevent proliferation of bacteria, which can lead to UTI. For more information, see Nursing Practice & Skill … Urinary Catheter: Care
- Bacterial culture and antibiotic sensitivity testing will be performed on urine specimen if UTI is suspected; antibiotics will be prescribed if UTI is diagnosed
- If the catheter becomes blocked or the area around the insertion site becomes painful, the catheter may need to be replaced
- Urinary specimens should be transported promptly to the laboratory for testing, and results reviewed for abnormalities when available
Bladder irrigation may be ordered if urinary catheter obstruction occurs or following certain surgical procedures (e.g., TURP), if ordered by the treating clinician.

**What to Expect After Insertion of an Indwelling Foley Urinary Catheter**

- The FC will be inserted using sterile technique and with minimal patient discomfort and no resulting complications.
- The bladder will be completely emptied of urine.
- The patient will remain free of complications, including UTI; alternatively, any signs or symptoms of UTI or other complications of urinary catheterization will be promptly identified and treated.

**Red Flags**

- Potential complications of catheter use include:
  - bladder stones due to accumulation of urinary crystals, which can result in catheter blockage.
  - hematuria due to pulling on the catheter.
  - skin breakdown in the urethral meatus or lower extremities due to friction from the catheter or urinary drainage bag tubing.
  - urethral injury, which can occur during insertion or due to pulling on the catheter.
  - UTI/septicemia due to a break in sterile technique or insufficient or improper catheter care. Prolonged use of indwelling catheters is linked to renal inflammation and pyelonephritis (i.e., kidney infection) and nephro-cysto-lithiasis (i.e., kidney and bladder stones).
  - displacement of the catheter due to deflation of the catheter balloon, which is indicated by an increase in the length of the catheter that is visible outside the urethral meatus.

- Fever, abdominal pain, foul-smelling urine, and/or hematuria may be indicative of a UTI. In patients with UTI, bacteria can ascend rapidly through the ureters to the kidneys, potentially causing damage to the kidneys and, in some cases, septicemia. Signs and symptoms of UTI should be reported promptly to the treating clinician.

- Prophylactic antibiotics are commonly ordered for patients with an artificial urethral sphincter or with a prosthetic heart valve.

- When determining the appropriate size FC for insertion, always select the smallest gauge necessary to permit effective drainage. Inappropriately large tubes can cause injury during insertion and lead to ventral erosion of the urethra in men and women and erosion of the glans and penis in men.

**What Do I Need to Tell the Patient/Patient’s Family?**

- Educate regarding indications for catheter placement, details regarding the procedure, risks and benefits of the procedure, and any discomfort the patient may experience.
- If laboratory testing or other diagnostic procedures are ordered, explain how these procedures are performed and when the results will likely become available.
- Educate about clinical signs and symptoms that may indicate infection (for details, see **Red Flags**, above) or other complications, and emphasize the importance of reporting these signs and symptoms promptly to the home health nurse or the treating clinician.

**References**


