



POLICY

A written primary care provider's order is required for the placement of a urinary catheter. Insertion and removal is a two person procedure. If unsuccessful after two attempts, notify MRP for further direction.

Insertion of a urinary catheter may be done to:

- Obtain a sterile urine sample
- Obtain accurate measurement of urine output
- Relieve acute or chronic urinary retention
- Evaluate or rule out the presence of obstruction
- Determine amount of residual urine after post void
- Prevent urine contamination of an incision in the perianal region
- Permit urinary drainage in infant with neurogenic bladder/dysfunction/retention

Pediatric Urology to catheterize for:

- Known or suspected Lower Urinary Tract Abnormalities (congenital bladder outflow obstruction, posterior urethral valves, cloacal anomalies)

Contraindications for Registered Nurse insertion exist where anatomy is abnormal and pose increased risk with insertion:

- Abdominal Wall Defect (Omphalocele or Bladder Exstrophy)
- Ambiguous or Abnormal Genitalia

Relative contraindications for Registered Nurse insertion:

- To prevent injury from multiple catheterization attempts, for infants less than 1250 grams, only experienced practitioners should attempt urinary catheterization and should limit their attempt to one before assistance from a more experienced practitioner is sought.
- Gastroschisis in consultation with care team

Only use a silicone (silastic) urinary catheter.

Recommendations for insertion lengths and catheter sizes at various gestational ages and weights are as follows:

For insertion length:

- **Insertion length by weight and gender:**

Male <750 grams: **5 cm** > 750 grams: **6 - 8 cm**

Female <750 grams: **1.5 cm** > 750 grams **2 - 2.5 cm**

- **Balloon (Foley) catheter**

- Is placed in late preterm and term infants
- Since residual urine can be found in the urethra, catheter must be inserted beyond viable urine.
- Each manufacturer states the measurement of the catheter tip to the end of the balloon.

Male: **6 cm + penis length**
Female: **5 cm**

For catheter size by weight and gender:

Male Infant < 1000 grams: **3.5 Fr**
> 1000 grams: **5 Fr.**

*Do not use of 8 Fr. catheter in preterm male infants < 37 weeks to prevent tissue damage.

Female Infant < 1000 grams: **3.5 Fr.**
1000 grams - 2500 grams: **5 Fr.**
> 2500 grams: **8 Fr.**

PROCEDURE - INSERTION

Gather Equipment

1. Sterile Gloves
2. 2% Chlorhexidine Swabsticks (1-3 as needed)
3. Sterile Gauze
4. 2 Sterile Towels
5. Sterile Dressing Tray
6. 2 Urinary Catheter Appropriate to Size and Gestation of the Infant (only open one to start)
7. Urinary Catheter One Size Smaller than Recommended
8. Prefilled Normal Saline Syringe if Balloon (Foley) Catheter is Ordered
9. Duoderm and Tegaderm to Secure Catheter if Indwelling
10. Sterile Lubricant
11. Sterile Water
12. Sterile Specimen Container(s) as Required
13. Pediatric Urine Meter or Bedside Drainage Bag if Indwelling
14. Water Proof Tape if Indwelling for Connection

Procedure	Notes
1. Perform Hand Hygiene.	
2. Collect equipment.	
3. Perform Hand Hygiene.	
4. Set-up: Sterile dressing tray. Open chlorhexidine swabsticks and aseptically transfer to dressing tray. Add sterile lubricant, sterile water, gauze and appropriate size of catheter. Option: Urine drainage system for indwelling.	Use aseptic technique. Keep end of drainage system sterile.
5. Position infant.	Two person technique to provide comfort, containment and positioning to increase likelihood of success. Male infant: Position with legs extended. Female infant: Knees and hips need to be abducted

Procedure	Notes
	and flexed. The female infant may be catheterized in a prone position.
6. Open sterile towel and place under infant's buttocks.	Protects sterile gloved hand from contamination.
7. Place prepared tray in bedspace.	For increased accessibility.
8. Don sterile gloves.	Promotes aseptic technique and prevents infection for the infant.
9. Lubricate the tip of the catheter with water-soluble jelly.	Lubricant minimizes potential for hematuria.
10. For a balloon (Foley) catheter: Test the balloon and inflate with the recommended volume of normal saline. Completely aspirate volume prior to insertion.	This insures product integrity and prevents trauma on insertion.
<p>11. Prepare the infant.</p> <p>Male infant: Stabilize the shaft of the penis in non-dominant hand. Gently position the foreskin to expose the meatus. Slight retraction may be required to achieve this, DO NOT fully retract the foreskin.</p> <p>Female infant: Retract labia minora gently with non-dominant hand.</p>	This hand is now no longer sterile and considered contaminated.
<p>12. Cleanse:</p> <p>Male infant: Using the free sterile hand, hold penis upward with one hand, position the foreskin to visualize meatus. Cleanse the glans of the penis in circular fashion with a chlorhexidine swabstick beginning over meatus and ending at the proximal penile shaft. Discard swab. Repeat 2nd time with a new swabstick (and 3rd time if needed, dependent on size of infant).</p> <p>Female infant: Using the free sterile hand, cleanse the area between the labia minora with a chlorhexidine swabstick using a singular anterior to posterior stroke. Discard. Repeat 2nd time with a swabstick (and 3rd time if needed, dependent on size of infant).</p> <p>Cleanse for a minimum of 30 seconds. Allow to air dry for 60 seconds.</p>	Top to bottom cleansing prevents fecal contamination.

Procedure	Notes
13. If urine specimen required, place end of catheter into the opened sterile specimen container.	Protect sterility of distal end of catheter to ensure an uncontaminated specimen. Second practitioner should assist with this.
<p>14. Gently insert catheter into the meatus past the point when urine flow begins.</p> <p>Male infant: Apply gentle traction to the penis and hold the penis perpendicular to the body. A slight resistance may be felt as the catheter passes through the external sphincter.</p> <p>Female infant: Identify vagina. Insert the catheter into the urethral meatus immediately anterior to vagina.</p> <p>Do not force the catheter against resistance.</p>	<p>Use a slow, easy approach. If a urinary catheter cannot be inserted with ease, use a smaller catheter. Insert no greater than directed in the recommendations. Insertion of an excessive length of catheter must be avoided to prevent complications and trauma.</p> <p>This maneuver will straighten the penile shaft. If resistance is met at the external sphincter, hold the catheter in place without pressure. The spasm may subside after several minutes. If the catheter continues to meet resistance, remove the catheter. If catheter position is questionable, discontinue the procedure.</p> <p>Gentle downward pressure in the vaginal opening may provide better visualization of the urethra. If catheter is accidentally placed in the vagina leave it in place and insert new catheter anterior to this.</p> <p>If infant is crying, pause the procedure. Provide appropriate comfort and pain management measures.</p>
15. Collect urine specimen as per order.	Use first 1-2 mLs for culture and sensitivity (bacteriology req.) and a second specimen of 1-10 mLs for urinalysis with chemistry req.
<p>16. To remove catheter post collection withdrawal gently. Proceed to step 21.</p> <p>OR</p> <p>Verify the insertion length is appropriate for an indwelling catheter.</p>	<p>Prevent pain and trauma with removal.</p> <p>Urine visualization alone cannot assure the distance of insertion and placement of the catheter into the bladder.</p>
17. For a balloon (Foley) catheter: Inflate to the required volume and draw back gently until balloon rests against neck of bladder.	To ensure proper placement and secure catheter.

URINARY CATHETER – INSERTION AND REMOVAL PROCEDURE

Procedure	Notes
18. Connect the end of the catheter to a sterile closed urinary drainage system.	Keep urinary drainage system below the level of the infant's bladder but do not allow to touch the floor. Drainage tubing should always be positioned to allow gravity drainage at all times. Sterile closed drainage system must be maintained. Empty drainage system to measure urine output q1-4h and prn.
19. Tape connector.	With water proof tape.
20. Secure the catheter.	Male infant: Tape the catheter to lower abdominal wall or penile shaft rather than the inner thigh to decrease stricture formation caused by pressure on the posterior urethra. Female infant: Secure high on the inner thigh so leg lifting during diaper change does not dislodge catheter. Secure urinary catheter using tape applied over a skin barrier.
21. Remove residual chlorhexidine from the genitalia and surrounding skin using sterile normal saline or sterile water after the urinary catheterization procedure is complete.	This decreases chemical absorption through immature skin.
22. Dispose of equipment, remove gloves and perform Hand Hygiene.	
23. For indwelling: Label drainage system with date to be changed.	Change drainage system every 7 days. A urinary catheter is not routinely changed but the urinary tract is the most common site of nosocomial infection. Silastic catheters are replaced after 30 days.
24. Observe for complications.	Hematuria is a common but avoidable complication. Urine bi-passing the catheter is often a frequent and accepted consequence in avoiding insertion of a larger catheter and increasing chance of urethral/bladder trauma.
25. Document.	



PROCEDURE – REMOVAL (BALLOON FOLEY) CATHETER

Consultant/surgically placed urinary catheter requires consultation back to the inserting service before removal/changing. In the case of accidental dislodgement of consultant/surgically placed catheter, do not reinsert but consult back to inserting service.

Gather Equipment

1. Non-sterile Gloves
2. 5 mL Syringe

Procedure	Notes
1. Perform hand hygiene.	
2. Collect equipment.	
3. Perform hand hygiene.	
4. Position infant for comfort.	Two person technique to provide comfort, containment and positioning.
5. Remove catheter securement from infant.	
6. Aspirate volume of balloon with syringe.	Aid in removal and prevent trauma.
7. To remove catheter withdrawal gently and discard equipment appropriately remove gloves and perform Hand Hygiene.	Prevent pain and trauma with removal.
8. Observe for complication.	Ensure adequate urine output post removal.
9. Document.	

DOCUMENTATION

- BIPP prior, throughout and post procedure.
- Date, time and size of catheter inserted or removed.
- Reason for insertion of catheter.
- Colour and consistency of urine.
- Any complications from insertion and notification of physician.
- Record of urine output obtained and lab tests requested.
- **For balloon (Foley) catheters:**
 - Insertion: include how much fluid was used to inflate the balloon.
 - Removal: include how much fluid was aspirated prior to removal.

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Version History

DATE	DOCUMENT NUMBER and TITLE	ACTION TAKEN
May-2018	NN.09.01 Urinary Catheterization	Approved at: Neonatal Leadership Committee
June-2019		Action: Added by Senior Practice Leader: Contraindications modified to identify Pediatric Urology will catheterize for known or suspected lower urinary tract abnormalities

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