NURSING PROCEDURE

TITLE: CATHETERIZATION (URETHRAL)
A. Insertion
B. Care of Indwelling Catheter and Drainage System
C. Removal of an Indwelling Catheter

CATEGORY: RN – General
LPN – General
RPN – General

PURPOSE
- To monitor accurate urinary output.
- To provide continuous urinary drainage.
- To determine amount of residual urine in bladder after voiding.
- For diagnostic purposes, e.g. urethral cystogram.

NURSING ALERT:
- Catheterization must be performed using sterile technique and extreme care to prevent infection and injury; maintain a closed drainage system after catheter insertion.
- Common sources of difficulty:
  ⇒ catheter too large
  ⇒ advancing catheter too rapidly and forcefully
  ⇒ failure to wait for sphincter to relax
- Use caution when catheterizing a young male to avoid trauma to ductal and glandular openings to urethra, which might result in sterility.
- Inadequate preparation of urethral meatus is major cause of infection.
- A well lubricated urethral catheter helps prevent trauma.
- Ensure latex free catheter is used for client at risk for/or with a latex allergy.
- Consider using a portable ultrasound device to assess urine volume in patients undergoing catheterization to assess urine volume and reduce unnecessary catheter insertions.

EQUIPMENT
1. Personal protective equipment (PPE)
2. Sterile gloves
3. Sterile cotton balls
4. Povidone-iodine or chlorhexidine 2% aqueous (Neonates dilute 1:1 with sterile H₂O)
5. Sterile lubricant (water soluble)
6. Sterile plastic drape
7. Prefilled syringe with sterile H₂O (5-10 mL)
   or pre-packaged sterile catheterization tray
8. Sterile catheter appropriate type & size for age (see Appendix A for chart of neonatal/pediatric catheter size and insertion length)

**NOTE:** Unless otherwise clinically indicated, consider using smallest bore catheter possible, consistent with good drainage, to minimize bladder neck and urethral trauma.

**NOTE:** #5 French feeding tube, if used in extenuating circumstances, must be ORDERED and INSERTED by physician.

9. Collection bag if appropriate

**PROCEDURE**

A. Insertion

**NOTE:** Catheterization requires a physician’s order.

1. Gather equipment.

2. Obtain assistance of a second nurse, if necessary

**NOTE:** This is a must for younger children.


   3.1 Female: Position patient in a supine position with knees flexed and thighs abducted.
   3.2 Male: Position patient in a supine position with legs extended and flat on bed.
   3.3 Sidelying may be considered.

4. Place soaker pads or disposable diaper under buttocks.

5. Prepare sterile field using wrapping of pre-packaged catheter (dressing) tray close to patient.

6. Add catheter to sterile field.

7. Don sterile gloves and PPE.

8. Drape patient with provided plastic drapes.


**NURSING ALERT:**

- When performing catheterization for infant in an incubator, remove incubator porthole cuffs to prevent contamination of gloves and equipment.
- Oxygen flow may need to be increased to maintain an adequate ambient oxygen concentration while portholes are open during catheterization.
10. Inspect catheter for resiliency.

11. Inflate catheter balloon with sterile water to inspect for leaks and then aspirate fluid back into syringe and leave syringe attached, for an indwelling catheter.

**NOTE:** Saline will crystallize and damage balloon.

12. Lubricate end of catheter well with water soluble lubricant.

13. Prepare urethral meatus.

**Female**
- Using non-dominant hand, separate labia majora and minora as wide as possible to view the urinary meatus and maintain this position throughout whole procedure.
- Cleanse urethral meatus starting with each side and then down the center, with single downward strokes.
- Use only one cotton ball for each downward stroke.

**Male**
- Using non-dominant hand, lift penis gently and position upright to keep urethra straight.
- When not circumcised, retract foreskin gently as far as it goes naturally. **DO NOT FORCE.**
- Cleanse starting from meatus toward base of penis, including surrounding skin, using single downward or circular strokes
- Use only one cotton ball for each downward stroke.
- Ensure retracted foreskin is returned to natural position when procedure is complete. This prevents edema and circulation impairment.
14. Insert catheter:
   - Identify urethral orifice.
   - Gently insert lubricated tip of catheter into meatus using a slightly downward direction. Gently advance catheter. **DO NOT FORCE.**

   **Male**
   - Hold penis at 70-90° angle to patient’s legs. Gently stretch it upward to create a straight path through penile portion of urethra.
   - Ask patient to bear down or cough as catheter is inserted into urethra.
   - Slowly advance catheter through external urethral orifice toward bladder. Encourage patient to breathe deeply to try to relax to reduce incidence of spasm or strictures.
   - Advance catheter to bifurcation before inflating balloon even if urine flow is established before this point. This is to prevent anatomical injury from inflating balloon in urethra.
   - Increase traction slightly on penis if resistance is encountered.

   **Female**
   - Advance catheter until urine flow begins than advance an additional 2.5cm before inflating balloon.
   - Maneuver catheter gently as patient bears down or coughs.
   - Notify physician if unable to insert catheter or if bleeding occurs.

15. Collect urine in sterile container or measure residual if necessary.

16. Remove catheter with a gentle steady pull, if catheter is not to be left in.

17. Instill sterile water into catheter to inflate balloon slowly – never instill more than recommended volume shown on inflation valve. If patient complains of pain during balloon inflation, balloon is most probably in urethra, withdraw fluid, advance catheter, and slowly re-instill fluid.

**NURSING ALERT**

- Inflate balloon with amount indicated on catheter.

18. Withdraw catheter slightly to anchor balloon at bladder neck.

19. Clamp or attach drainage bag to catheter, keeping end sterile. Ensure drainage bag is below bladder level to facilitate gravity flow of urine and prevent alteration of urine flow. Teach patient same.

20. Remove drape and wash genital area with water to remove all povidone-iodine.

21. Secure catheter comfortably to patient’s thigh, without comprising catheter position.
NOTE: It is recommended to use a securement device to eliminate or diminish tension on balloon, urethral traction, in and out motions and kinking or bending.

22. Document:
- date and time
- size of catheter
- amount, color and characteristics of urine
- if specimen sent to Laboratory
- patient tolerance of procedure
- amount of sterile H₂O instilled into balloon

B. Care of Indwelling Catheter and Drainage System

1. Cleanse around catheter at urethral meatus with soap and water prn. Avoid powders and sprays on perineal area as they may cause soreness and infection.


3. Empty collection bag and measure urine every shift using a separate collection container for each patient.
   3.1 Disinfect drainage bag spigot before and after emptying bag with alcohol swab.
   3.2 Ensure drainage spigot does not come in contact with collection container.

4. Maintain a closed drainage system.

NOTE: If system must be opened, disinfect junctions prior to disconnection.

5. Obtain urine sample through sampling port after disinfection of port.

6. Observe patient for signs of urinary complications, (e.g. oliguria, polyuria, unstable temperature & hematuria).

7. Change catheter as per physician order and PRN (e.g. leakage, obstruction, encrustations, increased sediment or other malfunction).

NOTE: Routine changing of catheter at arbitrarily fixed intervals is not recommended by CDC. Catheter should be changed only as indicated above.

8. Change drainage system when catheter changed and PRN (e.g. leakage, strong odor).
C. **Removal of an Indwelling Catheter**

**EQUIPMENT**

1. Syringe, size according to balloon
2. PPE

**PROCEDURE**

1. Don PPE, place soaker pad under hips.
2. Identify amount of sterile water in balloon from insertion documentation (nursing notes; OR report). Aspirate **ALL** of fluid from balloon.
3. Encourage patient to breathe deeply. Upon expiration, gently pull catheter out. Inspect balloon and catheter are intact.
4. Clean and dry genitals.
5. Notify physician if balloon fails to deflate or is ruptured.
6. Measure and record amount of urine.
7. Assess q4h for incontinence, urgency, persistent dysuria, bladder spasms, fever, chills, bladder distention. Ensure patient is taught to observe above signs and symptoms if discharged immediately after catheter is removed.

**NURSING ALERT:**

- Patient should not go longer than 8 hours without voiding unless fluid intake has been restricted.

8. Document:
   - patient tolerance to procedure
   - amount, color and characteristic of urine
   - when and how much client voids following catheter removal
REFERENCES


Revised by: Elaine Abrook
Date: April 2015

Revised by: Jana Lowey, CNE
Date: January 2016

Approved by: Regina Qu’Appelle Health Region
Health Services

Approved: February 4, 2016

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<table>
<thead>
<tr>
<th>Age Group</th>
<th>FEMALE</th>
<th>MALE</th>
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<tbody>
<tr>
<td>Neonates</td>
<td>See unit specific guidelines</td>
<td>See unit specific guidelines</td>
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<tr>
<td>40 days – 4 years</td>
<td>Size 6-8* Insert 5 cm</td>
<td>Size 6-8* Insert 6 cm</td>
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<tr>
<td>4-8 years</td>
<td>Size 6-8* Insert 5 cm</td>
<td>Size 6-8* Insert 6 cm</td>
</tr>
<tr>
<td>8 years – prepubertal</td>
<td>Size 10-12 Insert 6-8 cm</td>
<td>Size 8-10 Insert 10-15 cm</td>
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<tr>
<td>Pubertal</td>
<td>Size 12-14 Insert 6-8 cm</td>
<td>Size 12-14 Insert 13-18 cm</td>
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* sizing chart revised from original for RQHR practice.
