



Evidence-Based Best Practices: Indwelling Bladder Catheters

Overview

An indwelling bladder catheter may be inserted through the urethra into the bladder or surgically inserted into the bladder through lower abdomen (suprapubic catheter). Regardless of the manner of insertion, an indwelling bladder catheter should be placed only when medically necessary to manage disorders of the lower urinary tract, including:

- Acute urinary retention or bladder outlet obstruction
- Timed urine collection as part of a diagnostic study
- Acute medical conditions that require accurate measurements of urine output
- Stage 3 or 4 pressure injuries that will not heal due to incontinence

An indwelling bladder catheter may also be used to improve comfort at end of life as part of a palliative plan of care.

Long-term use of an indwelling bladder catheter (greater than 14 days) is associated with several complications, some that are significant:

- Catheter-associated urinary tract infection (CAUTI), including infection due to antibiotic resistant organisms
- Urethral trauma, urethritis, or urethral fistula
- Encrustation leading to tube blockage
- Bladder stones
- Pain and discomfort, bladder spasms
- Increased risk for bladder cancer

The nursing facility (NF) should have a system in place to evaluate catheter use in the facility, monitor for CAUTIs, and to discontinue catheters when they are no longer medically necessary.

Types of Catheters

There have been relatively few changes in the structure of catheters over the past few decades. However, different materials can be used in manufacturing catheters – all of which have benefits and drawbacks.

- **Latex:** A soft, flexible catheter that is relatively inexpensive. However, if a person has a latex allergy, the use of a latex catheter can lead to irritation and inflammation to the mucosal tissues and could result in urethral strictures. Some latex catheters may be coated with other materials that lessen the risk of a reaction.
- **Silicone:** This type of catheter has thinner walls and is more rigid than latex catheters. They are less likely to cause irritation of the mucosal tissues of the urinary tract. However, silicone catheters have the potential to lose fluid from the balloon, resulting in displacement of the catheter.
- **Polyvinyl Chloride (PVC) or Polyether Block Amide (PEBA):** Plastic catheters that are fairly inexpensive and have a larger inner lumen. PVC catheters are stiffer which may cause discomfort, while PEBA catheters are softer and more pliable.

There are different sizes of bladder catheters, and the physician's order should include the specific size of catheter (usually stated as "French") and balloon needed. In general, the smallest appropriate size catheter should be selected – such as a 14 to 16 French, with a 5 ml or 10 ml balloon. Larger-sized catheters can cause discomfort, leaking, and urethral trauma, increasing the risk for infection. Larger-sized balloons can cause pooling of urine below the level of the catheter lumen, again increasing the risk for infection.

The most common type of catheter tip is straight, however a coudé tip catheter may be needed in certain situations. A coudé catheter has a curved tip that can help bypass obstructions and narrowed areas of the urethra. These may be particularly useful in men with benign prostatic hyperplasia (BPH) or urethral trauma following prostate surgery.

Closed system catheter kits are recommended to decrease the risk of contamination and infection.

Inserting an Indwelling Bladder Catheter

The NF should have a process for evaluating the [competency of staff](#) responsible for inserting indwelling bladder catheters, including a return demonstration once training is completed.

- After the initial training and competency evaluation, ongoing observation and monitoring of practice should continue.
- Frequent concerns identified include:
 - Contamination of the sterile field
 - Contamination of the catheter
 - Breaking the sterile barrier.

When inserting an indwelling bladder catheter, maintaining aseptic technique is essential.

- Hand hygiene before and after peri-urethral cleaning, as well as immediately before and after insertion
- Peri-urethral cleaning using the appropriate antiseptic solution
- Sterile field, with sterile gloves, drapes and sponges available
- Sterile, single use packets of lubricant for the catheter tip

If at any point the catheter tip becomes contaminated, it must be discarded, and a new sterile catheter obtained.

Changing the catheter or drainage bag at fixed, routine intervals is not recommended. Catheters and bags should be changed based on clinical indications such as infection, obstructed tubing, or when the closed system is compromised.

Care of an Indwelling Catheter

The facility should have a process in place to evaluate and monitor the competency of staff performing catheter care on an ongoing basis. This [skills checklist](#) from Prometric includes catheter care for males and females, as well as a checklist for draining and measuring output from a catheter drainage bag.

In addition, key elements to consider:

- Complete hand hygiene before and after handling the catheter system to prevent transmission of pathogens.
- [Enhanced barrier precautions](#) should be implemented when an indwelling medical device is present, regardless of the person's MDRO colonization status, including the appropriate use of PPE (gloves and gowns).
- The catheter tubing should be secured to prevent accidental displacement.

- Ensure the drainage bag is always kept below bladder level.
- Maintain the closed system; do not disconnect tubing from the drainage bag. Disrupting the closed system increases the risk of infection.

Resources

Agency for Healthcare Research and Quality (AHRQ)

- [Toolkit to Reduce CAUTI and Other HAIs in LTC Facilities](#)
- [Suspected UTI SBAR Toolkit](#)
- [Catheter Care and Maintenance](#)
- [Appendix G: Indwelling Urinary Catheter Insertion Checklist](#)
- [Catheter Insertion for Licensed Staff \(Video\)](#)
- [Catheter Care for Unlicensed Staff \(Video\)](#)
- [The How To of Hand Hygiene \(Video\)](#)

Centers for Disease Control and Prevention (CDC)

- [Appropriate Use and Prompt Removal of Indwelling Urinary Catheters](#)
- [Indwelling Urinary Catheter Insertion and Maintenance](#)
- [NHSN Urinary Tract Infection \(UTI\) Form for LTCF](#)
- [TAP Catheter-Associated Urinary Tract Infection \(CAUTI\) Implementation Guide: Links to Example Resources](#)

Statewide Program for Infection Control & Epidemiology (SPICE) - The University of North Carolina

- [LTC Symptomatic UTI Infection Worksheet: McGeer Criteria](#) (for retrospective surveillance purposes only)

TMF Networks

- [Quality Measure Tip Sheet: Catheter Inserted and Left in Bladder Long-Stay](#)
- [Quality Measure Tip Sheet: Urinary Tract Infection Long-Stay](#)
- [Quality Measure: Percent of Residents with a UTI Long-Stay](#) (Video with transcription)
- [Reporting and Reducing Urinary Tract Infections](#)

The Society for Post-Acute and Long-Term Care Medicine (AMDA)

- [Choosing Wisely: Fifteen Things Physicians and Patients Should Question in Post-Acute and Long-Term Care](#)