



Clinical Practice Guidelines

***Adult Clean Intermittent
Catheterization***

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Introduction:

Most people empty their bladder by going to the bathroom four or five times a day. When the bladder is not emptied, infections or other problems can occur, such as urine passing backward up into the kidneys. This is called reflux, which can cause infections or eventually cause damage to the kidneys.

Clean Intermittent Self-Catheterization (CIC) is a safe and effective alternative method of emptying the bladder. (Lapides, Diokno, Silber and Lowe, 1972; Madersbacher et al., 2002; Rate B). It is used to help protect the kidneys, prevent incontinence and decrease the number of infections a patient may acquire by promoting adequate drainage of the bladder while lowering intravesical pressure. (McQuire, Woodside and Borden, 1983; Rate C). It has been used successfully for patients with neurological involvement of the bladder, spinal cord injury or spinal tumors, diabetic neuropathy, multiple sclerosis, spina bifida, myelodysplasia, bladder outlet obstruction and continent urinary diversion. It can be used on a short or long term basis depending on the bladder's ability or inability to return to normal function.

CIC is performed by intermittently inserting a catheter (a tube to drain the urine) into the urethral opening (meatus) and advancing it into the bladder to allow the bladder to empty. Only persons who know the correct technique of proper insertion and maintenance of the catheter should perform this procedure.

It is recommended that CIC be performed at regular intervals throughout the day depending on the patient's fluid intake as directed by the healthcare provider. The patient's ability to perform catheterization and adhere to a schedule is essential to the success of the CIC program. Most individuals in need of CIC will initiate catheterization every four to six hours to keep their bladder volumes at a predetermined amount (or less) for each catheterization. (Joseph, et al., 1998; Linsenmeyer et al., 2006; Rate B). If volumes exceed this amount (more than 400-500 milliliters) more frequent catheterization may be necessary or fluid intake will need to be adjusted. If patients have spontaneous voiding but continue with high residual urine volumes, the interval of CIC will be determined by their health care provider.

Early clinical guidelines recommended strict sterile technique for intermittent catheterization to avoid the risk of infection from bacteria entering the bladder through the catheter. This recommendation limited the use of intermittent catheterization, since strict sterile technique is costly and must be performed by someone trained to do the procedure. Recent studies have shown that clean intermittent catheterization of the bladder does not increase the risk of urinary tract infection.

In the hospital setting, sterile or clean technique is used depending on the health care policy of the facility. (Lemke, Kasproicz and Worrall, 2005; Rate B). In the home setting, clean technique is recommended because individuals are exposed to bacterial organisms that do not routinely cause them to have infections. The focus of this guideline is to teach appropriate independent or directed-care for adult patients requiring CIC in the home setting using the following steps:

Materials needed to prepare:

- Soap and water to wash hands and the urethral opening.
- Urethral catheter (male or female). The size of the catheter should be the smallest French to pass easily into the bladder and allow adequate drainage.
- Lubricant (water-soluble jelly).
- Urinal or appropriate collection container (if not emptying into a toilet).
- Mild soap (like Ivory) for cleaning the catheter following catheterization.
- Catheter storage item, either a brown paper bag or a clean towel.

Set up:

- Assemble all the necessary products before beginning the procedure.
- Males and females must be instructed on the location of basic anatomical structures before they attempt the procedure on their own.

Instructions for Female Patients:

- Wash hands thoroughly with soap and water.
- Find a comfortable position.
- Spread the labia.
- Clean the entire urethral opening (meatus) area with warm soapy water and a clean washcloth.
- Have the patient use a mirror initially to aid in the location of the meatal opening if needed. It is located below the clitoris and just above the vagina in most females, visually seen as “^”.
- Lubricate the tip of the catheter with the water-soluble jelly. Rotate the tip to spread the lubricant around the catheter.
- Slowly and gently insert the catheter (2-4 inches) into the meatus until urine begins to flow.
- If resistance is felt at the internal sphincter, hold firm, gentle, steady pressure and the muscles should relax allowing the catheter to pass.
- Allow the urine to empty into the collection container or into the toilet.
- When the urine flow stops, slowly withdraw the catheter allowing the lower parts of the bladder to drain. When there is no further flow of urine, remove the catheter.
- If requested by the physician, record the amount of urine.
- Clean and store the catheter.

Instructions for Male Patients:

- Wash hands thoroughly with soap and water.

- Find a comfortable position. Some men prefer to stand for the procedure but it can be done just as easily in the sitting position.
- Hold the penis perpendicular to the body (pointing towards the umbilicus) and wash the urethral opening (meatus) with soap and a clean washcloth. For uncircumcised men, retract the foreskin first and clean the meatus in the same way.
- Lubricate the tip of the catheter with the water-soluble jelly. Rotate the tip to spread the lubricant around the catheter.
- Slowly and gently insert the catheter into the meatus, approximately 6-8 inches or until urine begins to flow. Often the entire length of the catheter must be inserted (to the hub, or end of the catheter) for urine flow to occur.
- There may be some resistance to the passage of the catheter at the prostatic urethra, the portion of the urethra where the prostate lies. If this occurs, hold firm, gentle, steady pressure and the external sphincter will fatigue. Muscle relaxation will be felt and the catheter will advance through this part of the urethra.
- There may also be resistance at the bladder neck, the internal sphincter (the opening from the urethra to the bladder). Using firm, gentle, steady pressure should cause the muscles to fatigue and allow the catheter to pass into the bladder.
- Keep the catheter in place until the flow of urine stops. Slowly and gently withdraw the catheter allowing for any pockets of urine at the base of the bladder to drain. When there is no further flow of urine, remove the catheter.
- If requested by the physician, record the amount of urine.
- Clean and store the catheter.

Maintenance:

- Clean catheters with mild soap and water immediately after use.
- Rinse thoroughly and air dry.
- Store covered in a clean dry towel or in a brown paper bag to allow air to dry inside the catheter.
- Discard catheters if they become cracked or brittle, have any build up of sediment or lose their form.
- Catheters should be replaced by prescription from the healthcare provider on a monthly basis or sooner if indicated.

Nursing considerations:

- Difficulty inserting a catheter or an inability to catheterize may require evaluation with a Urologist. Complications of CIC include: urethral false passages, urethral strictures, bladder perforation and silent deterioration of the upper urinary tracts. (Wein, 2002; Rate A).
- Never force the catheter. If the catheter will not pass and the patient feels that their bladder is full, they will need to go to their nearest Urgent Care Center/Emergency Room for appropriate evaluation.
- Patients performing CIC will routinely have an abnormal urinalysis. The value of regular bacteriological monitoring of catheterized patients as an

infection control measure has not been established. The use of prophylactic antibiotics is not recommended. Patients should be treated only for symptomatic urinary tract infections (abdominal/flank pain, malaise, fever and/or chills). (Linsenmeyer, T., et.al., 2006; Rate B).

- CIC may be contraindicated in the following: uncontrolled incontinence, history of urethral trauma or pathology, decreased host resistance causing further potential for a symptomatic urinary tract infection (UTI), other disease processes or changes in the functional ability of the patient. (Joseph, et al., 1998; Rate C).
- There has been evidence that disinfecting “red rubber” urethral catheters in a microwave oven may be a viable option for patients who perform CIC. (Mervine and Temple, 1997; Rate C). However, there is no supporting evidence or consensus as to the most efficacious procedure to be used for microwave disinfection of catheters. (Sherbondy et al., 2002; Rate C).
- For children, physiological, developmental and motivational qualities all must be present for a successful self-catheterization program. Knowing when a child is ready to learn and understanding different styles of teaching CIC to children is of utmost importance. (Segal, E.S., Deatrck, J.A., Hagelgans, N.A.; 1995; Rate C). This guideline focuses on the adult learner.

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****Levels of Evidence based on PVA Consortium Neurogenic Bladder Guideline (August, 2006) regimen for rating evidence:

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