**Urinary catheters**

Urinary elimination is a basic human function that can be compromised by illness, surgery, and other conditions. Urinary catheterization may be used to support urinary elimination in patients who are unable to void naturally. Urinary catheterization may be required:

* In cases of acute urinary retention
* When intake and output are being monitored
* For preoperative management
* To enhance healing in incontinent patients with open sacral and perineal wounds
* For patients on prolonged bedrest
* For patients needing end-of-life care

## Catheter-Associated Urinary Tract Infections

Catheter-associated urinary tract infections (CAUTI) are a common complication of indwelling urinary catheters and have been associated with increased morbidity, mortality, hospital cost, and length of stay. Urinary drainage systems are often reservoirs for microbes, a source of the transmission of microorganisms to other patients .The most important risk factor for developing a CAUTI, a health care associated infection (HAI), is the prolonged use of a urinary catheter (Centers for Disease Control and Prevention [CDC], 2015). Urinary tract infections (UTIs) are the most commonly reported HAIs in acute care hospitals and account for more than 30% of all reported infections (Gould et al., 2009). Catheters in place for more than a few days place the patient at risk for a CAUTI. A health care provider must assess patients for signs and symptoms of CAUTIs and report immediately to the primary health care provider. Signs and symptoms of a CAUTI include:

* Fever, chills
* Lethargy
* Lower abdominal pain
* Back or flank pain
* Urgency, frequency of urination
* Painful urination
* Hematuria
* Change in mental status (confusion, delirium, or agitation), most commonly seen in older adults

The following are practices for preventing CAUTIs (Perry et al., 2014):

* Insert urinary catheters using sterile technique.
* Only insert indwelling catheters when essential, and remove as soon as possible.
* Use the narrowest tube size (gauge) possible.
* Provide daily cleansing of the urethral meatus with soap and water or perineal cleanser, following agency policy.
* Ensure a closed drainage system.
* Ensure that no kinks or blockages occur in the tubing.
* Secure the catheter tube to prevent urethral damage.
* Avoid use of antiseptic solutions on the urethral meatus and/or in the urinary bag.

**There are two types of urethral catheterization: intermittent and indwelling.**

Intermittent catheterization (single-lumen catheter/straight catheter) is used for:

* Immediate relief of urinary retention
* Long-term management of incompetent bladder
* Obtaining a sterile urine specimen
* Assessing residual urine in the bladder after voiding (if a bladder scanner is not available)

Indwelling catheterization (double- or triple-lumen catheter) is used for:

* Promoting urinary elimination
* Measuring accurate urine output
* Preventing skin breakdown
* Facilitating wound management
* Allowing surgical repair of urethra, bladder, or surrounding structures
* Instilling irrigation fluids or medications
* Assessing abdominal/pelvic pain
* Investigating conditions of the genitourinary system

**Catheter care**

Always [wash your hands](https://www.webmd.com/cold-and-flu/cold-guide/cold-prevention-hand-washing) before and after handling a catheter. Follow all the instructions the doctor has given. Also:

* Make sure that urine is flowing out of the catheter into the urine collection bag. Make sure that the catheter tubing does not get twisted or kinked.
* Keep the urine collection bag below the level of the bladder.
* Make sure that the urine collection bag does not drag and pull on the catheter.
* Check for [inflammation](https://www.webmd.com/arthritis/about-inflammation) or signs of infection in the area around the catheter. Signs of infection include pus or irritated, swollen, red, or tender [skin](https://www.webmd.com/skin-problems-and-treatments/picture-of-the-skin).
* Clean the area around the catheter twice a day with water. Dry with a clean towel afterward.
* Do not apply powder or lotion to the skin around the catheter.
* Do not tug or pull on the catheter.

**To empty the urine collection bag**

You will need to empty the bag regularly. It is best to empty the bag when it's about half full or at [bedtime](https://www.webmd.com/parenting/childs-bedtime). If the doctor has asked you to measure the amount of urine, do that before you empty the urine into the toilet.

* [Wash your hands](https://www.webmd.com/parenting/d2n-stopping-germs-12/slideshow-kids-germs-handwashing) with soap and water. If you are emptying another person's collection bag, you may choose to wear disposable gloves.
* Remove the drain spout from its sleeve at the bottom of the collection bag. Open the valve on the spout.
* Let the urine flow out of the bag and into the toilet or a container. Do not let the tubing or drain spout touch anything.
* After you empty the bag, wipe off any liquid on the end of the drain spout. Close the valve and put the drain spout back into its sleeve at the bottom of the collection bag.
* [Wash your hands](https://www.webmd.com/men/video/dirty-truth-handwashing) with soap and water.

**When to call a doctor**

Call the doctor if:

* No urine or very little urine is flowing into the collection bag for 4 hours or more.
* There is new pain in the belly or pelvic area.
* The urine has changed color, is very cloudy, looks bloody, has a bad smell, or has large [blood clots](https://www.webmd.com/dvt/blood-clots) in it.
* The place where the catheter goes into the body (the insertion site) becomes very irritated, swollen, red, or tender, or there is pus draining from the site.
* Urine is leaking from the insertion site.
* There are signs of a [kidney infection](https://www.webmd.com/a-to-z-guides/kidney-infections-symptoms-and-treatments), such as a fever of 100.4°F (38°C) or higher or [back or flank pain](https://www.webmd.com/hw-popup/back-pain-and-flank-pain).
* Symptoms such as [nausea](https://www.webmd.com/children/ss/nausea-vomiting-remedies-treatment), [vomiting](https://www.webmd.com/digestive-disorders/digestive-diseases-nausea-vomiting), or shaking chills occur.

**After the catheter is removed**

After the catheter is taken out:

* A person may have trouble urinating. If this happens, try sitting in a few inches of warm water ([sitz bath](https://www.webmd.com/hw-popup/sitz-bath)). If the urge to urinate comes during the [sitz bath](https://www.webmd.com/digestive-disorders/sitz-bath), it may be easier to urinate while still in the bath.
* Some burning may happen when urinating for the first few times. If the burning lasts longer, it may be a sign of an infection.
* Drink plenty of fluids. If fluids need to be limited because of [kidney](https://www.webmd.com/kidney-stones/picture-of-the-kidneys), [heart](https://www.webmd.com/heart/picture-of-the-heart), or [liver](https://www.webmd.com/digestive-disorders/picture-of-the-liver) disease, talk with the doctor before increasing the amount of fluids.
* If the catheter causes irritation or a [rash](https://www.webmd.com/skin-problems-and-treatments/guide/common-rashes), wearing loose cotton underwear may help.

Also, it is important to know when there is a problem and when to call the doctor. After catheter removal, call the doctor if:

* No urine comes out within 8 hours after the catheter is taken out.
* The bladder or belly feels full or is painful.
* You see signs of a urinary infection. Signs include:
  + [Blood](https://www.webmd.com/heart/anatomy-picture-of-blood) or pus in the urine.
  + Pain in the back just below the rib cage. This is called flank pain.
  + Fever, chills, or body aches.
  + Pain when urinating.

