

Understanding Neurogenic Bladder





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If you have just been diagnosed with a neurogenic bladder or are taking care of someone with a bladder disorder, you may find yourself learning new skills and making many decisions. You may feel overwhelmed by the information and the product choices at first. This book has been created to provide information to newly injured or diagnosed people, and their caregivers and families. This guide provides a framework for discussions with your healthcare professional about the best ways for you to manage your bladder. In addition, Hollister professionals are available to provide information on our full range of continence care products, to answer your questions, and to provide you with educational information.

**In these pages
you will find:**

- An easy-to-read overview of the urinary system
- An outline of how a neurogenic bladder affects the urinary system
- A list of management options available to you
- A glossary
- Space for notes
- A list of support networks

The Healthy Urinary System

Your urinary system is made up of the kidneys, ureters, bladder, urethra, and the internal and external sphincters.

Kidneys

The kidneys filter certain waste products from the blood and make urine. The kidneys typically produce 1-3 ounces of urine each hour (30-90 ml). Urine is carried from the kidneys through tubes called ureters to the bladder, where it is temporarily stored until urination occurs.

Ureters

The ureters are narrow, hollow tubes that lead from the kidneys to the bladder. Each ureter is about 11-14 inches (24-30 cm) long. The ureters end in the lower portion of the bladder and they are attached to the bladder in a way that helps prevent urine from flowing back up towards the kidneys. Muscular contractions in the ureters push urine down from the kidneys to the bladder almost constantly.

Bladder

The bladder is a hollow organ with a muscular wall and two primary functions – the storage and emptying of urine. In a relaxed state, the bladder can hold about 16 ounces (500 ml) of urine before you feel a strong urge to urinate. The size and shape of the bladder and the amount of urine stored vary from person to person.

Emptying the bladder (also called voiding or urination) involves the coordination of both voluntary and involuntary muscles. When the bladder is emptied, urine leaves the body through a tube called the urethra. Voiding occurs when the bladder muscle, also called the detrusor, contracts and the sphincters open. Urine then passes through the urethra and leaves the body.

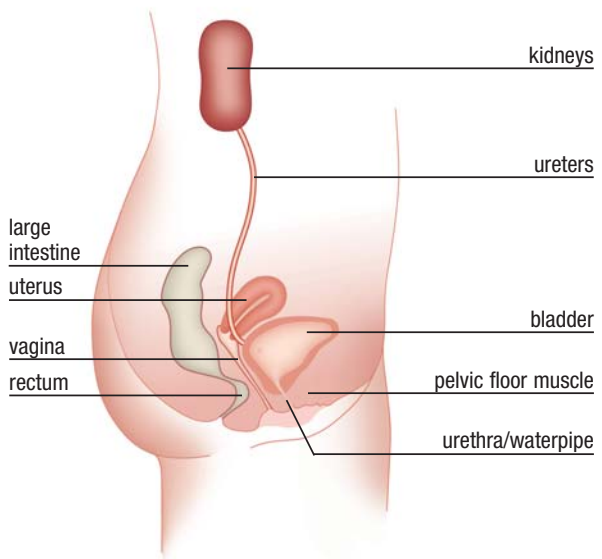
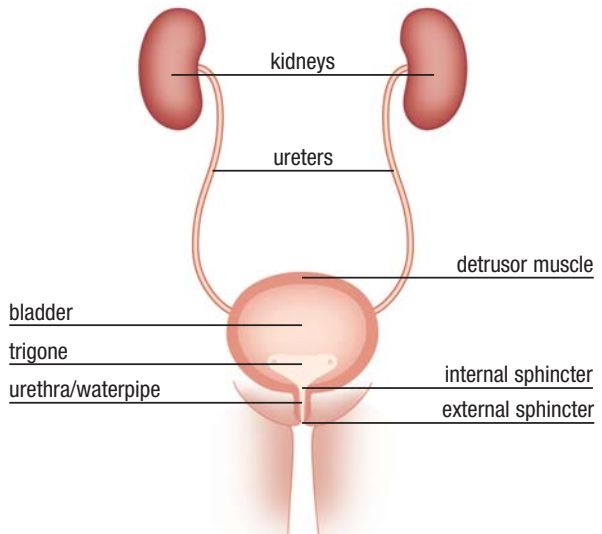
The Healthy Urinary System *(Cont'd)*

Urethra

The urethra carries urine from the bladder out of the body. It is a muscular tube lined with a mucous membrane. The opening of the urethra is called the meatus. The primary difference in female and male urinary tracts is the length of the urethra.

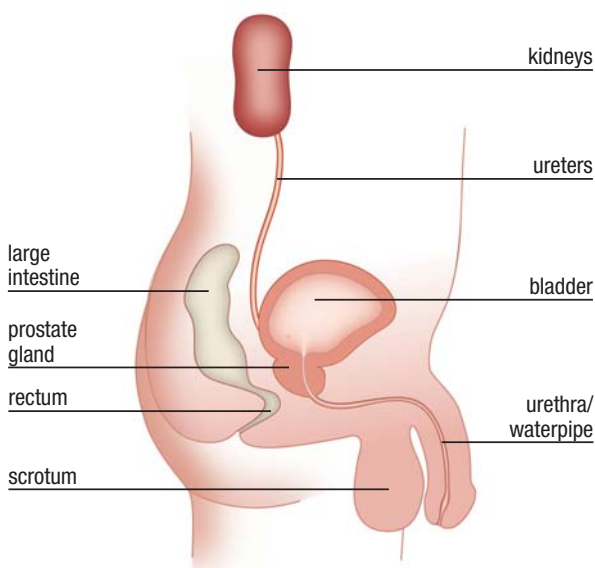
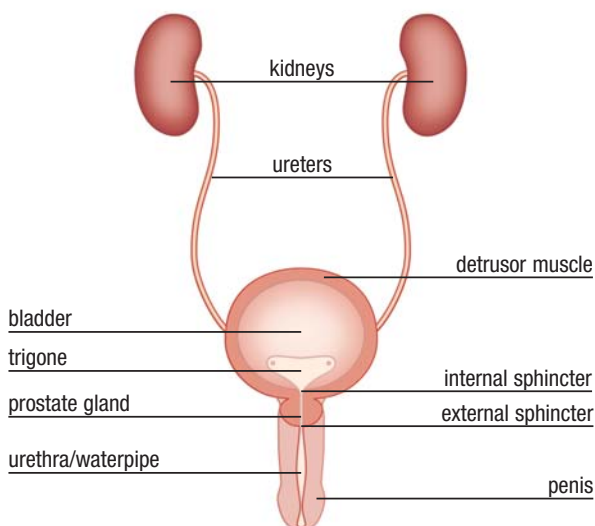
Females

In females, the urethra is about 1 inch (3-5 cm) long; it runs in a slight curve behind the pubic bone. The opening of the urethra is just in front of the vaginal opening. The female urethra is highly susceptible to infection since it is close to the vagina and the anus where bacteria are present.

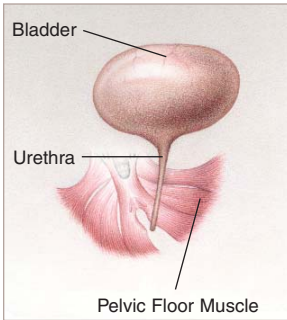


Males

In males, the urethra is 8-10 inches (20-25 cm) long. It runs in an S-curve from the bladder through the prostate and the pelvic floor, and it ends at the tip of the penis.



The Healthy Urinary System *(Cont'd)*



Sphincters

The urethra is surrounded by two ring-like muscles called the internal and external sphincters. The external sphincter is the one that is voluntarily contracted to control when you urinate.

The sphincters work best when the pelvic floor muscles are healthy and strong and in the proper position. The pelvic floor muscles consist of several small muscle groups that surround the urethra, vagina (in women), and rectum. They provide support to the organs of the pelvis, and they help to hold the urethra in place.

Nervous System

The process of urination involves coordination between the bladder and sphincter muscles and an intact nervous system. When the bladder is full, nerve impulses are sent to the lower portion of the spinal cord, and then to the brain to communicate that the bladder is full. At that time (if it is convenient), the brain sends a message to the bladder telling it to contract in order to release the urine. A healthy functioning nervous system and brain are crucial for proper coordination of this complex process.

Bladder Problems



Common Issues

Men may experience problems with urination as they age. In males, the prostate gland sits underneath the bladder and wraps completely around the urethra. The prostate can become larger, and this may block the flow of urine from the bladder.

For women, multiple pregnancies and vaginal deliveries can weaken the pelvic floor muscles that support the bladder and uterus causing problems such as urine leakage.

Men and women may experience problems with normal urination for a variety of reasons. Anyone who has problems with urination (incontinence or change in urinary habits) should consult their healthcare professional for diagnosis and treatment.

Neurogenic Bladder Disorder

A neurogenic bladder means that you have some type of bladder malfunction caused by a neurologic disorder or injury. Your bladder may empty too frequently, not frequently enough, or in an uncoordinated way. Your urinary sphincters may also work incorrectly. The way your bladder and sphincters behave depends on the location of the neurologic disorder in your brain, spinal cord, or peripheral nerves, and the extent of your disease or injury.

If your bladder empties too frequently, it may be described as hyper-reflexive, spastic, or overactive. Your body is unable to store as much urine as it should, and the bladder empties more frequently than a healthy bladder. This can cause nocturia (urinating more than once at night), urgency (a strong desire to urinate), and frequency (voiding more than 8 times in 24 hours).

Some neurologic disorders prevent the bladder from emptying properly. Your bladder fills with urine yet you don't feel the need to urinate or you can't make the urine come out. This type of bladder disorder can also be described as flaccid or atonic bladder and it can result in urinary retention, or the inability of the bladder to empty.

Neurologic disorders or injuries can also cause the urinary sphincters to function improperly. They may not close or open at the right times; or may not close at all. In a condition called detrusor sphincter dyssynergia, the pelvic floor muscles contract and close the urethra when the bladder contracts; preventing the bladder from emptying. This can cause urine to flow up the ureters toward the kidneys, which can damage the kidneys.

Bladder Problems *(Cont'd)*

You may experience these signs if you have a urinary tract infection:

- More frequent urination than normal
- Leakage of urine between normal voiding or catheterization
- Increased muscle spasms (if you are spinal cord injured)
- Fever
- Back pain
- Milky, cloudy, or darkly colored urine
- Foul smelling urine

Types of Neurogenic Bladder Disorders*

Flaccid or Atonic Bladder	Occurs after acute spinal cord injury. The bladder fails to contract resulting in urinary retention.
Spastic or Reflex Bladder	Occurs when there is a spinal cord injury above the level of S2-S4. It results in frequent uncontrolled voiding due to bladder spasms and a lack of sensation.
Uninhibited Bladder	Urinary frequency and urgency resulting from changes in the brain. This may be caused by conditions such as stroke, head injury or Multiple Sclerosis.
Sensorimotor Paralytic Bladder	Inability to empty the bladder because of damage to the peripheral nervous system. It can be caused by conditions such as diabetes mellitus or extensive pelvic surgery.

Urinary Tract Infections

If you have a neurogenic bladder disorder you may have occasional or frequent urinary tract infections (UTIs). Urinary tract infections occur when there is an increased amount of bacteria (or other microorganisms) in the bladder, urethra and kidneys, sometimes as a result of residual urine in the bladder. In men, urinary tract infections can also include the genitals such as the prostate or seminal vesicles.

Timely Recognition

It is important to contact your healthcare provider at the first sign of a urinary tract infection.

Not everyone develops these symptoms. If you are not feeling well or you suspect you have an infection, contact your healthcare provider.

*Used with permission from Managing Urinary Incontinence, D.K. Newman, 2002

Your urine will be tested and medications will be used if an infection is present. Be sure to take all of the antibiotic prescribed, and to contact your healthcare provider if your symptoms return. If you experience frequent urinary tract infections, your healthcare provider may recommend additional tests or treatments.

Urinary Incontinence

If bladder control is lost and urine leakage occurs, it is called incontinence. Urinary incontinence can occur in people of all ages, and for a variety of reasons. Some, but not all, people with neurogenic bladder experience incontinence. The main types of urinary incontinence are stress, urge, mixed, overflow, and functional (See table below).

Type of Urinary Incontinence	Common Symptoms	Common Causes
Stress	Urine loss during activities such as coughing, sneezing, laughing or lifting.	Pregnancy, childbirth, menopause, pelvic radiation, surgical trauma.
Urge	A sudden need to urinate, occasionally with large volume urine loss. Can also exist without incontinence.	May be associated with pregnancy, childbirth, menopause, pelvic trauma, and neurologic disease such as Parkinson's disease and Multiple Sclerosis.
Mixed	Combination of stress and urge forms.	
Overflow	A frequent dribble of urine as a result of inefficient bladder emptying. Symptoms are similar to stress incontinence.	Many causes such as spinal cord injury, diabetes, neurological damage, Parkinson's disease, Multiple Sclerosis, enlarged prostate.
Functional	Urine loss not associated with any pathology or problem in the urinary system.	Associated with physical or cognitive impairment such as immobility, Alzheimer's disease, or head injury.

Diagnosing Bladder Disorders

Diagnosing bladder disorders involves a complete urological evaluation. A physical examination will be done and your health history will be discussed. You may be asked questions about your fluid intake and urinary output, if you experience urine leakage in between trips to the toilet, medications you are taking, and your past medical problems. Your healthcare provider and variety of specialists may assist in the diagnosis.

There are several types of examinations and tests used to diagnose different types of bladder conditions including:

- Urinalysis
- Ultrasound (Sonography)
- Cystoscopy
- Urodynamic Exam
- Cystometrography

Further information about these studies is listed in the glossary.



Management and Treatment

The most common strategies used to manage or treat neurogenic bladder are medications and intermittent catheterization. Fluid management is often helpful in controlling symptoms as well. Behavioral techniques may also be recommended, and in some cases, special exercises or treatments can be given to help strengthen the pelvic floor muscles. Some of these topics are described to the right.

Medications

People with neurogenic bladder often benefit from the use of one or more medications that help their bladder store urine more effectively, or that help the bladder and the sphincters operate better. Anticholinergics are medications that are commonly used to help decrease bladder spasms, and can help reduce urinary incontinence. Anticholinergic medications are available in pill form and in patches that are worn on the skin. Other medications are available; ask your healthcare provider which medications might be best for you. If antibiotics are prescribed, be sure to take the full course.

Fluids

All of us need to drink enough fluid to promote healthy kidney function. The amount and type of fluids you should drink depend on your unique situation and the type of bladder problems you have. If your bladder tends to empty frequently or leak urine, you may find it best to limit your intake of beverages containing caffeine (coffee, tea, and carbonated drinks) because caffeine can increase bladder activity causing your symptoms to worsen. Alcoholic beverages can also stimulate the bladder to empty, so you may want to limit these as well.

If you are prone to frequent urinary tract infections, your healthcare provider may recommend you increase the amount of water you drink. If nighttime urination is a problem, stop drinking fluid the last few hours before you go to bed.

Some people believe that cranberry juice helps prevent infection, however clinical studies have not shown this to be effective. In addition, it should not be taken if you are on Warfarin. Be sure to discuss any special dietary or herbal remedies you are considering with your healthcare provider.

Management and Treatment *(Cont'd)*

Catheters

A catheter is a small hollow tube which is inserted into the bladder to drain urine when the bladder can't empty on its own; a condition called urinary retention. If the catheter is intended to stay in the bladder for hours, days or longer, it is called an indwelling catheter. If the catheter is inserted to drain the bladder, and then removed, it is called an intermittent catheter.

Intermittent Catheterization



Intermittent catheterization can reduce the risk of kidney damage and also of urinary tract infections in a bladder that does not empty properly. People who use intermittent catheterization as a method of emptying their bladder may need to do this up to four to six times each day. This will depend on how much fluid they drink.



Intermittent catheterization is easy to learn. Supplies can be carried discreetly in a pocket or bag, and the procedure can be done fairly quickly. To learn the procedure, you must learn where the catheter is inserted and how to use the product. You must also be able to reach your urethra and manipulate the catheter.



You can drain the urine through the catheter and into the toilet, or drain the urine into a disposable bag. Women can't always see their urethra and may learn to do the procedure by touch or by using a mirror.

People of all ages can learn intermittent catheterization. The procedure can also be performed by a caregiver or family member if you are unable to perform the procedure yourself.

Intermittent Catheterization *(Cont'd)*

There are three main techniques used for intermittent catheterization: clean technique; aseptic technique; and sterile technique.

Your healthcare professional will help you choose the most appropriate method for you. It's important, regardless of the technique you use, to be fully trained by a healthcare professional.



Clean Technique

If you use clean intermittent catheterization you should wash your hands and genital area before inserting a new catheter or a re-usable catheter that has been cleaned. Clean technique does not require the use of sterile catheters or gloves. If you wash and re-use your catheter, you should examine it for wear, as worn products can cause trauma to your urethra.

Aseptic Technique

If you use aseptic technique you will use a sterile catheter and it will remain sterile throughout the catheterization. Depending on the catheter you use, you may insert the catheter through a protective sleeve or use sterile gloves so that your fingers never come into contact with the surface of the catheter. Prior to catheterization, the genital area is cleaned with disinfectant and all of the supplies used for aseptic intermittent catheterization is thrown away after each use.

Sterile Technique

To achieve a sterile technique, you will use a completely sterile setting. This includes sterile gloves, forceps, gown and mask.

Intermittent Catheterization *(Cont'd)*

Other Types of Catheters

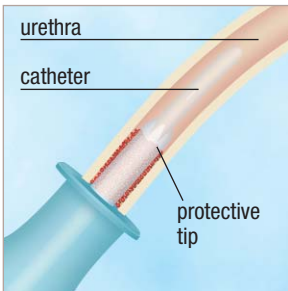
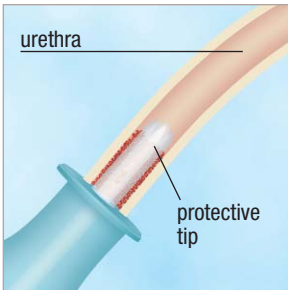
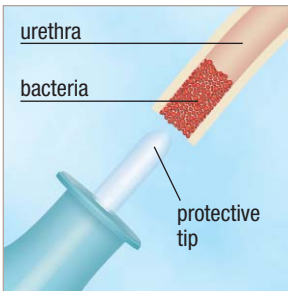
If you are unable to insert and remove a catheter to drain your bladder, you may need to use an indwelling catheter. This type of catheter is held in the bladder by an inflatable balloon and it provides continuous drainage. Complications of indwelling catheters may include urinary tract or kidney infections, blood infections (septicemia), urethral injury, skin breakdown, bladder stones, and/or blood in the urine (hematuria). Long term indwelling catheters are typically replaced by a healthcare professional every 10-12 weeks.

A suprapubic catheter is an alternative for individuals who have difficulty managing intermittent catheterization, such as those with paralysis of the arms and/or legs. A suprapubic catheter is an indwelling catheter that is placed directly into the bladder through the skin above the pubic bone. This catheter must be placed by a urologist during an outpatient surgery or office procedure. The insertion site (opening on the skin), and the tube, must be cleansed daily with soap and water.

With indwelling catheters, a drainage bag is typically required. There are two types of drainage bags. One type is a leg bag that attaches by elastic bands to the leg. A leg bag is usually worn during the day since it fits discreetly under pants or skirts, and is easily emptied into the toilet. The other type of drainage bag is larger. It may be used during the night and is usually hung on the bed or placed on the floor.

Choosing Your Intermittent Catheter

There is a wide variety of intermittent catheter products available. Understanding the different features will help you choose the catheter that is right for you.



Size and Design

Catheters come in a variety of sizes, materials and styles. Catheters in the US are sized on the "French" scale, abbreviated Fr. In Europe, catheters are sized on the "Charrière" scale, abbreviated Ch. Charrière and French are measures of diameter and 1 Charrière or 1 French is 1/3 of a millimeter. The higher the number, the larger the catheter. The most common sizes used by adults are 12Fr (12Ch) and 14Fr (14Ch), and it is generally best to use the smallest size that you can. Your healthcare provider will prescribe the proper size for you.

Intermittent catheters are available in different lengths. Generally, men use longer length catheters, about 16 inches (40 cm), and women and children use shorter lengths of 6 or 8 inches (15-20 cm). Children can use lengths between 8-16 inches (20-40 cm) depending on the child. For men, women and children, the catheter is inserted into the urethra until the tip of the catheter enters the bladder and urine begins to flow. The exact distance is different for every person.

Intermittent catheters are available with straight (Nelaton) and Coudé (Tiemann) or bent tips. Most people use a straight tip. The Coudé (Tiemann) or bent tip may be needed if you have an obstruction, such as a stricture.

Protective Tip

Some sterile catheters have a special, protective tip that covers the tip of the catheter. The catheter is advanced into the protective tip, and then the protective tip is inserted into the urethra. The protective tip prevents the catheter from coming into contact with the germs that are in the first 15 mm of the urethra (shown left). The protective tip protects the catheter from becoming contaminated, and helps to reduce the risk of obtaining a urinary tract infection.

Choosing Your Intermittent Catheter *(Cont'd)*



Catheter made from PVC



Pre-lubricated catheter

Catheter Materials

Intermittent catheters are usually made from PVC (polyvinyl chloride) or silicone. PVC is slightly stiff and catheters made from this material are often preferred for their ease of insertion. Silicone is flexible so the catheter is comfortable and easy to guide into the urethra. Silicone is an excellent choice for individuals with urethral sensitivities.

Lubrication

Lubrication is used to help the catheter slide easily through your urethra. This makes the procedure more comfortable and also helps prevent damage to the urethra. The most advanced intermittent catheters have lubrication inside the package. Others require you to use a gel lubricant from a separate package or tube. Other intermittent catheters are hydrophilic. These catheters have a special coating that becomes slippery once moistened with sterile water or saline.



Pre-lubricated catheter



Hydrophilic catheter



Closed system catheter



Catheter Kit

Pre-Lubricated Catheters

Pre-lubricated catheters feature a built-in reservoir filled with gel that automatically coats the catheter making it ready to use. The advantages of these catheters are improved safety and convenience. Pre-lubricated catheters support the aseptic technique for intermittent catheterization; therefore, you never need to touch the catheter to use it, and this reduces the risk of acquiring an infection. These catheters are also more convenient to use because there is no need to add separate lubrication.

Hydrophilic Catheters

These types of catheters are coated with material that becomes slippery when sterile water or saline is added, and this is all of the lubrication that is needed. The process of activating the coating may take place instantly, or it can require up to 30 seconds. The most convenient hydrophilic catheters come with their own water supply inside the catheter packaging.

Closed System Catheters

Some intermittent catheters are closed system catheters. This means the urine is drained into an attached collection bag instead of a toilet, so use and disposal are easy and discrete. The urine collection bag may have a handle for greater convenience and ease of use; and the handle can be hung on a wheelchair if needed. Closed systems are sterile, and this may reduce your risk of obtaining a urinary tract infection.

Catheter Kits

Some intermittent catheters come packaged with all of the supplies you need for the catheterization procedure including gloves, underpad, drape, and antiseptic wipe. These packages are called kits. Kits are ready to use, convenient, and contain the sterile products recommended to help prevent urinary tract infections.

Advance Line of Intermittent Catheters

For males and females, Hollister offers the Advance range of intermittent catheters that focus on safety, convenience and comfort.

Advance Intermittent Catheters are offered in a variety of styles including gel (pre-lubricated) and hydrophilic.

The main benefits of pre-lubricated gel catheters are hygienic catheterization and convenience.

The main benefits of hydrophilic catheters are low friction insertion and comfort.

Hollister also offers the option of a straight intermittent catheter which requires lubrication to be added.

Advance Plus Intermittent Catheter

Advance Plus Intermittent Catheters feature an integrated collection bag for secure urine collection until you're ready to dispose of it. These pre-lubricated catheters offer the “no-touch” method of insertion that may reduce your risk of developing a urinary tract infection.

- Ready-to-use, pre-lubricated, single-use, closed system
- Latex-free PVC material
- 1500 ml collection pouch with handle
- Unique protective tip
- No-touch insertion technique
- Unique gel reservoir
- 2 Ultra-smooth catheter eyelets
- Easy to open packaging



Ref. No	Tip	Size/Length	Box Qty
94064	Straight	06Fr/16in (40 cm)	100
94084	Straight	08Fr/16in (40 cm)	100
94104	Straight	10Fr/16in (40 cm)	100
94124	Straight	12Fr/16in (40 cm)	100
94144	Straight	14Fr/16in (40 cm)	100
94164	Straight	16Fr/16in (40 cm)	100
94184	Straight	18Fr/16in (40 cm)	100
95124	Straight	12Fr/16in (40 cm)	100
95144	Straight	14Fr/16in (40 cm)	100
95164	Straight	16Fr/16in (40 cm)	100

Advance Plus Intermittent Catheter Kit

Advance Plus Intermittent Catheters are also packaged in kits. Each kit contains an Advance Plus Intermittent Catheter, gloves, waterproof under-pad, and BZK towelettes. BZK towelettes are preferred over iodine for their ease of use and cleanup.

- Ready-to-use, pre-lubricated, single-use, closed system
- Latex-free PVC material
- 1500 ml collection pouch with handle
- Unique protective tip
- No-touch insertion technique
- Unique gel reservoir
- 2 Ultra-smooth catheter eyelets
- Easy-to-open packaging



Ref. No	Tip	Size/Length	Box Qty
96064	Straight	06Fr/16in (40 cm)	100
96084	Straight	08Fr/16in (40 cm)	100
96104	Straight	10Fr/16in (40 cm)	100
96124	Straight	12Fr/16in (40 cm)	100
96144	Straight	14Fr/16in (40 cm)	100
96164	Straight	16Fr/16in (40 cm)	100
96184	Straight	18Fr/16in (40 cm)	100
97124	Coudé	12Fr/16in (40 cm)	100
97144	Coudé	14Fr/16in (40 cm)	100
97164	Coudé	16Fr/16in (40 cm)	100

Advance Line of Intermittent Catheters

Advance Hydro Soft Hydrophilic Catheter

Advance Hydro Soft Hydrophilic Catheters are made of gentle silicone. These catheters provide convenience with their “all-in-one design”. The lubricious coating on the catheter is activated when it comes into contact with the sterile water contained in the enclosed packet. This style of catheter is ideal for individuals with urethral sensitivities.

- Single-use, hydrophilic-coated
- Latex-free silicone material for softness and flexibility
- Sterile water sachet inside catheter package
- 4 smooth eyelets for drainage
- Funnel end with uncoated grip area



Ref. No	Tip	Size/Length	Box Qty
80103	Straight	10Fr/6in (15 cm)	30
80123	Straight	12Fr/6in (15 cm)	30
80143	Straight	14Fr/6in (15 cm)	30
80163	Straight	16Fr/6in (15 cm)	30
80085	Straight	08Fr/10in (25 cm)	30
80105	Straight	10Fr/10in (25 cm)	30
80108	Straight	10Fr/16in (25 cm)	30
80128	Straight	12Fr/16in (40 cm)	30
80148	Straight	14Fr/16in (40 cm)	30
80168	Straight	16Fr/16in (40 cm)	30
80188	Straight	18Fr/16in (40 cm)	30

Hollister Intermittent Catheter

Hollister Intermittent Catheters are straight and the ready-to-use packaging allows for the clean method of catheterization. These catheters require you to use your own lubrication.

- Single-use, easy-to-peel packaging
- Latex-free, PVC material
- Smooth catheter eyelets for drainage
- Requires lubrication to be added



Ref. No	Tip	Size/Length	Box Qty
90062	Straight	06Fr/8in (20 cm)	30
90082	Straight	08Fr/8in (20 cm)	30
90102	Straight	10Fr/8in (20 cm)	30
90104	Straight	10Fr/16in (40 cm)	30
90122	Straight	12Fr/8in (20 cm)	30
90124	Straight	12Fr/16in (40 cm)	30
90142	Straight	14Fr/8in (20 cm)	30
90144	Straight	14Fr/16in (40 cm)	30
90164	Straight	16Fr/16in (40 cm)	30
90184	Straight	18Fr/16in (40 cm)	30

Frequently Asked **Q**uestions

Q: What is intermittent catheterization?

A: Intermittent catheterization is the emptying of the bladder at repeated intervals with the use of a catheter. This can be done by the individual (self-intermittent catheterization), or it may be done by someone else (assisted intermittent catheterization).

Q: How do I learn intermittent catheterization?

A: Intermittent catheterization can be learned in the hospital, in a clinic setting, or at home under the guidance of your healthcare professional. Women may need to use a mirror during the first few months of self-catheterization to facilitate the insertion of the catheter. Your healthcare professional will provide you with teaching materials such as a video, education booklet, product instructions and samples.

Q: How often should I catheterize?

A: This depends on how much you drink during the day and, more precisely, on how much urine you excrete. Normally, catheterization is done up to 4-5 times each day.

Initially, intermittent catheterization is done on a schedule. If you are unable to feel when your bladder is full, the right time is always before the bladder empties itself or “overflows” – that is, before incontinence occurs. The right time for emptying your bladder will be based upon your own experience. Keeping a urination journal (record of fluid intake and urination) is helpful to learn about your intermittent catheterization needs. In all cases, you want to catheterize enough times so that no more than 500 ml of urine are drained per catheterization procedure.

Q: What size catheter should I use?

A: Your healthcare professional will determine what size catheter is right for you. It should be small enough to prevent injury to the urethra and large enough to allow for the flow of urine.

Q: What features should a catheter have?

A: The material should be biocompatible (not cause allergic reactions); it should be flexible and accommodate the urethral contours; it should be made from a material that does not change shape when the temperature varies; it should provide atraumatic (gentle and comfortable) insertion; it should be ready to use (easy to handle and not requiring any extra equipment), and it should provide a “no-touch” application to reduce the risk of infection (insertion right from the package without the need to actually touch the catheter).

Q: What do I do if I am having my period?

A: Hygiene is especially important when you are menstruating. Every time you catheterize yourself, you should wash your genital area with a pH-neutral soap, and you should change your tampon or sanitary pad often.

Q: Can I perform catheterization during pregnancy?

A: Your healthcare professional will advise you as your pregnancy progresses but intermittent catheterization is safe during pregnancy.

Q: What are the signs of infection in the kidneys or bladder?

A: The signs of an infection in the kidneys or bladder are listed on page 10.

Q: How much fluid should I drink?

A: It is generally recommended that adults drink 6-8 glasses of fluid each day. Your needs may be different. Avoid drinks with caffeine as they can irritate the bladder.

Frequently Asked **Q**uestions *(Cont'd)*

Q: What do I do if I cannot pass the catheter into my bladder?

A: Usually if you cannot pass the catheter it is due to a spasm at the sphincter. Relax, take a deep breath or cough. Hold the catheter gently against the closed sphincter. It will usually open after a few seconds. Never force the catheter as you can cause injury to the urethra. If you cannot pass the catheter after 3 or 4 tries call your healthcare provider or go to the accident or emergency room. The healthcare provider will have special catheters available to catheterize you. If this problem occurs often you may need to use a catheter with a bent or coudé tip.

Q: Why do I have large amounts of urine when I catheterize at night?

A: During the day when you are sitting, fluid collects in your legs. When you are sitting you may notice that your feet and ankles become swollen. When you lie down at night all this fluid enters your blood stream, is filtered through your kidneys and fills up your bladder.

To reduce large amounts of fluid try these options:

- Lie down for an hour during the day, preferably in the afternoon
- Catheterize before going to bed for the night
- Catheterize in the middle of the night
- Limit your fluid intake after 6pm

Q: How do I catheterize on a trip?

A: Unfortunately planes, buses and trains do not have wheelchair accessible bathrooms. You can catheterize under a drape using a closed system catheter. Some individuals insert an indwelling catheter for trips and then remove them as soon as possible. When traveling, be sure to carry your catheter supplies in your carry-on luggage. Most airlines will allow an extra carry-on bag for medical equipment. Some airlines designate the first class toilet for people with disabilities. Check with the airline when making travel arrangements.

Glossary of Terms

Aseptic Intermittent Catheterization	The process of performing intermittent catheterization using sterile equipment and inserting the catheter in a sterile way. This means that either a ready-to-use product which can be inserted in a no-touch technique like the Advance catheter is used, or a hydrophilic catheter is activated with sterile water and inserted with gloves in a no-touch technique. This process is recommended by the European Association of Urology and many professionals in Europe.
Bladder	A hollow organ with a muscular wall that has two functions, the storage and emptying of urine.
Bladder Control	The ability to control urination.
Bladder Neck	The gathering of muscles where the bladder meets the urethra.
Catheter	A thin hollow tube that is passed into the bladder through the urethra to drain urine from the bladder.
Catheterization	The process of inserting a tube into the bladder to drain urine.
Charrière	A measurement of catheter diameter. 1 Charrière = 1/3 mm.
Clean Intermittent Catheterization	Insertion of a clean catheter into the bladder at regular intervals.
Continence	The ability to control the timing and process of urination and bowel movements at a socially accepted time and place.
Cystometrography	A test that measures the changes in pressure that take place within the bladder following continuous injection of fluids through internally placed catheters.

Cystoscopy	An internal evaluation of the bladder, urethra or prostate that is performed by inserting a small, rigid or flexible instrument that contains a light and magnification lens.
External Sphincter Muscle	A round voluntary muscle surrounding the urethra that opens and closes to hold urine in or let it drain out of the bladder.
French	A measurement of catheter diameter. 1 French=1/3 mm.
Health History	A comprehensive look at your medical history including information such as existing diseases, previous health problems, injuries, medications, and surgical procedures.
Incontinence	The involuntary loss of bladder or bowel control and the accidental loss of urine or stool.
Infection	A condition resulting from the presence of bacteria.
Intermittent Catheterization	Insertion of a hollow tube into the bladder to drain urine at timed or regular intervals.
Internal Sphincter Muscle	An involuntary muscle located at the bladder opening.
Kidneys	Two bean shaped organs which lie internally on either side of the spinal cord whose purpose is to filter waste from the blood and to produce urine.
Kidney Infection	A urinary tract infection that also involves the kidneys. Also called pyelonephritis.
Meatus	The opening of the urethra in both men and women.

Glossary of Terms *(Cont'd)*

Neurogenic Bladder	A bladder that does not function properly as the result of nerve damage.
Nocturia	The act of getting up during the night to urinate.
Overactive bladder	A condition in which the bladder is squeezing down too frequently causing incontinence or a frequent urge to pass urine.
Overflow Incontinence	The involuntary loss of urine occurring when the bladder is overfilled (overdistension of the bladder).
Pelvic Floor Muscles	Several small muscle groups that surround the urethra and rectum. They support the organs of the pelvis and help to maintain continence.
Prostate Gland	A small organ in males located below the neck of the bladder encircling the urethra.
Reflex Incontinence	The involuntary loss of urine due to detrusor hyperreflexia and/or involuntary urethra relaxation without warning or sensory awareness. This condition is only seen in the presence of neuropathic bladder disorders.
Reflux	The backward flow of urine from the bladder back through ureters and sometimes into the kidneys.
Stress Incontinence	The involuntary loss of urine associated with physical stress such as coughing, sneezing, climbing or lifting.
Suprapubic Catheter	A catheter that is inserted through the skin above the pubic bone and into the bladder for continuous drainage of urine.

Ultrasound	A scan which can be used to identify the shape and position of the urinary organs and other abdominal organs.
Underactive Bladder	A bladder with an overly large capacity that overfills. Loss of sensation due to this filling action results in a bladder that does not contract forcefully enough, and small amounts of urine dribble from the urethra.
Ureters	Two hollow tubes that carry urine from the kidneys to the bladder.
Urethra	A muscular tube that carries urine from the bladder to the outside of the body.
Urge Incontinence	The involuntary loss of urine associated with a strong desire to void (urgency).
Urinalysis	An examination of the contents of urine to determine the presence of infection, to diagnose metabolic disease (e.g. diabetes), and to obtain information about kidney function.
Urinary Incontinence	The involuntary loss of urine which is objectively demonstratable in a social or hygienic problem.
Urinary Tract Infection	An illness caused by the presence of bacteria in the urinary tract.
Urinate	To pass urine through the urethra outside of the body. It is also called voiding.
Urine	Liquid waste filtered from the blood by the kidneys.
Urodynamic	Measurement of the functional sequences within the lower or upper urinary tract.
Voiding	Urination.

Support Networks

There are support networks to answer your questions and guide you to the best solution for you.

The Miami Project to Cure Paralysis
(www.miamiproject.miami.edu)

The Christopher Reeve Paralysis Foundation (www.crfp.org)

National Multiple Sclerosis Society
(www.nmss.org)

Spina Bifida Association of America
(www.sbaa.org)

Paralyzed Veterans of America
(www.pva.org)

The Simon Foundation
(www.simonfoundation.org)

Seekwellness
(www.seekwellness.com)



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