

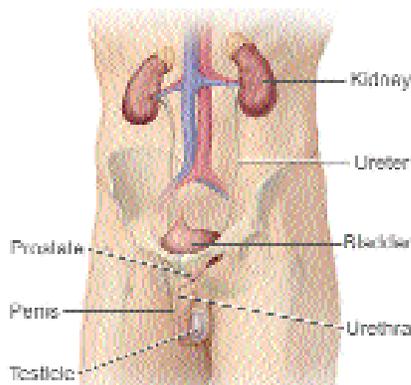


Managing Bladder Dysfunction

Your health care team prepared this booklet to help you manage problems with urination. Patients may have trouble with this bodily function due to such factors as stress, medication, disease, or treatment for a particular disease. You can, however, lessen your discomfort and control symptoms. Depending on their causes, bladder problems may be prevented, treated, or controlled. You may wish to consult a urologist (kidney specialist) who can determine the cause of your incontinence and help you manage this condition.*

The urinary system

The urinary system comprises the kidneys, ureters, bladder, and urethra. The kidneys are located on both sides of the spine, just below the ribs.

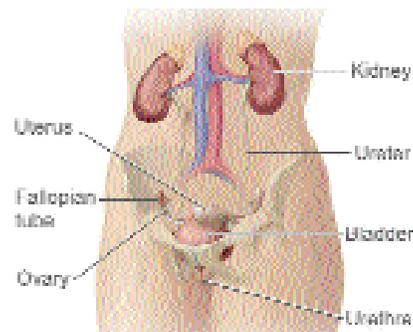


The male urinary system

The kidneys help control the amount of water stored in the body and regulate blood pressure. They filter waste from the blood and form urine to drain this waste. Urine is funneled from the kidneys into long tubes (ureters) connected to the bladder. From the ureters, urine enters the bladder where it is stored. Normally, when the bladder becomes full, the urge to urinate is signaled.

This signal also causes a muscle at the base of the bladder to relax or tighten to control the flow of urine. Urine is then excreted from the body through the urethra and meatus.

Urination is controlled by the autonomic nervous system. This system



consists of the same nerves that control such functions as body temperature, heart rate, and digestion--functions you do not have to think about. When disease or injury affects the ability of the brain to control these nerves, the bladder

may empty automatically whenever it is full, causing incontinence, or it may not empty at all, causing retention of urine. Your doctor may prescribe diuretics (water pills), which make the kidneys excrete more water and which may make you urinate more often. Some blood pressure medicines also work by controlling the excretion of both water and salt.

Normal urine

Normal urine is clear, yellow or amber, slightly acidic, and faintly aromatic. The average amount excreted daily is about 1 to 2 quarts depending on the amount of liquid consumed. The bladder will usually hold about 1 to 1½ cups of urine before the urge to urinate is signaled. It is not a good idea to hold urine for a long time after the urge to urinate is felt. An over-filled bladder cannot work properly and may contribute to urinary tract infection.

Urine may be acidic or alkaline depending on its pH. The more liquid you drink, the more dilute your urine will become. Dilute urine has a low pH and is acidic. Acidic urine reduces the chance of bacteria growth that may lead to urinary tract infection. Alkaline urine is concentrated and cloudy (with small particles in it) and has a higher pH, a strong odor, and more ammonia than acidic urine. Concentrated urine irritates the skin and makes the bladder more susceptible to infection and the formation of kidney stones. Concentrated urine can be corrected by increasing the intake of liquid, especially water.

Here are tips to help you correct concentrated, alkaline urine:

- Try to drink at least 2 quarts of liquid daily (unless your doctor orders otherwise). Drinking three to four 8-ounce glasses of cranberry juice daily will help reduce odor and keep urine acidic. Prune juice will also keep urine acidic. While you may think that citrus juices make urine more acidic, they really do the opposite. Limit your intake of citrus juices to 6 ounces daily. Keep a record of liquid intake.
- Record when you urinate and the amount of urine you pass (from urination or from catheterization). Also, note if your clothing was damp or dry when you urinated. The sample form on page 14 shows how to record this information.

Diagnosing bladder problems

In addition to a physical examination, your doctor may recommend certain tests to diagnose your bladder problems. These tests will provide more information about your problem to help determine the best treatment or management plan for you. Tests give the doctor information about how your urinary tract functions, whether your organs are normal, and whether there are any infections or neurologic or muscular abnormalities. Your doctor will order only those tests that will give the information needed to treat or manage your problem. Some of these diagnostic tests are the following:

■ radiologic or ultrasonic examinations

- renal ultrasound
- renal scan
- voiding cystourethrogram
- intravenous pyelogram (IVP)
- rectal ultrasound

■ post-void residual (PVR)

■ laboratory studies

- urinalysis
- urine culture
- blood studies

■ cystoscopy

■ urodynamic studies

- uroflowmetry
- cystometrogram (CMG)
- urethral pressure profile
- electromyography

Your doctor will explain the need for each test, and your nurse will give you information on how to prepare for the test and what to expect during and after the procedure. Be sure to ask questions about anything you do not understand.

Urinary tract infection

The presence of organisms (bacteria) in urine indicates urinary tract infection. Signs and symptoms of urinary tract infection include burning during urination and cloudy, strong-smelling urine containing particles. Urinary frequency and urgency, fever, chills, nausea, vomiting, or bloody urine may accompany urinary tract infection.

Some women are especially prone to developing urinary tract infections. In men, infection of the prostate gland (prostatitis) may lead to symptoms similar to those of urinary tract infection. Such factors as an overfilled bladder, poor personal hygiene, inadequate liquid intake, and bladder catheterization may increase the risk of urinary tract infection.

Diseases may also affect bladder function. Bacteria can grow in urine that is retained in the bladder, so it is important to empty the bladder completely at least every 3 to 4 hours. Be sure to drink adequate liquid so that you pass enough urine. To reduce the risk of urinary tract infection even further, cleanse the perineal area with soap and water and dry the skin in this area well.

Personal care products may irritate the bladder and cause urinary tract infections. These products include bubble bath, nylon underpants, and scented toilet tissue or sanitary napkins. Certain foods may encourage bladder problems as well: tomatoes, chocolate, alcohol, milk, and highly spiced foods.

Sexual practices may also cause bladder irritation. If urinary tract infections are a problem for you, you may wish to ask your doctor or nurse for advice.

Before a urinary tract infection can be treated, the organism causing the infection must be identified. You will be asked to provide a clean-catch urine specimen that will be sent to a laboratory for testing. This testing will indicate which drug (antibiotic) can kill the organism. Your doctor will then prescribe a drug to treat the infection. When you have symptoms of urinary tract

infection, see your doctor promptly. If left untreated, a simple infection could spread to the kidneys and lead to a life-threatening illness (pyelonephritis).

Clean-catch urine sample

The purpose of obtaining a clean-catch urine sample is to find out if there are any bacteria in your kidneys or bladder. This sample should be as free as possible from germs or bacteria. Usually, as urine passes from the body through the urinary opening (meatus), germs on the skin will be carried along with the urine and will contaminate the sample.

Clean the area around the urinary opening to remove the germs normally found on the skin. You will be given two soap pads with which to cleanse the area around the meatus. Use both pads, one at a time, with a single motion. Discard the pads after use. Women should wipe from front to back (labia to perineum) when using cleansing pads. Men should clean the head of the penis with the pads.

Even with this cleansing, however, some germs will remain. So, before you pass the urine that will be collected, pass a small amount to remove any germs left on the skin: do not collect this urine. Then, pass the urine again. When a steady stream is flowing, collect the urine directly into a clean plastic screw-top container. Be careful not to touch the inside or the lip of the container or lid. Label the container with your name and patient number, and give it to your nurse.

Treatment for urinary tract infections

Occasional urinary tract infections that do not last long (acute infections) are treated with antibiotics. When you have an acute infection, take all the medication prescribed. The infection may recur if you stop taking the medication when you begin to feel better.

Chronic or frequent bladder infections may require taking antibiotics continuously. Drugs taken in this way are usually given in doses lower than those used for treating acute infections.

Antibiotics are not used to treat a bladder infection when the patient has a Foley catheter. Bacteria will stick to the catheter and cause a recurrent infection once the antibiotics are stopped. However, long-term use of antibiotics in a catheterized patient may lead to infections that do not respond to antibiotics. If this happens, the patient is hospitalized, and the catheter is removed. Intermittent catheterization is used until the infection clears up.

Kidney or bladder stones

Occasionally, salt crystals form in very concentrated urine. These crystals usually contain calcium and may grow to form small stones. Stones usually form in the kidneys, but they may also form in the bladder when urine is retained. Stones formed in the kidneys may break free, pass down the ureters, and cause extreme pain. Stones can also be a source of infection.

Lithotripsy (using high-intensity sound waves to break up stones) is an alternative to the surgical removal of kidney stones. Bladder stones can usually be removed by inserting a special tube (cystoscope) through the urethra and into the bladder. Occasionally, treatment with medications is also required.

The best way to treat stones, however, is to prevent them in the first place. Drinking plenty of liquid and maintaining acidic urine are usually sufficient. Sometimes, stones will form despite these measures. In this case, your doctor will advise you of dietary changes and other measures that may be needed.

Urinary retention

Urinary retention is a term for being unable to urinate: urine is kept in the bladder instead of being emptied. This condition is caused when nerves no longer signal the bladder to empty, when the opening from the bladder is blocked, or when certain medications affect the bladder's nerves. Urinary retention may also be caused by surgery (during anesthesia) or muscle tension.

To prevent problems caused by urinary retention, empty your bladder completely. The bladder can be damaged when it is overfilled with unreleased urine. The following tips may help you to urinate and empty your bladder completely.

- Bend forward while sitting on the toilet.
- Do the Valsalva maneuver: bear down, as when having a bowel movement. You may also use your forearm to push on

the lower abdomen while bearing down. Do not push directly on your bladder (Credé technique) unless instructed to do so by your doctor. Urine may back up in the kidneys and cause infection or damage.

- Suprapubic tap: using your fingertips, briskly tap the area between your navel and pubic bone or penis.
- Repeat this tapping about once each second for up to 30 seconds.
- Run water in the nearby sink or flush the toilet.
- Run warm water over the genital area.
- Place your hands in a pan of warm water while sitting on the toilet.
- Drink while trying to urinate.
- Use relaxation techniques: close your eyes, breathe deeply. Make a conscious effort to relax muscles starting with your fingers, then move the relaxation to other parts of the body.
- Walk and exercise.
- Play audiotapes of water sounds.
- Stroke your inner thigh to stimulate urination.
- If you use a bedpan, warm it. Sitting on a cold bedpan will tighten your muscles.

Urinary incontinence

Urinary incontinence is the loss of voluntary control of urination. This condition is caused by urinary tract infections, inflammation,

nerve or muscle damage, tumors, psychological disturbances, or impaired mental function. You can work with your doctor or nurse to control or manage this problem. There are six types of incontinence:

- **Stress incontinence** is characterized by frequency and urgency as well as by uncontrollable loss of urine when coughing, sneezing, exercising, or lifting. This type of incontinence is common in women and is caused by weakness in the pelvic muscles and organs that support the bladder.
- **Urge incontinence** is characterized by frequency, urgency, and the inability to hold urine when the urge is present. In other words, the person can not reach the toilet in time. This incontinence is caused by neurological disease, infection, or a mass that irritates the bladder.
- **Reflex incontinence** results from an inability to feel when the bladder is full. This type of incontinence is associated with spinal cord injury or neurological disorders.
- **Overflow incontinence** is the inability to empty the bladder completely. This causes frequent urination in small amounts. The bladder eventually becomes overfilled, and urine begins to dribble out. This is commonly caused by an enlarged prostate, blockage of the lower urinary tract, or weakened bladder muscles.
- **Functional incontinence** is characterized by urination at inappropriate times and places, with no obvious urinary dysfunction.

tion. Impaired mental status caused by head injury, mental illness, or Alzheimer's disease often contributes to this type of incontinence.

- **Mixed incontinence** is a combination of dysfunctions occurring at the same time.

A urologist can do a complete evaluation to diagnose your condition and recommend a treatment or management program for you. There are treatment or management programs that use a variety of methods to deal with urinary incontinence: medication, biofeedback, surgery, bladder training, intermittent self catheterization, an external catheter, or an internally implanted device.

General hints for managing urinary incontinence

- **Notify your doctor** if you have signs of bladder or kidney infection: fever, chills, cloudy, strong-smelling urine, flank pain, frequency or urgency, burning when passing urine, nausea, vomiting, or blood in the urine.
- **Use the best kind of padding** to prevent embarrassment. (See section on supplies and equipment to manage incontinence.)
- **Have a commode chair** ready for people who are handicapped and for those with bladder urgency.
- **Realize that you can share feelings** with your partner about your inability to control urination. Your nurse can refer you to other health care professionals to help you cope with the problem.

- Start a regular schedule for urination: urinate upon waking, a half hour after meals, before physical exercise, and at bedtime.
- Try to be near a bathroom or commode chair.
- Do Kegel exercises (for stress incontinence). Do these exercises while sitting in a chair. Place your feet on the floor and spread your knees. Practice tightening and relaxing pelvic muscles in sets of ten, at least four times daily. In addition to these exercises, you can strengthen your bladder muscles by trying to start and stop the urine stream whenever you urinate.

Neurogenic bladder

Neurogenic bladder refers to a bladder in which normal nerve or muscle control is impaired or lost. This condition may cause urinary retention, incontinence, or a combination of the two. A person may appear to urinate normally, though, in reality, urine is backing up in the kidneys (reflux) and causing severe damage.

Causes of neurogenic bladder include brain or spinal cord injury, tumors in the spine, stroke, and other neurological disorders. A particularly frequent cause is the use of medications that affect the nervous system.

Common drugs that may impair normal bladder function include antidepressants, antihistamines, pain killers, blood pressure medicines, and drugs used to control nausea. Over-the-counter cold

medicines and sleeping pills may cause urinary retention, and such illicit drugs as marijuana and cocaine may also lead to dysfunction. If you think that a prescription drug is causing problems with urination, do not stop taking your medication. Contact your doctor as soon as possible and explain your problem.

A patient with neurogenic bladder should be carefully evaluated by a specialist, preferably a urologist, with training in managing such disorders. Several tests may be required to determine the type of nerve or muscle damage. Treatment may require the use of medications catheters or collection devices, or, in certain circumstances, surgery.

Medications used to treat neurogenic bladder

A variety of medications can treat bladder problems resulting from nerve or muscle dysfunction. Most of these drugs work by changing the actions of the autonomic nervous system which controls bladder function.

Some drugs relax the muscle that contracts the bladder; others increase the force of contraction. Some drugs tighten the urinary sphincter (valve) to reduce incontinence; others relax the sphincter to allow increased urine flow.

Because these medications affect the entire autonomic nervous system, you may have such side effects as a dry mouth, constipation, decreased sweating, decreased exercise and heat tolerance, rapid heartbeat or palpitations, or drowsiness.

Some of these side effects will improve in time or become less troubling. A dry mouth may be treated by chewing sugarless gum, sucking on candy or ice chips, or by using saliva substitutes. Drowsiness usually resolves but could cause severe injury if you drive or use heavy machinery. If you have questions about side effects, discuss them with your doctor, pharmacist, or nurse.

Supplies and equipment to manage incontinence

Special equipment and supplies are available to help you manage incontinence. Supplies may be obtained from a local medical/surgical supply store, some drug stores, supermarkets, or discount department stores. Since various qualities and designs are available, select the brand that best suits your needs, feels comfortable, and keeps moisture away from your body while it keeps clothes dry. Such equipment as commode chairs and bedpans may be borrowed from some health care organizations, or they may be bought or rented. Here is information about the available supplies.

Padding/diapers (to wear or to protect bed linens)

Padding must be checked every 3 to 4 hours depending on how often incontinence occurs. To avoid prolonged skin exposure to irritating urine, change wet padding as soon as possible.

Select an absorbent brand of padding or diapers that does not hold moisture against the skin.

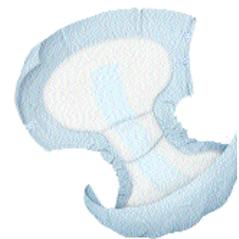


undergarment

Some padding is designed specifically to wear as a disposable diaper.



disposable briefs



contoured diaper

Other padding protects bed linens or furniture. Sometimes a diaper is enough; at other times more padding is needed for a larger amount of incontinence at one time. We recommend using thinner padding that needs to be changed more often rather than using thicker padding that can prolong skin exposure to urine.



disposable underpad

Deodorizers

Many odor eliminators are available. Select one made specifically for biological odors (urine, feces, or vomitus). The deodorizer has a special ingredient to break down the bacteria or substance causing the odor.

Household deodorizers work on airborne odors, but not on bodily fluids. Follow the directions on the container for proper use.

External collecting devices for men and women

Many types of externally applied devices and brands of external catheters, both disposable and reusable, are available.

The disposable external device for men is most often used. It is an easy and effective method of directing urine into a drainage bag. Your nurse will help you select and apply this device. He or she



external collecting device for men

will also show you how to use the various types or brands.

Written instructions are usually included in the products packages for your reference. Be sure you understand how to use this equipment.

There are special external devices available for women. These devices may be recommended by your doctor or nurse for certain types of incontinence. You will be examined and measured for proper fit and taught how to use these devices. Written directions will also be provided.

You will be given the telephone number of someone to contact if you have questions or problems.



external collecting device for women

Intermittent self-catheterization for men and women

This method uses clean technique to drain urine from the bladder at scheduled times. A catheter (tube) is inserted through the urethra and into the bladder for urination. It is removed when the bladder is empty. This method is used only when ordered by your doctor and after you have received instructions from a nurse.

The nurse will help you during practice sessions until you feel comfortable doing the technique by yourself. Many patients find that intermittent self-catheterization effectively manages certain types of incontinence.

Indwelling catheter (Foley catheter) for men and women

This is a special catheter inserted into the bladder to drain urine continuously. The catheter has a balloon on the end entering the bladder. When the balloon is inflated, the catheter is anchored in the bladder. The catheter remains in place until the doctor wants it removed.

Skin care

People unable to control urination may develop skin irritation or skin breakdown. As part of your skin care program, good hygiene and adequate skin protection can help you maintain healthy skin.

Careful attention to skin care includes taking a daily bath, with special care to the genital areas and the buttocks. Both areas are exposed to urine after each incontinence. Urine that remains on the skin may cause irritation and skin breakdown. If skin break-down develops, you will feel very uncomfortable and may develop bedsores and infections.

Many skin care products are available from medical/ surgical supply stores. Most brands are pH balanced: they are less alkaline than most soaps and less irritating to the skin. Skin cleanser should be used after each incontinence.

Recommended skin care program

- Cleanse the genital area and buttocks daily and after each incontinence. Dry the area thoroughly: pat dry, do not rub.
- Women should use liquid cleanser to wash from front to back to prevent fecal bacteria from contaminating the urinary meatus or vagina. Rinse this area well and gently dry thoroughly.
- Check the perineal area every 3 to 4 hours. Skin must be cleansed after each incontinence, and soiled clothing or linen must be changed.

- Skin care for the elderly incontinent patient is also important. Since sweat gland function is decreased, less frequent bathing is suggested. “Sponge baths” can be taken between tub baths. Generously apply lubricating lotion to all body surfaces. Areas exposed to incontinence may need more frequent cleansing. Pay special attention to the perineal area and buttocks.
- Apply proper skin care items to cleanse, heal, and protect the skin.

Coping with incontinence

Sometimes, despite your best efforts, urinary continence is not achieved. This does not mean that you have been negligent or that you have not tried hard enough. The underlying disease or disorder may not allow your bladder management program to work. Even when you try hard to control incontinence, accidents during travel or illness may occur.

Urinary incontinence affects your general feeling of wellness. Loss of bladder control affects not only you but family members and friends.

When family members and friends accompany you on a trip or social event, they must be prepared to alter plans when accidents occur, let you have frequent bathroom stops, and help you carry incontinence supplies.

Urinary incontinence affects each patient differently. Some cope and adjust

their needs, while others use humor to relieve their anxiety. Some retreat to their homes to avoid the embarrassment caused by their loss of control.

Many people find that counseling helps them cope with their embarrassment about being incontinent. If you feel the need for support or counseling, your doctor or nurse can give you information. There are self-help and support groups that work with people with incontinence. These groups offer psychological support and provide education and product information to keep people with incontinence informed about managing this condition.

By learning techniques or methods to manage incontinence, you can feel good about yourself and continue to lead your life normally.

You may want to consider the following to help you maintain your usual life-style:

- If you wear adult diapers or special padding, you may need to wear loosely fitting clothes.
- Control odor by practicing good personal hygiene.
- Have enough supplies on hand for washing up and changing clothes.
- To help avoid accidents, follow your recommended bladder management program.
- Stressful situations may cause accidents: be prepared for these times.

- Select the most appropriate garments or padding to contain urine and avoid odor and embarrassment. (Refer to the section on supplies and equipment for hints and descriptions of incontinence supplies.)

Specialized management and treatment of bladder dysfunctions

Prostatectomy and sphincterotomy

In some men, an enlarged prostate gland may block the flow of urine. When this happens, a surgical procedure (TURP or prostatectomy) is used to open up the urethra by removing part of the prostate.

In some types of neurogenic bladder, a valve called the urinary sphincter may fail to open, preventing the flow of urine. While neurogenic bladder may be managed by medications or catheters, it may be necessary to cut the sphincter muscle surgically. This procedure is called a sphincterotomy or TURS. After surgery, a collection device, such as an external catheter, may be needed.

Bladder neck reconstruction

In women, weak pelvic muscles may cause incontinence. This condition can usually be corrected by doing Kegel exercises.

Pelvic muscles may also be weakened by previous trauma or childbirth. Surgery may restore normal bladder function in women whose incontinence is due to these causes.

Urinary diversion and nephrostomy
Certain bladder dysfunctions are managed surgically by using special drainage tubes or an ostomy to divert the normal flow of urine from the kidneys to the bladder. With the aid of an x ray machine (fluoroscope), a drainage tube is inserted into the kidney. The tube comes out through the skin on the side of the abdomen.

Drainage tubes may also be inserted into the ureters through the bladder by using a special instrument called a cystoscope. This procedure is done in the operating room. If more extensive surgery is needed, the surgeon creates a stoma or urostomy in the abdomen. The ureters are disconnected from the bladder and inserted into a small loop of bowel. This loop drains urine through the stoma and into a urine pouch.

If either of these methods is planned, wound, ostomy, continence nurse (WOCN) will help the primary nurse with your care. You will be given information and counseling before and after the operation. Special teaching booklets are available for these procedures.

Safety measures for taking medications

Medications can ease many bladder problems. Medications are often prescribed to treat urinary incontinence, bladder spasms, and to prevent or treat bladder infections. To get the most out of your medications and to ensure their safety, follow these guidelines:

- Take your medications as directed. It may be important to take drugs at specific times, such as before or after meals. Try to take your medications at specific times during the day.
- Be sure you understand the directions on your prescriptions. The phrase “four times a day” may mean after meals and at bedtime or every 6 hours depending on the medication. If the directions are unclear, ask the doctor, pharmacist, or nurse to clarify them for you.
- If you miss several doses (two or more), do not try to make them up by taking all the doses at once. If you are concerned about missing two or more doses, call your local doctor or pharmacist.
- You may consider using a medication reminder container to help you stay with your medication schedule. Check with your local pharmacist for more information.
- Do not stop taking your medications when you begin to feel better. This may interfere with the proper treatment of your problem, and, in some cases, may worsen your condition. Be sure your doctor is aware if you stop taking your medications for any reason.
- The NIH Clinical Center Pharmacy does not usually refill medication without a new prescription written by a Clinical Center doctor. The pharmacy can mail certain medications, but mail

service requires more processing and time. If you must take medication for a long time, be sure you have enough to last until your next clinic visit, or contact your doctor about a month before your supply runs out.

- Never share your medication with someone else or take someone else's medication. Your doctor has written a prescription strictly for you that takes into account your age, weight, sex, and physical condition.
- Keep medications out of reach and sight of children. Because pockets or purses are easily accessible to children, avoid keeping drugs in such places. If possible, keep drugs in a locked cabinet. Avoid taking medication in front of small children who may try to follow your example.
- When traveling, especially by plane, keep your medications in carry-on luggage to assure easy access and to prevent the medications from being lost.
- If you are being treated by more than one doctor, make sure that each is aware of all the medications you take, including nonprescription drugs (antacids, pain relievers, laxatives) that are routinely taken. Interactions between prescription and nonprescription medications can produce unwanted effects. Also, make sure that every doctor you see is aware of any allergies or bad reactions you have had to any drug.

- Store your medication properly. Do not store any medication at high temperature (85 degrees Fahrenheit or greater), high humidity (bathroom cabinets), or in direct sunlight. Make sure that the name of the medicine is on every container you receive. Do not remove medication from labeled containers and place it with other medication in another container.
- When prescriptions are changed, dispose of medications no longer used, unless you are told otherwise.
- Check all medication containers for an expiration date, and dispose of medications when they are outdated. The effects of medications may be decreased or altered when they are outdated or old.



2007

This information is prepared specifically for patients participating in clinical research at the Clinical Center at the National Institutes of Health and is not necessarily applicable to individuals who are patients elsewhere. If you have questions about the information presented here, talk to a member of your healthcare team.

Where applicable, brand names of commercial products are provided only as illustrative examples of acceptable products, and do not imply endorsement by NIH; nor does the fact that a particular brand name product is not identified imply that such product is unsatisfactory.

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Questions about the Clinical Center?
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Sample Intake and Output Record

Date	Intake (mLs)	Output What you collect <i>before</i> using the catheter (mLs)	Post-Void Residual What you collect <i>after</i> using the catheter (mLs)
6 a.m.			
7 a.m.			
8 a.m.			
9 a.m.			
10 a.m.			
11 a.m.			
12 noon			
1 p.m.			
2 p.m.			
3 p.m.			
4 p.m.			
5 p.m.			
6 p.m.			
7 p.m.			
8 p.m.			
9 p.m.			
10 p.m.			
11 p.m.			
12 midnight			
1 a.m.			
2 a.m.			
3 a.m.			
4 a.m.			
5 a.m.			