Care of the patient with bladder

Be prepared to provide competent and quality care for patients with this life-changing disease.

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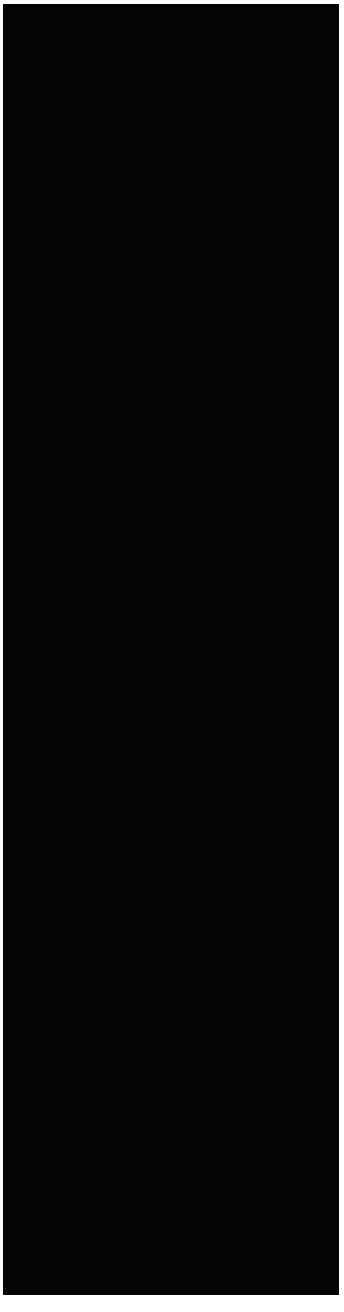

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The incidence of bladder cancer has steadily increased; in 2013, it ranked as the sixth most common form of cancer. For this reason, the probability of being assigned to care for a patient with newly diagnosed bladder cancer is high. The probability of providing nursing care for a patient with a past medical history of bladder cancer who has a urinary diversion is even higher. As a result, you'll want to stay up to date with standards of care for bladder cancer. Incorporating best practices into your nursing care plan facilitates the provision of excellent care that leads to optimal patient outcomes.

Types of bladder cancer

The urinary system includes the kidneys, ureters, bladder, and urethra (see *Picturing the urinary system*). Cancer that affects the urinary system is known as urothelial cancer because the abnormal cancer cells begin in the urothelium—the epithelium that lines the urinary tract. The most common site of urothelial cancer is the bladder.

There are different types of bladder cancer, depending on the kind of cancer cell and the layer(s) of the urothelium affected. Transitional cell carcinoma is the most common type of bladder cancer, which affects the inner lining of the bladder. Squamous cell carcinoma is caused by thin, flat cells that can form in the bladder, leading to cancer. The third type of bladder cancer—adenocarcinoma—is very rare and begins in the secretory cells.

cancer

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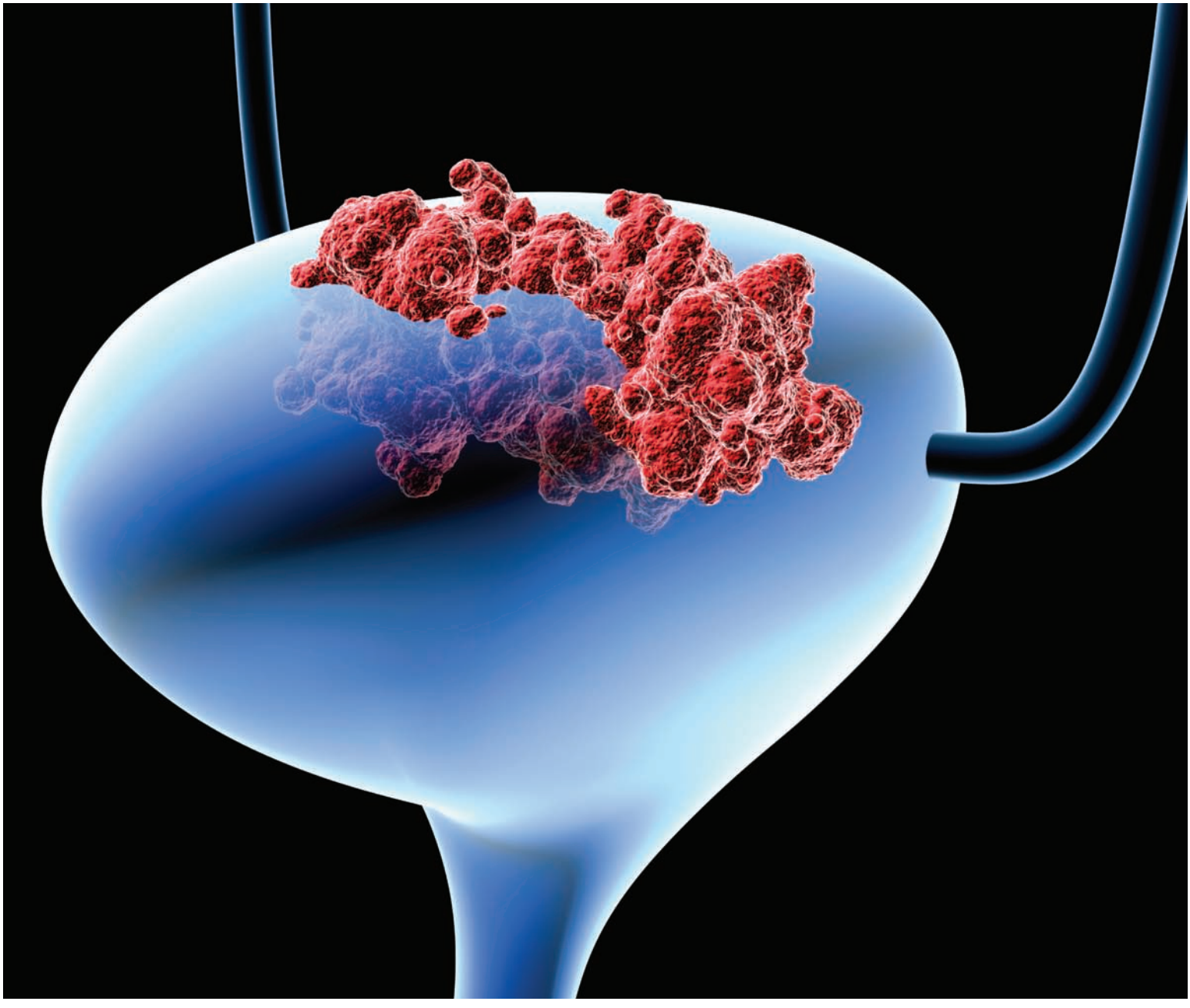


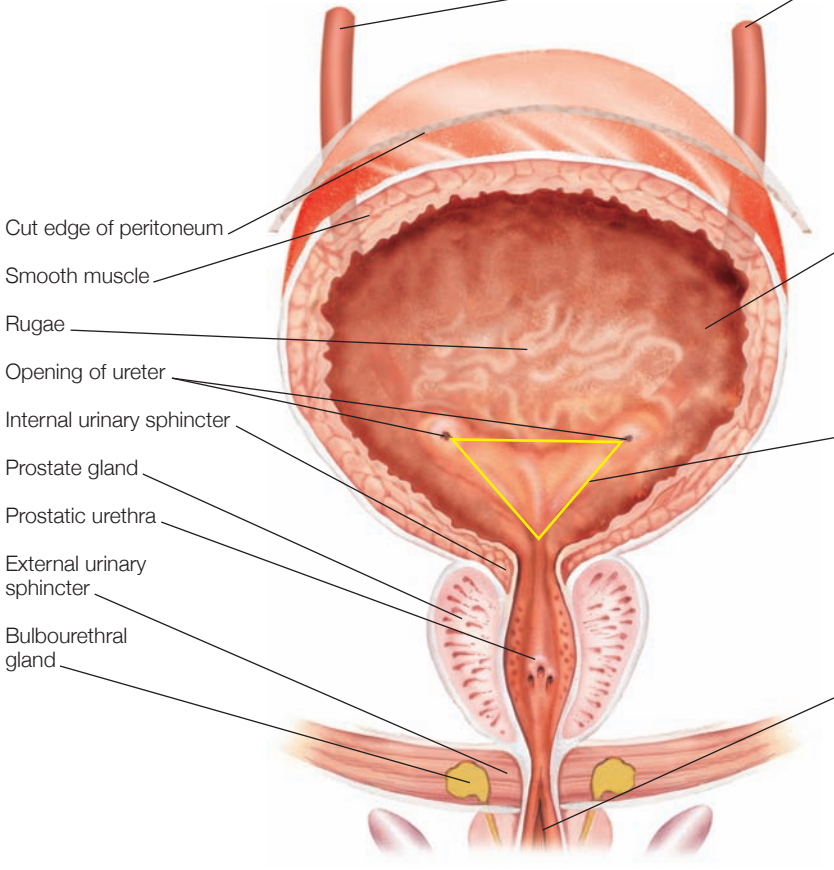
Cause and effect

As with many other types of cancer, the primary cause of bladder cancer is cigarette smoking or other tobacco use. The length of time an individual has been a smoker and the packs-per-day he or she smokes have been linked to poorer outcomes. Tobacco smoke causes more than half of all bladder cancers. Many compounds that are found in cigarette smoke are carcinogens and remain in the bladder until voided by the patient.

Occupational exposure is the second most common risk factor. Occupational exposures include printing, iron and aluminum processing, industrial painting, metal work, machining, and mining. Hair dressers are also at risk because of hair dyes. Patients receive these carcinogens through direct skin contact and inhaling aerosols and vapors.

A family history of bladder cancer also increases the risk. Other risk factors include exposure to certain chemicals over a long period of time, consuming a high-fat diet,

Picturing the urinary system



The **URETERS** are fibromuscular tubes that connect each kidney to the bladder. They act as conduits that carry urine from the kidneys to the bladder. The left ureter is usually slightly longer than the right ureter (because the left kidney sits higher than the right).

The **BLADDER** is a hollow, sphere-shaped, muscular organ in the pelvis. Its function is to store urine. (The normal adult bladder capacity ranges from 500 to 600 ml.)

The base of the bladder contains three openings that form a triangular area called the **TRIGONE**. Two of the openings connect the bladder to the ureters, and the third connects the bladder to the urethra.

The **URETHRA** is a small duct that channels urine from the bladder out of the body. In the female, the urethra is embedded in the anterior wall of the vagina behind the symphysis pubis. In the male, the urethra passes vertically through the prostate gland and then extends through the urogenital diaphragm and the penis.

recurrent bladder infections, long-term use of urinary catheters, and having had radiation therapy as a result of gynecologic or prostate conditions.

The tell-tale symptom of bladder cancer is painless hematuria; your patient will report seeing blood in the urine that doesn't have associated pain. More than 75% of patients with bladder cancer present with hematuria. This should always be considered a serious sign. Usually, the patient presenting to a primary care office is referred to a urologist. Your patient may also complain of changes in his or her urinary pattern, including frequency, the feeling of urgency, or the inability to urinate. Patients may also present with flank pain, weight loss, and leg edema.

As the cancer progress, the patient may begin to have pain on urination and lower back pain. Because these symptoms can be related to other conditions, a definitive diagnosis of bladder cancer must be made.

Diagnosis and staging

The gold standard diagnostic test for bladder cancer is cystoscopy—an imaging study in which a tube with a camera is inserted into the bladder through the urethra for the purpose of visualizing the bladder wall to identify the presence of cancer cells. Other possible imaging studies include magnetic resonance imaging, computed tomography scanning, and I.V. urography. Urine cultures and a biopsy of the tumor are other options to help make the diagnosis.

After a definitive diagnosis of bladder cancer is made, medical management options will be discussed with your patient. The course of treatment depends on the type and stage of cancer, and your nursing care will be based on the medical treatment plan implemented.

Bladder cancers are either nonmuscle invasive or muscle invasive. Early-stage, or superficial, bladder cancer affects the bladder lining, whereas later stages, known as invasive bladder cancer, move beyond the lining to the muscle and can spread to nearby organs (see *Bladder cancer staging*).

Bladder cancer staging

Stage I	Stage II	Stage III	Stage IV
The cancer is superficial, confined to the layer of connective tissue and inner lining of the bladder.	The cancer has moved to the muscle layer of the bladder.	The cancer has spread (metastasized), beyond the muscle to the immediate tissue beyond the cell and toward the reproductive organs.	The cancer has metastasized completely from the bladder to the pelvis, abdomen, lymph nodes, or other areas such as the lungs.

Treatments on tap

Generally, nursing care will consist of helping the patient with strict fluid balance, nasogastric tube assessments, restricted diet, wound care, stoma care, mobilization, and self-care. More specific care will be dependent on the medical treatment given.

When the cancer is superficially confined to the first layer of the bladder wall, biologic therapy or immunotherapy is prescribed to boost the patient's immune system. The most effective agent to date is bacillus Calmette-Guérin (BCG)—a bacterium related to tuberculosis. BCG is often used in other countries as a vaccine for tuberculosis; however, in the United States it's approved for treatment of early-stage bladder cancer.

If ordered for your patient, you'll administer BCG by using a catheter tube to directly instill it into the bladder for a dwell time of approximately 2 hours. After the ordered dwell time is complete, the patient releases the BCG by voiding, followed by drinking fluids to help flush any remaining BCG from the bladder. The typical frequency of treatments is once a week for about 3 weeks; at that time, the physician will reevaluate the patient to determine if continued treatments are needed. After receiving BCG, the patient will always have a positive tuberculin skin test because BCG is a live strain of the agent that causes tuberculosis.

Aggressive radiation therapy may also be used preoperatively for patients who require

surgery in an attempt to kill the cancer cells and keep them from growing. You may find that radiation therapy is prescribed for your patient in combination with chemotherapy with the goal of reducing the chance of cancer recurrence. Chemotherapy is prescribed based on the type of cancer cell and may be delivered via I.V., by mouth, or intravesically (instilled directly into the bladder). Nursing management will depend on the type of chemotherapy prescribed.

In addition to the use of an intravesical agent to manage recurrent bladder cancer, there are other types of chemotherapy that have been successful. These include a combination of methotrexate, doxorubicin, vinblastine, and cisplatin.

Keep in mind that when providing nursing care for patients receiving chemotherapy, there are key nursing interventions that are important to include in the care plan, such as assessing for adverse reactions and managing them accordingly. More specifically, include infection and injury prevention and track lab result trends. Initiate neutropenic precautions when the patient's white blood cell (WBC) count reaches a significantly lower than normal level, typically less than 2,000/mm^3.

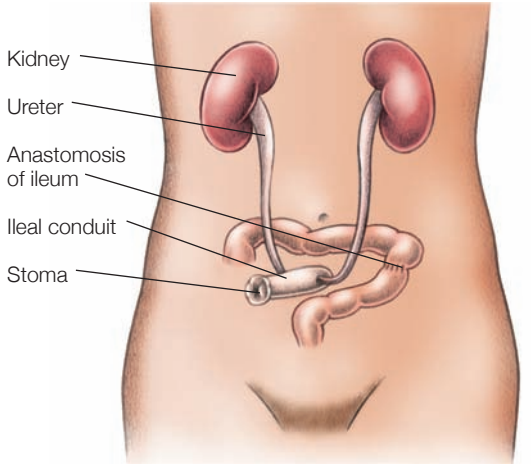
When the cancer is in the later stages, surgical intervention is required. Possible surgical interventions include transurethral resection with fulguration and cystectomy. Fulguration involves inserting a cutting or high-frequency electrical tool through the urethra to remove or burn the cancer cells away. Cystectomy may be partial (removal of just the bladder) or radical (removal of the bladder, surrounding lymph nodes, part of the urethra, and nearby organs that may contain cancer cells).

After the bladder is removed, a new method for diverting urine from the body must be established. There are two types of urinary diversions: cutaneous urinary diversion and continent urinary diversion. In addition to standard nursing care of the preoperative and postoperative patient, your primary nursing interventions will depend on the type of urinary diversion created.

Creating an ileal conduit

To create an ileal conduit, the surgeon excises a segment of the ileum and closes the two resulting ends. Then he dissects the ureters from the bladder and anastomoses them to the ileal segment. He closes one end of the ileal segment with sutures and brings the opposite end through the abdominal wall to form a stoma.

Because urine empties continuously, the patient must wear a collecting device or pouch after the procedure.



Urinary diversions 101

The most common cutaneous urinary diversion is the ileal conduit in which a passage (conduit) is created using the patient's intestines (see *Creating an ileal conduit*). This conduit is also referred to as an ileal loop. With this type of diversion, urine is diverted through a stoma on the abdominal wall and collected in an external pouch. Your priority responsibility for caring for the patient who has an ileal conduit is prevention of complications.

Examine the stoma regularly, at least every shift, and more frequently (every 4 hours) within the first 48 hours after it's created. The stoma should always be pinkish-red and moist. If at any time the stoma is dusky or any shade of blue, you should suspect impaired perfusion, which

Routine stoma care

Steps	Tips	Avoid
Before		
• Collect the stoma kit or equivalent per your facility's policy. • Explain your actions to the patient. • Perform hand hygiene and don clean gloves.	• Assess the patient's readiness to learn; begin self-care teaching if appropriate.	
During		
• Wash the stoma area with warm water and let dry. • Open the stoma kit or equivalent. • Select the most appropriate size stoma drainage bag that matches the stoma. • Cut the opening one-eighth of an inch larger. • Trace the selected size onto the back of the adhesive side. • Close the bottom of the pouch with the closure clamp or valve (depending on the type of pouch). • Use the smallest opening around the stoma to prevent urine from leaking on the patient's skin. • Remove the backing from the adhesive side of the pouch and apply barrier paste to the circular opening (as recommended by the manufacturer).	• This area can be patted dry gently. • Use the measuring guide from the stoma kit. • Some pouches consist of two parts and contain a pouch that snaps in place. • Gently press the pouch over and around the stoma.	• Avoid the use of alcohol, alcohol wipes, abrasive soap, oils, and lotions around the stoma because these can be irritating. • Don't use the rough edges of the cut area of the bag that encircles the stoma.
After		
• Clean your work area. • Remove your gloves and perform hand hygiene. • Document the date and time of the pouch change; the stoma color and general appearance; and the amount, type, and consistency of the drainage.	• Educate the patient to observe the skin surrounding the stoma. • Explain that any changes, such as color, temperature, and irritation, should be reported to the healthcare provider.	

can lead to necrosis. This is considered an emergency; notify the surgeon immediately. For specific stoma care steps, see *Routine stoma care*.

Other primary complications include infection and wound dehiscence. One key nursing intervention to help prevent infection is the use of a larger drainage bag at night. This will prevent urine from backflowing through the stoma when the patient is sleeping. Early recognition and intervention is needed to minimize complications and prevent your patient from needing to return to surgery. Signs and symptoms of infection may include, but aren't limited to, fever, elevated WBC count, redness, odor, and delayed healing.

Dehiscence is the separation of part or all of the wound layers. When all of the wound layers separate, internal organs can be exposed. If this occurs, the impaired wound healing is referred to as evisceration. When monitoring for dehiscence or evisceration, consider the number of post-op days, keeping in mind that these conditions occur most often between the fifth and tenth day after surgery.

A continent urinary diversion is an internal reservoir used to collect urine. Unlike an ileal conduit, it doesn't require the patient to wear an external pouch. There are two primary types of continent urinary diversions: the neobladder (considered a bladder substitute) and the continent ileal reservoir (Kock pouch).

The neobladder is created using the patient's small intestine, which is formed into an internal pouch; placed at the same position of the original bladder; and connected to the patient's urethra. Although the new bladder may not function completely normal, the goal is to empty the neobladder by voiding in a natural manner. As with any reconstructive surgery, be sure to educate the patient on what changes to expect. The most common challenge many patients face after the creation of a neobladder is urinary incontinence. This potential for accidental leakage can have a negative effect on quality of life.

Consequently, instruct the patient on methods to retrain bladder functioning. Kegel exercises are the best method for strengthening the pelvic floor muscles, giving the patient the ability to control the flow of urine. Kegel exercises are especially beneficial for women. Instruct the patient that Kegel exercises are done by the systematic stopping and starting of the urine flow. Teach the patient to start his or her flow of urine, stop it, hold for about 5 to 10 seconds, then release for about 5 to 10 seconds. This stop/start cycle should be done in sets of 10 to 15 with each voiding. Instruct your patient on the use of incontinence underwear to help prevent leakage while the bladder is being trained.

The Kock pouch is also created using the patient's small intestine to create an internal pouch, connected to the ureters, and attached to a stoma on the abdomen wall (see *Creating a continent ileal reservoir)*. The patient with a Kock pouch must be taught how to drain the pouch by self-catheterization and also how to care for the stoma.

Instruct the patient on the procedure for self-catheterization, including the supplies needed, such as a 14g French catheter either red rubber or latex, a container to collect the urine, and a water-soluble lubricant. Stress the importance of avoiding nonwater-soluble lubricant so as not to clog the catheter or provide a ground for bacteria growth. Teach the patient about the importance of maintaining a clean environment to prevent infection.

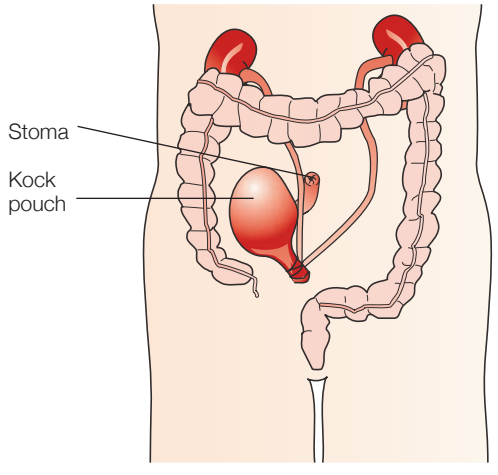
Include the following steps in your patient teaching:

- Gather the needed supplies.
- Wash your hands and then position yourself in a comfortable position.
- Lubricate the catheter and gently insert the lubricated end into the stoma opening, advance about 6 inches or until urine flow is seen, and allow urine to flow in the container.
- After the flow of urine stops, gently remove the catheter while pinching it off.
- Clean any urine leakage off the skin, wash the catheter with warm soapy water, and rinse.
- Place the catheter on a clean towel and allow it to air dry.

Creating a continent ileal reservoir

To create a continent ileal reservoir (Kock pouch), the surgeon forms an internal pouch from a segment of the small bowel or colon. He implants the ureters into the sides of the pouch, with each ureter intussuscepted to create a nipple valve. Then he brings the efferent ureter and nipple valve to the skin surface of the anterior abdomen as a stoma and to prevent urine leakage from the pouch. The afferent ureter and nipple valve prevent urine reflux.

Because the pouch is internal and can hold urine without leakage, the patient won't need to use an external appliance. However, he'll need to catheterize the abdominal opening intermittently to empty the pouch.



Instruct the patient to inspect the urine for the amount, color, odor, and any abnormal findings before disposing of it in the toilet. If signs of infection are present, they should be reported to the healthcare provider immediately.

Teaching self-care

At the time of admission, begin educating your patient on self-care after discharge. It's very important for the patient to have a support system—physically, emotionally, and psychologically. The patient may need to go to an intermediate care facility if he or she has no one to help after discharge. When your patient goes home, a visiting nurse or home-care nurse may be stipulated to help care for the patient if assistance is needed. Above all, patient and caregiver education is the most important predictor for recovery.

Discharge planning steps for a patient with bladder cancer can vary greatly depending on the type of treatment required. In many cases, treatment involves surgery and the subsequent creation of a urinary diversion. Provide thorough teaching regarding stoma care, including how to recognize signs of ischemia by observing the color of the stoma and to report to the healthcare provider immediately any shades of blue or purple, or a dusky appearance.

Explain the patient's medications, both newly prescribed and the existing regimen. Teach your patient why the medication has been prescribed; its dosage, route, and frequency; and expected adverse reactions, as well as dangerous adverse reactions to report.

Be certain that you describe findings that are considered urgent and should be reported to the healthcare provider, including having little-to-no urine output, pain that isn't controlled by pharmacologic means, or prolonged pain. Also, teach your patient about the signs and symptoms of infection, including the importance of monitoring for a fever.

If your patient had a stoma placed, educate him or her on how to recognize low blood flow, such as the stoma changing colors to blue or a purplish pink. Describe the steps that should be performed when changing the bag on a stoma. In an effort to evaluate the patient's understanding, allow him or her to demonstrate back what you taught. This can give you an idea of whether follow-up teaching is needed and, more important, helps your patient gain the confidence needed to be successful in self-care.

If your facility schedules postdischarge follow-up appointments, review them and provide your patient with a written note with the date, time, and location of the appointments.

Prevention mention

To help prevent bladder cancer from developing, identify your patients' risks and intervene accordingly. Education on smoking cessation should be given to all patients who report that they smoke or use tobacco in any form. Depending on the individual circumstance of your patient, you may consider collaborating with the healthcare provider to offer smoking cessation aids.

If, through your assessment, you identify that your patient regularly consumes foods that are high in fat and/or fried, you should discuss healthier alternatives and suggest different methods of food preparation.

If your patient has an indwelling catheter, be sure to follow your facility's policies and procedures related to catheter care and guidelines for removing the catheter after a specified period of time.

Best practices ahead

Planning care for a patient with any type of cancer can be taxing for you and your patient. Your patient's anxiety may be increased when the cancer results in life-changing treatments, such as with bladder cancer. You can help reduce your patient's stress and anxiety by staying current on best practices for managing the care of patients with bladder cancer. Doing so will

allow you to effectively and efficiently deliver optimal care for the best results. ■

Learn more about it

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