

ABOUT BLADDER CANCER

The bladder is located in the pelvis. It collects and stores urine and has a muscular wall that allows it to contract and expand.

- About 90 percent of bladder cancers are **transitional cell carcinoma**. **Squamous cell carcinoma**, **adenocarcinoma** and **small cell carcinoma** account for most of the rest. Treatment options vary depending on the type of bladder case.
- Cancer that is only in the bladder lining is called **non-muscle invasive bladder cancer (NMIBC)**. This type of cancer is sometimes called superficial bladder cancer. More than 75 percent of bladder cancer is diagnosed as a NMIBC and it has an excellent survival rate.
- **Muscle invasive bladder cancer** penetrates the layers of muscles in the bladder and is more likely to spread to other parts of the body.

TREATING BLADDER CANCER

Treatment options are based on your type cancer, age and overall health. Bladder cancer, if caught early, can often be cured. The main treatments include:

- **Surgery** by a **surgical oncologist** or **urologist** to remove the cancer in the bladder is usually the first step. If a tumor is determined to be invasive, the next step may be removal of part or all of the bladder. Your surgeon may be able to replace the bladder to help you maintain normal urinary function.
- **Radiation therapy** is where a **radiation oncologist** uses high-energy X-rays to destroy the tumor.
- **Chemotherapy** is where a **medical oncologist** uses drugs to eliminate the cancer.
- **Biologic therapy** (also called **immunotherapy**) is where doctors use a drug to stimulate your immune system to fight the cancer.

In the past, complete removal of the bladder was the only way to treat bladder cancer. With advances in radiation therapy and chemotherapy, doctors are sometimes able to treat the cancer while preserving the bladder. This allows many patients to preserve urinary function and allows many men to preserve erectile function.

RADIATION THERAPY OPTIONS FOR BLADDER CANCER

Radiation therapy, sometimes called radiotherapy, is the careful use of radiation to safely and effectively treat cancer. Radiation therapy works within cancer cells by damaging their ability to multiply. When these cells die, the body naturally eliminates them. Healthy cells are also affected by radiation, but they are able to repair themselves in a way cancer cells cannot.

- **External beam radiation therapy** is the main type of radiation used to treat bladder cancer, often in combination with **chemotherapy**. During this treatment, radiation is directed at the tumor from a machine similar to an X-ray machine.
- **Internal radiation therapy**, or **brachytherapy**, is also sometimes used, often in conjunction with external beam radiation therapy. Radioactive pellets or seeds are delivered to the tumor through small tubes called catheters.

EXTERNAL BEAM RADIATION THERAPY

External beam radiation therapy involves a series of daily outpatient treatments to deliver radiation to the bladder. These treatments take less than half an hour each, five days a week, for five to seven weeks.

- The radiation beam is usually generated by a machine called a **linear accelerator** or **linac**. Doctors use this machine to generate high-energy X-rays to treat your cancer.
- Using high-tech treatment planning software, your treatment team controls the size and shape of the beam, as well as how it is directed at your body. This allows doctors to treat the cancer while sparing nearby healthy organs.
- **Three-dimensional conformal radiotherapy (3D-CRT)** combines multiple radiation treatment fields to deliver precise doses of radiation to the cancer. This improved technique helps keep radiation away from nearby healthy tissue.
- **Intensity modulated radiation therapy**, or **IMRT**, is a specialized form of 3D-CRT that allows the radiation beams to be further shaped to focus on the tumor. IMRT is still being studied for bladder cancer.

POTENTIAL SIDE EFFECTS

The side effects you might feel will depend on the area being treated, the dose of radiation given and whether you also receive other treatments, such as chemotherapy. Before treatment begins, ask your doctor about specific side effects and how you can best manage them. Side effects may include:

- Bladder irritation with increased need to urinate.
- Bowel irritation with abdominal cramping, rectal pressure and diarrhea are possible.
- Fatigue where you feel tired much of the time.
- You may experience a mild skin irritation, like a sunburn. The radiation will not cause you to lose the hair on your head, but you may lose your pubic hair near where the radiation was aimed. Some people find the hair grows back in a different color or texture than before.
- Some patients may also see sexual side effects. Women may experience vaginal dryness. Some men may difficulty achieving an erection. These are temporary, but tell your doctor or nurse. They may be able to recommend products or medications to help.
- Sometimes symptoms don't appear until treatments are finished. Some people have hardly any symptoms at all. You are unique as will be your reaction to cancer treatments.

Talk to your doctor or nurse about any discomfort or side effects you have, however embarrassing. He or she may be able to provide drugs or other treatments to help.



FACTS ABOUT BLADDER CANCER

- The American Cancer Society estimates that nearly 69,000 new cases of bladder cancer are diagnosed in the United States each year.
- Bladder cancer is four times more common in men than in women. It is two times more common in Caucasians than African-Americans.
- The five-year survival rate for all types of bladder cancer is 80 percent. If the cancer is confined to the bladder (noninvasive), the five-year survival rate is 92 percent.

CARING FOR YOURSELF DURING TREATMENT

- Get plenty of rest during treatment. Follow your doctor's orders.
- Ask if you are unsure about anything or if you have questions about your treatments and side effects.
- Tell your doctor about any medications or vitamins you are taking.
- Eat a balanced diet. If food tastes funny or if you're having trouble eating, tell your doctor or dietician. They may be able to help you change the way you eat.
- Treat the skin exposed to radiation with special care. Avoid hot or cold packs, and only use lotions and ointments after checking with your doctor or nurse. Your radiation oncology team may also recommend special creams.
- When cleaning the area, use only water and a mild soap.
- Coping with cancer can be trying. Be sure to ask friends, family, support groups and your radiation oncology team for help.
- Many people say that they feel more relaxed and open talking with fellow patients. It may help to seek out support groups that meet in person or over the Internet.