



Bladder cancer is a disease in which malignant (cancer) cells form in the tissues of the bladder.

The bladder is a hollow organ in the lower part of the abdomen. It is shaped like a small balloon and has a muscular wall that allows it to get larger or smaller. The bladder stores urine until it is passed out of the body. Urine is the liquid waste that is made by the kidneys when they clean the blood. The urine passes from the two kidneys into the bladder through two tubes called ureters. When the bladder is emptied during urination, the urine goes from the bladder to the outside of the body through another tube called the urethra.

There are three types of bladder cancer that begin in cells in the lining of the bladder. These cancers are named for the type of cells that become malignant (cancerous):

Transitional cell carcinoma: Cancer that begins in cells in the innermost tissue layer of the bladder. These cells are able to stretch when the bladder is full and shrink when it is emptied. Most bladder cancers begin in the transitional cells.

Squamous cell carcinoma: Cancer that begins in squamous cells, which are thin, flat cells that may form in the bladder after long-term infection or irritation.

Adenocarcinoma: Cancer that begins in glandular (secretory) cells that may form in the bladder after long-term irritation and inflammation.

Cancer that is confined to the lining of the bladder is called superficial bladder cancer. Cancer that begins in the transitional cells may spread through the lining of the bladder and invade the muscle wall of the bladder or spread to nearby organs and lymph nodes; this is called invasive bladder cancer.

See the following PDQ summaries for more information:

Screening for Bladder and Other Urothelial Cancers

Unusual Cancers of Childhood

Smoking, gender, and diet can affect the risk of developing bladder cancer.

Anything that increases your chance of getting a disease is called a risk factor.

Risk factors for bladder cancer include the following:

Smoking.

Being exposed to certain substances at work, such as rubber, certain dyes and textiles, paint, and hairdressing supplies.

A diet high in fried meats and fat.

Being older, male, or white.

Having an infection caused by a certain parasite.

Possible signs of bladder cancer include blood in the urine or pain during urination.

These and other symptoms may be caused by bladder cancer. Other conditions may cause the same symptoms. A doctor should be consulted if any of the following problems occur:

Blood in the urine (slightly rusty to bright red in color).

Frequent urination, or feeling the need to urinate without being able to do so.

Pain during urination.

Lower back pain.

Tests that examine the urine, vagina, or rectum are used to help detect (find) and diagnose bladder cancer.

The following tests and procedures may be used:

CT scan (CAT scan): A procedure that makes a series of detailed pictures of areas inside the body, taken from different angles. The pictures are made by a computer linked to an x-ray machine. A dye may be injected into a vein or swallowed to help the organs or tissues show up more clearly. This procedure is also called computed tomography, computerized tomography, or computerized axial tomography.

Urinalysis: A test to check the color of urine and its contents, such as sugar, protein, red blood cells, and white blood cells.

Internal exam: An exam of the vagina and/or rectum. The doctor inserts gloved fingers into the vagina and/or rectum to feel for lumps.

Intravenous pyelogram (IVP): A series of x-rays of the kidneys, ureters, and bladder to find out if cancer is present in these organs. A contrast dye is injected into a vein. As the contrast dye moves through the kidneys, ureters, and bladder, x-rays are taken to see if there are any blockages.

Cystoscopy: A procedure to look inside the bladder and urethra to check for abnormal areas. A cystoscope is inserted through the urethra into the bladder. A cystoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool to remove tissue samples, which are checked under a microscope for signs of cancer.

Biopsy: The removal of cells or tissues so they can be viewed under a microscope by a pathologist to check for signs of cancer. A biopsy for bladder cancer is usually done during cystoscopy. It may be possible to remove the entire tumor during biopsy.

Urine cytology: Examination of urine under a microscope to check for abnormal cells.

Certain factors affect prognosis (chance of recovery) and treatment options.

The prognosis (chance of recovery) depends on the following:

The stage of the cancer (whether it is superficial or invasive bladder cancer, and whether it has spread to other places in the body). Bladder cancer in the early stages can often be cured.

The type of bladder cancer cells and how they look under a microscope.

The patient's age and general health.

Treatment options depend on the stage of bladder cancer.

After bladder cancer has been diagnosed, tests are done to find out if cancer cells have spread within the bladder or to other parts of the body.

The process used to find out if cancer has spread within the bladder lining and muscle or to other parts of the body is called staging. The information gathered from the staging process determines the stage of the disease. It is important to know the stage in order to plan treatment. The following tests and procedures may be used in the staging process:

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MRI (magnetic resonance imaging): A procedure that uses a magnet, radio waves, and a computer to make a series of detailed pictures of areas inside the body. This procedure is also called nuclear magnetic resonance imaging (NMRI).

Physical exam and history: An exam of the body to check general signs of health, including checking for signs of disease, such as lumps or anything else that seems unusual. A history of the patient's health habits and past illnesses and treatments will also be taken.

Chest x-ray: An x-ray of the organs and bones inside the chest. An x-ray is a type of energy beam that can go through the body and onto film, making a picture of areas inside the body.

Bone scan: A procedure to check if there are rapidly dividing cells, such as cancer cells, in the bone. A very small amount of radioactive material is injected into a vein and travels through the bloodstream. The radioactive material collects in the bones and is detected by a scanner.

The following stages are used for bladder cancer:

Stage 0 (Papillary Carcinoma and Carcinoma in Situ)

In stage 0, abnormal cells are found in tissue lining the inside of the bladder. These abnormal cells may become cancer and spread into nearby normal tissue. Stage 0 is divided into stage 0a and stage 0is, depending on the type of the tumor:

Stage 0a is also called papillary carcinoma, which may look like tiny mushrooms growing from the lining of the bladder.

Stage 0is is also called carcinoma in situ, which is a flat tumor on the tissue lining the inside of the bladder.

Stage I

In stage I, cancer has formed and spread to the layer of tissue under the inner lining of the bladder.

Stage II

In stage II, cancer has spread to either the inner half or outer half of the muscle wall of the bladder.

Stage III

In stage III, cancer has spread from the bladder to the fatty layer of tissue surrounding it, and may have spread to the reproductive organs (prostate, uterus, vagina).

Stage IV

In stage IV, cancer has spread from the bladder to the wall of the abdomen or pelvis. Cancer may have spread to one or more lymph nodes or to other parts of the body.

Recurrent Bladder Cancer

Recurrent bladder cancer is cancer that has recurred (come back) after it has been treated. The cancer may come back in the bladder or in other parts of the body.