

# Genito-Urinary Malignancy | Dr. Lalit Banswal

## What is genitourinary cancer?

It's a common question, as many people are unfamiliar with the term "genitourinary." So, let's break it down and look at each word individually. First, the genitourinary system is the collection of organs in your body related to urination. These organs include the kidneys, bladder, ureters, urethra, and adrenal glands. (For men, the organs responsible for reproduction – the penis, testicles, and prostate – are also part of the genitourinary tract.) Second, [cancer](#) is a disease that begins when a cell undergoes a change – causing it to multiply uncontrollably. The cancerous cells may spread into surrounding tissues and can even travel to other parts of the body. While there are many types of cancer, genitourinary cancers are those that originate in one of the genitourinary organs. Genitourinary cancer is a term that encompasses cancers of the urinary tract or the male reproductive tract. It includes:

- Kidney cancer
- Bladder cancer
- Prostate cancer
- Testicular cancer



## Kidney Cancer:

Your two kidneys are located in the abdominal cavity (one on either side of the body) and are responsible for filtering waste out of the blood to make urine. When a cell in one of the kidneys is altered and starts to grow uncontrollably, it can form a tumor or damage the organ's tissue. This condition is called kidney cancer.

## Types of Kidney Cancer:

The primary forms of kidney cancer include:

- **Renal cell carcinoma:** This cancer develops in the lining of the tubules, which are microscopic tubes located within the kidneys. Renal cell carcinoma is the most common form of kidney cancer in adults.
- **Urothelial cell carcinoma:** This type of cancer develops in the cells that line the drainage system of your kidneys.
- **Wilms tumor:** This form of kidney cancer affects young children.

### **Kidney Cancer Risk Factors:**

While kidney cancer causes remain unclear, factors that may increase your risk include:

- Smoking
- Being above 50 years of age
- Being male
- Being obese
  
- Being African American
- Having high blood pressure
- Having a sibling or other family member with kidney cancer
- Having been exposed to certain chemicals

### **Kidney Cancer Symptoms:**

Kidney cancer symptoms can differ greatly from one individual to another, but the most prevalent symptom is no symptoms at all. Other signs of kidney cancer may include weight loss, fatigue, a lump or pain in your side or lower back, leg and ankle swelling and a fever that lasts for a few weeks with no known cause. It's important to note that these symptoms can signify a range of medical conditions and are no guarantee of a cancer diagnosis. However, it's still best to speak with your doctor if you are experiencing any of the symptoms listed above.

### **Kidney Cancer Treatment:**

Treatment for kidney cancer depends on a range of factors, including the type and stage of the disease. If the cancer has not yet spread beyond the kidney, surgical removal of the tumor and surrounding tissues is the preferred treatment. When removal is not an option, other forms of treatment may be used, such as cryotherapy, radiofrequency ablation, arterial embolization, chemotherapy and more.

### **Bladder Cancer:**

Located in the lower abdomen, the bladder is a hollow sac that can expand and contract. Its purpose is to store urine, which travels from the kidneys to the bladder through tubes called ureters. After being stored in the bladder, the urine is then expelled from the body through another tube – the urethra. Urothelial carcinoma occurs when cells that line the ureters, bladder or urethra begin to grow uncontrollably. Eventually,

the cancerous cells may start to invade the surrounding tissue, and if left untreated the cancer can spread to other parts of the body.

### **Bladder Cancer Types:**

The primary forms of bladder cancer include:

- Urothelial cell carcinoma: This type of cancer forms in the urothelial cells, which are found in the collecting system's inner lining.
- Squamous cell bladder cancer: When cancer originates in the bladder's squamous cells, it is called squamous cell bladder cancer. (Squamous cells may develop as the result of chronic bladder irritation.)
- Adenocarcinoma: Usually related to cancer from other organs.

### **Bladder Cancer Risk Factors:**

The majority of bladder cancer is linked to a history of smoking. Additional risk factors include:

- Being above 40 years of age
- Being Caucasian
- Being male
- Having a family history of bladder cancer
  
- Being employed in an industry where exposure to certain chemicals occurs
- Having chronic bladder infections
- Having undergone radiation therapy to your pelvis
- Drinking water that contains arsenic

### **Bladder Cancer Symptoms:**

Hematuria (blood in the urine) is one of the early symptoms of bladder cancer that many people experience. Additionally, you may also have a frequent urge to urinate, feel pain during urination and notice changes in your bladder habits. These symptoms can signify other medical conditions aside from bladder cancer, so a proper diagnosis from a doctor is critical. Speak to your physician right away if you experience the symptoms listed above.

### **Bladder Cancer Treatment:**

What is the best treatment for bladder cancer? The answer depends on your overall health, type of cancer and disease stage. But almost all bladder cancer patients require surgery — either to remove the tumor from the bladder wall or, in some instances, the whole bladder may require removal. In some cases, chemotherapy, radiation therapy and immunotherapy may be used instead of (or in addition to) surgery.

## **Prostate Cancer:**

The prostate is a gland that's approximately the size of a walnut and located beneath a man's bladder. What does the prostate do? Its primary function is to produce part of semen. Cancer in the prostate occurs when the gland's cells begin to multiply uncontrollably. Though prostate cancer typically grows slowly, in some cases it can proliferate rapidly and spread to other areas.

### **Prostate Cancer Risk Factors:**

Age is the primary risk factor for prostate cancer, which typically affects men who are 50 years old and above. Additional risk factors include:

- Having a family history of prostate cancer
- Being African American
- Eating a diet that's high in fat and low in fruits and vegetables
- Smoking

### **Prostate Cancer Prevention:**

While some of the risk factors for prostate cancer cannot be controlled (such as age, race, etc.), you may be able to lower your risk – at least in part – through certain behaviors. For instance, foods to avoid for prostate health include red meat and items high in fat. Fill up on fruits and vegetables instead, and be sure to exercise on a regular basis, keep your weight in check and quit smoking.

### **Prostate Cancer Symptoms:**

Prostate cancer rarely exhibits symptoms in its early stages, but may eventually cause pain in various areas of the body (such as your bones, lower pelvic area, lower back, hips and upper thighs).

### **Prostate Cancer Treatment:**

Because prostate cancer can grow so slowly, sometimes no treatment is needed. But in cases where treatment is necessary, options may include surgery, radiation therapy, cryotherapy, focal therapy, hormonal therapy, chemotherapy and immunotherapy. Dr. Lalit Banswal will determine your treatment plan based on the cancer stage and risk category. Additionally, your health, age and individual preferences related to side effects will also play a role when formulating your care plan.

## **Testicular Cancer:**

Part of the male reproductive system, the testicles (or testes) are two glands that are similar in size to a golf ball. They are located in a sac (called the scrotum) that hangs beneath the penis, where they create sperm and male hormones. If a cell in the testicle

is altered, it can begin to multiply uncontrollably – causing harm to surrounding tissues and sometimes even spreading to other parts of the body. When this uncontrolled growth in the testes occurs, it is called testicular cancer.

### **Testicular Cancer Types:**

The majority of testicular cancers originate in a testicle's germ cells – the cells responsible for creating sperm. The two primary forms of germ cell testicular cancers are:

- **Seminomas:** These cancers typically respond well to treatment.
- **Nonseminomas:** Unlike seminomas, nonseminomas can spread quickly. Stromal tumors are another form of testicular cancer. These cancers develop in testicular tissue rather than in the germ cells.

### **Testicular Cancer Risk Factors:**

Testicular cancer causes have not yet been determined, but certain factors can elevate your risk. These include:

- Being between the ages of 15 and 35 (though testicular cancer does occur at a lesser rate in both younger and older males)
- Being Caucasian
- Having a history of an undescended testicle
- Having a family history of testicular cancer
- Having HIV

### **Testicular Cancer Symptoms:**

The symptoms of testicular cancer are not the same for everyone, but one of the more commonly reported symptoms is a painless lump in one of the testicles. Additionally, you may notice: a change in the feel or texture of your testicle, fluid buildup in the scrotum, a feeling of heaviness in the scrotum or pain in certain areas (including the testicles, scrotum, lower belly and groin). You might also experience breast growth or have a decreased interest in sex. And if you are young, the early development of facial and body hair could also signify testicular cancer. Of course, these symptoms do not always lead to a cancer diagnosis. But talk to your doctor if you are experiencing these symptoms so you can rule out any other medical conditions.

### **Testicular Cancer Treatment:**

In the majority of testicular cancer cases, surgery will be performed to remove the testicle. Occasionally, lymph nodes may also need to be removed. Radiation therapy and chemotherapy are additional treatments that may be used following surgery. Your doctor will determine the best course of treatment for your individual situation based on a range of factors, including the tumor and cell type. If your testicle is removed during surgery, no infertility issues should arise as the other testicle will still produce the

necessary sperm. However, radiation therapy and chemotherapy may affect fertility. So, if you wish to have children, ask your doctor about sperm banking before treatment begins.