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About Bladder Cancer

Overview and Types

If you've been diagnosed with bladder cancer or are worried about it, you likely have a lot of questions. Learning some basics is a good place to start..

- [What Is Bladder Cancer?](#)

Research and Statistics

See the latest estimates for new cases of and deaths linked to bladder cancer in the US and what research is currently being done.

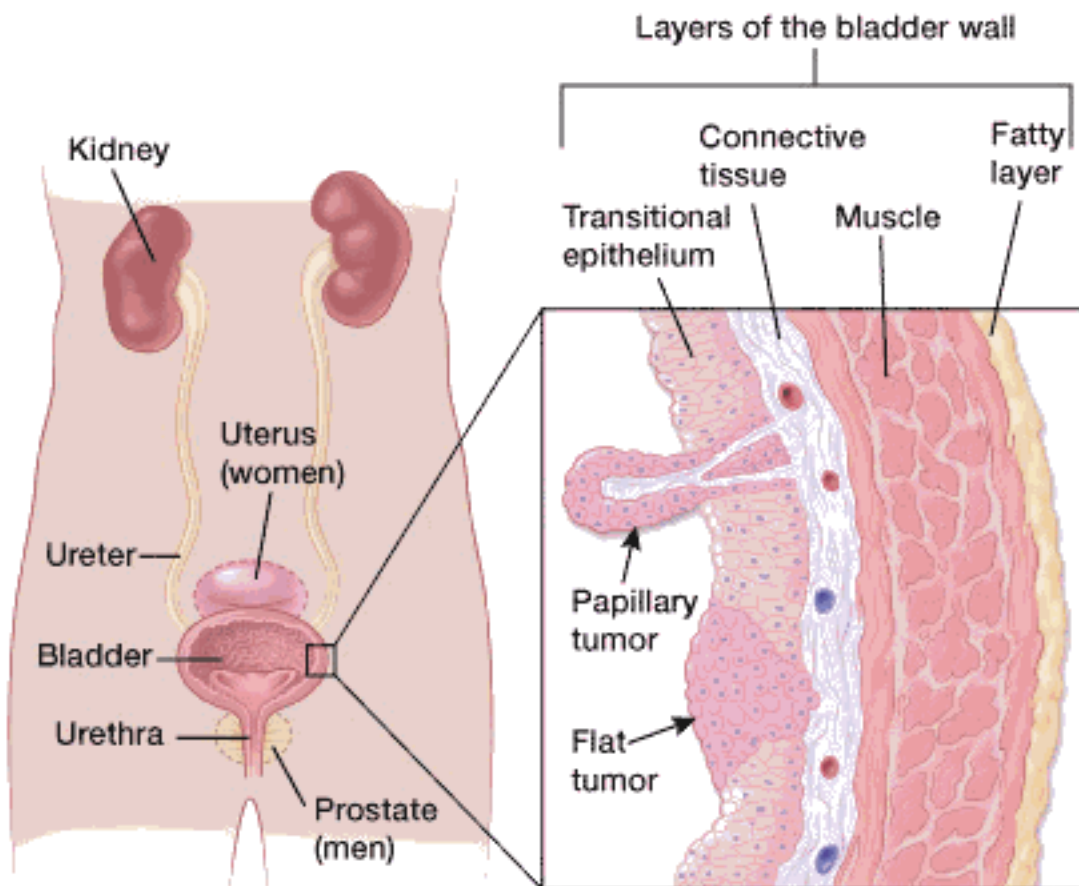
- [Key Statistics for Bladder Cancer](#)
 - [What's New in Bladder Cancer Research?](#)
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What Is Bladder Cancer?

Bladder cancer starts when cells that make up the urinary bladder start to grow out of control. As more cancer cells develop, they can form a tumor and, with time, spread to other parts of the body. (To learn more about how cancers start and spread, see [What Is Cancer?](#)¹)

The bladder is a hollow organ in the lower pelvis. It has flexible, muscular walls that can stretch to hold urine and squeeze to send it out of the body. The bladder's main job is to

store urine. Urine is liquid waste made by the 2 kidneys and then carried to the bladder through 2 tubes called **ureters**. When you urinate, the muscles in the bladder contract, and urine is forced out of the bladder through a tube called the **urethra**.



Types of bladder cancer

Urothelial carcinoma (transitional cell carcinoma)

Urothelial carcinoma, also known as transitional cell carcinoma (TCC), is by far the most common type of bladder cancer. In fact, if you have bladder cancer it's almost certain to be a urothelial carcinoma. These cancers start in the urothelial cells that line the inside of the bladder.

Urothelial cells also line other parts of the urinary tract, such as the part of the kidney that connects to the ureter (called the renal pelvis), the ureters, and the urethra. People with bladder cancer sometimes have tumors in these places, too, so all of the urinary

tract needs to be checked for tumors.

Other types of bladder cancer

Other types of cancer can start in the bladder, but these are all much less common than urothelial (transitional cell) cancer.

Squamous cell carcinoma

In the US, only about 1% to 2% of bladder cancers are squamous cell carcinomas. Seen with a microscope, the cells look much like the flat cells that are found on the surface of the skin. Nearly all squamous cell carcinomas of the bladder are invasive.

Adenocarcinoma

Only about 1% of bladder cancers are adenocarcinomas. These cancer cells have a lot in common with gland-forming cells of colon cancers. Nearly all adenocarcinomas of the bladder are invasive.

Small cell carcinoma

Less than 1% of bladder cancers are small-cell carcinomas. They start in nerve-like cells called neuroendocrine cells. These cancers often grow quickly and usually need to be treated with chemotherapy like that used for [small cell carcinoma of the lung](#).²

Sarcoma

Sarcomas start in the muscle cells of the bladder, but they are very rare. More information can be found in [Soft Tissue Sarcoma](#)³ and [Rhabdomyosarcoma](#).⁴

These less common types of bladder cancer (other than sarcoma) are treated a lot like TCCs, especially early-stage tumors, but if chemotherapy is needed, different drugs might be used.

Start and spread of bladder cancer

The wall of the bladder has many several layers. Each layer is made up of different kinds of cells (see [Bladder Cancer Stages](#)⁵ for details on the different layers).

Most bladder cancers start in the innermost lining of the bladder, which is called the

urothelium or transitional epithelium. As the cancer grows into or through the other layers in the bladder wall, it has a higher stage, becomes more advanced, and can be harder to treat.

Over time, the cancer might grow outside the bladder and into nearby structures. It might spread to nearby lymph nodes, or to other parts of the body. (When bladder cancer spreads, it tends to go to distant lymph nodes, the bones, the lungs, or the liver.)

Invasive vs. non-invasive bladder cancer

Bladder cancers are often described based on how far they have spread into the wall of the bladder:

- **Non-invasive** cancers are only in the inner layer of cells (the transitional epithelium). They have not grown into the deeper layers.
- **Invasive** cancers have grown into deeper layers of the bladder wall. These cancers are more likely to spread and are harder to treat.

A bladder cancer can also be described as **superficial or non-muscle invasive**. These terms include both non-invasive tumors as well as any invasive tumors that have not grown into the main muscle layer of the bladder.

Papillary vs. flat cancer

Bladder cancers are also divided into 2 subtypes, papillary and flat, based on how they grow (see the image above).

- **Papillary carcinomas** grow in slender, finger-like projections from the inner surface of the bladder toward the hollow center. Papillary tumors often grow toward the center of the bladder without growing into the deeper bladder layers. These tumors are called non-invasive papillary cancers. Very low-grade (slow growing), non-invasive papillary cancer is sometimes called papillary urothelial neoplasm of low-malignant potential (PUNLMP) and tends to have a very good outcome.
- **Flat carcinomas** do not grow toward the hollow part of the bladder at all. If a flat tumor is only in the inner layer of bladder cells, it's known as a non-invasive flat carcinoma or a flat carcinoma in situ (CIS).

If either a papillary or flat tumor grows into deeper layers of the bladder, it's called an invasive urothelial (or transitional cell) carcinoma.

Hyperlinks

1. www.cancer.org/cancer/cancer-basics/what-is-cancer.html
2. www.cancer.org/cancer/small-cell-lung-cancer.html
3. www.cancer.org/cancer/soft-tissue-sarcoma.html
4. www.cancer.org/cancer/rhabdomyosarcoma.html
5. www.cancer.org/cancer/bladder-cancer/detection-diagnosis-staging/staging.html

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See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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Key Statistics for Bladder Cancer

How common is bladder cancer?

The American Cancer Society's estimates for bladder cancer in the United States for 2019 are:

- About 80,470 new cases of bladder cancer (about 61,700 in men and 18,770 in women)

- About 17,670 deaths from bladder cancer (about 12,870 in men and 4,800 in women)

The rates of new bladder cancers and deaths linked to bladder cancer and have been dropping slightly in women in recent years. In men, incidence rates have been decreasing, but death rates have been stable.

Bladder cancer is the fourth most common cancer in men, but it's less common in women.

Risk of bladder cancer

Bladder cancer occurs mainly in older people. About 9 out of 10 people with this cancer are over the age of 55. The average age at the time of diagnosis is 73.

Overall, the chance men will develop this cancer during their life is about 1 in 27. For women, the chance is about 1 in 89. (But each person's chances of getting bladder cancer can be affected by certain [risk factors](#)¹.)

Whites are more likely to be diagnosed with bladder cancer than African Americans or Hispanic Americans.

Extent of cancer at the time of diagnosis

About half of all bladder cancers are first found while the cancer is still found only in the inner layer of the bladder wall. (These are **non-invasive** or **in situ cancers**.) About 1 in 3 bladder cancers have spread into deeper layers but are still only in the bladder. In most of the remaining cases, the cancer has spread to nearby tissues or lymph nodes outside the bladder. Rarely (in about 4% of cases), it has spread to distant parts of the body. Black patients are slightly more likely to have more advanced disease when they're diagnosed, compared to whites.

Survival statistics are discussed in [Survival Rates for Bladder Cancer](#)².

Visit the American Cancer Society's [Cancer Statistics Center](#)³ for more key statistics.

Hyperlinks

1. www.cancer.org/cancer/bladder-cancer/causes-risks-prevention/risk-factors.html
2. www.cancer.org/cancer/bladder-cancer/detection-diagnosis-staging/survival-

[rates.html](#)

3. <https://cancerstatisticscenter.cancer.org/>

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American Cancer Society. Cancer Facts & Figures 2019. Atlanta, Ga: American Cancer Society; 2019.

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What's New in Bladder Cancer Research?

Research on bladder cancer is taking place in many university hospitals, medical centers, and other institutions around the world. Each year, scientists find out more about what causes the disease, how to find it as soon as possible, and how to better treat it. Most experts agree that treatment in a clinical trial should be considered for any type or stage of bladder cancer. This way people can get the best treatment available now and may also get the new treatments that are thought to be even better. The new and promising treatments discussed here are only available in [clinical trials](#)¹.

Understanding genetic changes in bladder cancer

Scientists have learned a lot about the differences between normal cells and bladder cancer cells. They're also learning how these differences help cancer cells grow and spread to other parts of the body.

Researchers are now looking for tests that find genetic changes in bladder cancer cells to help predict a person's prognosis (outlook). These gene changes might also help doctor's choose the best treatment, or be useful in finding bladder cancers that come back (recur) after treatment.

Researchers also hope this knowledge can be used to develop new ways to treat bladder cancer, and maybe ways to test for it, too.

Urine tests to look for bladder cancer

Several newer tests look for substances in urine that might help show if a person has bladder cancer. These tests are mostly used to help diagnose bladder cancer or to look for cancer that has come back (cancer recurrence) in people who have already been treated. Researchers are now looking to see if these tests might be helpful even earlier, to screen for bladder cancer in people who don't have symptoms. (See [Can Bladder Cancer Be Found Early?²](#))

Bladder cancer treatment

Many new types of treatment are now being studied for bladder cancer.

Surgery

Some surgeons are using a newer way to do a cystectomy (taking out the bladder) in which they sit at a control panel in the operating room and use robotic arms to do the surgery. This approach, known as a **robotic cystectomy**, lets the surgeon operate through several small cuts (incisions) instead of one large one. This may shorten the time a person needs to be in the hospital and help patients recover faster after surgery.

This type of surgery is already used to treat other cancers, such as prostate cancer, but it's not yet clear if it's as good as, or maybe even better than, standard surgery for removing the bladder. This approach is being studied to see if this is the case.

Another key area of research is looking at how to best use other treatments along with surgery to save as much of the bladder as possible. Researchers are using different combinations of chemo, radiation, and immunotherapy to preserve the bladder.

Intravesical therapy

Researchers are looking at a number of new medicines to see if putting them into the bladder after surgery can help lower the risk of the cancer coming back. The hope is to find some that are better and/or safer than currently used drugs. New drugs are also needed to treat bladder cancer that doesn't respond to BCG therapy. There's a lot of research being done in this area.

Current studies are also looking at using different chemo drugs for intravesical therapy, as well as different ways to do the treatments. For instance, studies are looking at combinations of drugs to see if there's a better cancer cell response, as well as adding a gel to the drugs to keep the drugs in contact with the cancer cells for a longer time.

See [Intravesical Therapy for Bladder Cancer](#)³ for more on how drugs are put right into the bladder to treat this cancer.

Photodynamic therapy

Some researchers are trying to find out if photodynamic therapy (PDT) might be useful in treating early-stage bladder cancers. In PDT, a light-sensitive drug is injected into the blood. It collects in the cancer cells over a few days. Then a special type of laser light is focused on the inner lining of the bladder through a cystoscope. The light changes the drug in the cancer cells into a new chemical that can kill them.

An advantage of PDT is that it can kill cancer cells with very little harm to nearby normal cells. One drawback is that the chemical must be activated by light, so only cancers near the surface of the bladder lining can be treated in this way. The light can't reach cancers that have grown deeper into the bladder wall or have spread to other organs.

You can read more about this kind of treatment in [Photodynamic Therapy](#)⁴.

Targeted therapy

As researchers have learned more about the changes in bladder cells that cause them to become cancer, they've begun to look at drugs that target these changes. Targeted therapy drugs are already used to treat many other kinds of cancer. These drugs work differently from standard chemo drugs. They may work in some cases when chemo drugs don't, and they tend to have different (and often less severe) side effects.

Some of these drugs that are being studied for bladder cancer include rogaratinib, lapatinib (Tykerb[®]), and erlotinib (Tarceva[®]).

Other drugs target the blood vessels that allow tumors to grow. These are called **anti-angiogenesis drugs**. Examples include bevacizumab (Avastin[®]), sorafenib (Nexavar[®]), cabozantinib (Cometriq[®]), and pazopanib (Votrient[®]), which are already used for some other types of cancer. They are now being studied for use against bladder cancer, usually combined with chemotherapy.

Gene therapy

Gene therapy – adding or changing the actual genes inside cancer cells or other cells in the body – is a new treatment method being tested for bladder cancer. One approach to gene therapy uses special viruses that have been altered in the lab. The virus is put into the bladder and infects the bladder cancer cells. When this infection occurs, the virus injects a gene into the cells that can help immune system cells to attack the cancer. This and many other approaches to gene therapy are still in the early stages of development.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
2. www.cancer.org/cancer/bladder-cancer/detection-diagnosis-staging/detection.html
3. www.cancer.org/cancer/bladder-cancer/treating/intravesical-therapy.html
4. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/photodynamic-therapy.html

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Bladder Cancer Causes, Risk Factors, and Prevention

Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for bladder cancer.

- [Bladder Cancer Risk Factors](#)
- [What Causes Bladder Cancer?](#)

Prevention

There's no way to completely prevent cancer. But there are things you can do that might help lower your risk. Learn more.

- [Can Bladder Cancer Be Prevented?](#)

Bladder Cancer Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Different cancers have different risk factors. You can change some risk factors, like smoking or weight ; others, like your age or family history, you can't.

But having a risk factor, or even many, does not mean that you will get the disease.

Many people with risk factors never get bladder cancer, while others with this disease may have few or no known risk factors.

Still, it's important to know about the risk factors for bladder cancer because there may be things you can do that might lower your risk of getting it. If you're at higher risk because of certain factors, you might be helped by tests that could [find it early](#)¹, when treatment is most likely to be effective.

Many risk factors make a person more likely to develop bladder cancer.

Risk factors you can change

Smoking

Smoking is the most important risk factor for bladder cancer. Smokers are at least 3 times as likely to get bladder cancer as non-smokers. Smoking causes about half of all bladder cancers in both men and women.

If you or someone you know smokes and would like help quitting, see our [Guide to Quitting Smoking](#)², or call us at 1-800-227-2345 for more information.

Workplace exposures

Certain industrial chemicals have been linked with bladder cancer. Chemicals called aromatic amines, such as benzidine and beta-naphthylamine, which are sometimes used in the dye industry, can cause bladder cancer.

Workers in other industries that use certain organic chemicals also may have a higher risk of bladder cancer. Industries carrying higher risks include makers of rubber, leather, textiles, and paint products as well as printing companies. Other workers with an increased risk of developing bladder cancer include painters, machinists, printers, hairdressers (probably because of heavy exposure to [hair dyes](#)³), and truck drivers (likely because of exposure to [diesel](#)⁴ fumes).

Cigarette smoking and workplace exposures can act together to cause bladder cancer. So, smokers who also work with cancer-causing chemicals have an especially high risk of bladder cancer.

Certain medicines or herbal supplements

According to the US Food and Drug Administration (FDA), use of the diabetes medicine pioglitazone (Actos[®]) is linked with an increased risk of bladder cancer. The risk seems to higher when higher doses are used.

Dietary supplements containing aristolochic acid (mainly in herbs from the *Aristolochia* family) have been linked with an increased risk of urothelial cancers, including bladder cancer.

Arsenic in drinking water

[Arsenic](#)⁵ in drinking water has been linked with a higher risk of bladder cancer in some parts of the world. The chance of being exposed to arsenic depends on where you live and whether you get your water from a well or from a public water system that meets the standards for low arsenic content. For most Americans, drinking water isn't a major source of arsenic.

Not drinking enough fluids

People who drink a lot of fluids, especially water, each day tend to have lower rates of bladder cancer. This might be because they empty their bladders more often, which could keep chemicals from lingering in their bladder.

Risk factors you cannot change

Race and ethnicity

Whites are about twice as likely to develop bladder cancer as African Americans and Hispanics. Asian Americans and American Indians have slightly lower rates of bladder cancer. The reasons for these differences are not well understood.

Age

The risk of bladder cancer increases with age. About 9 out of 10 people with bladder cancer are older than 55.

Gender

Bladder cancer is much more common in men than in women.

Chronic bladder irritation and infections

Urinary infections, kidney and bladder stones, bladder catheters left in place a long time, and other causes of chronic (ongoing) bladder irritation have been linked to bladder cancer (especially squamous cell carcinoma of the bladder). But it's not clear if they actually cause bladder cancer.

Schistosomiasis (also known as bilharziasis), an infection with a parasitic worm that can get into the bladder, is also a risk factor for bladder cancer. In countries where this parasite is common (mainly in Africa and the Middle East), squamous cell cancers of the bladder are much more common. This is an extremely rare cause of bladder cancer in the United States.

Personal history of bladder or other urothelial cancer

Urothelial carcinomas can sometimes form in different areas in the bladder, as well as in the lining of the kidney, the ureters, and urethra. Having cancer in the lining of any part of the urinary tract puts you at higher risk of having another cancer, either in the same spot as before, or in another part of the urinary tract. This is true even when the first tumor is removed completely. For this reason, people who have had bladder cancer need careful follow-up to look for new cancers.

Bladder birth defects

Before birth, there's a connection between the belly button and the bladder. This is called the urachus. If part of this connection remains after birth, it could become cancer. Cancers that start in the urachus are usually adenocarcinomas, which are made up of cancerous gland cells. About one-third of the adenocarcinomas of the bladder start here. But this is still rare, accounting for less than half of 1% of all bladder cancers.

Another rare birth defect called **exstrophy** greatly increases a person's risk of bladder cancer. In bladder exstrophy, both the bladder and the abdominal wall in front of the bladder don't close completely during fetal development and are fused together. This leaves the inner lining of the bladder exposed outside the body. Surgery soon after birth can close the bladder and abdominal wall (and repair other related defects), but people who have this still have a higher risk for urinary infections and bladder cancer.

Genetics and family history

People who have family members with bladder cancer have a higher risk of getting it themselves. Sometimes this may be because the family members are exposed to the same cancer-causing chemicals (like those in tobacco smoke). They may also share changes in some genes (like *GST* and *NAT*) that make it hard for their bodies to break

down certain toxins, which can make them more likely to get bladder cancer.

A small number of people inherit a gene syndrome that increases their risk for bladder cancer. For example:

- A mutation of the **retinoblastoma** (*RB1*) gene can cause [cancer of the eye](#)⁶ in infants, and also increases the risk of bladder cancer.
- **Cowden disease**, caused by mutations in the *PTEN* gene, is linked mainly to cancers of the [breast](#)⁷ and [thyroid](#)⁸. People with this disease also have a higher risk of bladder cancer.
- **Lynch syndrome** (also known as hereditary non-polyposis colorectal cancer, or HNPCC) is linked mainly to [colon](#)⁹ and [endometrial](#)¹⁰ cancer. People with this syndrome might also have an increased risk of bladder cancer (as well as other cancers of the urinary tract).

For information on testing for inherited gene changes that increase cancer risk, see [Understanding Genetic Testing for Cancer](#)¹¹.

Chemotherapy or radiation therapy

Taking the chemotherapy drug cyclophosphamide (Cytosan[®]) for a long time can irritate the bladder and increase the risk of bladder cancer. People taking this drug are often told to drink plenty of fluids to help protect the bladder from irritation.

People who are treated with radiation to the pelvis are more likely to develop bladder cancer.

Hyperlinks

1. www.cancer.org/cancer/bladder-cancer/detection-diagnosis-staging/detection.html
2. www.cancer.org/healthy/stay-away-from-tobacco/guide-quitting-smoking.html
3. www.cancer.org/cancer/cancer-causes/hair-dyes.html
4. www.cancer.org/cancer/cancer-causes/diesel-exhaust-and-cancer.html
5. www.cancer.org/cancer/cancer-causes/arsenic.html
6. www.cancer.org/cancer/retinoblastoma.html
7. www.cancer.org/cancer/breast-cancer.html
8. www.cancer.org/cancer/thyroid-cancer.html
9. www.cancer.org/cancer/colon-rectal-cancer.html
10. www.cancer.org/cancer/endometrial-cancer.html

11. www.cancer.org/cancer/cancer-causes/genetics/understanding-genetic-testing-for-cancer.html

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What Causes Bladder Cancer?

Researchers do not know exactly what causes most bladder cancers. But they have found some risk factors (see [Bladder Cancer Risk Factors](#)) and are starting to understand how they cause cells in the bladder to become cancer.

Certain changes in the DNA inside normal bladder cells can make them grow abnormally and form cancers. DNA is the chemical in our cells that makes up our genes, which control how our cells function. We usually look like our parents because they are the source of our DNA, but DNA affects more than just how we look.

Some [genes](#)¹ control when cells grow, divide into new cells, and die:

- Genes that help cells grow, divide, and stay alive are called **oncogenes**.
- Genes that normally help control cell division, repair mistakes in DNA, or cause cells to die at the right time are called **tumor suppressor genes**.

Cancers can be caused by DNA changes (gene mutations) that turn on oncogenes or turn off tumor suppressor genes. Several different gene changes are usually needed for a cell to become cancer.

Acquired gene mutations

Most gene mutations related to bladder cancer develop during a person's life rather than having been inherited before birth. Some of these acquired gene mutations result from exposure to cancer-causing chemicals or radiation. For example, chemicals in tobacco smoke can be absorbed into the blood, filtered by the kidneys, and end up in urine, where they can affect bladder cells. Other chemicals may reach the bladder the same way. But sometimes, gene changes may just be random events that sometimes happen inside a cell, without having an outside cause.

The gene changes that lead to bladder cancer are not the same in all people. Acquired changes in certain genes, such as the *TP53* or *RB1* tumor suppressor genes and the *FGFR* and *RAS* oncogenes, are thought to be important in the development of some bladder cancers. Changes in these and similar genes may also make some bladder cancers more likely to grow and spread into the bladder wall than others. Research in this field is aimed at developing tests that can find bladder cancers at an early stage by finding their DNA changes.

Inherited gene mutations

Some people inherit gene changes from their parents that increase their risk of bladder cancer. But bladder cancer does not often run in families, and inherited gene mutations are not thought to be a major cause of this disease.

Some people seem to inherit a reduced ability to detoxify (break down) and get rid of certain types of cancer-causing chemicals. These people are more sensitive to the cancer-causing effects of tobacco smoke and certain industrial chemicals. Researchers have developed tests to identify such people, but these tests are not routinely done. It's not certain how helpful the results of such tests might be, since doctors already recommend that all people avoid tobacco smoke and hazardous industrial chemicals.

Hyperlinks

1. www.cancer.org/cancer/cancer-causes/genetics/genes-and-cancer.html

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Can Bladder Cancer Be Prevented?

There is no sure way to prevent bladder cancer. Some [risk factors](#), like age, gender,

race, and family history can't be controlled. But there might be things you can do that could help lower your risk.

Don't smoke

Smoking is thought to cause about half of all bladder cancers. (This includes any type of smoking -- cigarettes, cigars, or pipes.) If you're thinking about [quitting smoking](#)¹ and need help, call the American Cancer Society for information and support at 1-800-227-2345.

Limit exposure to certain chemicals in the workplace

Workers in industries that use certain organic chemicals have a higher risk of bladder cancer. Workplaces where these chemicals are commonly used include the rubber, leather, printing materials, textiles, and paint industries. If you work in a place where you might be exposed to such chemicals, be sure to follow good work safety practices.

Some chemicals found in certain hair dyes might also increase risk, so it's important for hairdressers and barbers who are exposed to these products regularly to use them safely. (Most studies have not found that personal use of hair dyes increases bladder cancer risk.) For more on this, see [Hair Dyes](#)².

Some research has suggested that people exposed to [diesel](#)³ fumes in the workplace might also have a higher risk of bladder cancer (as well as some other cancers), so limiting this exposure might be helpful.

Drink plenty of liquids

There's evidence that drinking a lot of fluids – mainly water – might lower a person's risk of bladder cancer.

Eat lots of fruits and vegetables

Some studies have suggested that a diet high in fruits and vegetables might help protect against bladder cancer, but other studies have not found this. Still, eating a healthy diet has been shown to have many benefits, including lowering the risk of some other types of cancer.

Studies to date have not found that any vitamins or supplements help prevent

bladder cancer. In fact, beta-carotene supplements have been found to slightly increase risk.

Hyperlinks

1. www.cancer.org/healthy/stay-away-from-tobacco/guide-quitting-smoking.html
2. www.cancer.org/cancer/cancer-causes/hair-dyes.html
3. www.cancer.org/cancer/cancer-causes/diesel-exhaust-and-cancer.html

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See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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Bladder Cancer Early Detection, Diagnosis, and Staging

Detection and Diagnosis

Finding cancer early, when it's small and hasn't spread, often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that's not always the case.

- [Can Bladder Cancer Be Found Early?](#)
- [Bladder Cancer Signs and Symptoms](#)
- [Tests for Bladder Cancer](#)

Stages and Outlook (Prognosis)

After a cancer diagnosis, staging provides important information about the extent (amount) of cancer in the body and the likely response to treatment.

- [Bladder Cancer Stages](#)
- [Survival Rates for Bladder Cancer](#)

Questions to Ask About Bladder Cancer

Here are some questions you can ask your cancer care team to help you better understand your cancer diagnosis and treatment options.

- [Questions To Ask About Bladder Cancer](#)

Can Bladder Cancer Be Found Early?

Bladder cancer can sometimes be found early -- when it's small and hasn't spread beyond the bladder. Finding it early improves your chances that treatment will work.

Screening for bladder cancer

Screening is the use of tests or exams to look for a disease in people who have no symptoms. At this time, no major professional organizations recommend routine screening of the general public for bladder cancer. This is because no screening test has been shown to lower the risk of dying from bladder cancer in people who are at average risk.

Some providers may recommend bladder cancer tests for people at **very high risk**, such as:

- People who **had bladder cancer before**
- People who had certain **birth defects of the bladder**
- People exposed to certain **chemicals at work**

Tests that might be used to look for bladder cancer

Tests for bladder cancer look for different substances and/or cancer cells in the urine.

Urinalysis: One way to test for bladder cancer is to check for blood in the urine (**hematuria**). This can be done during a urinalysis, which is a simple test to check for blood and other substances in a sample of urine. This test is sometimes done as part of a general health check-up.

Blood in the urine is usually caused by benign (non-cancer) problems, like infections, but it also can be the first sign of bladder cancer. Large amounts of blood in urine can be seen if the urine turns pink or red, but a urinalysis can find even small amounts.

Urinalysis can help find some bladder cancers early, but it has not been shown to be useful as a routine screening test.

Urine cytology: In this test, a microscope is used to look for cancer cells in urine. Urine cytology does find some cancers, but it's not reliable enough to make a good screening test.

Urine tests for tumor markers: Newer tests look for certain substances in urine that might be a sign of bladder cancer. These include:

- UroVysion™: This test looks for chromosome changes that are often seen in bladder cancer cells.
- BTA tests: These tests look for a substance called **bladder tumor-associated antigen** (BTA), also known as CFHrp, in the urine.
- ImmunoCyt™: This test looks at cells in the urine for the presence of substances such as mucin and carcinoembryonic antigen (CEA), which are often found on cancer cells.
- NMP22 BladderChek®: This test looks for a protein called **NMP22** (nuclear matrix protein 22) in the urine. People who have bladder cancer often have higher levels .

These tests might find some bladder cancers early, but they can miss some as well. And in some cases, the test result might be abnormal even in people who do not have cancer. At this time, the tests are used mainly to look for bladder cancer in people who already have signs or symptoms of it, or to watch for signs that the cancer has come back (recurred) in people who have had a bladder cancer removed. More research is needed to know if these or other tests are useful as screening tests.

Watching for possible symptoms of bladder cancer

No screening tests are recommended for people at average risk, but bladder cancer can be found early because it causes blood in the urine or other urinary symptoms. (See [Bladder Cancer Signs and Symptoms](#) for details.) Many of these symptoms often have less serious causes, but it's important to have them checked right away so the cause can be found and treated, if needed. If the symptoms are from bladder cancer, finding it early offers the best chance for successful treatment.

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See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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Bladder Cancer Signs and Symptoms

Bladder cancer can often be found early because it causes blood in the urine or other urinary symptoms that cause a person to see a health care provider.

Blood in the urine

In most cases, blood in the urine (called **hematuria**) is the first sign of bladder cancer. There may be enough blood to change the color of the urine to orange, pink, or, less often, dark red. Sometimes, the color of the urine is normal but small amounts of blood are found when a urine test (urinalysis) is done because of other symptoms or as part of a general medical check-up.

Blood may be present one day and absent the next, with the urine remaining clear for weeks or even months. But if a person has bladder cancer, at some point the blood reappears.

Usually, the early stages of bladder cancer (when it's small and only in the bladder) cause bleeding but little or no pain or other symptoms.

Blood in the urine doesn't always mean you have bladder cancer. More often it's caused by other things like an infection, benign (not cancer) tumors, stones in the kidney or bladder, or other benign kidney diseases. Still, it's important to have it checked by a doctor so the cause can be found.

Changes in bladder habits or symptoms of irritation

Bladder cancer can sometimes cause changes in urination, such as:

- Having to urinate more often than usual
- Pain or burning during urination

- Feeling as if you need to go right away, even when your bladder isn't full
- Having trouble urinating or having a weak urine stream
- Having to get up to urinate many times during the night

These symptoms are more likely to be caused by a urinary tract infection (UTI), bladder stones, an overactive bladder, or an enlarged prostate (in men). Still, it's important to have them checked by a doctor so that the cause can be found and treated, if needed.

Symptoms of advanced bladder cancer

Bladder cancers that have grown large or have spread to other parts of the body can sometimes cause other symptoms, such as:

- Being unable to urinate
- Lower back pain on one side
- Loss of appetite and weight loss
- Feeling tired or weak
- Swelling in the feet
- Bone pain

Again, many of these symptoms are more likely to be caused by something other than bladder cancer, but it's important to have them checked.

If there's a reason to suspect you might have bladder cancer, the doctor will use one or more [exams or tests](#)¹ to find out if it's cancer or something else.

Hyperlinks

1. www.cancer.org/treatment/understanding-your-diagnosis/tests.html

References

American Society of Clinical Oncology. Bladder Cancer: Symptoms and Signs. 10/2017. Accessed at www.cancer.net/cancer-types/bladder-cancer/symptoms-and-signs on December 19, 2018.

DeGeorge KC, Holt HR, Hodges SC. Bladder Cancer: Diagnosis and Treatment. *Am Fam Physician*. 2017;96(8):507-514.

National Cancer Institute. Bladder Cancer Symptoms, Tests, Prognosis, and Stages (PDQ®)—Patient Version. October 19, 2018. Accessed at www.cancer.gov/types/bladder/patient/about-bladder-cancer-pdq#section/all on December 19, 2018.

See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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Tests for Bladder Cancer

Bladder cancer is often found because of signs or symptoms a person is having. Or it might be found because of lab tests a person gets for another reason. If bladder cancer is suspected, exams and tests will be needed to confirm the diagnosis. If cancer is found, more tests will be done to help find out the extent ([stage](#)) of the cancer.

Medical history and physical exam

Your doctor will want to get your medical history to learn more about your symptoms. The doctor might also ask about possible risk factors and your family history.

A physical exam can provide information about possible signs of bladder cancer and other health problems. The doctor might do a digital rectal exam (DRE), during which a gloved, lubricated finger is put into your rectum. If you are a woman, the doctor might do a pelvic exam as well. During these exams, the doctor can sometimes feel a bladder tumor, determine its size, and feel if and how far it has spread.

If the doctor finds things that aren't normal, you may to have lab tests done and you might be referred to a urologist for further tests and treatment. (A urologist is a doctor who specializes in diseases of the urinary system and male reproductive system.)

Urine lab tests

Urinalysis

This is a simple lab test to check for blood and other substances in a sample of urine.

Urine cytology

For this test, a sample of urine is looked at with a microscope to see if there are any cancer or pre-cancer cells in it. Cytology is also done on any bladder washings taken during a cystoscopy (see below). Cytology can help find some cancers, but it isn't perfect. Not finding cancer on this test doesn't always mean you are cancer free.

Urine culture

If you're having urinary symptoms, this test may be done to see if an infection (rather than cancer) is the cause. Urinary tract infections and bladder cancers can cause the same symptoms. For a urine culture, a sample of urine is put into a dish in the lab to allow any bacteria that are present to grow. It can take time for the bacteria to grow, so it may take a few days to get the results of this test.

Urine tumor marker tests

Different urine tests look for specific substances made by bladder cancer cells. One or more of these tests may be used along with urine cytology to help see if you have bladder cancer. These include the tests called NMP22[®] (or BladderChek[®]), BTA Stat[®], Immunocyt[®], and UroVysion[®], which are discussed in [Can Bladder Cancer Be Found Early?](#)

Some doctors find these urine tests useful in looking for bladder cancers, but they may not help in all cases. Most doctors feel that cystoscopy is still the best way to find bladder cancer.

Some of these tests are more helpful for finding bladder cancer that has come back in someone who has already had it, rather than first diagnosing it.

Cystoscopy

If bladder cancer is suspected, most doctors will recommend a cystoscopy. . A urologist uses a cystoscope, which is a long, thin, flexible tube with a light and a lens or a small video camera on the end. For details on how this procedure is done, see [Cystoscopy](#)¹.

Fluorescence cystoscopy (also known as **blue light cystoscopy**) may be done along with routine cystoscopy. For this exam, a light-activated drug is put into the bladder

during cystoscopy. It's taken up by cancer cells. When the doctor then shines a blue light through the cystoscope, any cells containing the drug will glow (fluoresce). This can help the doctor see abnormal areas that might have been missed by the white light normally used.

Transurethral resection of bladder tumor (TURBT)

If an abnormal area (or areas) is seen during a cystoscopy, it needs to be biopsied to see if it's cancer. A biopsy is when tiny pieces (called samples) of the abnormal-looking tissue are taken out and tested for cancer cells. If bladder cancer is suspected, a biopsy is needed to be sure of the diagnosis.

The procedure used to biopsy an abnormal area is a **transurethral resection of bladder tumor (TURBT)**, also known as just a **transurethral resection (TUR)**. During this procedure, the doctor removes the tumor and some of the bladder muscle around the tumor. The removed samples are then sent to a lab to look for cancer. If cancer is found, testing can also show if it has invaded (spread into) the muscle layer of the bladder wall. For more on how this procedure is done, see [Bladder Cancer Surgery²](#).

Bladder cancer can sometimes start in more than one area of the bladder (or in other parts of the urinary tract). Because of this, the doctor may take samples from many different parts of the bladder, especially if cancer is strongly suspected but no tumor can be seen. Salt water washings of the inside the bladder may also be collected and tested for cancer cells.

Biopsy results

The biopsy samples are sent to a lab, where they are looked at and tested by a pathologist, a doctor who specializes in diagnosing diseases with lab tests. If bladder cancer is found, 2 important features are its invasiveness and grade.

Invasiveness: The biopsy can show how deeply the cancer has grown into the bladder wall. This is very important in deciding treatment.

- If the cancer stays in the inner layer of cells without growing into the deeper layers, it's called **non-invasive**.
- If the cancer grows into the deeper layers of the bladder, it's called **invasive**.

Invasive cancers are more likely to spread and are harder to treat.

You may also see a bladder cancer described as **superficial** or **non-muscle invasive**. These terms include both non-invasive tumors as well as any invasive tumors that have not grown into the main muscle layer of the bladder.

Grade: Bladder cancers are also assigned a grade, based on how the cancer cells look under a microscope.

- **Low-grade cancers** look more like normal bladder tissue. They're also called **well-differentiated** cancers. People with these cancers usually have a good prognosis (outlook).
- **High-grade cancers** look less like normal tissue. These cancers may also be called **poorly differentiated** or **undifferentiated**. High-grade cancers are more likely to grow into the bladder wall and spread outside the bladder. These cancers can be harder to treat.

Imaging tests

[Imaging tests](#)³ use x-rays, magnetic fields, sound waves, or radioactive substances to make pictures of the inside of your body.

If you have bladder cancer, your doctor may order some of these tests to see if the cancer has spread to tissues and organs near the bladder, to nearby lymph nodes, or to distant parts of your body. If an imaging test shows enlarged lymph nodes or other possible signs of cancer spread, some type of biopsy might be needed to confirm the findings.

Intravenous pyelogram (IVP)

An intravenous pyelogram (IVP), also called an **intravenous urogram** (IVU), is an x-ray of all of the urinary system taken after injecting a special dye into a vein. This dye is removed from the bloodstream by the kidneys and then passes into the ureters and bladder. X-rays are done while this is happening. The dye outlines these organs on the x-rays and helps show urinary tract tumors.

It's important to tell your doctor if you have any allergies or have ever had a reaction to x-ray dyes, or if you have any type of kidney problems. If so, your doctor might choose to do another test instead.

Retrograde pyelogram

For this test, a catheter (thin tube) is put in through the urethra and up into the bladder or into a ureter. Then a dye is injected through the catheter to make the lining of the bladder, ureters, and kidneys easier to see on x-rays.

This test isn't used as often as IVP, but it may be done (along with ultrasound of the kidneys) to look for tumors in the urinary tract in people who can't have an IVP.

Computed tomography (CT) scan

A [CT scan](#)⁴ uses x-rays to make detailed cross-sectional pictures of your body. A CT scan of the kidney, ureters, and bladder is called a **CT urogram**. It can provide detailed information about the size, shape, and position of any tumors in the urinary tract, including the bladder. It can also help show enlarged lymph nodes that might contain cancer, as well as other organs in the abdomen (belly) and pelvis.

CT-guided needle biopsy: CT scans can also be used to guide a biopsy needle into a suspected tumor. This is not done to biopsy tumors in the bladder, but it can be used to take samples from areas where the cancer may have spread. To do this, you lie on the CT scanning table while the doctor advances a biopsy needle through your skin and into the tumor.

Magnetic resonance imaging (MRI) scan

Like CT scans, [MRI scans](#)⁵ show detailed images of soft tissues in the body. But MRI scans use radio waves and strong magnets instead of x-rays.

MRI images are very useful in showing cancer that has spread outside of the bladder into nearby tissues or lymph nodes. A special MRI of the kidneys, ureters, and bladder, known as an **MRI urogram**, can be used instead of an IVP to look at the upper part of the urinary system.

Ultrasound

[Ultrasound](#)⁶ uses sound waves to create pictures of internal organs. It can be useful in determining the size of a bladder cancer and whether it has spread beyond the bladder to nearby organs or tissues. It can also be used to look at the kidneys.

This is usually an easy test to have, and it uses no radiation.

Ultrasound-guided needle biopsy: Ultrasound can also be used to guide a biopsy needle into a suspected area of cancer in the abdomen or pelvis.

Chest x-ray

A [chest x-ray](#)⁷ may be done to see if the bladder cancer has spread to the lungs. This test is not needed if a CT scan of the chest has been done.

Bone scan

A [bone scan](#)⁸ can help look for cancer that has spread to bones. This test usually isn't done unless you have symptoms such as bone pain, or if blood tests show the cancer might have spread to your bones.

For this test, you get an injection of a small amount of low-level radioactive material, which settles in areas of damaged bone throughout your body. A special camera detects the radioactivity and creates a picture of your skeleton.

A bone scan may suggest cancer in the bone, but to be sure, other imaging tests such as plain x-rays, MRI scans, or even a bone biopsy might be needed.

Biopsies to look for cancer spread

If imaging tests suggest the cancer might have spread outside of the bladder, a [biopsy](#)⁹ might be needed to be sure.

In some cases, biopsy samples of suspicious areas are taken during surgery to remove the bladder cancer.

Another way to get a biopsy sample is to use a long, thin, hollow needle to take a small piece of tissue from the abnormal area. This is known as a **needle biopsy**, and by using it the doctor can take samples without surgery. Sometimes a CT scan or ultrasound is used to help guide the biopsy needle into the changed area.

Hyperlinks

1. www.cancer.org/treatment/understanding-your-diagnosis/tests/endoscopy/cystoscopy.html
2. www.cancer.org/cancer/bladder-cancer/treating/surgery.html
3. www.cancer.org/treatment/understanding-your-diagnosis/tests/imaging-radiology-tests-for-cancer.html
4. www.cancer.org/treatment/understanding-your-diagnosis/tests/ct-scan-for-cancer.html

5. www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html
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7. www.cancer.org/treatment/understanding-your-diagnosis/tests/x-rays-and-other-radiographic-tests.html
8. www.cancer.org/treatment/understanding-your-diagnosis/tests/nuclear-medicine-scans-for-cancer.html
9. www.cancer.org/treatment/understanding-your-diagnosis/tests/testing-biopsy-and-cytology-specimens-for-cancer.html

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Bladder Cancer Stages

After someone is diagnosed with bladder cancer, doctors will try to figure out if it has spread, and if so, how far. This process is called **staging**. The stage of a cancer describes the extent (amount) of cancer in the body. It helps determine how serious the cancer is and [how best to treat it](#)¹. **The stage is one of the most important factors in deciding how to treat the cancer and determining how successful treatment might be.**

To find the cancer's stage, doctors try to answer these questions:

- How far has the cancer grown into the wall of the bladder?
- Has the cancer reached nearby tissues or organs?
- Has the cancer spread to the nearby lymph nodes or to distant organs?

The stage of bladder cancer is based on the results of physical exams, biopsies, and imaging tests (CT or MRI scan, x-rays, etc.), which are described in [Tests for Bladder Cancer](#), as well as the results of [surgery](#)².

Understanding your bladder cancer stage

A staging system is a standard way for the cancer care team to describe how far a cancer has spread. The staging system most often used for bladder cancer is the American Joint Committee on Cancer (AJCC) **TNM** system, which is based on 3 key pieces of information:

- **T** describes how far the main (primary) **tumor** has grown through the bladder wall and whether it has grown into nearby tissues.
- **N** indicates any cancer spread to lymph **nodes** near the bladder. Lymph nodes are bean-sized collections of immune system cells, to which cancers often spread first.
- **M** indicates if the cancer has spread (**metastasized**) to distant sites, such as other organs, like the lungs or liver, or lymph nodes that are not near the bladder.

Numbers or letters after T, N, and M provide more details about each of these factors. Higher numbers mean the cancer is more advanced. Once a person's T, N, and M categories have been determined, usually after surgery, this information is combined in a process called **stage grouping** to assign an overall stage.

The earliest stage cancers are called stage 0 (or carcinoma in situ), and then range from stages I (1) through IV (4).

As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means a more advanced cancer. And within a stage, an earlier letter means a lower stage. Cancers with similar stages tend to have a similar outlook and are often treated in much the same way.

The staging system in the table below uses the **pathologic stage**. It's based on the results of the physical exam, biopsy, imaging tests, and the results of surgery. This is likely to be more accurate than **clinical staging**, which only takes into account the tests done **before** surgery.

Bladder cancer staging can be complex. If you have any questions about your stage, please ask your doctor to explain it to you in a way you understand. (An explanation of the TNM system also follows the stage table.)

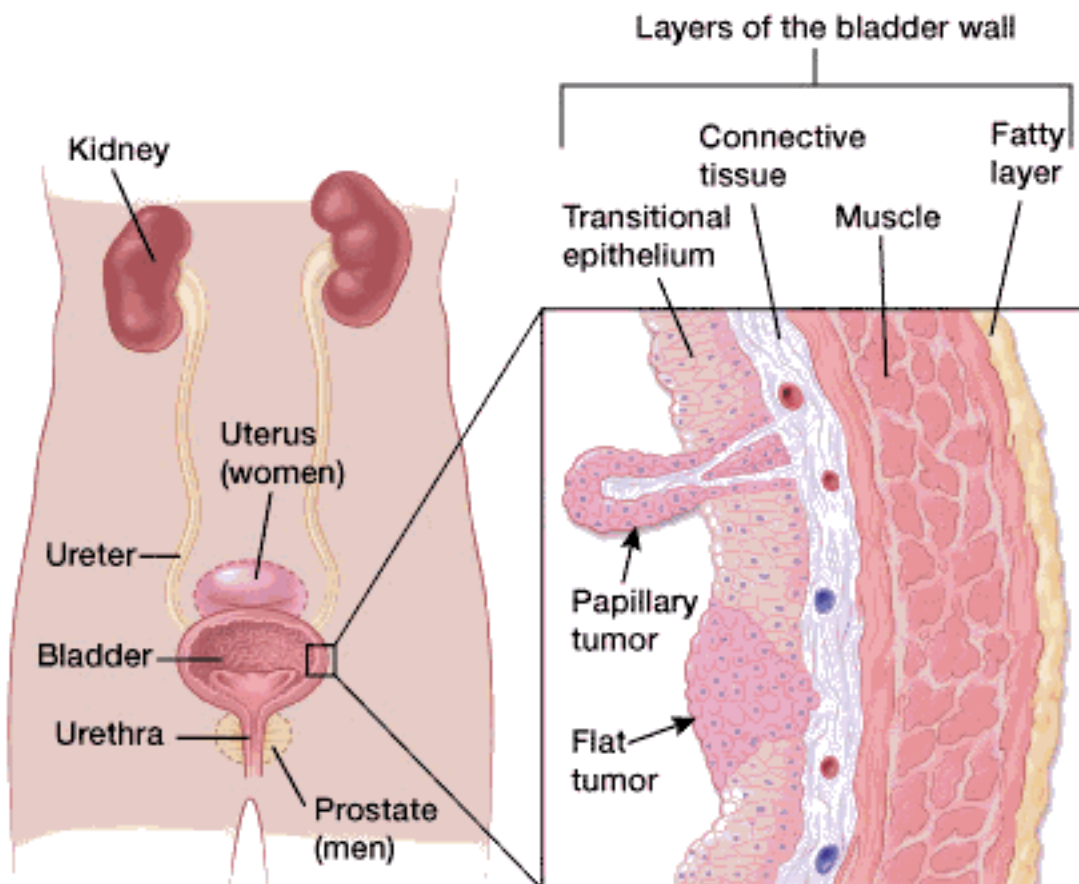
Stage	Stage grouping	Stage description
0a	Ta	The cancer is a non-invasive papillary carcinoma ³ (Ta). It has grown toward the hollow center of the bladder but has not grown into the connective tissue or muscle of the bladder wall.
	N0	
	M0	It has not spread to nearby lymph nodes (N0) or distant sites (M0).
0is	Tis	The cancer is a flat, non-invasive carcinoma ⁴ (Tis), also known as <i>flat carcinoma in situ (CIS)</i> . The cancer is growing in the inner lining layer of the bladder only. It has not grown inward toward the hollow part of the bladder, nor has it invaded the connective tissue or muscle of the bladder wall.
	N0	
	M0	It has not spread to nearby lymph nodes (N0) or distant sites (M0).
I	T1	The cancer has grown into the layer of connective tissue under the lining layer of the bladder, but has not reached the layer of muscle in the bladder wall (T1).
	N0	
	M0	The cancer has not spread to nearby lymph nodes (N0) or to distant sites (M0).
II	T2a or T2b	The cancer has grown into the inner (T2a) or outer (T2b) muscle

	N0 M0	layer of the bladder wall, but it has not passed completely through the muscle to reach the layer of fatty tissue that surrounds the bladder. The cancer has not spread to nearby lymph nodes (N0) or to distant sites (M0).
IIIA	T3a, T3b or T4a N0 M0	The cancer has grown through the muscle layer of the bladder and into the layer of fatty tissue that surrounds the bladder (T3a or T3b). It might have spread into the prostate, seminal vesicles, uterus, or vagina, but it's not growing into the pelvic or abdominal wall (T4a). The cancer has not spread to nearby lymph nodes (N0) or to distant sites (M0).
	OR	
	T1-4a N1 M0	The cancer has: <ul style="list-style-type: none"> grown into the layer of connective tissue under the lining of the bladder wall (T1), OR into the muscle layer of the bladder wall (T2), OR into the layer of fatty tissue that surrounds the bladder, (T3a or T3b) OR it might have spread into the prostate, seminal vesicles, uterus, or vagina, but it's not growing into the pelvic or abdominal wall (T4a). AND the cancer has spread to 1 nearby lymph node in the true pelvis (N1). It has not spread to distant sites (M0).
IIIB	T1-T4a N2 or N3 M0	The cancer has: <ul style="list-style-type: none"> grown into the layer of connective tissue under the lining of the bladder wall (T1), OR into the muscle layer of the bladder wall (T2), OR into the layer of fatty tissue that surrounds the bladder (T3a or T3b), OR it might have spread into the prostate, seminal vesicles,

		<p>uterus, or vagina, but it's not growing into the pelvic or abdominal wall (T4a).</p> <p>AND the cancer has spread to 2 or more lymph nodes in the true pelvis (N2) or to lymph nodes along the common iliac arteries (N3).</p> <p>It has not spread to distant sites (M0).</p>
IVA	<p>T4b</p> <p>Any N</p> <p>M0</p>	<p>The cancer has grown through the bladder wall into the pelvic or abdominal wall (T4b).</p> <p>It might or might not have spread to nearby lymph nodes (Any N).</p> <p>It has not spread to a distant sites (M0).</p>
	OR	
	<p>Any T</p> <p>Any N</p> <p>M1a</p>	<p>The cancer might or might not have grown through the wall of the bladder into nearby organs (Any T).</p> <p>It might or might not have spread to nearby lymph nodes (Any N).</p> <p>It has spread to distant lymph nodes (M1a).</p>
IVB	<p>Any T</p> <p>Any N</p> <p>M1b</p>	<p>The cancer might or might not have grown through the wall of the bladder into nearby organs (Any T).</p> <p>It might or might not have spread to nearby lymph nodes (Any N).</p> <p>It has spread to 1 or more distant organs, such as the bones, liver, or lungs (M1b).</p>

T categories for bladder cancer

The T category describes how far the main tumor has grown into the wall of the bladder (or beyond).



The wall of the bladder has 4 main layers.

- The innermost lining is called the **urothelium** or **transitional epithelium**.
- Beneath the urothelium is a thin layer of connective tissue, blood vessels, and nerves.
- Next is a thick layer of muscle.
- Outside of this muscle, a layer of fatty connective tissue separates the bladder from other nearby organs.

Nearly all bladder cancers start in the lining or urothelium. As the cancer grows into or through the other layers in the bladder, it becomes more advanced (the stage goes up).

The T categories are described in the table above, except for:

TX: Main tumor cannot be assessed due to lack of information

T0: No evidence of a primary tumor

N categories for bladder cancer

The N category describes spread only to the lymph nodes near the bladder (in the true pelvis) and those along the blood vessel called the **common iliac artery**. These lymph nodes are called **regional lymph nodes**. Any other lymph nodes are considered distant lymph nodes. Spread to distant nodes is considered metastasis (described in the M category). Surgery is usually needed to find cancer spread to lymph nodes, since this is seldom seen on imaging tests.

The N categories are described in the table above, except for:

NX: Regional lymph nodes cannot be assessed due to lack of information.

N0: There's no regional lymph node spread.

M categories for bladder cancer

The M categories are described in the table above.

Hyperlinks

1. www.cancer.org/cancer/bladder-cancer/treating.html
2. www.cancer.org/cancer/bladder-cancer/treating/surgery.html
3. www.cancer.org/cancer/bladder-cancer/about/what-is-bladder-cancer.html
4. www.cancer.org/cancer/bladder-cancer/about/what-is-bladder-cancer.html

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Survival Rates for Bladder Cancer

Survival rates can give you an idea of what percentage of people with the same type and stage of cancer are still alive a certain amount of time (usually 5 years) after they were diagnosed. They can't tell you how long you will live, but they may help give you a better understanding of how likely it is that your treatment will be successful.

Keep in mind that survival rates are estimates and are often based on previous outcomes of large numbers of people who had a specific cancer, but they can't predict what will happen in any particular person's case. These statistics can be confusing and may lead you to have more questions. Talk with your doctor about how these numbers may apply to you, as he or she is familiar with your situation.

What is a 5-year relative survival rate?

A **relative survival rate** compares people with the same type and stage of bladder cancer to people in the overall population. For example, if the **5-year relative survival rate** for a specific stage of bladder cancer is 90%, it means that people who have that cancer are, on average, about 90% as likely as people who don't have that cancer to live for at least 5 years after being diagnosed.

Where do these numbers come from?

The American Cancer Society relies on information from the SEER* database, maintained by the National Cancer Institute (NCI), to provide survival statistics for different types of cancer.

The SEER database tracks 5-year relative survival rates for bladder cancer in the United States, based on how far the cancer has spread. The SEER database, however, does not group cancers by [AJCC TNM stages](#) (stage 1, stage 2, stage 3, etc.). Instead, it groups cancers into localized, regional, and distant stages:

- **Localized:** There is no sign that the cancer has spread outside of the bladder. This includes stage 0 (in situ), I and II cancers.
- **Regional:** The cancer has spread from the bladder to nearby structures or lymph nodes. This includes mainly stage III and IVA cancers.
- **Distant:** Includes cancers that have spread to distant parts of the body such as the lungs, liver or bones. For bladder cancer, this includes stage IVB cancers.

5-year relative survival rates for bladder cancer

(Based on people diagnosed with bladder cancer between 2008 and 2014.)

SEER Stage	5-year Relative Survival Rate
Localized	69%
In situ alone	95%
Regional	35%
Distant	5%
All SEER stages combined	77%

Understanding the numbers

- **People now being diagnosed with bladder cancer may have a better outlook than these numbers show.** Treatments improve over time, and these numbers are based on people who were diagnosed and treated at least five years earlier.
- **These numbers apply only to the stage of the cancer when it is first diagnosed.** They do not apply later on if the cancer grows, spreads, or comes back after treatment.
- **These numbers don't take everything into account.** Survival rates are grouped based on how far the cancer has spread, but your age, overall health, how well the cancer responds to treatment, and other factors will also affect your outlook.

*SEER= Surveillance, Epidemiology, and End Results

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See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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Questions To Ask About Bladder Cancer

It's important to have honest, open talks with your cancer care team. Ask any question, no matter how small it might seem. Here are some examples of things you might want to ask:

When you're told you have bladder cancer

- What [type of bladder cancer](#)¹ do I have?
- Do you think the cancer has spread beyond my bladder?
- What is the [stage](#) and grade of the cancer, and what does that mean?
- Will I need any other tests before we can decide on treatment?
- Do I need to see any other doctors?
- Does my insurance cover treatment? How much will I have to pay? Who can help me find out more about this?

When deciding on a treatment plan

- How much experience do you have treating this type of cancer?
- What are my [treatment options](#)² ?
- What do you recommend and why?
- What is the goal of each treatment?
- Should I get a second opinion ? How do I do that? Can you recommend someone?
- What are the chances my cancer can be cured?
- If my bladder is removed, what are my options for passing urine? What are the pros and cons of each?
- How soon do I need to start treatment?
- What can I do to get ready for treatment?

- How long will treatment last? What will it be like? Where will it be done?
- What risks or side effects should I expect? How long are they likely to last?
- Will treatment affect my daily activities?
- How likely is it that the cancer will come back? Is there anything I can do to help lower this risk?
- What will we do if the treatment doesn't work or if the cancer comes back?

During treatment

Once treatment starts, you'll need to know what to expect and what to look for. Not all of these questions may apply, but getting answers to the ones that do may be helpful.

- How will we know if the treatment is working?
- Is there anything I can do to help manage side effects?
- What symptoms or side effects should I tell you about right away?
- How can I reach you on nights, holidays, or weekends?
- Do I need to change what I [eat during treatment](#)³?
- Are there any limits on what I can do?
- Should I exercise? What should I do, and how often?
- Can you suggest a mental health professional I can see if I start to feel overwhelmed, depressed, or distressed?

After treatment

- Are there any limits on what I can do?
- What signs and symptoms should I watch for?
- What kind of exercise should I do now?
- What type of [follow-up](#)⁴ will I need after treatment?
- How often will I need to have follow-up exams and tests?
- How will we know if the cancer has come back? What should I watch for?
- What would my options be if the cancer does come back?

Along with these sample questions, be sure to write down any of your own.

Keep in mind that doctors aren't the only ones who can give you information. Other health care professionals, such as nurses and social workers, can answer a lot of your

questions. To find more about working with your health care team, see [The Doctor-Patient Relationship](#)⁵.

Hyperlinks

1. www.cancer.org/cancer/bladder-cancer/about/what-is-bladder-cancer.html
2. www.cancer.org/cancer/bladder-cancer/treating.html
3. www.cancer.org/treatment/survivorship-during-and-after-treatment/staying-active/nutrition/nutrition-during-treatment.html
4. www.cancer.org/cancer/bladder-cancer/after-treatment/follow-up.html
5. www.cancer.org/treatment/understanding-your-diagnosis/talking-about-cancer/the-doctor-patient-relationship.html

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Treating Bladder Cancer

If you've been diagnosed with bladder cancer, your treatment team will discuss your options with you. It's important to weigh the benefits of each treatment option against the possible risks and side effects.

How is bladder cancer treated?

Depending on the stage of the cancer and other factors, treatment options for people with bladder cancer can include:

- [Bladder Cancer Surgery](#)
- [Intravesical Therapy for Bladder Cancer](#)
- [Chemotherapy for Bladder Cancer](#)
- [Radiation Therapy for Bladder Cancer](#)
- [Immunotherapy for Bladder Cancer](#)

Common treatment approaches

Many times, the best option might include more than one of type of treatment. Surgery, alone or with other treatments, is used to treat most bladder cancers. Early-stage bladder tumors can often be removed. But a major concern in people with early-stage bladder cancer is that new cancers often form in other parts of the bladder over time. Taking out the entire bladder (called *radical cystectomy*) is one way to avoid this, but it causes major side effects. If the entire bladder is not removed, other treatments may be used to try to reduce the risk of new cancers. Whether or not other treatments are given, close follow-up is needed to watch for signs of new cancers in the bladder.

- [Treatment of Bladder Cancer, by Stage](#)

Who treats bladder cancer?

Based on your treatment options, you might have different types of doctors on your

treatment team. These doctors could include:

- **Urologists:** surgeons who specialize in treating diseases of the urinary system and male reproductive system
- **Radiation oncologists:** doctors who treat cancer with radiation therapy
- **Medical oncologists:** doctors who treat cancer with medicines such as chemotherapy and immunotherapy

You might have many other specialists on your treatment team as well, including physician assistants, nurse practitioners, nurses, nutrition specialists, social workers, and other health professionals.

- [Health Professionals Associated With Cancer Care¹](#)

Making treatment decisions

It's important to discuss all of your treatment options, including their goals and possible side effects, with your doctors to help make the decision that best fits your needs. Some important things to consider include:

- Your age and expected life span
- Any other serious health conditions you have
- The [stage²](#) and grade of your cancer
- The likelihood that treatment will cure your cancer (or help in some other way)
- Your feelings about the possible side effects from treatment

You may feel that you must make a decision quickly, but it's important to give yourself time to absorb the information you have just learned. It's also very important to ask questions if there is anything you're not sure about.

If time permits, it is often a good idea to seek a second opinion. A second opinion can give you more information and help you feel more confident about the treatment plan you choose.

- [Questions To Ask About Bladder Cancer³](#)
- [Seeking a Second Opinion⁴](#)

Help getting through cancer treatment

Your cancer care team will be your first source of information and support, but there are other resources for help when you need it. Hospital- or clinic-based support services are an important part of your care. These might include nursing or social work services, financial aid, nutritional advice, rehab, or spiritual help.

The American Cancer Society also has programs and services – including rides to treatment, lodging, and more – to help you get through treatment. Call our National Cancer Information Center at 1-800-227-2345 and speak with one of our trained specialists.

- [Find Support Programs and Services in Your Area⁵](#)

Choosing to stop treatment or choosing no treatment at all

For some people, when treatments have been tried and are no longer controlling the cancer, it could be time to weigh the benefits and risks of continuing to try new treatments. Whether or not you continue treatment, there are still things you can do to help maintain or improve your quality of life.

Some people, especially if the cancer is advanced, might not want to be treated at all. There are many reasons you might decide not to get cancer treatment, but it's important to talk to your doctors and you make that decision. Remember that even if you choose not to treat the cancer, you can still get supportive care to help with pain or other symptoms.

- [If Cancer Treatments Stop Working⁶](#)
- [Palliative or Supportive Care⁷](#)

The treatment information given here is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.

Bladder Cancer Surgery

Surgery is part of the treatment for most bladder cancers. The type of surgery done depends on the stage (extent) of the cancer. It also depends on your choices based on the long-term side effects of some kinds of surgery.

Transurethral resection of bladder tumor (TURBT)

A transurethral resection of bladder tumor (TURBT) or a transurethral resection (TUR) is often used to find out if someone has bladder cancer and, if so, whether the cancer has spread into (invaded) the muscle layer of the bladder wall.

TURBT is also the most common treatment for early-stage or superficial (non-muscle invasive) bladder cancers. Most patients have superficial cancer when they're first diagnosed, so this is usually their first treatment. Sometimes, a second, more extensive TURBT is done to better ensure that all the cancer has been removed. The goal is to take out the cancer cells and nearby tissues down to the muscle layer of the bladder wall.

How TURBT is done

This surgery is done using an instrument put in through your urethra, so it there's no cutting into the abdomen (belly). You'll get either general anesthesia (drugs are used to make you sleep) or regional anesthesia (the lower part of your body is numbed).

A type of thin, rigid cystoscope called a **resectoscope** is put into your bladder through your urethra. The resectoscope has a wire loop at the end that's used to remove any abnormal tissues or tumors. The removed tissue is sent to a lab for testing.

After the tumor is removed, more steps may be taken to try to ensure that the cancer has been completely destroyed. For instance, the tissue in the area where the tumor was may be burned while looking at it with the resectoscope. This is called fulguration. Cancer cells can also be destroyed using a high-energy laser through the resectoscope.

Possible side effects

The side effects of TURBT are generally mild and don't usually last long. Right after TURBT you might have some bleeding and pain when you urinate. You can usually go home the same day or the next day and can return to your usual activities within a week or two.

Even if the TURBT removes the tumor completely, bladder cancer often comes back (recurs) in other parts of the bladder. This might be treated with another TURBT. But if

TURBT needs to be repeated many times, the bladder can become scarred and not be able to hold much urine. This can lead to side effects like frequent urination, or even incontinence (loss of control of urine).

In patients with a long history of recurrent, non-invasive low-grade tumors (slow-growing tumors that keep coming back), the surgeon may just use fulguration to burn small tumors that are seen during cystoscopy (rather than removing them). This can often be done using local anesthesia (numbing medicine) in the doctor's office. It's safe but can be mildly uncomfortable.

Cystectomy

When bladder cancer is invasive, all or part of the bladder may need to be removed. This operation is called a cystectomy. Most of the time, chemotherapy is given before cystectomy is done. General anesthesia (where you are in a deep sleep) is used for either type of cystectomy.

Partial cystectomy

If the cancer has invaded the muscle layer of the bladder wall but is not very large and is only in one place, it can sometimes be removed along with part of the bladder wall without taking out the whole bladder. The hole in the bladder wall is then closed with stitches. Nearby lymph nodes are also removed and tested for cancer spread. Only a small portion of people with cancer that has invaded the muscle can have this surgery. The main advantage of this surgery is that the person keeps their bladder and doesn't need reconstructive surgery (see below). But the remaining bladder may not hold as much urine, which means they'll have to urinate more often. With this type of surgery, the main concern is that bladder cancer can still come back (recur) in another part of the bladder wall.

Radical cystectomy

If the cancer is larger or is in more than one part of the bladder, a radical cystectomy will be needed. This operation removes the entire bladder and nearby lymph nodes. In men, the prostate and seminal vesicles are also removed. In women, the ovaries, fallopian tubes (tubes that connect the ovaries and uterus), the uterus (womb), cervix, and a small part of the vagina are removed too.

Most of the time, cystectomy is done through a cut (incision) in the belly (abdomen). You'll need to stay in the hospital for about a week after the surgery. You can usually go back to your normal activities after several weeks.

In some cases, the surgeon may operate through many smaller incisions using special long, thin instruments, one of which has a tiny video camera on the end to see inside your body. This is called **laparoscopic**, or “keyhole” surgery. The surgeon may either hold the instruments directly or may sit at a control panel in the operating room and use robotic arms to do the surgery (sometimes known as a **robotic cystectomy**). This type of surgery may result in less pain and quicker recovery because of the smaller cuts. But it hasn't been around as long as the standard type of surgery, so it's not yet clear if it works as well.

It's important that any type of cystectomy be done by a surgeon with experience in treating bladder cancer. If the surgery is not done well, the cancer is more likely to come back.

Reconstructive surgery after radical cystectomy

If your whole bladder is removed, you'll need another way to store urine and pass it out of your body. Several types of reconstructive surgery can be done.

Incontinent diversion

One option may be to remove and clean a short piece of your intestine and then connect it to the ureters (the tubes that carry urine out of the kidneys). This creates a passageway, known as an **ileal conduit**, for urine to pass from the kidneys to the outside of the body. Urine flows from the kidneys through the ureters into the ileal conduit. One end of the conduit is connected to the skin on the front of the belly (abdomen) by an opening called a **stoma**. (This is also called a [urostomy](#)¹.)

After this procedure, a small bag sticks to the skin of your belly around the stoma to collect the urine. Urine slowly drains out non-stop, so the bag must be on all the time. It's emptied whenever it's full. This is called an incontinent diversion, because you cannot control the flow of urine out of your body.

Continent diversion

Another way for urine to drain is a continent diversion. A pouch is made from a piece of intestine that's attached to the ureters. One end of the pouch is connected to an opening (stoma) in your skin on the front of your belly. A one-way valve is created at this opening. This allows urine to be stored in the pouch. You then empty it several times a day by putting a thin drainage tube (catheter) into the stoma through the valve. Some people prefer this method because there's no bag on the outside.

Neobladder

This method routes the urine back into the urethra, so you pass urine the same way. To do this, the surgeon creates a new bladder (neobladder) from a piece of intestine. As with the incontinent and continent diversions, the ureters are connected to the neobladder. The difference is that the neobladder is also sewn to the urethra. This lets you urinate normally on a schedule. (You won't have the urge to urinate, so a schedule is needed.) Over time, most people regain the ability to urinate normally during the day, but incontinence at night may be a problem.

If the cancer has spread or can't be removed with surgery, a diversion may be made without taking out the bladder. In this case, the purpose of the surgery is to prevent or relieve blockage of urine flow, rather than try to cure the cancer.

Risks and side effects of cystectomy

The risks with any type of cystectomy are much like those with any major surgery. Problems during or shortly after surgery can include:

- Reactions to anesthesia
- Bleeding
- Blood clots in the legs or lungs
- Damage to nearby organs
- Infection

Most people will have at least some pain after the operation, which can be controlled with pain medicines.

Effects of cystectomy on urination

Bladder surgery can affect how you pass urine. If you have had a partial cystectomy, this might be limited to having to go more often (because your bladder can't hold as much urine).

If you have a radical cystectomy, you'll need reconstructive surgery (described above) to create a new way for urine to leave your body. Depending on the type of reconstruction, you might need to learn how to empty your urostomy bag or put a catheter into your stoma. Aside from these changes, urinary diversion and urostomy can also lead to:

- Infections
- Urine leaks
- Incontinence
- Pouch stones
- Blockage of urine flow
- Absorption problems (depends on the amount of intestine that was used)

The physical changes that come from removing the bladder and having a urostomy can affect your quality of life, too. Discuss your feelings and concerns with your health care team.

To learn a lot more about urostomies, see [Urostomy Guide](#)².

Sexual effects of radical cystectomy in men

Radical cystectomy removes the prostate gland and seminal vesicles. Since these glands make most of the seminal fluid, removing them means that a man will no longer make semen. He can still have an orgasm, but it will be “dry.”

After surgery, many men have nerve damage that affects their ability to have erections. In some men this may improve over time. For the most part, the younger a man is, the more likely he is to regain the ability to have full erections. If this issue is important to you, discuss it with your doctor before surgery. Newer surgical techniques may help lower the chance of erection problems.

For more on sexual issues and ways to cope with them, see [Sex and the Man With Cancer](#).³

Sexual effects of radical cystectomy in women

This surgery often removes the front part of the vagina. This can make sex less comfortable for some women, though most of the time it's still possible. One option is to have the vagina rebuilt (called vaginal reconstruction). There's more than one way to do this, so talk with your surgeon about the pros and cons of each method. Whether or not you have reconstruction, there are many ways to make sex more comfortable.

Radical cystectomy can also affect a woman's ability to have an orgasm if the nerve bundles that run along each side of the vagina are damaged. Talk with your doctor about whether these nerves can be left in place during surgery.

If the surgeon takes out the end of the urethra where it opens outside the body, the clitoris can lose some of its blood supply, which might affect sexual arousal. Talk with your surgeon about whether the end of the urethra can be spared.

For more on ways to cope with these and other sexual issues, see [Sex and the Woman With Cancer](#)⁴.

Sexual effects of urostomy

It's normal for both men and women to be concerned about having a sex life with a urostomy. Having your ostomy pouch fit correctly and emptying it before sex reduces the chances of a major leak. A pouch cover or small ostomy pouch can be worn with a sash to keep the pouch out of the way. Wearing a snug fitting shirt may be more comfortable. Choose sexual positions that keep your partner's weight from rubbing against the pouch. For more tips, see [Urostomy Guide](#)⁵.

[Cancer Surgery](#)⁶ has a lot more information about surgery as a treatment for cancer.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/ostomies/urostomy.html
2. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/ostomies/urostomy.html
3. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fertility-and-sexual-side-effects/sexuality-for-men-with-cancer.html
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6. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/surgery.html

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See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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Intravesical Therapy for Bladder Cancer

With intravesical therapy, the doctor puts a liquid drug right into your bladder rather than giving it by mouth or injecting it into your blood. The drug is put in through a soft catheter that's put into your bladder through your urethra. The drug stays in your bladder for up to 2 hours. This way, the drug can affect the cells lining the inside of your bladder without having major effects on other parts of your body.

When is intravesical therapy used?

After TURBT

Intravesical therapy is commonly used after [transurethral resection of bladder tumor \(TURBT\)](#). It's often done within 24 hours of the TURBT procedure. Some experts say it should be done within 6 hours. The goal is to kill any cancer cells that may be left in the bladder.

To treat non-invasive bladder cancer

These cancers are only in the lining of the bladder. They may be called non-invasive (stage 0), or minimally invasive (stage I) bladder cancers. They have not spread into deeper layers on the bladder wall muscles or to other parts of the body. Intravesical chemotherapy is used for these early-stage cancers because drugs given this way mainly affect the cells lining the inside of the bladder. They have little to no effect on cells elsewhere. This means that any cancer cells outside of the bladder lining, including those that have grown deeply into the bladder wall, are not treated by intravesical therapy. Drugs put into the bladder also can't reach cancer cells in the kidneys, ureters, and urethra, or those that have spread to other parts of the body.

One dose of intravesical chemotherapy might be the only treatment needed for non-invasive cancers.

Low-risk non-invasive (low-grade) bladder cancers grow slowly. They may be treated with 1 dose of intravesical chemo after TURBT. It's used to help keep the cancer from coming back.

Intravesical chemotherapy or immunotherapy may be used for intermediate non-invasive bladder cancers. Some studies suggest that immunotherapy works best. It's done once a week for 6 weeks, and may be repeated for another 6 weeks if needed. This is called induction therapy. After a 4- to 6-week break, maintenance treatments are then done for at least 1 year.

High-risk non-invasive bladder cancers might be fast-growing (high-grade), big, or there may be more than 1 tumor. They're treated with induction intravesical immunotherapy. If there's a good response to induction therapy, it's followed by 3 years of maintenance intravesical immunotherapy.

Intravesical immunotherapy maintenance treatment schedules vary. For instance, treatment may be done for 3 to 6 weeks every month, every 3 months, or twice a year. It can be done for 1 to 3 years. Your doctor will talk with you about the best plan based on the details of your bladder cancer and how it responds to treatment.

To treat higher-stage, invasive bladder cancers

One dose of intravesical chemotherapy is done within 24 hours of TURBT. But other types of treatment are usually the next steps for Stage II to IV (2 to 4) bladder cancers because they have spread beyond the lining layer of the bladder wall.

Sometimes induction and maintenance intravesical immunotherapy is used after radiation and systemic (in the blood) chemo for stage II cancers if surgery can't be done. It's seldom used for stage III. When it is, it's used along with other treatments in cases where surgery can't be done. Stage IV bladder cancers are rarely treated with intravesical therapy.

Types of intravesical therapy

There are 2 types of intravesical therapy:

- Immunotherapy
- Chemotherapy

Intravesical immunotherapy

Immunotherapy causes the body's own immune system to attack the cancer cells.

Bacillus Calmette-Guerin or **BCG** is the most common intravesical immunotherapy for treating early-stage bladder cancer. It's used to help keep the cancer from growing and to help keep it from coming back.

BCG is a germ that's related to the one that causes tuberculosis (TB), but it doesn't usually cause serious disease. BCG is put right into the bladder through a catheter. It reaches the cancer cells and "turns on" the immune system. The immune system cells are attracted to the bladder and attack the bladder cancer cells. BCG must come in contact with the cancer cells to work. This is why it's used for intravesical therapy.

Treatment with BCG can cause a wide range of symptoms. It's common to have flu-like symptoms, such as fever, achiness, chills, and fatigue. These can last for 2 to 3 days after treatment. It also commonly causes a burning feeling in the bladder, the need to urinate often, and even blood in the urine. Rarely, BCG can spread into the blood and through the body, leading to a serious infection. This can happen even years after treatment. One sign of this can be a high fever that isn't helped by Tylenol or medicines like it. If this happens, call your doctor right away. You might want to ask about other

serious side effects you should watch for and call your doctor about.

Intravesical chemotherapy

For this treatment, chemotherapy (chemo) drugs are put right into the bladder through a catheter. These drugs kill actively growing cancer cells. Many of these same drugs can also be given systemically (usually into a vein) to treat more advanced stages of bladder cancer. Intravesical chemotherapy is most often used when intravesical immunotherapy doesn't work. It's seldom used for more than 1 year.

The chemotherapy solution might be heated up before it's put into the bladder. Some experts believe that this makes the drug work better and helps it get into the cancer cells. When the chemo is heated, it might be called hyperthermic intravesical therapy.

Mitomycin is the drug used most often for intravesical chemotherapy. Delivery of mitomycin into the bladder along with heating the inside of the bladder, a treatment called **electromotive mitomycin therapy**, may work even better than giving intravesical mitomycin the usual way.

Gemcitabine may cause fewer side effects than mitomycin and is less likely to be absorbed into the blood.

Valrubicin might be used if BCG stops working. But not all experts agree on this treatment.

The main side effects of intravesical chemo are irritation and a burning feeling in the bladder, and blood in the urine.

A major advantage of giving chemo right into the bladder instead of injecting it into the bloodstream is that the drugs usually do not reach and effect other parts of the body. This helps people avoid many of the side effects linked to chemo.

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See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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Chemotherapy for Bladder Cancer

Chemotherapy (chemo) is the use of drugs to treat cancer. Chemo for bladder cancer can be given in 2 different ways:

Intravesical chemotherapy

For this treatment, the chemo drug is put right into the bladder. This type of chemo is used for bladder cancer that's only in the lining of the bladder. It's described in

Intravesical Therapy for Bladder Cancer.

Systemic chemotherapy

When chemo drugs are given in pill form or injected into a vein (IV) or muscle (IM), the drugs go into the bloodstream and travel throughout the body. This is called systemic chemotherapy. Systemic chemo can affect cancer cells anywhere in the body.

When is chemotherapy used?

Systemic chemo can be used :

- Before surgery to try to shrink a tumor so that it's easier to remove and to help lower the chance the cancer will come back. Giving chemo before surgery is called **neoadjuvant therapy**.
- After [surgery](#) (or sometimes after [radiation therapy](#)). This is called **adjuvant therapy**. The goal of adjuvant therapy is to kill any cancer cells that may remain after other treatments. This can lower the chance that the cancer will come back later.
- In people getting radiation therapy, to help the radiation work better.
- As the main treatment for bladder cancers that have spread to distant parts of the body.

Which chemo drugs are used to treat bladder cancer?

Chemo drugs may be used alone or in combination, depending on what they're being used for, a person's overall health, and other factors.

When chemo is given **with radiation**, the most common drugs used include:

- Cisplatin
- Cisplatin plus fluorouracil (5-FU)
- Mitomycin with 5-FU

When chemo is used **without radiation**, the most common combinations include:

- Gemcitabine and cisplatin

- Dose-dense methotrexate, vinblastine, doxorubicin (Adriamycin), and cisplatin (DDMVAC)
- Cisplatin, methotrexate, and vinblastine (CMV)
- Gemcitabine and paclitaxel

For some people, the side effects of getting more than one chemo drug might be too much to handle. For those people, treatment with a single drug, such as gemcitabine or cisplatin, may be an option. Other drugs sometimes used alone for bladder cancer include, docetaxel, paclitaxel, doxorubicin, methotrexate, ifosfamide, and pemetrexed.

Doctors give chemo in cycles, with each period of treatment followed by a rest period to allow the body time to recover. Each cycle typically lasts for a few weeks.

Most bladder cancers are transitional cell (urothelial) cancers, but there are other types as well, including squamous cell carcinoma, adenocarcinoma, and small cell carcinoma. These rare types of bladder cancer may be treated with drugs different from those listed above.

Side effects of chemotherapy

Chemo drugs attack cells that are dividing quickly, which is why they work against cancer cells. But other cells in the body, such as those in the bone marrow (where new blood cells are made), the lining of the mouth and intestines, and the hair follicles, also divide quickly. These cells are also likely to be affected by chemo, which can lead to side effects.

The [side effects](#)¹ of chemo depend on the type and dose of drugs given and how long they are taken. When chemo and radiation are given at the same time, side effects tend to be worse. Common side effects of chemo include:

- Nausea and vomiting
- Loss of appetite
- Hair loss
- Mouth sores
- Diarrhea
- Constipation
- Increased risk of [infections](#)² (because of a shortage of white blood cells)
- Easy bleeding or bruising, even after minor cuts or injuries (due to a shortage of blood platelets)

- Fatigue (because of a shortage of red blood cells)

These side effects usually go away over time after treatment ends. There are often ways to lessen these side effects, some can even be prevented. For instance, drugs can be used to help prevent or reduce nausea and vomiting. Ask your health care team about the side effects your chemo drugs may cause and what can be done to prevent and/or treat them.

Some chemo drugs can cause other, less common side effects. For example, drugs like cisplatin, docetaxel, and paclitaxel can damage nerves. This can sometimes lead to symptoms (mainly in the hands and feet) such as pain, burning or tingling, sensitivity to cold or heat, or weakness. This is called [peripheral neuropathy](#)³.

Be sure to report any side effects to your medical team so that they can be treated right away. In some cases, the doses of the chemo drugs may need to be reduced or treatment may need to be delayed or stopped to keep side effects from getting worse.

To learn more, see the [Chemotherapy](#)⁴ section of our website.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
2. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/infections.html
3. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/peripheral-neuropathy.html
4. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy.html

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See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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Radiation Therapy for Bladder Cancer

Radiation therapy uses high-energy radiation to kill cancer cells.

When is radiation therapy used?

Radiation therapy can be used:

- As part of the treatment for some early-stage bladder cancers , after [surgery](#) that doesn't remove the whole bladder (such as TURBT)
- As the main treatment for people with earlier-stage cancers who can't have surgery or chemotherapy
- To try to avoid cystectomy (surgery to take out the bladder)
- As part of treatment for advanced bladder cancer (cancer that has spread beyond the bladder)
- To help prevent or treat symptoms caused by advanced bladder cancer

Radiation therapy is often given along with [chemotherapy](#) to help the radiation work better. This is called **chemoradiation**.

How is radiation therapy given?

The type of radiation most often used to treat bladder cancer is called **external beam radiation therapy**. It focuses radiation from a source outside of the body on the cancer.

Before your treatments start, your radiation team will take careful measurements to find

the exact angles for aiming the radiation beams and the proper dose of radiation. This planning session, called **simulation**, usually includes getting imaging tests such as CT or MRI scans. This helps the doctor map where the tumor is in your body. You'll be asked to empty your bladder before simulation and before each treatment.

The treatment is a lot like getting an x-ray, but the radiation is stronger. Radiation doesn't hurt. Each treatment lasts only a few minutes, but the setup time – getting you into place for treatment – usually takes longer. Most often, radiation treatments are given 5 days a week for many weeks.

Possible side effects of radiation therapy

[Side effects](#)¹ of radiation depend on the dose given and the area being treated. They tend to be worse when chemo is given along with radiation. They can include:

- Skin changes in areas getting radiation, ranging from redness to blistering and peeling
- Nausea and vomiting
- Bladder symptoms, like burning or pain when you urinate, feeling the need to go often, or blood in your urine
- Diarrhea
- Blood in stool and/or urine
- Tiredness (fatigue)
- Low blood counts, which can lead to fatigue, easy bruising or bleeding, or increased risk of infection

These effects usually go away over time after treatment, but some people can have longer-term problems. For instance:

- In some people radiation treatments can lead to **incontinence** (problems holding urine) later on.
- Radiation can damage the lining of the bladder. This is called **radiation cystitis** and can cause long-term problems such as blood in the urine or painful urination.
- Nearby nerves and blood vessels might be damaged, leading to erection problems in men.

If you have side effects from radiation therapy, talk to with your health care team. They can suggest ways to ease many of them.

To learn more, see the [Radiation Therapy](#)² section of our website.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
2. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation.html

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Immunotherapy for Bladder Cancer

Immunotherapy is the use of medicines to help a person's own immune system recognize and destroy cancer cells. Immunotherapy is sometimes used to treat bladder cancer .

Intravesical BCG

BCG is a type of bacteria related to the one that causes tuberculosis. While it doesn't

usually cause a person to get sick, it can help trigger an immune response. BCG can be put right into the bladder as a liquid. This activates immune system cells in the bladder, which then attack bladder cancer cells.

For more details on this treatment, see the section on [intravesical therapy](#).

Immune checkpoint inhibitors (for advanced cancers)

An important part of the immune system is its ability to keep itself from attacking normal cells in the body. To do this, it uses “checkpoints” – molecules on immune cells that need to be turned on (or off) to start an immune response. Cancer cells sometimes use these checkpoints to keep from being attacked by the immune system. But newer [drugs that target these checkpoints](#)¹ hold a lot of promise as cancer treatments. At this time, these drugs are used to treat bladder cancers that have spread to other parts of the body (stage IV).

Atezolizumab (Tecentriq[®]), **durvalumab (Imfinzi[®])**, and **avelumab (Bavencio[®])** are drugs that target PD-L1, a protein on cells (including some cancer cells) that helps keep the immune system from attacking them. By blocking PD-L1, these drugs boost the immune system's response against the cancer cells. This can shrink some tumors or slow their growth.

Nivolumab (Opdivo[®]) and **pembrolizumab (Keytruda[®])** target PD-1, another protein that normally helps keep the immune system in check. Blocking PD-1 can allow the immune system to attack the cancer cells.

Any of these drugs can be used in people with advanced bladder cancer that starts growing again after chemotherapy. Atezolizumab and pembrolizumab can also be used in people who can't get the chemo drug cisplatin (due to things like hearing loss, kidney failure, or CHF).

These drugs are given as intravenous (IV) infusions, usually every 2 or 3 weeks.

Possible side effects

Common [side effects](#)² of these drugs include:

- Fatigue
- Nausea
- Loss of appetite

- Fever
- Urinary tract infections (UTIs)
- Rash
- Diarrhea
- Constipation

Less often, more serious side effects can occur. These drugs work by basically taking the brakes off the body's immune system. Sometimes the immune system starts attacking other parts of the body, which can cause serious or even life-threatening problems in the lungs, intestines, liver, hormone-making glands, or other organs.

It's very important to report any new side effects to your health care team right away. If serious side effects do occur, treatment may need to be stopped and you may get high doses of steroids to suppress your immune system.

See the [cancer immunotherapy³](#) section of our website.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy/immune-checkpoint-inhibitors.html
2. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
3. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy.html

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Treatment of Bladder Cancer, by Stage

Most of the time, treatment of bladder cancer is based on the tumor's [clinical stage](#)¹ when it's first diagnosed. Stage means how deep it's thought to have grown into the bladder wall and whether it has spread beyond the bladder. Other factors, such as the size of the tumor, how fast the cancer cells are growing (grade), and a person's overall health and preferences, also affect treatment options.

Treating stage 0 bladder cancer

Stage 0 bladder cancer includes non-invasive papillary carcinoma (Ta) and flat non-invasive carcinoma (Tis or carcinoma in situ). In either case, the cancer is only in the inner lining layer of the bladder. It has not invaded (spread deeper into) the bladder wall.

This early stage of bladder cancer is most often treated with [transurethral resection](#) (TURBT) with fulguration followed by [intravesical therapy](#) within 24 hours.

Stage 0a

Sometimes no further treatment is needed. [Cystoscopy](#)² is then done every 3 to 6 months to watch for signs that the cancer has come back.

For **low-grade** (slow-growing) non-invasive papillary (Ta) tumors, weekly intravesical chemotherapy may be started a few weeks after surgery. If the cancer comes back, the treatments can be repeated. Sometimes intravesical chemo is repeated over the next year to try to keep the cancer from coming back.

High-grade (fast-growing) non-invasive papillary (Ta) tumors are more likely to come back after treatment, so intravesical Bacille-Calmette Guerin (BCG) is often used after surgery. Before it's given, TURBT is commonly repeated to be sure the cancer has not affected the muscle layer. BCG is usually started a few weeks after surgery and is given every week for several weeks. Intravesical BCG seems to be better than intravesical chemotherapy for high-grade cancers. It can help both keep these cancers from coming back and keep them from getting worse. But it also tends to have more [side effects](#)³. It, too, may be done for the next year or so.

Stage 0 bladder cancers rarely need to be treated with more extensive surgery. Partial or complete cystectomy (removal of the bladder) is considered only when there are many superficial cancers or when cancer continues to grow (or seems to be spreading) despite treatment.

Stage 0is

For flat non-invasive (Tis) tumors, BCG is the treatment of choice after TURBT. Patients with these tumors often get 6 weekly treatments of intravesical BCG, starting a few weeks after TURBT. Some doctors recommend repeating BCG treatment every 3 to 6 months.

Follow-up and outlook after treatment

After treatment for any stage 0 cancer, close follow-up is needed, with cystoscopy about every 3 months for at least a couple of years to look for signs of the cancer coming back or new bladder tumors.

The outlook for people with **stage 0a** (non-invasive papillary) bladder cancer is very good. These cancers can be cured with treatment. During long-term follow-up care, more superficial cancers are often found in the bladder or in other parts of the urinary system. Although these new cancers do need to be treated, they rarely are deeply invasive or life threatening.

The long-term outlook for **stage 0is** (flat non-invasive) bladder cancer is not as good as for stage 0a cancers. These cancers have a higher risk of coming back, and may return as a more serious cancer that's growing into deeper layers of the bladder or has spread to other tissues.

Treating stage I bladder cancer

Stage I bladder cancers have grown into the connective tissue layer of the bladder wall

(T1), but have not reached the muscle layer.

Transurethral resection (TURBT) with fulguration is usually the first treatment for these cancers. But it's done to help determine the extent of the cancer rather than to try to cure it. If no other treatment is given, many people will later get a new bladder cancer, which often will be more advanced. This is more likely to happen if the first cancer is high-grade (fast-growing).

Even if the cancer is found to be **low grade** (slow-growing), a second TURBT is often recommended several weeks later. If the doctor then feels that all of the cancer has been removed, [intravesical BCG](#) (preferred) or intravesical chemo is usually given. (Less often, close follow-up alone might be an option.) If all of the cancer wasn't removed, options are intravesical BCG or cystectomy (removal of part or all of the bladder).

If the cancer is **high grade**, if many tumors are present, or if the tumor is very large when it's first found, radical cystectomy may be recommended.

For people who aren't healthy enough for a cystectomy, [radiation therapy](#) (often along with [chemo](#)) might be an option, but the chances for cure are not as good.

Treating stage II bladder cancer

These cancers have invaded the muscle layer of the bladder wall (T2a and T2b), but no farther. [Transurethral resection](#) (TURBT) is the first treatment for these cancers, but it's done to help determine the extent (stage) of the cancer rather than to try to cure it.

When the cancer has invaded the muscle, [radical cystectomy](#) (removal of the bladder) is the standard treatment. Lymph nodes near the bladder are often removed as well. If cancer is in only one part of the bladder, a [partial cystectomy](#) may be done instead. But this is possible in only a small number of patients.

Radical cystectomy may be the only treatment for people who are not well enough to get chemo. But most doctors prefer to give chemo before surgery because it's been shown to help patients live longer than surgery alone. When chemo is given first, surgery is delayed. This is not a problem if the chemo shrinks the bladder cancer, but it might be harmful if the tumor continues to grow during chemo.

If cancer is found in nearby lymph nodes, radiation may be needed after surgery. Another option is chemo, but only if it wasn't given before surgery.

Certain people may be able to have a second (and more extensive) transurethral resection (TURBT), followed by [radiation](#) and chemotherapy. While this lets patients keep their bladder, it's not clear if the outcomes are as good as they are after cystectomy, so not all doctors agree with this approach. If this treatment is used, frequent and careful follow-up exams are needed. Some experts recommend a repeat cystoscopy and biopsy be done during the chemo and radiation treatment. If cancer is still found in the biopsy sample, a cystectomy will likely be needed.

For patients who can't have surgery because of other serious health problems, TURBT, radiation, chemotherapy, or some combination of these may be options.

Treating stage III bladder cancer

These cancers have reached the outside of the bladder (T3) and might have grown into nearby tissues or organs (T4) and/or lymph nodes (N1, N2, or N3). They have not spread to distant parts of the body.

[Transurethral resection](#) (TURBT) is often done first to find out how far the cancer has grown into the bladder wall. Chemotherapy followed by [radical cystectomy](#) (removal of the bladder and nearby lymph nodes) is then the standard treatment. [Partial cystectomy](#) is rarely an option for stage III cancers.

[Chemotherapy](#) (chemo) before surgery (with or without radiation) can shrink the tumor, which may make surgery easier. Chemo can also kill any cancer cells that could already have spread to other areas of the body and help people live longer. It can be especially useful for T4 tumors, which have spread outside the bladder. When chemo is given first, surgery to remove the bladder is delayed. The delay is not a problem if the chemo shrinks the cancer, but it can be harmful if it continues to grow during chemo. Sometimes the chemo shrinks the tumor enough that intravesical therapy or chemo with radiation is possible instead of surgery.

Some patients get chemo after surgery to kill any cancer cells left after surgery that are too small to see. Chemo given after cystectomy may help patients stay cancer-free longer, but so far it's not clear if it helps them live longer. If cancer is found in nearby lymph nodes, radiation may be needed after surgery. Another option is chemo, but only if it wasn't given before surgery.

An option for some patients with single, small tumors (some T3) might be treatment with a second (and more extensive) transurethral resection (TURBT) followed by a combination of chemo and [radiation](#). If cancer is still found when cystoscopy is repeated, cystectomy might be needed.

For patients who can't have surgery because of other serious health problems, treatment options might include TURBT, intravesical therapy, radiation, chemotherapy, [immunotherapy](#), or some combination of these.

Treating stage IV bladder cancer

These cancers have reached the abdominal or pelvic or abdominal wall (T4b), may have spread to nearby lymph nodes (any N), and/or have spread to distant parts of the body (M1). Stage IV cancers are very hard to get rid of completely.

[Chemotherapy](#) (with or without [radiation](#)) is usually the first treatment if the cancer has not spread to distant parts of the body (M0). The tumor is then rechecked. If it appears to be gone, chemo with or without radiation or cystectomy are options. If there are still signs of cancer in the bladder, chemo with or without radiation, changing to another kind of chemo, adding an immunotherapy drug, or cystectomy may be recommended.

Chemo with or without radiation is the first treatment when bladder cancer has spread to distant parts of the body (M1). After this treatment the cancer is rechecked. If it looks like it's gone, a boost of radiation to the bladder may be given or cystectomy might be done. If there are still signs of cancer, chemo, radiation, both at the same time, and immunotherapy might be options.

In most cases [surgery](#) (even radical cystectomy) can't remove all of the cancer, so treatment is usually aimed at slowing the cancer's growth and spread to help people live longer and feel better. If surgery is a treatment option, it's important to understand the goal of the operation – is it to try to cure the cancer, help a person live longer, or help prevent or relieve symptoms from the cancer?

People who can't tolerate chemo because of other health problems might be treated with radiation therapy or with an immunotherapy drug. Urinary diversion without cystectomy is sometimes done to prevent or relieve a blockage of urine that could cause severe kidney damage.

Because treatment is unlikely to cure these cancers, many experts recommend taking part in a [clinical trial](#)⁴.

Treating bladder cancer that progresses or recurs

If cancer continues to grow during treatment (progresses) or comes back after treatment (recurs), treatment options will depend on where and how much the cancer has spread, what treatments have already been used, and the patient's overall health and desire for

more treatment. It's important to understand the goal of any further treatment – if it's to try to cure the cancer, to slow its growth, or to help relieve symptoms – as well as the likely benefits and risks.

For instance, non-invasive bladder cancer often comes back in the bladder. The new cancer may be found either in the same place as the original cancer or in other parts of the bladder. These tumors are often treated the same way as the first tumor. But if the cancer keeps coming back, a [cystectomy](#) (removal of the bladder) may be needed.

Cancers that recur in distant parts of the body can be harder to remove with surgery and other treatments, such as [chemotherapy](#), [immunotherapy](#), or [radiation therapy](#), might be needed. For more on dealing with a recurrence, see our section called [Understanding Recurrence](#)⁵.

At some point, it may become clear that standard treatments are no longer controlling the cancer. If the patient wants to continue getting treatment, taking part in a [clinical trial](#)⁶ of newer bladder cancer treatments might be recommended. While these are not always the best option for every person, they can benefit current, as well as future patients.

The treatment information in this document is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.

Hyperlinks

1. www.cancer.org/cancer/bladder-cancer/detection-diagnosis-staging/staging.html
2. www.cancer.org/treatment/understanding-your-diagnosis/tests/endoscopy/cystoscopy.html
3. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
4. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
5. www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence.html
6. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html

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After Bladder Cancer Treatment

Living as a Cancer Survivor

For many people, cancer treatment often raises questions about next steps as a survivor.

- [Living as a Bladder Cancer Survivor](#)

Cancer Concerns After Treatment

Treatment may remove or destroy the cancer, but it's very common to have concerns about developing a second cancer after treatment.

- [Second Cancers After Bladder Cancer](#)

Living as a Bladder Cancer Survivor

For some people with bladder cancer, treatment can remove or destroy the cancer. The end of treatment can be both stressful and exciting. You may be relieved to finish treatment, but find it hard not to worry about cancer coming back. This is very common if you've had cancer.

For other people, bladder cancer might never go away completely or might come back in another part of the body. Some people may get regular treatment with chemotherapy, immunotherapy, or other treatments to try to keep the cancer in check. Learning to live

with cancer that doesn't go away can be difficult and very stressful.

Life after bladder cancer means returning to some familiar things and also making some new choices.

Follow-up care

After treatment, your doctors will still want to watch you closely. People who've had bladder cancer have a high risk of developing a second bladder cancer, so it's very important to go to all of your follow-up appointments. During these visits, your doctors will ask questions about any problems you're having and will do exams, lab tests, and imaging tests to look for signs of cancer and/or treatment side effects.

Some treatment side effects might last a long time. Some might not even show up until years after you've finished treatment. These visits are a good time to ask questions. And be sure to tell your doctor about any changes or problems you notice or concerns you have.

Doctor visits and tests

Your schedule of exams and tests will depend on the [stage](#)¹ and grade of the cancer, what treatments you've had, and other factors. Be sure to follow your doctor's advice about follow-up tests.

Most experts recommend repeat exams every 3 to 6 months for people who have no signs of cancer after treatment. These are done to see if the cancer is growing back or if there's a new cancer in the bladder or urinary system. Your follow-up plan might include urine tests, physical exams, [imaging tests](#)² (like x-rays, MRI, or CT scans), and blood tests. These doctor visits and tests will be done less often as time goes by and no new cancers are found.

- If your bladder hasn't been removed, regular [cystoscopy](#)³ exams will also be done every 3 months for at least the first 2 years.
- If you have a urinary diversion, you will be checked for signs of infection and changes in the health of your kidneys. Urine tests, blood tests, and x-rays might be used to do this. Your vitamin B12 will be checked at least once a year because urinary diversions made with your intestine can affect B12 absorption. Your doctor will also talk to you about how well you're able to control your urine. Tests will be done to look for signs of cancer in other parts of your urinary tract, too.

Some doctors recommend other lab tests as well, such as the urine tumor marker tests discussed in [Can Bladder Cancer Be Found Early?](#)⁴ Many of these tests can be used to help see if the cancer has come back, but so far none of these can take the place of cystoscopy.

Ask your doctor for a survivorship care plan

Talk with your doctor about developing a [survivorship care plan](#)⁵ for you. This plan might include:

- A suggested schedule for follow-up [exams and tests](#)⁶
- A schedule for other tests you might need in the future, such as [early detection \(screening\) tests](#)⁷ for other types of cancer, or tests to look for long-term health effects from your cancer or its treatment
- A list of possible late- or long-term [side effects](#)⁸ from your treatment, including what to watch for and when you should contact your doctor
- Diet and physical activity suggestions
- Reminders to keep your appointments with your primary care provider (PCP), who will monitor your general health care.

Keeping health insurance and copies of your medical records

Even after treatment, it's very important to keep [health insurance](#)⁹. Tests and doctor visits cost a lot, and even though no one wants to think of their cancer coming back, this could happen.

At some point after your cancer treatment, you might find yourself seeing a new doctor who doesn't know about your medical history. It's important to keep copies of your medical records to give your new doctor the details of your diagnosis and treatment. Learn more in [Keeping Copies of Important Medical Records](#)¹⁰.

Can I lower my risk of the bladder cancer progressing or coming back?

If you have (or have had) bladder cancer, you probably want to know if there are things you can do that might lower your risk of the cancer growing or coming back, such as exercising, eating a certain type of diet, or taking nutritional supplements. Unfortunately, it's not yet clear if there are things you can do that will help.

Adopting healthy behaviors such as [not smoking](#)¹¹, [eating well](#)¹², [getting regular physical activity](#)¹³, and [staying at a healthy weight](#)¹⁴ might help, but no one knows for sure. Still, we do know that these types of changes can have positive effects on your health that can extend beyond your risk of bladder cancer or other cancers.

About dietary supplements

So far, no [dietary supplements](#)¹⁵ (including vitamins, minerals, and herbal products) have been shown to clearly help lower the risk of bladder cancer progressing or coming back. This doesn't mean that no supplements will help, but it's important to know that none have been proven to do so.

Dietary supplements are not regulated like medicines in the United States – they don't have to be proven effective (or even safe) before being sold, although there are limits on what they're allowed to claim they can do. If you're thinking about taking any type of nutritional supplement, talk to your health care team. They can help you decide which ones you can use safely while avoiding those that might be harmful.

If the cancer comes back

If the cancer does recur at some point, your treatment options will depend on where the cancer is located, what treatments you've had before, and your health. For more information on how recurrent bladder cancer is treated, see [Treatment of Bladder Cancer, by Stage](#).¹⁶

For more general information on recurrence, you may also want to see [Understanding Recurrence](#)¹⁷.

Could I get a second cancer after bladder cancer treatment?

People who've had bladder cancer can still get other cancers. In fact, bladder cancer survivors are at higher risk for getting some other types of cancer. Learn more in [Second Cancers After Bladder Cancer](#).

Moving on after bladder cancer

For patients with a urostomy

If you had a radical cystectomy and now have a urostomy, you might worry even about everyday activities at first. You might have to alter some of your daily (and nightly)

routines because of changes in how you urinate. Other issues such as having sex might also cause concerns (see below).

It's normal to have worries and concerns when adjusting to such a major change. But it's important to know there are health care professionals who are specially trained to help people with their urostomies. They can teach you to take care of your urostomy and help you cope with the changes it brings. You can also ask the American Cancer Society about programs offering information and support in your area. For more information, see our [Urostomy Guide](#)¹⁸.

Emotional support

Some amount of feeling depressed, anxious, or worried is normal when bladder cancer is a part of your life. Some people are affected more than others. But everyone can benefit from [help and support](#)¹⁹ from other people, whether friends and family, religious groups, support groups, professional counselors, or others. Learn more in [Life After Cancer](#)²⁰.

Sexuality and feeling good about your body

Bladder cancer treatment can often affect your sex life. (See [Bladder Cancer Surgery](#)²¹ for more on this.) Learning to be comfortable with your body during and after bladder cancer treatment is a personal journey, one that's different for everyone. Information and support can help you cope with these changes over time. Learn more in [Fertility and Sexual Side Effects in People with Cancer](#)²².

Hyperlinks

1. www.cancer.org/cancer/bladder-cancer/detection-diagnosis-staging/staging.html
2. www.cancer.org/treatment/understanding-your-diagnosis/tests/imaging-radiology-tests-for-cancer.html
3. www.cancer.org/treatment/understanding-your-diagnosis/tests/endoscopy/cystoscopy.html
4. www.cancer.org/cancer/bladder-cancer/detection-diagnosis-staging/detection.html
5. www.cancer.org/treatment/survivorship-during-and-after-treatment/survivorship-care-plans.html
6. www.cancer.org/treatment/understanding-your-diagnosis/tests.html
7. www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html
8. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html

9. www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-health-insurance.html
10. www.cancer.org/treatment/survivorship-during-and-after-treatment/be-healthy-after-treatment/keeping-copies-of-important-medical-records.html
11. www.cancer.org/healthy/stay-away-from-tobacco.html
12. www.cancer.org/healthy/eat-healthy-get-active/eat-healthy.html
13. www.cancer.org/healthy/eat-healthy-get-active/get-active.html
14. www.cancer.org/healthy/eat-healthy-get-active/take-control-your-weight.html
15. www.cancer.org/treatment/treatments-and-side-effects/complementary-and-alternative-medicine/dietary-supplements.html
16. www.cancer.org/cancer/bladder-cancer/treating/by-stage.html
17. www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence.html
18. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/ostomies/urostomy.html
19. www.cancer.org/treatment/support-programs-and-services.html
20. www.cancer.org/treatment/survivorship-during-and-after-treatment/be-healthy-after-treatment/life-after-cancer.html
21. www.cancer.org/cancer/bladder-cancer/treating/surgery.html
22. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fertility-and-sexual-side-effects.html

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See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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Second Cancers After Bladder Cancer

Cancer survivors can be affected by a number of health problems, but often a major concern is facing cancer again. If a cancer comes back after treatment it's called a *recurrence*. But some cancer survivors may develop a new, unrelated cancer later. This is called a *second cancer*.

Being treated for bladder cancer doesn't mean you can't get another cancer. Survivors of bladder cancer can get any type of second cancer, but they have an increased risk these cancers compared to the general population:

- A second bladder cancer (This is different from the first cancer coming back.)
- Cancer of the renal pelvis/ureter (the ureter is the tube connecting the kidney to the bladder; the part of the kidney where it attaches is called the renal pelvis)
- [Cancer of the pancreas](#)¹
- [Cancer of the larynx](#)² (voice box)
- [Esophageal cancer](#)³
- [Lung cancer](#)⁴ (most common, accounts for about 1 out of 4 second cancers in bladder cancer survivors)
- [Vaginal cancer](#)⁵
- [Prostate cancer](#)⁶
- [Kidney cancer](#)⁷
- [Rectal cancer](#)⁸
- [Skin cancer](#)⁹ (excluding basal and squamous cell skin cancers)
- [Acute myeloid leukemia \(AML\)](#)¹⁰

Many of these cancers have been clearly linked to smoking, which is also a major risk factor for bladder cancer. Talk to your doctor if you need help to [quit smoking](#).¹¹

Follow-up after bladder cancer treatment

After completing treatment for bladder cancer, you should see your doctor regularly. Let them know about any new symptoms or problems, because they could be caused by the cancer coming back, a new disease, or a second cancer.

Bladder cancer survivors should also follow the [American Cancer Society guidelines for the early detection of cancer](#)¹², such as those for colorectal and lung cancer. Most experts don't recommend any other testing to look for second cancers unless you have symptoms. Again, this means it's important to tell your doctors about any changes you notice.

Can I lower my risk of getting a second cancer?

There are steps you can take to lower your risk and stay as healthy as possible. One of the most important you can do is quit using any form of tobacco and stay away from tobacco smoke. Smoking increases the risk of a lot of the second cancers seen after bladder cancer, as well as many other cancers.

To help [maintain good health](#)¹³, bladder cancer survivors should also:

- Get to and stay at a healthy weight
- Stay physically active
- Eat a healthy diet, with an emphasis on plant foods
- Limit alcohol to no more than 1 drink per day for women or 2 per day for men

These steps may also help lower the risk of other health problems.

See [Second Cancers in Adults](#)¹⁴ for more information about causes of second cancers.

Hyperlinks

1. www.cancer.org/cancer/pancreatic-cancer.html
2. www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer.html
3. www.cancer.org/cancer/esophagus-cancer.html
4. www.cancer.org/cancer/lung-cancer.html
5. www.cancer.org/cancer/vaginal-cancer.html
6. www.cancer.org/cancer/prostate-cancer.html
7. www.cancer.org/cancer/kidney-cancer.html
8. www.cancer.org/cancer/colon-rectal-cancer.html
9. www.cancer.org/cancer/skin-cancer.html

10. www.cancer.org/cancer/acute-myeloid-leukemia.html
11. www.cancer.org/healthy/stay-away-from-tobacco/guide-quitting-smoking.html
12. www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html
13. www.cancer.org/healthy/eat-healthy-get-active.html
14. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/second-cancers-in-adults.html

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See all references for Bladder Cancer (www.cancer.org/cancer/bladder-cancer/references.html)

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