

# Patient information from BMJ

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## Bladder cancer

Bladder cancer happens when one or more tumors form in the bladder. If a tumor spreads into other tissues or organs it becomes harder to treat. But most bladder cancers are confined to the bladder.

You can use our information to talk with your doctor about what treatments are best for you.

### What is bladder cancer?

The cells that make up the organs in our bodies usually grow, die off, and replace themselves in a regular and controlled way. But when cells grow out of control, they can form clumps called tumors. This is cancer.

Tumors can sometimes grow in the lining of the bladder. And these tumors can sometimes spread into nearby muscle, into glands called lymph nodes, and into other organs.

Bladder cancer can involve more than one tumor. The more a tumor spreads, the harder it is to treat.

- If bladder cancer is confined inside the lining of the bladder, it's called **nonmuscle-invasive** bladder cancer. This is the most common type of bladder cancer, and the easiest to treat.
- If bladder cancer spreads into the surrounding bladder muscle it's called **muscle-invasive** bladder cancer.
- If bladder cancer spreads to other parts of the body it's called **metastatic** bladder cancer. This is the hardest type to treat.

The most common cause of bladder cancer is smoking. This is because the bladder is where harmful substances that we consume or breathe in often collect before we flush them out when we urinate.

Some of these harmful chemicals can cause cancer. They are called carcinogens. Tobacco smoke contains many of these carcinogens.

Other chemicals that can cause bladder cancer include:

- carcinogens in diesel fumes, and

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- carcinogens in industrial chemicals in things like dyes, paints, and plastics.

But factory workers tend to work in safer conditions than they once did, so these chemicals shouldn't be so much of a problem as they once were.

Other things that make someone more likely to get bladder cancer include:

- being a man. Bladder cancer is more common in men than in women. This is possibly because, in the past, men were more likely to work in factories and come into contact with dangerous chemicals
- being older
- having had cancer treatment before
- having had regular bladder problems before, such as repeated urinary tract infections (UTIs).

If you have bladder cancer your specialist cancer doctor (called an oncologist) will assess it using something called a **TNM classification**. This helps doctors understand what kind of treatments you might need.

- The T stands for tumor. It refers to how far into the bladder tissue the tumor has grown.
- The N stands for nodes. This refers to whether the cancer has spread into nearby glands called lymph nodes.
- The M stands for metastasis. This refers to whether the cancer has spread (or "metastasized") into other parts of the body.

Your oncologist will give each of these letters a score based on how far and where your cancer has spread. It's a complicated system and can be hard to understand. Your doctor should explain your TNM score to you carefully.

## What are the symptoms?

The main symptom of bladder cancer is blood in your urine. Your doctor might call this **hematuria**.

Sometimes it's obvious if there is blood in your urine, as you can see that your urine is a brownish color. But often there is only a little blood. So it's not always noticeable.

If you notice blood in your urine, see your doctor, even if the problem stops, and even if it only happens once. Just because the bleeding stops doesn't mean the problem has gone away.

Other symptoms of bladder cancer include:

- pain when urinating. This is called dysuria. But this doesn't happen to everyone with bladder cancer, and it's more likely to be a symptom of other conditions such as cystitis (a urinary tract infection)
- needing to urinate more than usual. This is less common, and it's not usually the only symptom of bladder cancer. It's also more likely to be caused by something other than bladder cancer. For example, in men it's more likely to be a sign of prostate problems, or

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of the normal enlarging of the prostate that happens as you get older. But it's best to tell your doctor if your urination habits change.

If your doctor thinks that you might have bladder cancer or another problem with your urinary tract, you will need some tests.

You might need to give a urine sample, so that it can be tested for blood.

If this suggests that you might have bladder cancer, you will need another test, called a **cystoscopy**. With this test, a thin tube is inserted into the urethra (the tube that carries urine from the bladder out of your body). On the end of this tube is a tiny camera, which looks for tumors in the bladder.

You might also have other scans, such as CT or ultrasound.

If the cystoscopy finds anything unusual, your doctor will probably want to do a procedure called a **transurethral resection of a bladder tumor, or TURBT** for short. TURBT is another type of test, but it can also be a treatment for early-stage tumors.

TURBT is not a major operation, and it is done using the same method as a cystoscopy. But you will still need a general anesthetic.

The surgeon will remove any tumors or abnormal tissue in the bladder for testing. If you have a tumor that is at an early stage and has not spread to the muscle around the bladder, it will probably be the only surgery that you need.

## What treatments work?

The treatment you are offered will depend on how far your cancer has spread.

### Nonmuscle-invasive bladder cancer

This is the most common type of bladder cancer. For this type of cancer you might only need TURBT followed by a single dose of **chemotherapy**.

Chemotherapy drugs are medications that destroy cancer cells. The chemotherapy medication is given directly into the bladder. Then it is drained out after an hour or so.

If your doctor thinks there is a chance that your cancer might spread, you might need more chemotherapy. The usual treatment is six more sessions of chemotherapy given into the bladder. Your doctor will explain to you when and how these treatments will happen.

Chemotherapy for bladder cancer can cause unpleasant side effects, including pain when you urinate, and feeling generally unwell - as if you have the flu. Your doctor should discuss these side effects with you and explain how the chemotherapy might make you feel.

In some people, the cancer returns soon after they have TURBT. If this happens to you, you might need to have TURBT a second time.

Some people with nonmuscle-invasive cancer need an operation to remove the bladder completely. But this is rare.

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The operation to remove the bladder is called a **cystectomy**. In men, the prostate is removed at the same time, because cancer cells can spread easily to the prostate.

Cystectomy is a major operation, and it will change the way that urine leaves your body. It's natural to be anxious about an operation like this. But your doctor should discuss it with you in detail and explain what will happen. And you should ask any questions that you want to, at any stage of your treatment.

### Muscle-invasive bladder cancer

This type of bladder cancer, which has spread outside the muscle around the bladder, is sometimes also called **locally invasive** cancer. The treatment depends on how far the cancer has spread, and it is different depending on whether you are a man or a woman.

- The usual treatment in men is surgery to remove the bladder and the prostate.
- Women usually need a cystectomy to remove the bladder, and sometimes a hysterectomy, which is an operation to remove the womb (uterus).
- Some people who only have one tumor might be able to have just part of the bladder removed.

It's not possible to get pregnant after having a hysterectomy. Whatever kind of surgery you have, your doctor should discuss it with you in detail.

If you have your bladder removed, the surgeon will also create a new way for urine to leave the body. This can be done in several ways. You can discuss with your doctor which method will work best for you.

- A new bladder can sometimes be made using part of your bowel. This should let you urinate fairly normally.
- A reservoir can be made from part of your bowel, to store urine before it passes out through a catheter.
- A tube or "ileal conduit" can be made from part of your bowel. This tube carries urine out of the body either through your urethra or a catheter.

If you have either an ileal conduit or reservoir made, you will need to wear a special bag that collects urine as it passes from the body. You then drain the bag whenever you need to.

If you have surgery to remove your bladder you will also need to have chemotherapy. And your doctor might also recommend another drug treatment, called **immunotherapy**. This treatment involves giving you drugs that help your body fight cancer by boosting your immune system.

Some people with muscle-invasive bladder cancer might not be able to have surgery. This might be because:

- their cancer has spread too far for the operation to be successful
- their general health is poor and they are not strong enough to have major surgery, or
- their age means that they might not be strong enough to have major surgery.

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The usual treatment for these people is chemotherapy, and possibly also **radiation therapy**. Radiation therapy uses targeted radiation to kill cancer cells. These treatments won't cure the cancer. But they can help you to live longer. Your doctor should discuss all possible treatments and outcomes with you.

Sometimes, though, chemotherapy shrinks a tumor enough that cystectomy to remove the bladder becomes possible.

### Metastatic bladder cancer

If you have metastatic bladder cancer it means that your cancer has spread beyond the bladder into other organs, such as the liver, lungs, or bones.

Radiation therapy and chemotherapy can be used to ease symptoms and make you feel more comfortable. Immunotherapy is sometimes also used. But in most people these treatments don't lead to a cure.

Some people respond very well to radiation therapy and chemotherapy, and they are then able to have surgery. This can happen if you only had one tumor in your bladder to begin with, and if your cancer has only spread to one place where it's not too hard to remove.

### What will happen?

If you have had treatment for bladder cancer you will need regular check-ups, possibly as often as every few months, for the rest of your life, to check that the cancer hasn't come back.

It is quite common for bladder cancer to come back months or years after you have treatment. If this happens, you will need more treatment.

Most people with bladder cancer have the nonmuscle-invasive type that can be treated and cured, even if it comes back. Most people with this type of cancer don't die from it.

The outlook is less good for muscle-invasive cancer. About half of people with this type of bladder cancer will die from it, even if they have surgery. And only about 10 in 100 people with metastatic bladder cancer are cured.

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