

# Patient information from BMJ

Last published: Aug 12, 2025

## Kidney cancer

**Kidney cancer can usually be cured if it's found early. Like many types of cancer, kidney cancer tends to be more common in older people.**

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

### What is kidney cancer?

Cancer is a disease that occurs when cells in the body grow and spread in a way that is out of control. Cancer can occur anywhere in your body. Sometimes the cells form into lumps called tumours, and these tumours can spread into nearby tissues and other parts of your body.

Kidney cancer is when tumours start to form in your kidneys. The information given here is about the most common type of kidney cancer called **renal cell carcinoma**. There are other types of kidney cancer, but they are less common.

### What causes kidney cancer?

One of the main causes of kidney cancer is **smoking**. This is because tobacco smoke contains many harmful chemicals that cause cancer. And chemicals that we eat, drink, or breathe in (for example, when smoking) pass through the kidneys on their way out your body in your urine.

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

- **being a man.** Kidney cancer is more common in men than in women
- **being very overweight.** Kidney cancer is more common in people who are living with obesity
- **having high blood pressure.** This may be due to long-term kidney damage caused by high blood pressure
- **being older.** Most people with kidney cancer are over 60
- having had treatment for kidney disease in the past, such as **dialysis**
- having close relatives who have had kidney cancer.

### What are the symptoms of kidney cancer?

Early-stage kidney cancer doesn't usually cause any symptoms. Cancers at this stage are often found when someone sees their doctor for another problem. They might then have a scan, which shows up the cancer.

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For example, you might have a scan if your doctor thinks you have kidney stones. If you are a man, the cancer might show up if you are having a scan of your prostate gland and urinary tract (which includes the kidneys).

Kidney cancer can have symptoms, which can include:

- blood in your urine
- back pain
- a lump in your side
- fever
- general tiredness
- muscle weakness
- swelling in the scrotum (for men).

If you have blood in your urine you might not notice if it's a small amount. But if you notice that your urine is a brownish colour, this is probably blood.

If you see blood in your urine, tell your doctor, even if it only happens once. It can be a sign of kidney cancer or of bladder cancer.

If you have cancer that is very advanced, symptoms can include:

- pain in some of your bones and
- problems with your lungs, such as a bad cough that doesn't go away.

If a scan finds a lump on your kidney, your doctor should refer you to a specialist called a urologist. You will need to have tests on your blood and urine.

You might also have a biopsy. This is a procedure where a small piece of the lump on your kidney is removed and tested to see if it is cancer.

After tests, your doctor may also tell you what **stage** your cancer is at. Most kidney cancers are diagnosed at an early stage, when they can usually be cured. Kidney cancers are often grouped into three stages.

- **Early-stage or 'localised' cancer.** The cancer is only inside the kidney. More than half of people with kidney cancers have their cancer diagnosed at this early stage.[\[1\]](#)
- **Locally advanced cancer.** This means that the cancer has spread to tissues close to the kidney, such as the blood vessels that serve the kidney.
- **Advanced or 'metastatic' cancer.** This means that the cancer has spread to tissues and organs far from the kidney, such as the lungs.

## What are the treatment options for kidney cancer?

The treatment you need will depend on how advanced your cancer is. But in most people it involves removing the kidney that has a tumour. This usually isn't a problem, as the body can manage well with one kidney.

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Two common cancer treatments that you might have heard of are **chemotherapy** and **radiotherapy**. These treatments can kill cancer cells, but they don't usually work well for kidney cancer.

### Early-stage cancer

The usual treatment for early-stage kidney cancer is surgery. If you have a small tumour you might just need to have part of the kidney removed. This operation is called a partial **nephrectomy**. If the tumour is larger, you may need to have the affected kidney removed altogether.

Some people have a treatment called **ablation**. This means killing the cancer cells with either heat or extreme cold, without removing the kidney.

- **Radiofrequency ablation** delivers a hot electric current through a tiny probe, which kills the cells.
- **Cryoablation** uses small needles to apply extreme cold to freeze the cancer cells, which then die.

These tiny probes or needles are inserted through the skin and avoid damaging healthy tissue. Some people have ablation because their tumour is small and they don't need to have the whole kidney removed. Others have ablation if they cannot have surgery. For example, they might be too unwell to have a major operation.

Surgery to remove a kidney can be done with open surgery, where the surgeon makes one large cut for direct access to your kidney. Sometimes surgeons can use 'keyhole' surgery instead, using smaller cuts and a camera to let them see inside the area they are operating on. The treatment you are offered will depend on several things, including the size and location of the tumour, and how difficult it will be to remove. It may also depend on which type of surgery is more common at your hospital.

### Locally advanced cancer

The usual treatment for locally advanced kidney cancer is surgery to remove the affected kidney. It might also be necessary to remove nearby lymph nodes and blood vessels, and sections of major blood vessels, if they have been affected by the tumour.

Some people have treatment with **targeted therapies**. These specifically designed medicines can help to stop tumours growing, and they can even shrink them.

People usually have this treatment when their tumour has spread so far that surgery is not possible. But this treatment can sometimes shrink a tumour enough that surgery can happen.

These medicines can cause side effects. Your doctor should discuss these with you in detail. Side effects can include:

- high blood pressure
- hand-foot syndrome (a condition which causes skin changes and blistering of the palms and sole)
- diarrhoea
- thyroid problems
- liver problems, and

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- heart problems.

### Metastatic cancer

If you have kidney cancer that is metastatic, it may have spread too far for surgery to be possible.

However, some people with metastatic cancer can still have surgery to remove the kidney tumour and any other cancers that have grown. This may be done at the same time as surgery on your kidney, or at a later date. It is usually only possible if the cancer has only spread to a small number of places and you are otherwise well enough for surgery.

But you might be able to have surgery if your cancer has only spread to a small number of places and if you are well enough to have major surgery.

Treatment with some medicines such as targeted therapies can help you to live longer. But metastatic kidney cancer cannot usually be cured.

### What happens next?

Many people with kidney cancer will have their cancer successfully treated. But kidney cancer can sometimes come back. If this happens you will need more treatment.

If you have had surgery you will need to have regular check-ups to make sure there are no cancer cells left that can spread again.

You will probably need to have a scan and possibly a chest x-ray every few months at first, and then less often after that.

If you need to take targeted therapies for kidney cancer, your doctor will want to check on you regularly to see how you are doing, and to make sure that you are not having too many side effects.

Targeted therapies are a fairly new treatment, and they have made a huge difference to life expectancy for kidney cancer.

For example, newer treatments for people with incurable metastatic kidney cancer have led to people surviving for twice as long as they used to.[\[2\]](#)

People diagnosed with kidney cancer today are more likely to survive for at least 5 years than people in the past. This is true even for those with locally advanced or metastatic cancer.

### References

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2. Heng DY, Chi KN, Murray N, et al. A population-based study evaluating the impact of sunitinib on overall survival in the treatment of patients with metastatic renal cell cancer. *Cancer*. 2009 Feb 15;115(4):776-83.

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