

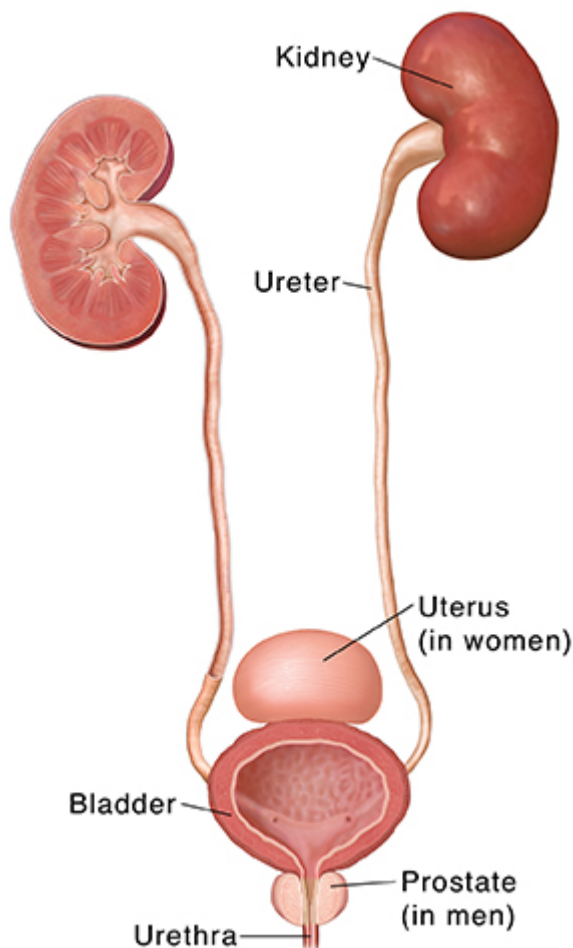
What Is Kidney (Renal) Cancer?

Cancer starts when cells in the body change (mutate). These changes allow them to start growing out of control. Cancer cells can form lumps of tissue called tumors. They can spread to other parts of the body, too. Cancer that starts in the cells that make up the kidney is called kidney or renal cancer.

Understanding the kidneys

The kidneys are 2 bean-shaped organs about the size of a fist. They're found in the low back. There's 1 kidney on each side of the spine.

The kidneys are part of the urinary system. They make hormones that help control blood pressure and the number of red blood cells in the body. They also filter blood to take out waste, salt, and extra fluid. They send this liquid and waste (urine) to the bladder through tubes called the ureters. Urine then leaves the body through another tube called the urethra.



When kidney cancer forms

Kidney cancer starts when cells that make up the kidney change or mutate. These cells don't work the way they should and grow out of control. Over time, this can change the way the kidney works. Kidney cancer often starts in 1 kidney. But sometimes it's in both kidneys. Most kidney cancers are called carcinomas. This means they start in cells that line the renal tubules. The most common type is called renal cell carcinoma (RCC).

Kidney cancer may spread locally to tissue like the adrenal glands that are located on top of each kidney. Or they may spread beyond the kidney to other parts of the body, like the bones, liver, lungs, or brain. This spread is called metastasis. The more cancer spreads, the harder it is to treat.

Treatment choices for kidney cancer

You and your healthcare provider will decide on a treatment plan that's best for you. Treatment choices may include:

Surgery

This is the most common treatment for kidney cancer. It may be advised if any of these apply to you:

- You're healthy enough to have surgery. Your provider will only suggest surgery if you're expected to be able to recover from it.
- The tumor is small. In this case, a **partial nephrectomy** might be done. Only the part of the kidney that has the tumor is taken out. This allows you to keep some function in that kidney. This surgery might also be used if the tumor is larger, but you have cancer in both kidneys or you have only 1 kidney. The benefit is that you keep part of your kidney. The risk is that there's a chance some cancer cells might be left behind.
- The tumor is larger, but the cancer is only in your kidney. The type of surgery you need is based on the size of the tumor and where it is. A **simple nephrectomy** may be an option. This is surgery to take out the whole kidney. A person can function with only 1 kidney. Sometimes a **radical nephrectomy** is needed. This surgery takes out the whole kidney and the adrenal gland. (There's an adrenal gland on the top of each kidney.) Much of the nearby fatty tissue is also taken out. Nearby lymph nodes will likely be removed, too (called **lymph node dissection**). This is because cancer tends to travel to the lymph nodes first. Taking them out may help prevent the spread of cancer to other parts of your body. Testing these lymph nodes for cancer helps your provider figure out the stage of the cancer. This is important in deciding if you need other treatments after surgery.
- The kidney cancer has spread, but your providers believe that removing the original kidney tumor will still be useful along with other treatment. A radical nephrectomy and removal of nearby lymph nodes might be done. Any tumors in other parts of your body may also be removed. Even when surgery won't cure the cancer, it can sometimes help ease symptoms such as pressure, pain, or bleeding.
- You have symptoms, like pain, pressure, or bleeding, from tumors that have spread. Surgery may be done to remove the tumors. This can help ease symptoms. But it doesn't cure the cancer. This is called **palliative therapy**.

Immunotherapy

These medicines help your immune system better fight the cancer. They work like the chemicals that your body's immune system makes. There are several types of immunotherapy. Each therapy works differently. This treatment is sometimes called biologic therapy.

Targeted therapies

These therapies use medicines or other substances that identify and attack specific cancer cells. Targeted therapy can help keep the cancer cells from growing and spreading to other parts of the body.

Chemotherapy

Chemotherapy (chemo) uses medicines to kill cancer cells. But chemo doesn't often work well for kidney cancer. Because of this, it's mostly been replaced by targeted and immunotherapy for kidney cancer treatment. But chemo is sometimes used for certain types of kidney cancer.

Radiation therapy

Radiation therapy uses strong beams of energy to kill cancer cells. Radiation therapy may not work as well as other options for treating kidney cancer. But it may be used to treat someone who's not healthy enough to have surgery.

Most often, radiation is used to treat problems caused by metastatic kidney cancer. For example, it might be used to treat kidney cancer that's spread to bones (bone metastasis). It can also help stabilize a bone that's been weakened by metastasis and may be at risk for breaking.

Local treatment (ablative therapy)

Ablative treatments are used to destroy the tumor in the kidney. Experts don't know how well these treatments work over time. But they may be helpful if a person isn't well enough to have surgery.

These treatments are done by putting a needle-like probe through your skin and right into the tumor. A CT scan or ultrasound is used to help put the probe in the right place. In radiofrequency ablation (RFA), high-energy radio waves are sent through the probe to kill the cancer cells by heating them. Cryoablation is done by sending very cold gas through the probe to freeze the cancer cells. Medicines are used to make you sleep and not feel pain during these treatments.

Clinical trial

A clinical trial is a research study that tests a new treatment. Ask your provider if you should consider a clinical trial. These trials aren't an option for all people with kidney cancer.

How daily issues affect your health

Many things in your daily life impact your health. This can include transportation, money problems, housing, access to food, and child care. If you can't get to medical appointments, you may not receive the care you need. When money is tight, it may be difficult to pay for medicines. And living far from a grocery store can make it hard to buy healthy food.

If you have concerns in any of these or other areas, talk with your healthcare team. They may know of local resources to assist you. Or they may have a staff person who can help.