

Kidney Cancer

What You Need to Know

What is it?

• Kidney cancer is a disease that most often starts in the kidneys. It happens when healthy cells in one or both kidneys turn cancerous to form a lump (called a tumor).

• **Renal cell carcinoma (RCC)** is the most common type of kidney cancer in adults.

• RCC usually starts in the lining of tiny tubes in the kidney called renal tubules.

• RCC often stays in the kidney, but it can spread to other parts of the body, most often the bones, lungs, or brain.

• There are many types of RCC tumors. Some types grow and spread fast and others grow more slowly and are less likely to spread. The most common RCC tumors are: clear-cell, chromophobe, and papillary.

• Other types of kidney cancer include: transitional cell carcinoma (TCC), renal sarcoma, and Wilms tumor, which occurs most often in children.



Signs and symptoms

In the early stages, most people don't have signs or symptoms. Kidney cancer is usually found by chance during an abdominal (belly) imaging test for other complaints. However, as the tumor grows, you may have:



Blood in the urine



Pain in the lower back



A lump in the lower back or side of the waist



Unexplained weight loss, night sweats, fever, or fatigue

How is kidney cancer found?

• Medical history, physical exam, and blood and urine tests

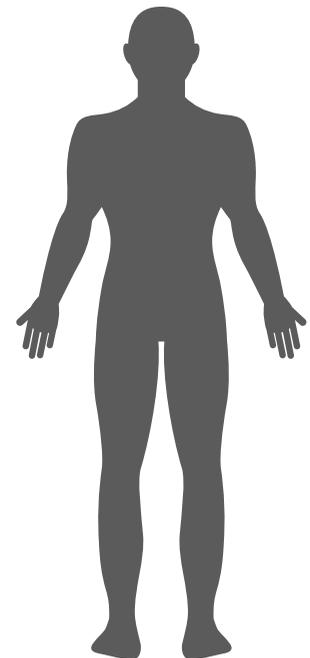
• Only one or a few of these imaging tests:

– **Computed tomography (CT)** scans use x-rays to make a complete picture of the kidneys and abdomen (belly). They can be done with or without a contrast dye. Small amounts of radiation are used. The CT scan often shows if a tumor appears cancerous or if it has spread beyond the kidney.

– **Magnetic resonance imaging (MRI)** scans make a complete picture of the kidneys and abdomen, but without radiation. They can be done with or without a contrast dye called gadolinium that should be avoided in people on dialysis or with very low kidney function. An MRI can cost more than CT scans, take more time to do, and the pictures may not be as clear.

– **Ultrasound** uses sound waves to give a complete picture of the kidneys and abdomen without radiation. It may be useful in helping to decide if a mass in the kidneys is a fluid-filled cyst or a solid tumor. This test is done without contrast dye.

• **Biopsy** can be used in special cases, but is typically not recommended. A biopsy requires a very small piece of the kidney to be removed with a needle and then tested for cancer cells.





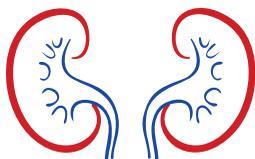
How is it treated?

- Treatment depends on your stage of kidney cancer (there are 4 stages), general health, age, and other factors. Your treatment can include one or more of the following options:
 - **Surgery** is the most common treatment for kidney cancer – most people with early stage cancer (stages 1, 2, and 3) can be cured with surgery.
 - *Partial nephrectomy*: Only the tumor or the part of the kidney with the tumor is removed to leave behind as much of the kidney as possible.
 - *Radical nephrectomy*: The entire kidney is removed. If needed, the surrounding tissues and lymph nodes may also be removed.
 - **Thermal ablation** kills the tumor by burning or freezing it. It is most often used for small tumors in people who are not good candidates for nephrectomy surgery.
 - **Active surveillance** is used if a small tumor is less than 4 centimeters (1½ inches). Most small tumors grow slowly and they may also not be cancerous. You will need regular monitoring and testing.
 - **Treatment with medicine** is often used for advanced kidney cancer that has spread to other parts of the body or where surgery cannot be done.
 - *Immunotherapy* uses the body's defense system (immune system) to stop or slow the growth of cancer cells.
 - * *Monoclonal antibodies* attack a specific part of cancer cells.
 - * *Checkpoint inhibitors* help the immune system recognize and attack cancer cells.
 - * *Vaccines and other immunotherapies* give an overall boost to the immune system.
 - *Anti-angiogenic therapies* reduce the blood supply to a tumor to slow or stop its growth.
 - *Targeted therapies* directly inhibit the growth of the cancer.
 - *Chemotherapy and radiation* used for other types of cancer do not usually do a good job of treating most forms of kidney cancer.



What can you do to reduce the risk for kidney cancer?

- Don't smoke.
- Maintain a healthy weight.
- Find out if you're exposed to certain toxins at work or at home. Some toxins that may increase the risk for kidney cancer include cadmium, asbestos, and trichloroethylene.
- Take care of your kidneys – people with kidney disease may be at increased risk for kidney cancer:
 - Ask your healthcare provider about 2 simple tests to find your kidney score:
 - A blood test for kidney function called GFR
 - A urine test for kidney damage called ACR.
 - Avoid prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen and naproxen.
 - Control high blood pressure.
 - Control your blood sugar if you have diabetes.
- Be aware of certain risk factors that can't be changed, but should be followed up on:
 - Family history of kidney cancer
 - Certain diseases you may have been born with, such as von Hippel-Lindau disease



What can you do if you have kidney cancer?

- Discuss all your treatment options with your medical team. Your medical team may include:
 - A urologist (a surgical doctor who treats the urinary system)
 - An oncologist (a doctor who specializes in cancer)
 - A radiation oncologist (a doctor who treats cancer with radiation)
 - A nephrologist (a kidney doctor)
 - An oncology nurse, social worker, and other healthcare professionals
- Make medical and health-related appointments as soon as possible.
- Understand that you may need at least several opinions about what treatment choices are best for you.
- Maintain good nutrition during treatment so that you get enough calories, protein, and other nutrients to help prevent weight loss and to stay strong. Patients who eat well often feel better and have more energy.
- Protect your kidneys – people with kidney cancer may be at increased risk for kidney disease. Control blood pressure and blood sugar, avoid NSAIDs, don't smoke, stay physically active, and follow a healthy diet.

