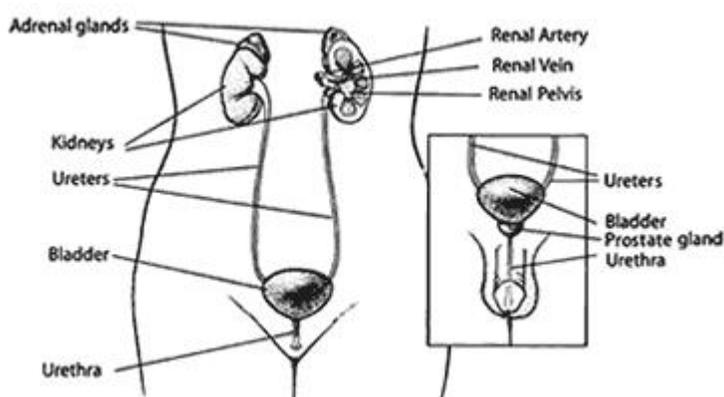


What Is Kidney Cancer?

Kidney cancer is also called renal carcinoma. It is a cancer that starts in the kidneys. In order to understand kidney cancer, it helps to know how the normal kidneys look and work.

About the Kidneys

The kidneys are about the size of your fist. These two bean-shaped organs are shown in the picture below. One is just to the left and the other to the right of the backbone. The lower rib cage protects the kidneys.



The kidneys' main job is to filter the blood and help the body get rid of excess water, salt, and waste products in the form of urine. Urine travels through long, thin tubes (called ureters) to the bladder where it is stored until the person passes the urine, or urinates.

Although we have two kidneys, it is possible to survive with less than even one complete kidney. Some people live without any working kidneys at all. Their blood is filtered by a machine in a process called dialysis.

Kidney Cancer (Renal Cell Carcinoma--RCC)

The most common type of kidney cancer is called *renal cell cancer*. It accounts for more than 9 out of 10 cases of kidney cancer. While there are other types of kidney tumors, the information that follows refers only to renal cell cancer. The American Cancer Society has more information about other types of kidney tumors available through our toll-free number or on our Web site.

Like all cancers, kidney cancer begins small and grows larger over time. It usually grows as a single mass within the kidney. But a kidney can have more than one tumor. Sometimes tumors are found in both kidneys at the same time. The cancer might be found only after it has become very large. Most of the time it is found before it has spread to other organs through the bloodstream. This is good because like most cancers, kidney cancer can be hard to treat after it has spread (metastasized).

What Are the Risk Factors for Kidney Cancer?

A risk factor is anything that affects your chance of getting a disease such as cancer. Different cancers have different risk factors. For example, unprotected exposure to strong sunlight is a risk factor for skin cancer.

But risk factors don't tell us everything. Having a risk factor, or even several risk factors, does not mean that you will get the disease. And some people who get the disease may not have had any known risk factors. Even if a person with kidney cancer has a risk factor, it is often very hard to know how much that risk factor may have contributed to the cancer.

Scientists have found several risk factors that may make you more likely to develop kidney cancer.

Lifestyle-related and job-related risk factors

Smoking

Smoking increases the risk of developing renal cell carcinoma. The increased risk seems to be related to how much you smoke. The risk drops if you stop smoking, but it takes many years to get to the level of someone who never smoked.

Obesity

People who are very overweight have a higher risk of developing renal cell cancer. Some doctors think obesity is a factor in about 2 out of 10 people who get this cancer. Obesity may cause changes in certain hormones that can lead to renal cell carcinoma.

Workplace exposures

Many studies have suggested that workplace exposure to certain substances increases the risk for renal cell carcinoma. Some of these are asbestos, cadmium (a type of metal), some herbicides, benzene, and organic solvents, particularly trichloroethylene.

Genetic and hereditary risk factors

Some people inherit a tendency to develop certain types of cancer. The DNA that you inherit from your parents may have certain changes that account for this tendency to develop cancer. Some rare inherited conditions can cause kidney cancer. It is important that people who have hereditary causes of renal cell cancer see their doctors frequently, particularly if they have already had a renal cell cancer diagnosed. Some doctors recommend regular imaging tests (such as CT scans) for these people.

People who have the conditions listed here have a much higher risk for getting kidney cancer, although they account for only a small portion of cases overall:

von Hippel-Lindau disease

People with this condition often develop several kinds of tumors and cysts (fluid-filled sacs) in different parts of the body. They have an increased risk for developing clear cell renal cell carcinoma, especially at a younger age. They may also have benign tumors in their eyes, brain, spinal cord, pancreas and other organs; and a type of adrenal gland tumor called pheochromocytoma. This condition is caused by mutations (changes) in the VHL gene.

Hereditary papillary renal cell carcinoma

People with this condition have inherited a tendency to develop one or more papillary renal cell carcinomas, but they do not have tumors in other parts of the body, as is the case with the other inherited conditions listed here. This disorder is thought to be caused by changes in the MET gene.

Hereditary leiomyomatosis and renal cell carcinoma

People with this syndrome develop smooth muscle tumors called leiomyomas or fibroids of the skin and uterus (in women) and have a higher risk for developing papillary renal cell cancers. It has been linked to changes in the fumarate hydratase (FH) gene.

Birt-Hogg-Dube syndrome

People with this syndrome, which is characterized by the development of small benign skin tumors, have an increased risk of developing different kinds of renal cell cancers. They may also have benign or malignant tumors of several other tissues. The gene linked to this condition is known as BHD.

Hereditary renal oncocytoma

Some people inherit the tendency to develop a kidney tumor called oncocytoma, which has a very low potential for being malignant.

Other risk factors

A family history of kidney cancer

People with a strong family history of renal cell cancer (without one of the known inherited conditions listed previously) also have a higher chance of developing this cancer. This risk is even higher in siblings (brothers or sisters) of those affected. It's not clear if this is due to genetics, a shared environmental exposure, or some combination of these.

High blood pressure

The risk of kidney cancer is higher in people with high blood pressure. Some studies have suggested that certain medicines used to treat high blood pressure

may raise the risk of kidney cancer, but it is hard to tell whether the condition or the medicine (or both) may be the cause of the increased risk.

Certain medicines

Phenacetin, once a popular non-prescription pain reliever, has been linked to renal cell cancer in the past. Because this medicine has not been available in the United States for over 20 years, this no longer appears to be a major risk factor.

Some studies have suggested that diuretics (medicines that treat high blood pressure by causing the kidneys to remove salt and fluid from the body) may be linked to renal cell carcinoma. It is not clear whether the cause is the drugs or the high blood pressure itself. If you need diuretics, you should take them. You shouldn't avoid them to try to reduce the risk of kidney cancer.

Advanced kidney disease

People with advanced kidney disease, especially those needing dialysis, have a higher risk of renal cell carcinoma. Dialysis is a treatment used to remove toxins from your body if the kidneys do not work properly.

Gender

Renal cell carcinoma is about twice as common in men as in women. Men are more likely to be smokers and are more likely to be exposed to cancer-causing chemicals at work, which may account for some of the difference.

Race

African Americans have a slightly higher rate of renal cell cancer. The reasons for this are not clear.