

What Causes Kidney Cancer?



Cancer cells develop because of changes to the genes in your body, called mutations. This causes the cancer cells to divide and grow. The mutations that cause cancer accumulate as we get older. Like most cancers, kidney cancer is more common in people over the age of 55 and is rare in children. Mutations may be caused by several factors, including diet, lifestyle, genetic factors (which are inherited from parents) and the environment. These are called risk factors because they increase the risk of you getting kidney cancer:

What are the risk factors for kidney cancer?

- **Increasing age:** The risk increases in people over 40 and the highest numbers of kidney cancer cases are found in those aged 85-89.
- **Weight:** People who are overweight (BMI 25-30) increase their risk of developing kidney cancer by about one third. If a person is obese (BMI over 30) their risk of kidney cancer is double that of a person who is a healthy weight (BMI less than 25). Around 24% of all kidney cancers result from being overweight or obese. (BMI=body mass index)
- **Cigarette smoking** can double the risk for some people and is found to be the cause of around 13% of kidney cancers. The higher the number of cigarettes smoked per day the greater the risk. It is thought that chemicals from tobacco in the blood stream damage the kidney tubules before being filtered out of the body in the urine.
- **Gender:** Men who already have certain health conditions e.g., high blood pressure (hypertension) or advanced kidney disease (especially for those on long term dialysis) are more at risk of developing kidney cancer.
- **Workplace exposure** to some chemicals, materials, or industrial processes e.g., cadmium, lead, asbestos, trichloroethylene, blast furnaces or coke-ovens in the steel and coal industries.
- **Certain medical conditions** such as kidney disease, kidney stones, high blood pressure and diabetes can increase your risk of developing kidney cancer.
- **Pain-relief medication** such as paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs), e.g., ibuprofen, may increase your risk of kidney cancer compared to people who have never or rarely used these medications.
- **A defect of your kidney** that you are born with e.g., horseshoe kidney - when both kidneys are fused at one pole.
- **A disorder of the kidney** that is passed down in your family through your genes e.g., polycystic kidney disease is a disorder in which multiple cysts grow usually in both kidneys.
- **Inherited conditions** that are passed down in your family through your genes are a risk factor for some renal cancers, e.g., von Hippel-Lindau syndrome, Birt-Hogg-Dube syndrome, familial clear cell carcinoma, tuberous sclerosis, hereditary papillary renal cell carcinoma (RCC). These are called hereditary kidney cancer or genetic kidney cancer.



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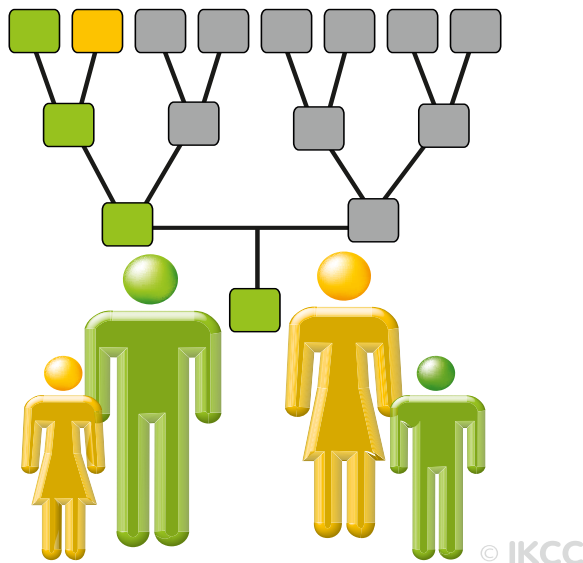
Is my family at risk of developing kidney cancer?

People who have family members with kidney cancer, especially a sibling, are at increased risk. This can be due to genes that are passed down from a parent to their child. Only about 2-4% of kidney cancer is inherited.

Signs that your kidney cancer might be hereditary include:

- Other members of your family have had kidney cancer.
- You had your first kidney tumour before you were 50 years old.
- You have more than one tumour in your kidney.
- You have tumours in both kidneys.
- You have a rarer form of kidney cancer (a non-clear cell renal cell carcinoma).

If there is a history of kidney cancer in your family, it is important that you tell your doctor so you can be tested. If the test shows that you do have a hereditary type of kidney cancer, other members of your family can be tested so that any sign of cancer could be treated early when it is most curable.



Good to know!

Risk factor

Something that increases your chance of developing a disease or condition.

Genetic factor

A gene that is inherited from your parents and that increases your risk of developing a hereditary disease or condition.

Gene

The functional and physical unit of heredity passed from parent to offspring. Genes are pieces of DNA, and most genes contain the information for making a specific protein.

Hereditary

Transmitted from a parent to child by information contained in the genes.

BMI

BMI or Body Mass Index is a measure that uses your height and weight to work out if your weight is healthy.

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