

Wilms Tumor



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What are kidneys?

Every person has two kidneys, which are bean shaped organs on both sides of the spine at the back of the abdomen. The main function of the kidneys is to filter waste from the blood and make urine.

What is Wilms tumor?

Wilms tumor is the commonest type of cancer of the kidney in children. Another name for Wilms tumor is nephroblastoma. Generally, only one kidney is affected by Wilms tumor, but it can affect both kidneys. It commonly occurs at the age of 3 years, and is rarely seen after the age of 8 years.

What are the risk factors for Wilms tumor?

The exact cause of Wilms tumor is not known. Generally, Wilms tumor is not inherited, but there can be a genetic reason for getting Wilms Tumor. Factors that may increase the risk of Wilms tumor are:

- Family history of Wilms tumor
- Birth anomalies
 - Aniridia – part or whole of iris is missing in the eye
 - Hemihypertrophy – one side of body is larger than other side
 - Undescended testicles
 - Hypospadias – urinary opening is on the underside instead of at the tip of the penis

- Part of rare syndromes
 - WAGR syndrome
 - Denys-Drash syndrome
 - Beckwith-Wiedemann syndrome

What are the signs and symptoms of Wilms tumor?

Wilms tumor may not have any signs and symptoms. The child may appear healthy or have the following:

- A mass in the abdomen
- Abdominal swelling
- Pain in abdomen
- Fever
- Blood in urine
- Fatigue
- Anemia
- High blood pressure
- Nausea
- Loss of appetite
- Shortness of breath
- Constipation

How is Wilms tumor diagnosed?

On examination when Wilms tumor is suspected, the following tests are done to confirm the diagnosis:

- Blood and urine tests
- Abdominal ultrasound
- Abdominal CT scan
- MRI of abdomen and other parts of body to look for spread
- Chest X-ray for spread to lungs
- Biopsy/Surgery

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What are the stages of Wilms tumor?

Wilms tumor staging is done to determine the line of treatment. The stages are:

- Stage I - affects only one kidney and usually a total removal of the tumor with surgery is possible.
 - Stage II - spreads to fat, blood vessels and other nearby structures, but it can still be removed totally by surgery.
 - Stage III - spreads beyond the kidney to lymph nodes and other abdominal structures, and total removal with surgery may not be possible.
 - Stage IV - spreads to distant structures, such as the lungs, liver, bones or brain.
 - Stage V - affects both the kidneys.
- Radiation therapy
 - After surgery to kill any remaining cancer cells
 - Control cancer that has spread to other parts of the body
 - Supportive care

How is Wilms tumor treated?

Most cases of Wilms tumor are curable. The treatment depends on the stage and other factors. The treatment can include any one or more of the below:

- Surgery
 - Radical nephrectomy - removal of the whole kidney and some surrounding tissue, as well as nearby lymph nodes
 - Partial nephrectomy is the removal of the tumor and some of the surrounding healthy tissue, leaving as much of the kidney as possible
 - Partial nephrectomy on both kidneys
- Chemotherapy
 - Before surgery to reduce size of tumor (neoadjuvant)
 - After surgery to prevent recurrence (adjuvant)