

## Wilms' Tumor

The kidneys are organs that filter waste products from the blood and create urine. Wilms' tumor (nephroblastoma) is a cancerous tumor of the kidney. It is thought to be caused by abnormal genes. The tumor may occur at any age, but it is most common in children 1 to 5 years of age.

### Signs and Symptoms

Usually there are few early signs to suggest the tumor is present. Most children appear healthy. The most common sign is a swelling or mass in the abdomen. Often parents first find a mass while bathing or dressing their child.

Other signs and symptoms may include:

- abdominal pain
- blood in the urine
- nausea
- diarrhea
- vomiting
- weight loss
- constipation
- loss of appetite
- unexplained fevers
- high blood pressure



**Picture 1** Having an ultrasound scan.

### Diagnosis

If a Wilms' tumor is strongly suspected, surgery will be done. The surgery is done for two reasons: 1) to remove as much of the tumor as possible; and 2) to get a piece of the tumor for examination (biopsy) under a microscope. A pathologist will look at the sample and decide if a definite diagnosis of Wilms' tumor can be made.

Tests used to evaluate patients with Wilms' tumor include blood tests, X-rays, CT scans and ultrasound scans of the abdomen (belly) (Picture 1).

## Staging Categories

Staging categories describe how far the tumor has spread. Staging is important because it helps decide the best treatment for the child. There are five stages of Wilms' tumor:

- Stage I**      Tumor is limited to the kidney which has been completely removed during surgery. The child can function normally with one kidney.
- Stage II**      Tumor extends past the kidney but is completely removed during surgery.
- Stage III**      Tumor is left in the abdomen or in lymph nodes, or the tumor has ruptured. There is no evidence of spread beyond the abdomen.
- Stage IV**      Tumor has spread outside the abdomen, usually to the lungs or liver.
- Stage V**      Tumor involves both kidneys.

## Treatment

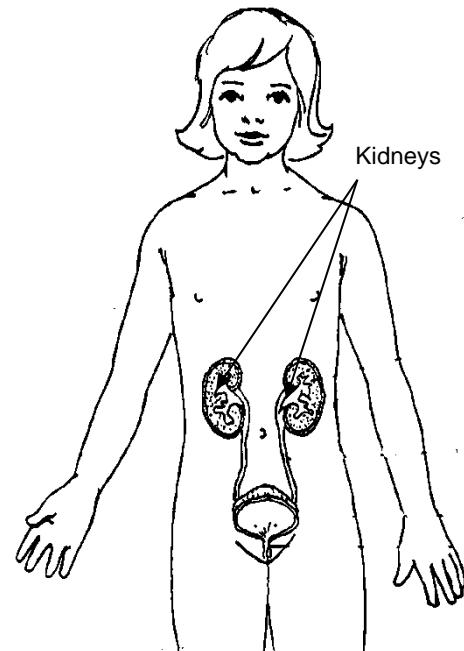
Treatment of Wilms' tumor includes surgery, chemotherapy, and sometimes radiation therapy. The treatment chosen by the doctor depends on the stage.

- **Surgery** is done to remove as much of the tumor as can be taken out while still keeping kidney function (Picture 2). This usually means complete removal of the affected kidney.
- **Radiation therapy** is usually done in Stages III and IV.
- The type of **chemotherapy** and length of treatment will depend on the stage of the tumor. The oncologist will explain the chemotherapy your child will need.

## Follow-Up Care

- Your child will have follow-up appointments with an oncologist to monitor his or her response to treatments.
- X-rays, a CT scan of the lungs, and an abdominal ultrasound of the remaining kidney and the liver will be done from time to time. This is to check to see if the tumor is returning.

If you have any questions or concerns, be sure to talk with your doctor or nurse.



**Picture 2** The urinary system inside the body.