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Wilms Tumor Early Detection, Diagnosis, and Staging

Know the signs and symptoms of Wilms tumor. Find out how Wilms tumor is tested for, diagnosed, and staged.

Detection and Diagnosis

Catching cancer early often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that is not always the case.

- [Can Wilms Tumors Be Found Early?](#)
- [Signs and Symptoms of Wilms Tumors](#)
- [Tests for Wilms Tumors](#)

Stages and Outlook (Prognosis)

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- [Wilms Tumor Stages](#)
- [Survival Rates for Wilms Tumors](#)

Questions to Ask About Wilms Tumor

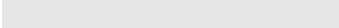

Here are some questions you can ask your cancer care team to help you better understand your cancer diagnosis and treatment options.

- [Questions to Ask Your Child's Doctor About Wilms Tumor](#)

Can Wilms Tumors Be Found Early?

- [For children at increased risk](#)

Wilms tumors are usually found when they start to cause [symptoms](#)



staging-of-wilms-tumor on August 22, 2018.

Kalish JM, Doros L, Helman LJ, et al. Surveillance recommendations for children with overgrowth syndromes and predisposition to Wilms tumors and hepatoblastoma. *Clin Cancer Res.* 2017;23(13):e1115-e1122.

Last Revised: October 17, 2018

Signs and Symptoms of Wilms Tumors

- [Swelling or a large lump in the abdomen \(belly\)](#)
- [Other possible symptoms](#)

Wilms tumors occur most often in young children. These tumors often grow quite large before causing any symptoms. Children may look healthy and act and play normally.

Swelling or a large lump in the abdomen (belly)

This is often the first sign of a Wilms tumor. Parents may notice swelling or hardness in the belly while bathing or dressing the child. The lump is sometimes large enough to be felt on both sides of the belly. It's usually not painful, but it might be in some children.

Other possible symptoms

Some children with Wilms tumor may also have:

- **Fever**
- **Nausea**
Loss of appetite

cause problems such as headaches, bleeding inside the eye, or even a change in consciousness.

Many of the signs and symptoms of Wilms tumors are more likely to be caused by something else. Still, if your child has any of these symptoms, check with your child's doctor so that the cause can be found and treated, if needed.

References

Chintagumpala M, Muscal JA. Presentation, diagnosis, and staging of Wilms tumor. UpToDate. Accessed at www.uptodate.com/contents/presentation-diagnosis-and-staging-of-wilms-tumor on August 22, 2018.

Fernandez CV, Geller JI, Ehrlich PF, et al. Chapter 29: Renal Tumors. In: Pizzo PA, Poplack DG, eds. *Principles and Practice of Pediatric Oncology*. 7th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2016.

National Cancer Institute. Wilms Tumor and Other Childhood Kidney Tumors Treatment (PDQ®). 2018. Accessed at www.cancer.gov/types/kidney/hp/wilms-treatment-pdq on August 22, 2018.

Last Revised: October 17, 2018

Tests for Wilms Tumors

- [Medical history and physical exam](#)
- [Imaging tests](#)
- [Lab tests](#)
- [Kidney biopsy/surgery](#)

Certain [signs and symptoms](#) could suggest that a child might have a Wilms tumor (or another type of kidney tumor), but exams and tests are needed to find out for sure.

Medical history and physical exam

If your child has signs or symptoms that suggest they might have a kidney tumor, the doctor will want to get a complete **medical history** to learn more about the symptoms

when looked at this way. Doctors also look at the sample to determine the histology of the Wilms tumor (favorable or anaplastic), as described in [What Are Wilms Tumors?](#)⁹

Most often, a sample is removed during [surgery](#)¹⁰ to treat the tumor. Sometimes if the doctors are less certain about the diagnosis or if they aren't sure the tumor can be removed completely, a sample of the tumor may be taken during a **biopsy** as a separate procedure before surgery.

See [Testing Biopsy and Cytology Specimens for Cancer](#)¹¹ to learn more about different types of biopsies, how the biopsy samples are tested in the lab, and what the results might tell you.

Hyperlinks

1. www.cancer.org/cancer/types/wilms-tumor/causes-risks-prevention/risk-factors.html
2. www.cancer.org/cancer/diagnosis-staging/tests/imaging-tests/ultrasound-for-cancer.html
3. www.cancer.org/cancer/diagnosis-staging/tests/imaging-tests/ct-scan-for-cancer.html
4. www.cancer.org/cancer/diagnosis-staging/tests/imaging-tests/mri-for-cancer.html
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6. www.cancer.org/cancer/diagnosis-staging/tests/understanding-your-lab-test-results.html
7. www.cancer.org/cancer/types/neuroblastoma.html
8. www.cancer.org/cancer/types/wilms-tumor/treating/surgery.html
9. www.cancer.org/cancer/types/wilms-tumor/about/what-is-wilms-tumor.html
10. www.cancer.org/cancer/types/wilms-tumor/treating/surgery.html
11. www.cancer.org/cancer/diagnosis-staging/tests/biopsy-and-cytology-tests.html

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Wilms Tumor Stages

- [Children's Oncology Group \(COG\) staging system](#)
- [Tumor histology](#)

The stage of a cancer describes how far it has spread. Your child's treatment and prognosis (outlook) depend, to a large extent, on the cancer's stage. Staging is based on the results of the physical exam and imaging tests (ultrasound, CT scans, etc.), which are described in [Tests for Wilms Tumors](#), as well as on the results of [surgery](#)¹ to remove the tumor, if it has been done.

Children's Oncology Group (COG) staging system

A staging system is a standard way for the cancer care team to sum up the extent of the tumor. In the United States, the Children's Oncology Group staging system is used most often to describe the extent of spread of Wilms tumors. This system divides Wilms tumors into 5 stages using Roman numerals I through V.

Stage I

The tumor is contained within one kidney and was removed completely by [surgery](#)². The tissue layer surrounding the kidney (the renal capsule) was not broken during surgery. The cancer had not grown into blood vessels in or next to the kidney. The tumor was not biopsied before surgery to remove it.

Stage II

The tumor has grown beyond the kidney, either into nearby fatty tissue or into blood



prognosis (outlook). These numbers tell you what portion of people in a similar situation (such as with the same type and stage of cancer) are still alive a certain amount of time after they were diagnosed. They can't tell you exactly what will happen with any person, but they may help give you a better understanding about how likely it is that treatment will be successful. Some people find survival rates helpful, but some people might not.

For Wilms tumors, survival is often measured using a 4-year survival rate. This refers to the percentage of children who live *at least* 4 years after their cancer is diagnosed. For example, a 4-year survival rate of 80% means that an estimated 80 out of 100 children who have that cancer are still alive 4 years after being diagnosed. Of course, many children live much longer than 4 years (and many are cured).

To get 4-year survival rates, doctors have to look at children who were treated at least 4 years ago. Improvements in treatment since then may result in a better outlook for children now being diagnosed with Wilms tumors.

But remember, survival rates are estimates, and they can't predict what will happen in a particular child's case. Each child's outlook can vary based on a number of factors specific to them. The most important factors in determining a child's outlook are the [stage](#) and histology of the tumor. (Histology refers to how the cancer cells look under the microscope – see [What Are Wilms Tumors?](#)¹) But other factors can also affect a child's outlook, such as the child's age and how well the tumor responds to treatment.

Even when taking other factors into account, survival rates are only rough estimates. Your child's cancer care team can tell you how the numbers below might apply, as they know your child's situation best.

Survival rates for Wilms tumors

These survival rates are based on the results of the National Wilms Tumor Studies, which included most of the children treated in the United States in the last few decades. Some of these rates are based on only small numbers of children, so it's hard to know how accurate they are.

Wilms Tumor 4-year Survival Rates			
Tumor Stage	Favorable Histology	Focal Anaplastic	Diffuse Anaplastic
I	95% - 100%	85% - 90%	75% - 80%
II	95% - 100%	80% - 85%	80% - 85%
III	95% - 100%	75% - 90%	50% - 70%

IV	85% - 90%	70% - 75%	30% - 45%
V	95% - 100%	95% - 100%	65% - 70%

Hyperlinks

1. www.cancer.org/cancer/types/wilms-tumor/about/what-is-wilms-tumor.html

References

Ehrlich P, Chi YY, Chintagumpala MM, et al. Results of the first prospective multi-institutional treatment study in children with bilateral Wilms tumor (AREN0534): A Report from the Children's Oncology Group. *Ann Surg.* 2017;266(3):470-478.

National Cancer Institute. Wilms Tumor and Other Childhood Kidney Tumors Treatment (PDQ®). 2018. Accessed at www.cancer.gov/types/kidney/hp/wilms-treatment-pdq on August 22, 2018.

Last Revised:

Questions to Ask Your Child's Doctor About Wilms Tumor

What kind of kidney cancer does my child have? Is it a _____

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