What is cancer?

Cancer starts when cells grow out of control and crowd out normal cells. This makes it hard for the body to work the way it should.

Cancer can start any place in the body. It can then spread from where it started to other parts of the body. When cancer cells do this, it’s called metastasis. To learn more about cancer and how it starts and spreads, see What Is Cancer?\(^1\)

Cancer is always named based on the place where it starts. So, for example, if a Wilms tumor (a type of childhood kidney cancer) spreads to the lungs, it’s still called a Wilms tumor. It’s not called lung cancer unless it starts from cells in the lungs.

Are there different kinds of cancer?

There are many types of cancer. Cancer can start in any part of the body. It can start in the brain, the bones or muscles, the eye, or even in the blood.
Your doctor can tell you more about the type your child has.

Questions to ask the doctor

- Why do you think my child has cancer?
- Is there a chance my child doesn’t have cancer?
- Where do you think the cancer started?
- Would you please write down the kind of cancer you think my child might have?
- What will happen next?

How does the doctor know my child has cancer?

The symptoms of cancer depend on the type of cancer, where the cancer is, how big it is, and how much it affects other parts of your child’s body. Talk to your child’s doctor about any changes you’ve noticed. The doctor will ask questions about your child’s symptoms and do a physical exam.

If signs are pointing to cancer, more tests will be done. Talk to the doctor about the tests and what they’re like. Your child may need medicine to make them sleep for some of these tests.

Tests that may be done

Here are some of the tests your child may need:

Lab tests: Blood and urine tests can be used to help find some types of cancer. They can also be used to find out how well your child’s body is working.

Ultrasound: For this test, a small wand is moved around on your child’s skin. It gives off sound waves and picks up the echoes as they bounce off tissues. The echoes are made into a picture on a computer screen.

X-rays: X-rays of the part of your child’s body that might have cancer are sometimes the first tests done. A chest x-ray may also be done to see if the cancer has spread to the lungs.

CT or CAT scan: This test uses x-rays to make detailed pictures of the inside of your child’s body. This test may be done to look for cancer or to see if it has spread.
**MRI scan:** MRIs use radio waves and strong magnets instead of x-rays to make detailed pictures of the inside of your child’s body. MRIs can show the tumor and other parts of the body.

**PET scan:** PET scans use a kind of sugar that can be seen inside your child’s body with a special camera. If there is cancer, this sugar shows up as “hot spots” where the cancer is found. This test can help show if the cancer has spread.

**Endoscopy:** For this test, the doctor puts a thin, lighted tube is put into your child’s body to look inside. The tube may be put in through a small cut in the skin or through a natural opening, like the mouth. The tube lets the doctor look at the tumor and other nearby body parts. A biopsy can be done with tools put into the tube.

**Biopsy:** In a biopsy, the doctor takes out small pieces of the suspected area to check it for cancer cells. A biopsy is often the only way to tell for sure if your child has cancer. There are many ways to do a biopsy. The type used will depend on the size of the lump and where it is in your child’s body. Ask the doctor what kind your child will need.

**Bone marrow aspiration and biopsy:** For this test, a hollow needle is put into the center of a bone (most often the back of the hip) to take out a small amount of the liquid inside, called bone marrow. (This is where blood cells are made.) The bone marrow is tested to see if there are cancer cells in it.

**Grading cancer**

For some types of cancer, the cancer cells in the biopsy sample might be given a grade. This can help doctors predict how fast the cancer is likely to grow and spread. The grade is based on how much the cancer cells look like normal cells. Cells that look very different from normal cells are given a higher grade and tend to grow faster. Ask the doctor to explain the grade of your child’s cancer.

**Questions to ask the doctor**

- What tests will my child need?
- Who will do these tests?
- Where will they be done?
- Who can explain them to us?
- How and when will we get the results?
- Who will explain the results to us?
- What do we need to do next?
How serious is my child’s cancer?

For most types of cancer (other than leukemia), the doctor will want to find out how far it has spread. This is called *staging*. Your doctor will want to find out the stage of your child’s cancer to help decide what type of treatment is best.

The stage describes how much the cancer has grown in the area where it started, and if it has spread to other parts of your child’s body.

Your child’s cancer may be stage 1, 2, 3, or 4. The lower the number, the less the cancer has spread. A higher number, like stage 4, means a more serious cancer that has spread from where it first started.

Some kinds of cancer are staged using other systems. Ask the doctor about the cancer stage and what it means for your child.

Questions to ask the doctor

- Do you know the stage of the cancer?
- If not, how and when will you find out the stage of the cancer?
- Would you explain to me what the stage means in my child’s case?
- Based on the stage of the cancer, what are the chances of curing it?
- What will happen next?

What kind of treatment will my child need?

The main types of treatment for cancer are:

- Surgery
- Radiation treatments
- Chemotherapy (chemo)
- Stem cell transplant
- Targeted drugs
- Immunotherapy drugs

Many times more than one kind of treatment is used. The treatment plan that’s best for
your child will depend on things like:

- The type of cancer
- The stage and grade of the cancer
- Where the cancer is
- The chance that a type of treatment will cure the cancer or help in some way
- Your child’s age and overall health
- Your feelings about the treatment and the side effects that could come with it

**Surgery**

For cancers other than leukemia, surgery\(^5\) is often used to take out the tumor and a margin or edge of the healthy tissue around it. The type of surgery done depends on where the tumor is. Ask the doctor if your child will need surgery, what kind of surgery your child will have, and what to expect.

**Side effects of surgery**

Any type of surgery can have risks and side effects. Ask the doctor what you can expect. If your child has problems, let the doctors know. Doctors who treat cancer should be able to help your child with any problems that come up.

**Radiation treatments**

Radiation\(^6\) uses high-energy rays (like x-rays) to kill cancer cells. It may be used along with other treatments like surgery or chemo to treat some cancers. Sometimes radiation alone can kill the cancer cells. Radiation can also be used to help treat symptoms like pain and swelling if the cancer has spread.

Radiation can be aimed at the tumor from a machine outside the body. This is called external beam radiation.

Radiation can also be given by putting a small source of radiation in or near the tumor. This is called *brachytherapy*.

Sometimes, both types of radiation are used.

**Side effects of radiation treatments**
If the doctor suggests radiation treatment, talk about what side effects might happen. Side effects depend on the type of radiation that’s used, the area being treated, and your child’s age. Common side effects of radiation are:

- Skin changes where the radiation is given
- Feeling very tired

Most side effects get better after treatment ends. But some side effects might last longer, or might not show up until years later. For instance, radiation can sometimes affect bone growth, or it can affect the brain. Talk to your child’s cancer care team about what you can expect during and after treatment.

Chemo

Chemo is short for chemotherapy, the use of drugs to fight cancer. The drugs are often given through a needle into a vein. They can also be given as shots or pills. These drugs go into the blood and spread through the body.

Chemo is often given in cycles or rounds. Each round of treatment is followed by a break. Most of the time, 2 or more chemo drugs are given.

*Side effects of chemo*

Chemo can make your child feel very tired, sick to the stomach, and cause their hair to fall out. Some chemo drugs can cause other side effects, too. But most of these problems tend to go away after treatment ends.

There are ways to treat most chemo side effects. If your child has side effects, talk to the cancer care team so they can help.

Some chemo drugs can have effects that might not show up until years later. For instance, some chemo drugs can affect the heart, or they might raise the risk of getting another cancer later on. Talk to the cancer care team so you know what to look out for.

Stem cell transplant

A stem cell transplant (SCT) lets doctors use very high doses of chemo (and sometimes radiation) to kill the cancer cells. The high doses of these treatments destroy the bone marrow, which keeps new blood cells from being made. But stem cells given after the chemo can bring back the blood-making bone marrow stem cells.
This type of treatment is sometimes used to treat leukemias or other childhood cancers.

**Side effects of a stem cell transplant**

The high doses of chemo used in a stem cell transplant can have major side effects, including some that might not show up until many years later (see chemo side effects, above). Talk to the cancer care team so you know what to look out for.

**Targeted drugs**

Targeted drugs[^9] are made to work mostly on the changes in cells that make them cancer. These drugs affect mainly cancer cells and not normal cells in the body. They may work even if other treatment doesn’t. They may be given alone or along with chemo.

**Side effects of targeted drugs**

Side effects depend on which drug is used. These drugs often make a person feel sick to the stomach and might cause chills, fever, rashes, and headaches. Some cause low blood counts and heart and liver problems. Side effects often go away after treatment ends.

There are ways to treat most of the side effects caused by targeted drugs. If your child has side effects, talk to the cancer care team so they can help.

**Immunotherapy drugs**

Immunotherapy drugs[^10] help your child’s own immune system fight the cancer. Immune treatments can be helpful in treating some types of cancer. These treatments are most often given through a needle into a vein.

**Side effects of immunotherapy drugs**

Side effects depend on which drug is used. Some might cause a fever or make your child feel sick. Rarely, these drugs might cause more serious side effects. If your child has side effects, talk to the cancer care team so they can help.

**Clinical trials**

Clinical trials are research studies that test new drugs or other treatments in people.

[^9]: Targeted drugs
[^10]: Immunotherapy drugs
They compare standard treatments with others that may be better.

Clinical trials are one way to get the newest cancer treatment. They are the best way for doctors to find better ways to treat cancer. But they may not be the best option for every child. If your child’s doctor can find a clinical trial that’s studying the kind of cancer your child has, it’s up to you whether to take part. And if you do sign your child up for a clinical trial, you can always stop at any time.

If you would like your child to be in a clinical trial, start by asking the doctor if your clinic or hospital takes part in clinical trials. See Clinical Trials¹¹ to learn more.

What about other treatments that I hear about?

When your child has cancer you might hear about other ways to treat the cancer or treat your child’s symptoms¹². These may not always be standard medical treatments. These treatments may be vitamins, herbs, diets, and other things. You may wonder about these treatments.

Some of these are known to help, but many have not been tested. Some have been shown not to help. A few have even been found to be harmful. Talk to your child’s doctor about anything you’re thinking about using, whether it’s a vitamin, a diet, or anything else.

Questions to ask the doctor

- Will my child need to see other doctors?
- What treatment do you think is best for my child?
- What’s the goal of this treatment? Do you think it could cure the cancer?
- Will treatment include surgery? If so, who will do the surgery?
- What will the surgery be like?
- How will my child’s body look and work after surgery?
- Will my child need other types of treatment, too?
- What will these treatments be like?
- What’s the goal of these treatments?
- What side effects could my child have from these treatments?
- What can we do about side effects that my child might have?
- Will my child be able to have children someday?
- Are there any other long-term side effects we need to watch out for?
- Is there a clinical trial that might be right for my child?
- What about vitamins or diets that friends tell me about? How will I know if they are
safe?
- How soon does my child need to start treatment?
- What should we do to be ready for treatment?
- Is there anything we can do to help the treatment work better?
- What’s the next step?

What will happen after treatment?

You’ll be glad when treatment is over\(^1\). But it’s hard not to worry about cancer coming back. Even when cancer never comes back, people still worry about it. For years after treatment ends, your child will see their cancer doctor. At first, visits may be every few months. Then, the longer your child is cancer-free, the less often the visits are needed.

Be sure to take your child to all of these follow-up visits. The doctors will ask about symptoms, do physical exams, and may do tests to see if the cancer has come back.

Some cancer treatments can have long-term side effects. Some of these might not show up until years later. Be sure your child keeps seeing a doctor even as they grow older, to watch for any problems that come up.

Having cancer and dealing with treatment can be hard, but it can also be a time to look at life in new ways. You might be thinking about how to improve your child’s health. Call us at 1-800-227-2345 or talk to your child’s doctor to find out what you can do to help your child feel better.

Hyperlinks

3. [www.cancer.org/treatment/understanding-your-diagnosis/tests.html](http://www.cancer.org/treatment/understanding-your-diagnosis/tests.html)
4. [www.cancer.org/treatment/understanding-your-diagnosis/staging.html](http://www.cancer.org/treatment/understanding-your-diagnosis/staging.html)

Words to know

**Biopsy** (BY-op-see): A test that takes out a small piece of body tissue to see if there are cancer cells in it.

**Bone marrow:** The soft middle part of some bones where new blood cells are made. Some cancers (such as leukemias) start in the bone marrow, while some other types of cancer can spread there.

**Carcinoma** (CAR-sin-O-muh): Cancer that starts in the lining layer of organs. Most cancers are carcinomas.

**Immune system:** The body system that fights infection.

**Immunotherapy** (IM-yoo-no-THAIR-uh-pee): Treatments that uses the body's immune system to fight cancer.

**Leukemia** (loo-KEY-me-uh): Cancer that starts in the bone marrow and blood.

**Lymph nodes** (limf nodes): Small, bean-shaped collections of immune system tissue found all over the body and connected by lymph vessels; also called lymph glands.

**Lymphoma** (lim-FOAM-uh): Cancer that starts in the immune system cells called lymphocytes (LIM-fo-sites), which are a kind of white blood cell.

**Malignant** (muh-LIG-nunt): Having cancer in it.
Metastasis (muh-TAS-tuh-sis): The spread of cancer from where it started to other places in the body.


How can I learn more?

We have a lot more information for you. You can find it online at www.cancer.org (http://www.cancer.org)14. Or, you can call our toll-free number at 1-800-227-2345 to talk to one of our cancer information specialists.

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