

# What is Cancer...What are the Signs...Could my Baby Have it??

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## What Is Cancer?

All kinds of cancer, including childhood cancer, have a common disease process — cells grow out of control, develop abnormal sizes and shapes, ignore their typical boundaries inside the body, destroy their neighbor cells, and can ultimately spread (or metastasize) to other organs and tissues. As cancer cells grow, they demand more and more of the body's nutrition. Cancer takes a child's strength, destroys organs and bones, and weakens the body's defenses against other illnesses.

Among all age groups, the most common childhood cancers are leukemia, lymphoma, and brain cancer. As children enter their teen years, there is also an increase in the incidence of osteosarcoma (bone cancer). The sites of cancer are different for each type, as are treatment and cure rates.

Typically, the factors that trigger cancer in children are usually not the same factors that may cause cancer in adults, such as smoking or exposure to environmental toxins. Rarely, there may be an increased risk of childhood cancer in kids who have a genetic condition, such as Down syndrome. Those who have had chemotherapy or radiation treatment for a prior cancer episode may also have an increased risk of cancer. In almost all cases, however, childhood cancers arise from non-inherited mutations (or changes) in the genes of growing cells. Because these errors occur randomly and unpredictably, currently there is no effective

way to prevent them.

Sometimes, a doctor may be able to spot early symptoms of cancer at regular checkups. However, some of these symptoms (such as fever, swollen glands, frequent infections, anemia, or bruises) are also associated with other infections or conditions that are not cancer. Because of this, it is not uncommon for both doctors and parents to suspect other childhood



illnesses when cancer symptoms first appear.

Once cancer has been diagnosed, it is important for parents to seek help for their child at a medical center that specializes in pediatric oncology (treatment for childhood cancer).

## Cancer Treatment

The treatment of cancer in children can include chemotherapy (the use of medical drugs to kill cancer cells), radiation (the use of radiant energy to kill cancer cells), and surgery (to remove cancerous cells or tumors). The type of treatment needed depends on the type and severity of cancer and the child's age.

### Surgery

For children with leukemia or lymphoma, surgery generally plays a minor role. This is because leukemia and lymphoma involve the circulatory system and lymphatics, two systems that are located all throughout the body, making it difficult to treat by operating on one specific area. In children with osteosarcoma and other solid tumors that haven't spread to other parts of the body, however, surgery can often effectively remove cancer when used in combination with chemotherapy and/or radiation.

Children with certain types of cancer may receive bone marrow transplants.

Bone marrow is a spongy tissue inside certain bones of the body that produces blood cells. If a child has a type of cancer that affects the function of blood cells, a bone marrow transplant (in conjunction with chemotherapy to kill the defective cells) may allow new, healthy cells to grow. Bone marrow transplant is also sometimes used to treat cancer that does not involve blood cells because it allows doctors to use higher doses of chemotherapy than would otherwise be tolerated.

## Chemotherapy

Chemotherapy is medication which is used as a complementary tool to eliminate remaining cancer cells in the body. A child or teen with cancer is usually given the chemotherapy drugs intravenously (through a vein) or orally (by mouth). Some forms of chemotherapy can be given intrathecally, or into the spinal fluid. The drugs enter the bloodstream and work to kill cancer in parts of the body to which the cancer has spread.

The duration of chemotherapy treatment and type of drugs that are used depend on the type of cancer the child has and his or her response to the drugs. Every child's treatment differs, so a child may receive daily, weekly, or monthly chemotherapy treatments. The doctor may also recommend cycles of treatment, which allow the child's body to rest between periods of chemotherapy treatment.

Many of the medications used in chemotherapy also carry the risk of both short-term and long-term problems. Short-term side effects include nausea, vomiting, hair loss, fatigue, anemia, abnormal bleeding, and increased risk of infection due to destruction of the bone marrow, as well as kidney damage and menstrual irregularities. Some drugs carry a risk of bladder inflammation and bleeding into the urine, hearing loss, and liver damage. Others may cause heart and skin problems. Longer-term effects can include infertility, growth problems, organ damage, or increased risk of other cancers.

Your doctor will use precautions as well as other medications to counteract as many of the side effects as possible.

## Radiation

Radiation is one of the most common treatments for cancer. A child who re-

ceives radiation therapy is treated with a stream of high-energy particles or waves that destroy or damage cancer cells. Many types of childhood cancer are treated with radiation in conjunction with chemotherapy or surgery.

Radiation has many potential side effects (such as increased risk of future malignancy and infertility), which you should discuss with the doctor.

The primary goal when treating kids with cancer is to cure them; this takes priority over all other aspects of care. However, there are many medications and therapies that can make children more comfortable while undergoing treatment for cancer.

## Coping With Cancer

When possible, older kids should be involved with their own cancer treatment. Facts about the specific type of cancer and its effects should be explained in language that is suitable for the child's age level. However, when cancer affects younger children — toddlers and those younger than age 4 — simply telling them that they are "sick" and need "medicine" to get better is often enough explanation. For all age groups, the goal is to prevent fear and misunderstanding.

Older kids might feel guilty, as if the cancer is somehow their fault. Psychologists, social workers, and other members of the cancer treatment team can be a great help in reassuring and helping them with their feelings. The cancer treatment team can guide patients and their families through the pain, uncertainty, and disruptions caused by cancer. If necessary, the cancer treatment team can also contact or visit the child's school to explain the child's diagnosis to teachers and classmates. Replacing fear and misunderstanding with compassion and information is a goal in helping kids with cancer cope with the illness.

The diagnosis and treatment of childhood cancers takes time, and there are both short-term and long-term side effects. But thanks to medical advances, more and more kids with cancer are finishing successful treatment, leaving hospitals, and growing up just like everybody else. Today, up to 70% of all children with cancer can be cured.

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