Childhood Cancer - Overview [1]

This section has been reviewed and approved by the Cancer.Net Editorial Board [2], 03/2014

ON THIS PAGE: You will find some basic information about this disease and the parts of the body it may affect. This is the first page of Cancer.Net?s Guide to Childhood Cancer. To see other pages, use the menu on the side of your screen. Think of that menu as a roadmap to this full guide.

Cancer is uncommon in children. Most cancers (99%) develop in adults, and it is most common in older adults. About one out of every six adults will develop cancer during his or her lifetime, while one in 300 boys and one in 333 girls will develop cancer before the age of 20.

At the same time, there is a lot of research going on to discover new treatments for childhood cancer. This ongoing research has greatly improved the overall survival rate for children with cancer, which is now more than 80%.

What is childhood cancer?

Cancer begins when normal cells change and grow uncontrollably. In most types of cancer, these cells form a mass called a tumor. A tumor can be cancerous or benign. A cancerous tumor is malignant, meaning it can spread to other parts of the body. A benign tumor means the tumor will not spread. In leukemia, a cancer of the blood that starts in the bone marrow, these abnormal cells very rarely form a solid tumor. Instead these cells crowd out other types of cells in the bone marrow. This prevents the production of normal red blood cells (cells that carry oxygen to tissues), otherotherwhite blood cells (cells that fight infection), and platelets (the part of the blood needed for clotting).

Cancer in children can occur anywhere in the body, including the blood and lymph node system, brain and central nervous system (CNS), and kidneys. Most of the time, there is no known cause for childhood cancers. Childhood cancers may behave very differently from adult cancers, even when they start in the same part of the body.

Types of childhood cancer

Childhood cancer is a general term used to describe a range of cancer types and noncancerous tumors found in children. Childhood cancer may also be called pediatric cancer. Below are the most common types of cancer in children under 15 years old. For more information on each type, select a name below.

- Leukemia (accounts for about 31% of childhood cancer cases)
  - Acute lymphoblastic leukemia (ALL) [3]

    - Acute myeloid leukemia (AML) [4]
- Brain and CNS tumors (21%), including tumors of the spinal cord
    - Astrocytoma [5]
    - Brain stem glioma [6]
    - Central nervous system [7]
    - Craniopharyngioma [8]
    - Desmoplastic infantile ganglioglioma [9]
    - Ependymoma [10]
    - High-grade glioma [5]
    - Medulloblastoma [11]
    - Atypical teratoid rhabdoid tumor [7]
- Neuroblastoma [12] (7%), a tumor of immature nerve cells that often starts in the adrenal glands, which are located on top of the kidneys and are part of the body?s endocrine (hormonal) system
- Wilms tumor [13] (5%), a type of kidney tumor
- Non-Hodgkin lymphoma [14] (6%) and Hodgkin lymphoma [15] (4%), cancers that begin in the lymph system
- Rhabdomyosarcoma [16] (3%), a type of tumor that begins in the striated muscles, which is part of the skeletal voluntary muscles that people can control. Other, rare soft tissue sarcomas [17] also occur.
- Retinoblastoma [18] (3%), an eye tumor
- Osteosarcoma [19] (3%) and Ewing sarcoma [20] (1%), tumors that usually begin in the bone
- Germ cell tumors [21], rare tumors that begin in the testicles in boys or ovaries in girls. Even more rarely, this tumor can begin in other places in the body, including the brain.
- Pleuropulmonary blastoma [22], a rare kind of lung cancer
- Hepatoblastoma and hepatocellular carcinoma [23] types of liver tumors

Cancer in teenagers and young adults

There is an increasing amount of research regarding cancer in children diagnosed after the age of 14. As these children are starting to enter young adulthood, they may have unique medical, social, and emotional needs that are different from younger children with cancer. They are part of a group often called adolescents and young adults (AYA).

Most often, teenagers and young adults with cancer should be treated at a pediatric oncology center or at a center where medical oncologists, which are doctors who treat cancer, and pediatric oncologists, which are doctors who treat children with cancer, work together to plan treatment. This will ensure that they receive the newest treatments and are cared for by a team of doctors who are familiar with these diseases. This is especially important for teenagers who have lymphoma, leukemia, or bone tumors, since treatment by specialists familiar with these diseases has been shown to improve survival.

Within the AYA group, there are also patients who have cancers most commonly found in adults, such as melanoma, testicular cancer, or ovarian cancer. Teenagers with these cancers may receive treatments that are similar to adults, but they also need to receive age-appropriate support for their social and emotional needs. In either the pediatric or adult care centers, age-appropriate information and support is very important for children and teens.

Below are the most common types of cancer in teenagers, ages 15 to 19. For more information on each type, select a name below.

- Hodgkin lymphoma [24] (15%) and Non-Hodgkin lymphoma [14] (8%)
- Germ cell tumors [21], including testicular cancer [25] (8%) and ovarian cancer [26] (2%)

- CNS tumors [7] (10%)
- Thyroid cancer [27] (11%)
- Melanoma [28] (6%)
- ALL [3] (8%)
- Soft tissue sarcoma [17] (7%)
- Bone tumors (7%) including osteosarcoma [19] and Ewing sarcoma [20]
- AML [4] (4%)

Looking for More of an Overview?

If you would like additional introductory information, explore the following item on Cancer.Net:

- *ASCO Answers* Fact Sheet [29]: Read a one-page fact sheet (available as a PDF) that offers an easy-to-print introduction for several types of childhood cancer listed above.
- Cancer.Net Patient Education Videos: View short videos led by an ASCO expert in childhood cancer [30] and AYAs with cancer [31] that provide basic information about treatment, areas of research, and survivorship. In addition, the *Moving Forward [32]* series, in collaboration with The LIVESTRONG Foundation, provides perspectives from both doctors and survivors on topics that are often faced by young adults living with cancer.

Statistics adapted from the American Cancer Society's publication, Cancer Facts and Figures 2014.

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Links:
[1] http://www.cancer.net/cancer-types/childhood-cancer/overview
[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/19023
[4] http://www.cancer.net/node/19051
[5] http://www.cancer.net/node/18488
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