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Central Nervous System Tumors - Childhood - Overview [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board \[2\]](#), 05/2014

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 Central Nervous System Tumor. To see other pages, use the menu on the side of your screen. Think of that menu as a roadmap to this full guide.

A central nervous system (CNS) tumor begins when normal cells in the brain or the spinal cord change and grow uncontrollably, forming a mass. 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.

A CNS tumor is especially problematic because a person's thought processes and movements can be affected. This type of tumor also may be challenging to treat because the tissues surrounding the tumor may be vital to the body's functioning.

The brain is the center of thought, memory, and emotion. It controls the five senses, which include smell, touch, taste, hearing, and sight. It also controls movement and other basic functions of the body, including heartbeat, circulation, and breathing. The spinal cord consists of nerves that carry information back and forth between the body and the brain.

Anatomy of the brain

The brain is made up of four major parts: the cerebrum, cerebellum, brain stem, and meninges.

The cerebrum, the largest part of the brain, contains two cerebral hemispheres and is divided into four lobes where specific functions occur.

- The frontal lobe controls reasoning, emotions, problem solving, and parts of speech and movement
- The parietal lobe controls the sensations of touch, pressure, pain, and temperature
- The temporal lobe controls memory and the sense of hearing
- The occipital lobe controls vision

The cerebellum, or "little brain," is located underneath the cerebrum. The cerebellum controls coordination and balance.

The brain stem, which is the lowest portion of the brain and connects to the spinal cord, controls involuntary functions essential for life, such as a person's heartbeat and breathing.

The meninges are the membranes that surround and protect the brain and spinal cord. There are three meningeal layers, called the dura mater, arachnoid, and pia arachnoid.

Types of CNS tumors

There are many different types of CNS tumors. Some are cancerous and very likely to grow and spread. These are often called very aggressive or high grade. Other types are less aggressive, often called low grade, and others are noncancerous and are not likely to grow and spread. The following types of CNS tumors are most common among children:

- [Astrocytoma](#) [3]
- [Brain stem glioma](#) [4]
- [Ependymoma](#) [5]
- [Germ cell tumor](#) [6]
- [Medulloblastoma](#) [7]

This section covers CNS tumors diagnosed in children. Learn more about [brain tumors in adults](#) [8].

Looking for More of an Overview?

If you would like additional introductory information, explore these related items. Please note these links take you to other sections on Cancer.Net:

- [ASCO Answers Fact Sheet](#) [9]: Read a one-page fact sheet (available as a PDF) that offers an easy-to-print introduction to CNS tumors.
- Cancer.Net Patient Education Videos: View short videos led by ASCO experts in [childhood cancers](#) [10] and [brain tumors](#) [11] that provide basic information and areas of research.
- [Cancer.Net en Español](#) [12]: Read about CNS tumors in Spanish. [Infórmase sobre tumor del sistema nervioso central en español](#) [12].

To continue reading this guide, use the menu on the side of your screen to select another section.

Links:

[1] <http://www.cancer.net/cancer-types/central-nervous-system-tumors-childhood/overview>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancer.net/node/18488>

[4] <http://www.cancer.net/node/18548>

[5] <http://www.cancer.net/node/18769>

[6] <http://www.cancer.net/node/18883>

[7] <http://www.cancer.net/node/19237>

[8] <http://www.cancer.net/cancer-types/brain-tumor>

- [9] http://www.cancer.net/sites/cancer.net/files/asco_answers_cns_childhood.pdf
- [10] <http://www.cancer.net/node/27386>
- [11] <http://www.cancer.net/node/27391>
- [12] <http://www.cancer.net/es/node/18292>