

Astrocytoma - Childhood - Treatment Options [1]

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ON THIS PAGE: You will learn about the different ways doctors use to treat children with astrocytoma. To see other pages, use the menu on the side of your screen.

In general, tumors in children are uncommon, so it can be hard for doctors to plan treatments unless they know what has been most effective in other children. That's why more than 60% of children are treated as part of a clinical trial. [Clinical trials](#) [3] are research studies that compare standard treatments (the best proven treatments available) with newer approaches to treatments that may be more effective. Clinical trials may test such approaches as a new drug, a new combination of standard treatments, or new doses of current therapies. Studying new treatments involves careful monitoring using scientific methods, and all participants are followed closely to track their health and progress.

To take advantage of these newer treatments, all children with a CNS tumor should be treated at a specialized cancer center. Doctors at these centers have extensive experience in treating children and have access to the latest research. A doctor who specializes in treating children with a tumor is called a pediatric oncologist. For astrocytoma, a neuro-oncologist may also be involved with treatment. This is a doctor who specializes in CNS tumors. In many cases, a team of doctors works with a child and the family to provide care; this is called a [multidisciplinary team](#) [4]. Pediatric cancer centers often have extra support services for children and their families, such as child life specialists, nutritionists, physical and occupational therapists, social workers, and counselors. Special activities and programs to help your child and family cope may also be available.

Descriptions of the most common treatment options for astrocytoma are listed below. Treatment options and recommendations depend on several factors, including the type and grade of the tumor, possible side effects, the family's preferences, and the child's overall health. Three types of treatments are typically used to treat astrocytoma in children: surgery, radiation therapy, and chemotherapy. Your child's care plan may also include treatment for symptoms and side effects, an important part of cancer care. Take time to learn about all of your child's treatment options and be sure to ask questions about things that are unclear. Also, talk about the goals of each treatment with your child's doctor and what you can expect during the treatment. Learn more about [making treatment decisions](#) [5].

Surgery

Surgery is the removal of the tumor and surrounding tissue during an operation. It is the most common treatment for astrocytoma. During surgery, a neurosurgeon removes as much of the tumor as possible. Even if a tumor is inoperable, meaning it cannot be reached by surgery because of its location, a surgical biopsy can usually still be done to find out the type and grade of the tumor (see [Diagnosis \[6\]](#)).

If a low-grade tumor cannot be completely removed, the doctor usually watches for signs of tumor growth before considering other types of treatment. If a tumor causes symptoms and cannot be completely removed with surgery, radiation therapy or chemotherapy is often used. A child with a high-grade tumor often needs additional treatment regardless of whether the entire tumor was removed during surgery.

Learn more about [surgery \[7\]](#).

Radiation therapy

Radiation therapy is the use of high-energy x-rays or other particles to destroy tumor cells. A doctor who specializes in giving radiation therapy to treat a tumor is called a radiation oncologist. The most common type of radiation treatment is called external-beam radiation therapy, which is radiation given from a machine outside the body. When radiation treatment is given using implants, it is called internal radiation therapy or brachytherapy. A radiation therapy regimen (schedule) usually consists of a specific number of treatments given over a set period of time.

Side effects from radiation therapy may include fatigue, mild skin reactions, upset stomach, and loose bowel movements. Most short-term side effects go away soon after treatment is finished. However, because radiation therapy can sometimes cause problems with the long-term growth and development of a child's brain, the doctor may choose to treat the tumor in another way. To avoid or reduce the need for radiation therapy in young children, the doctor may first use chemotherapy to shrink the tumor.

Learn more about [radiation therapy \[8\]](#).

Chemotherapy

Chemotherapy is the use of drugs to destroy tumor cells, usually by stopping the tumor cells' ability to grow and divide. Chemotherapy is given by a medical oncologist, a doctor who specializes in treating a tumor with medication, or a pediatric oncologist.

Systemic chemotherapy is delivered through the bloodstream to reach tumor cells throughout the body. Common ways to give chemotherapy include an intravenous (IV) tube placed into a vein using a needle or in a pill or capsule that is swallowed (orally). A chemotherapy regimen (schedule) usually consists of a specific number of cycles given over a set period of time. A patient may receive one drug at a time or combinations of different drugs at the same time. Chemotherapy for astrocytoma is often a combination of two or three drugs.

Chemotherapy may be used to delay or avoid using radiation therapy in young children with low-

grade tumors, such as JPA, due to possible side effects. For a high-grade tumor, chemotherapy may be more effective when used with surgery and radiation therapy.

The side effects of chemotherapy depend on the individual and the dose used, but they can include fatigue, risk of infection, nausea and vomiting, hair loss, loss of appetite, and diarrhea. These side effects usually go away once treatment is finished.

Learn more about [chemotherapy](#) [9] and [preparing for treatment](#) [10]. The medications used to treat CNS tumors are continually being evaluated. Talking with your child's doctor is often the best way to learn about the medications prescribed for your child, their purpose, and their potential side effects or interactions with other medications. Learn more about your child's prescriptions by using [searchable drug databases](#) [11].

Getting care for symptoms and side effects

Astrocytoma and its treatment often cause side effects. In addition to treatment to slow, stop, or eliminate the disease, an important part of care is relieving a child's symptoms and side effects. This approach is called palliative or supportive care, and it includes supporting the child with his or her physical, emotional, and social needs.

Palliative care can help a child at any stage of illness. Children often receive treatment for the tumor and treatment to ease side effects at the same time. In fact, patients who receive both often have less severe symptoms, better quality of life, and families report that they are more satisfied with treatment.

Palliative treatments vary widely and often include medication, nutritional changes, relaxation techniques, and other therapies. Your child may also receive palliative treatments similar to those meant to eliminate the tumor, such as chemotherapy, surgery, and radiation therapy. Talk with your child's doctor about the goals of each treatment in the treatment plan.

Before treatment begins, talk with your child's health care team about the possible side effects of your child's specific treatment plan and supportive care options. And during and after treatment, be sure to tell the doctor or another health care team member if your child is experiencing a problem so it is addressed as quickly as possible. Learn more about [palliative care](#) [12].

Remission and the chance of recurrence

A remission is when tumor cells cannot be detected in the body and there are no symptoms. This may also be called "no evidence of disease" or NED.

A remission can be temporary or permanent. This uncertainty leads to many people feeling worried or anxious that the tumor will come back. While many remissions are permanent, it's important to talk with the doctor about the possibility of the disease returning. Understanding the risk of recurrence and the treatment options may help you feel more prepared if the tumor does return. Learn more about [coping with the fear of recurrence](#) [13].

If the tumor does return after the original treatment, it is called a recurrent tumor. It may come back in the same place (called a local recurrence), nearby (regional recurrence), or in another

place (distant recurrence). When astrocytoma recurs, it usually recurs near where the tumor originally started.

When this occurs, a cycle of testing will begin again to learn as much as possible about the recurrence, including whether the tumor's stage and grade has changed. After testing is done, you and your child's doctor will talk about the treatment options. Often the treatment plan will include the therapies described above such as surgery, chemotherapy, and radiation therapy, but they may be used in a different combination or given at a different pace. Your child's doctor may also suggest clinical trials that are studying new ways to treat this type of recurrent tumor.

Treatment for recurrent astrocytoma depends on three factors:

- Grade of the tumor
- Where the tumor recurred
- The type of treatment the child received for the original tumor

If the tumor is a low-grade recurrent astrocytoma, the doctor may perform surgery to remove as much of the tumor as possible. Children who have not previously had radiation therapy or chemotherapy may receive one or both of these treatments for the recurrent tumor.

If the tumor is a high-grade recurrent astrocytoma, the doctor may suggest other types of chemotherapy or radiation therapy. Rarely, chemotherapy along with stem cell/bone marrow transplantation [14] may be recommended.

A recurrent tumor may bring up emotions such as disbelief or fear. You and your family are encouraged to talk with the health care team about these feelings and ask about support services to help you cope. Learn more about dealing with a recurrence [15].

If treatment fails

Although treatment is successful for the majority of children with a tumor, sometimes it is not. If a child's tumor cannot be cured or controlled, this is called an advanced or terminal tumor. This diagnosis is stressful, and it may be difficult to discuss. However, it is important to have open and honest conversations with your child's doctor and health care team to express your family's feelings, preferences, and concerns. The health care team is there to help, and many team members have special skills, experience, and knowledge to support patients and their families.

Parents or guardians are encouraged to think about where the child would be most comfortable: at home, in a home-like setting elsewhere, in the hospital, or in a hospice environment. Hospice care is a type of palliative care for people who are expected to live less than six months. It is designed to provide the best possible quality of life for people who are near the end of life. Nursing care and special equipment can make staying at home a workable alternative for many families. Some children may be happier if they can arrange to attend school part-time or keep up other activities and social connections. The child's health care team can help parents or guardians decide on an appropriate level of activity. Making sure a child is physically comfortable and free from pain is extremely important as part of end-of-life care. Learn more about caring for a terminally ill child [16] and advanced care planning [17].

The death of a child is an enormous tragedy, and families may need support to help them cope with the loss. Pediatric cancer centers often have professional staff and support groups to help with the process of grieving. Learn more on [grieving the loss of a child](#) [18].

The next section helps explain clinical trials, which are research studies. Use the menu on the side of your screen to select About Clinical Trials, or you can select another section, to continue reading this guide.

Links:

- [1] <http://www.cancer.net/cancer-types/astrocytoma-childhood/treatment-options>
- [2] <http://www.cancer.net/about-us>
- [3] <http://www.cancer.net/node/18496>
- [4] <http://www.cancer.net/node/24957>
- [5] <http://www.cancer.net/node/24582>
- [6] <http://www.cancer.net/node/18493>
- [7] <http://www.cancer.net/node/24720>
- [8] <http://www.cancer.net/node/24728>
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- [18] <http://www.cancer.net/node/25288>