

## [Astrocytoma - Childhood - Treatment Options](#) [1]

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**ON THIS PAGE:** You will learn about the different ways doctors treat children with astrocytoma. To see other pages, use the menu.

In general, tumors in children are uncommon. This means 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 the standard of care with newer approaches to treatments that may be more effective. The "standard of care" is the best treatments known. Clinical trials may test such approaches as a new drug, a new combination of standard treatments, or new doses of current therapies. The health and safety of all children participating in clinical trials are closely monitored.

To take advantage of these newer treatments, 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. If a pediatric cancer center is not nearby, general cancer centers sometimes have pediatric and neurology specialists who are able to be part of your child's care.

### **Treatment overview**

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, dietitians, physical and occupational

therapists, social workers, and counselors. Special activities and programs to help your child and family cope may also be available.

The following treatments are typically used for astrocytoma in children:

- Surgery
- Radiation therapy
- Chemotherapy

Descriptions of these common treatment options for astrocytoma are outlined 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.

Your child's care plan may also include treatment for symptoms and side effects, an important part of 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 some surrounding healthy tissue during an operation. It is the most common treatment for astrocytoma. During surgery, a neurosurgeon removes as much of the tumor as possible. Sometimes, a tumor is inoperable, meaning it cannot be reached by surgery because of its location. However, even for inoperable tumors, 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 the basics of [surgery](#) [7]. Talk with your child's doctor about possible side effects from the recommended surgery, and how these can be managed.

## **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.

Radiation therapy can sometimes cause problems with the long-term growth and development of a child's brain. This means 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 the basics of [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 gets into 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 a single drug at a time or combinations of different drugs at the same time. Chemotherapy for astrocytoma is often a combination of 2 or 3 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 work better when combined 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 the basics of [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 is any treatment that focuses on reducing symptoms, improving quality of life, and supporting children and their families. Any child, regardless of age or grade and stage of astrocytoma, may receive palliative care. It works best when palliative care is started as early as needed in the treatment process. 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, emotional support, and other therapies. Your child may also receive palliative treatments similar to those meant to eliminate the tumor, such as chemotherapy, surgery, or 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 palliative 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 can be 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 having "no evidence of disease" or NED.

A remission may be temporary or permanent. This uncertainty causes many people to worry 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 your child's 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. After testing is done, you and your child's doctor will talk about the treatment options. Often the treatment plan will include the treatments described above such as surgery,

radiation therapy, and chemotherapy, 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. Whichever treatment plan you choose, palliative care will be important for relieving symptoms and side effects.

Treatment for recurrent astrocytoma depends on 3 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 either 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 an advanced tumor 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 6 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 in this guide is About Clinical Trials](#) [3]. It offers more information about research studies that are focused on finding better ways to care for children with astrocytoma. Or, use the menu to choose another section to continue reading this guide.*

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## 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/navigating-cancer-care/how-cancer-treated/making-decisions-about-cancer-treatment>

[6] <http://www.cancer.net/node/18493>

[7] <http://www.cancer.net/node/24720>

[8] <http://www.cancer.net/node/24728>

[9] <http://www.cancer.net/node/24723>

[10] <http://www.cancer.net/node/24473>

[11] <http://www.cancer.net/node/25369>

[12]

<http://www.cancer.net/navigating-cancer-care/how-cancer-treated/palliative-care/caring-symptoms-cancer-and-its-treatment>

[13] <http://www.cancer.net/node/25241>

[14] <http://www.cancer.net/node/24717>

[15] <http://www.cancer.net/node/25042>

[16] <http://www.cancer.net/node/25280>

[17] <http://www.cancer.net/node/25113>

[18] <http://www.cancer.net/node/25288>