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## About Brain Tumors

### What is a brain tumor?

A brain tumor is a growth of abnormal cells in the brain.

Cells are the basic structural and functional unit in people. When the body is working normally, new cells form only to replace old or damaged cells. But when cells grow when they are not needed, they can accumulate to create a mass — also called a tumor.

Brain tumors cause damage because they can either place pressure on normal parts of the brain or spread into those areas.

**There are two basic types of brain tumors:**

- [Primary brain tumors](#)
- [Metastatic \(secondary\) brain tumors](#)

Learn more about brain tumors:

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2. [What are the most common types of primary brain tumors?](#)
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### 1. What is a primary brain tumor?

A brain tumor is an abnormal growth of tissue in the brain. If the tumor originates in the brain, it is called a **primary brain tumor**. Primary brain tumors can be benign or malignant.

#### Benign brain tumors

Benign brain tumors are not cancerous. They grow slowly, have distinct borders and rarely spread.

Benign tumors can still be dangerous, though. They can damage and compress normal parts of the brain, causing severe dysfunction. Benign brain tumors located in a vital area of the brain can be life threatening. Very rarely, a benign tumor can become malignant.

#### Malignant brain tumors

Malignant brain tumors are cancerous. They typically grow rapidly and invade surrounding healthy brain structures. These are life threatening tumors. Very rarely, these tumors can break away and spread to other parts of the brain and spinal cord.

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## 2. What are the most common types of primary brain tumors?

There are more than 120 types of primary brain tumors. They are named for the type of cells or the part of the brain where they started.

Meningioma is the most common type of primary brain tumor. Another common type of brain tumor is glioma.

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## 3. What is a metastatic brain tumor?

A metastatic brain tumor is also called a **secondary brain tumor**. It starts as cancer somewhere else in the body and then spreads (metastasizes) to the brain. Metastatic brain tumors are about four times more common than primary brain tumors.

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## 4. What are the most common types of metastatic brain tumors?

Common cancers that can spread to the brain are:

- Breast cancer
- Colon cancer
- Kidney cancer
- Lung cancer
- Skin cancer (melanoma)

Learn more about metastatic brain tumors.

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## 5. How are brain tumors different in children than in adults?

In children, brain tumors usually start in different parts of the brain and develop from different types of cells. They are usually found early because the signs and symptoms that appear are more obvious in a child, such as when the child has problems with memory, learning, hearing, sight, smell or emotion.

Children:

- Have different symptoms than adults for the same type of tumor
- May have different treatment than adults
- Have tumors that are less likely to change to a more serious tumor (from a low-grade to a high-grade tumor).
- Often have a better chance of surviving brain tumors than adults

Learn more about brain tumors in children.

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## 6. What are the most common types of brain tumors in children?

Most brain tumors in children are gliomas. There are several types of gliomas that can be categorized based on where they are found and the type of cells that caused the tumor. A few examples include:

- Brainstem gliomas: tumors that are found in the brainstem.
- **Primitive neuroectodermal tumors (PNET)**: when they occur in the cerebellum, these tumors are called **medulloblastomas**. These tumors are rapidly growing and can often block drainage of **cerebral spinal fluid** — causing symptoms of increased intracranial pressure. Medulloblastoma cells can spread to other parts of the brain and spinal cord.

Medulloblastomas are tumors that start in the lower part of the brain and can spread to the spine or to other parts of the body. They are common in children.

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## 7. What causes a brain tumor?

No one knows what causes a brain tumor. Extensive effort is currently focused on researching the causes of brain tumors.

However, exposure to radiation, for example, from radiation therapy, increases the risk of a brain tumor. Also, there are a few rare brain tumors that can run in families.

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## 8. What are the symptoms of a brain tumor?

Different parts of the brain control different functions, so symptoms will vary depending on the tumor's location. The tumor's size and how fast it is growing also determine which symptoms a person will have.

In general, the most common symptoms of a brain tumor include:

- Headaches
- Seizures or convulsions
- Difficulty thinking, speaking, or finding words
- Personality or behavior changes
- Weakness or paralysis in one part or one side of the body
- Loss of balance or dizziness
- Loss of hearing
- Vision changes
- Confusion and disorientation
- Memory loss

*These symptoms can also be caused by other health problems. Check with a physician to discuss any concerns.*

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## 9. How is a brain tumor diagnosed?

Diagnosing a brain tumor usually involves:

- A neurological examination
- Scans of the brain
- A biopsy (tissue sample analysis)

Learn more about diagnosing brain tumors.

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## 10. How serious is a brain tumor?

The grade of a brain tumor defines how serious it is. The grade is based on what the tumor cells look like under a microscope.

Today, most medical centers, including the Johns Hopkins Comprehensive Brain Tumor Center use the [World Health Organization grading system for brain tumors](#).

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## 11. How is a brain tumor treated?

The treatment for a brain tumor will depend on many things, including the type, size, and location of the tumor and the patient's symptoms, general health and treatment preferences. The main treatments for brain tumors are:

- [Surgery](#)
- [Radiation therapy](#)
- [Chemotherapy](#)

Some patients may only need to have one treatment method. Others may have a combination of treatments .

Learn more about [treatments for brain tumors](#).

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## 12. How is treatment for a brain tumor different in children?

Children with brain tumors require special care because their brains and bodies are still developing. The treatment will depend on the type, size and location of the tumor, and the child's age and overall health.

The [most common treatment for brain tumors in children](#) is surgery to remove the tumor.

If necessary, surgery is followed by [chemotherapy](#) — using drugs to destroy a tumor — and/or radiation therapy — using X-rays and other forms of radiation to destroy a tumor. [Radiation therapy](#) is not used in young children because it may affect the developing brain.

Learn more about treatments for [brain tumors in children](#).

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## 13. What will my future be like with a brain tumor?

Your future will depend on the prognosis that the doctor makes. The prognosis will be based on:

- The type of tumor, its grade and location
- Whether the tumor has spread within the brain or to other parts of the body
- Your age
- How long you had symptoms before you were diagnosed
- How much the tumor affects your ability to function
- Your treatment preferences

If you have [surgery](#), how much of the tumor the neurosurgeon can remove will impact what will happen next. Other [brain tumor treatments](#) will determine future steps as well. For example, some malignant tumors can be controlled by [radiation therapy](#). Others, because of their location, may be life threatening even if they are benign.

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## 14. How do I cope with the diagnosis of a brain tumor?

Being diagnosed with a brain tumor is scary and overwhelming. Here are some things you can do to help you cope:

- Learn all you can about the [type of brain tumor](#)
- Find a [support group](#) or someone to talk with
- Get enough rest, eat healthy foods, exercise when you can and reduce stress

- Find the best treatment possible

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## 15. How do I find the best treatment possible for my brain tumor?

The most advanced treatments for brain tumors are only available at medical centers that specialize in the treatment of brain tumors and other types of cancer. These centers have doctors with a lot of experience in treating brain tumors and the specialized equipment and facilities necessary to treat brain tumors.

### **Comprehensive cancer centers**

Most medical centers that specialize in the treatment of brain tumors are National Cancer Institute-designated Comprehensive Cancer Centers. Comprehensive Cancer Centers are leaders in cancer treatment, research and education. The National Cancer Institute is the federal government's primary agency for cancer research and training.

The Johns Hopkins Comprehensive Brain Tumor Center is one of the largest brain tumor centers in the world. It is part of the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins University.

Learn more about [treatment for brain tumors](#) at the Johns Hopkins Comprehensive Brain Tumor Center.

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**To make an appointment or request a consultation, contact the Johns Hopkins Comprehensive Brain Tumor Center at 410-955-6406.**