

Emotional issues

- Depressed mood
- Anxiety

6.How Brain Tumors are Treated

Brain tumor treatments are tailored to your diagnosis and medical situation. Here are some common options that your health care team may recommend.

Surgery. In most cases, treatment begins with surgery. Depending on the tumor's size, location, and type, you may need a biopsy or a resection. A biopsy involves removing a very small piece of the tumor tissue in order to determine the tumor type. A resection involves removing as much of the tumor as possible. After surgery, the tissue is sent to a pathologist for review. The pathologist's report helps your physician determine the best treatment approach for your tumor. In most cases, the pathology review takes about one week. Sometimes, further tests are needed to confirm the tumor type or determine your treatment.

Radiation Therapy. Brain tumors are often treated with radiation. Treatment takes place over 6–7 weeks, five days a week. Each session is painless and takes less than 15 minutes. Radiation therapy for high-grade gliomas starts 2–5 weeks after surgery (a short delay is necessary to permit healing of the surgical wound).

Common side effects of radiation

- Fatigue
- Skin irritation
- Temporary hair loss in the area of the radiation
- Memory issues that may develop after treatment ends

Less common side effects

- Brain edema (swelling)
- Seizures
- Permanent hair loss
- Radiation necrosis (the injured tumor tissue becomes inflamed and may cause symptoms by pressing on brain tissue)

Chemotherapy. Chemotherapy may be used alone, in combination with radiation therapy, or following radiation. Different chemotherapy options are available, and the treatment plan will depend on a variety of factors that your doctor will discuss with you.

Options include drugs that kill tumor cells; specific targeted agents; or drugs that attack the blood vessels of your tumor (anti-angiogenic therapy). Some are given by mouth and others by intravenous infusion. The most frequently used chemotherapy drug is called temozolomide (Temodar), which is given in a pill form and may be obtained from your local or mail-order pharmacy or our outpatient pharmacy. Temodar dosing is based on your height and weight, which are checked every month before a Temodar prescription is written. Information for patients and families 7 Common side effects of Temodar

- Fatigue
- Nausea
- Constipation
- Lowering of blood counts (particularly white blood cells and platelets)

Severe blood count problems are rare, but you will have your numbers checked either at Dana-Farber or near your home on a regular basis. In most cases, weekly blood tests will be necessary during the first 3 or more months of Temodar treatment.

Other medications you may take with Temodar include:

- Ondansetron (Zofran) – an anti-nausea medication. Other medications are available if Zofran is not enough to control nausea.
- Bactrim DS – an antibiotic used to prevent pneumonia that can occur with daily chemotherapy or steroid use. If you have a sulfa allergy, other medications may be used. Surgery, radiation therapy, and chemotherapy are intended to shrink or slow down the growth of your tumor. Other measures may be recommended to treat symptoms or issues that your tumor may cause, such as: Brain swelling (edema). This may occur at the time of diagnosis, after surgery, or during or after radiation therapy. Symptoms often include headaches, nausea or vomiting, darkening of vision, seizures, severe sleepiness, and worsening of other problems. The standard treatment is steroid medication, usually dexamethasone (Decadron). Seizures. These tend to occur in newly diagnosed patients or when a tumor begins to grow back after treatment. Many different medications may be used to control seizures.

Blood clots. A brain tumor raises the risk of clots in the large veins of the legs (deep venous thrombosis, or DVT) and in the lungs (pulmonary embolism, or PE). Staying physically active is the best way to prevent this. If you do develop a blood clot, you will likely need to take a blood-thinning medication prescribed by your doctor.

Fatigue. Fatigue may result from the tumor itself or from treatment. Your physician or nurse can offer suggestions to help increase your energy.

Memory problems. Certain medications are useful in treating memory issues.

Gastrointestinal discomfort. Your doctor and nurses are skilled in treating these problems with medication or other approaches.

Hydrocephalus. In some cases, a tumor can interfere with the flow of cerebrospinal fluid (CSF) in the ventricles. Increased pressure may cause the ventricles to expand, a condition known as hydrocephalus. Treatment generally involves placement of a tube that drains fluid from the ventricles into the abdominal cavity. This relieves the pressure and related symptoms, such as headache.

7.When to Call Your Doctor ?

A fever of 100.5F or above. It could mean that you have an infection. If you have a low white blood cell count, an infection can be serious or even life-threatening. You may be treated with antibiotics or be admitted to the hospital.

Low energy. This could mean that you have too few red blood cells, or anemia. If this becomes severe, you may need a blood transfusion.

Shortness of breath. This may point to blood clots in the lungs, a potentially serious problem.

Easy bruising or bleeding. This could mean a low platelet count, which can be serious, and a platelet transfusion may be needed.

Any symptom that worries you or a family member .

8.Will a Brain Tumor Affect Fertility?

If your plans for the future include having children, it is important to discuss those wishes prior to starting treatment. Some cancer treatments may cause infertility or increase the risk of birth defects. Fortunately there are safe, effective options for both men and women to preserve your chances for having healthy children

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The Institute is conveniently located 10 minutes from the Domestic and International Airport.

The hospital is designed to provide highly specialized care in various departments with a focus on multi-organ transplantation. Prof. Mohamed Rela, a world renowned surgeon in the field of Liver surgery and transplantation is the Chairman and Managing Director of the Institute.

In addition to quaternary & quality care, is also committed to provide day to day primary and secondary care to the local population, with facilities of international standards. The Institute would provide comprehensive support to international patients travelling for medical treatment such as language assistance, stay, visa and travel.

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BRAIN TUMORS



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We know that the first few weeks after diagnosis of a brain tumor can be overwhelming. This booklet is intended to provide explanations and offer resources to help you navigate the road ahead.

1. What Is Cancer ? What Is a Brain Tumor ?

Cancer is a disease in which cells grow and multiply in an abnormal, uncontrolled way. The body's cells normally grow and divide at a certain rate. Occasionally, the signals that control cell division are lost, leading to rapid, uncontrolled growth and the formation of a tumor.

The brain is made up of glial cells that support and nourish nerve cells. Some glial cells are called astrocytes, and others are called oligodendrocytes. When one of these cells becomes cancerous, it may result in a brain tumor.

2. How Brain Tumors are Classified ?

Brain tumors are classified as primary or secondary. Primary brain tumors develop inside the brain and almost never spread outside the brain or spine. Secondary, or metastatic, brain tumors start in another part of the body and then spread to the brain. Most primary brain tumors in adults are gliomas. Gliomas are named for the type of brain cell that they resemble. Two common types of gliomas are astrocytomas and oligodendrogliomas. Some gliomas have features of both; these tumors are called oligoastrocytomas or mixed gliomas. Gliomas are graded on a scale from 1 to 4. In general, the higher the grade, the more quickly and aggressively the tumor grows.

Grade 1 tumors occur almost always in children.

Grade 2 tumors are often referred to as low-grade or benign gliomas.

Grade 3 and 4 tumors are often referred to as high-grade malignant gliomas.

(Grade 3 tumors are also called anaplastic gliomas & Grade 4 tumors are called glioblastomas or glioblastoma multiforme.)

1. Types of Brain Tumors

Primary brain tumors can be benign or malignant

- 1. Benign brain tumors do not contain cancer cells
They can be removed, and they seldom grow back.
Usually have an obvious border or edge.
Cells rarely invade tissues around them.
They don't spread to other parts of the body.
Can press on sensitive areas of the brain and cause serious health problems.
Sometimes life threatening.
May become malignant.

Malignant brain tumors contain cancer cells

They are generally more serious and often are a threat to life.

They are likely to grow rapidly and crowd or invade the nearby healthy brain tissue. Cancer cells may break away from malignant brain tumors and spread to other parts of the brain or to the spinal cord.

Doctors group brain tumors by grade. The grade of a tumor refers to the way the cells look under a microscope. Cells from low-grade tumors (grades I and II) look more normal and generally grow more slowly than cells from high-grade tumors (grades III and IV). Over time, a low - grade tumor may become a high grade tumor.

Grade I: The tissue is benign. The cells look nearly like normal brain cells, and they grow slowly.

Grade II: The tissue is malignant. The cells look less like normal cells than do the cells in a Grade I tumor.

Grade III: The malignant tissue has cells that look very different from normal cells. The abnormal cells are actively growing (anaplastic).

Grade IV: The malignant tissue has cells that look most abnormal and tend to grow quickly.

The Most Common types are:

A) Astrocytoma : The tumor arises from star-shaped glial cells called astrocytes. It can be any grade. In adults, an astrocytoma most often arises in the cerebrum.

Grade I or II astrocytoma: It may be called a low-grade glioma.

Grade III astrocytoma: It's sometimes called a high-grade or an anaplastic astrocytoma.

- Grade IV astrocytoma: It may be called a glioblastoma or malignant astrocytic glioma.
- B) Meningioma: The tumor arises in the meninges. It can be grade I, II, or III. It's usually benign (grade I) and grows slowly.
- C) Oligodendroglioma: The tumor arises from cells that make the fatty substance that covers and protects nerves. It usually occurs in the cerebrum. It's most common in middle-aged adults. It can be grade II or III.
- D) Acoustic neuromas (schwannomas): These are benign tumors that develop on the nerves that control balance and hearing leading from your inner ear to your brain.
- E) Pituitary adenomas: These are mostly benign tumors that develop in the pituitary gland at the base of the brain. These tumors can affect the pituitary hormones with effects throughout the body.
- F) Primitive neuroectodermal tumors (PNETs): These are rare, cancerous tumors that start in embryonic (fetal) cells in the brain. They can occur anywhere in the brain.
- G) Craniopharyngiomas: These rare, noncancerous tumors start near the brain's pituitary gland, which secretes hormones that control many body functions. As the craniopharyngioma slowly grows, it can affect the pituitary gland and other structures near the brain

- Secondary (metastatic) brain tumors are tumors that result from cancer that starts elsewhere in your body and then spreads (metastasizes) to your brain.
- A) Most often occur in people who have a history of cancer. But in rare cases, a metastatic brain tumor may be the first sign of cancer that began elsewhere in your body.
 - B) More common than are primary brain tumors.
 - C) Any cancer can spread to the brain, but the most common types include:
 - Breast cancer
 - Colon cancer
 - Kidney cancer
 - Lung cancer
 - Melanoma

3.How does brain functions?

The functional units of the brain include: the four lobes of the cerebrum, the brainstem, and the cerebellum.

Brain Function

The three major parts of the brain control different activities:

A) Cerebrum: The cerebrum uses information from our senses to tell us what is going on around us and tells our body how to respond. It controls reading, thinking, learning, speech, and emotions. The cerebrum is divided into the left and right cerebral hemispheres. The right hemisphere controls the muscles on the left side of the body. The left hemisphere controls the muscles on the right side of the body.

B) Cerebellum: The cerebellum controls balance for walking and standing, and other complex actions.

C) Brain stem: The brain stem connects the brain with the spinal cord. It controls breathing, body temperature, blood pressure, and other basic body functions.

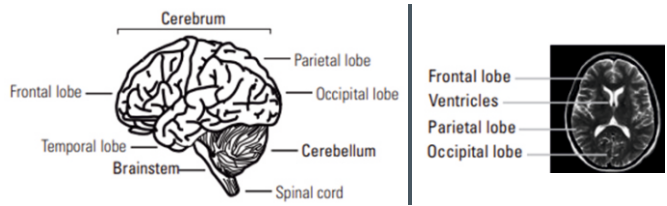
The frontal lobe is mainly involved in motor function, judgment, motivation, planning, and speech.

The parietal lobe plays an important role in sensation and attention.

The temporal lobe is involved in memory and emotion and understanding speech. The occipital lobe is important for vision.

The brainstem controls eye movements, facial expression, breathing, and many other functions. It connects the brain to the spinal cord.

The cerebellum is mainly involved in motor coordination



4.What are Common Brain Tumor Symptoms ?

Symptoms vary widely depending on the size of the tumor, how quickly it is growing, and the location in the brain.

Because many of these symptoms respond well to treatment, it is important to report them to your doctor or nurse. Some of the most common issues include:

- Headaches (These are particularly common in patients with large tumors or tumors that interfere with the flow of cerebrospinal fluid inside the brain.)
- Seizures
- Fatigue
- Weakness*
- Numbness or tingling*
- Difficulty walking
- Change in coordination*
- Slurred speech
- Changes in peripheral vision

*These symptoms often occur only on one side of the body.

5. What Other Symptoms May Occur?

Brain tumors may also cause cognitive, behavioral, and emotional problems. In some cases, these symptoms are severe enough that you may need round-the-clock supervision from a family member, friend, or health care provider:

- Language difficulty (common with tumors on the left side of the brain)
- Trouble with speaking
- Trouble understanding speech
- Trouble with reading or writing

Memory and problem-solving difficulties

- Poor short-term memory
- Trouble with doing tasks
- Changes in judgment

Behavioral issues

- Personality changes
- Loss of the ability to control urges or impulses
- Agitation and feelings of anger or frustration
- Unpredictable outbursts