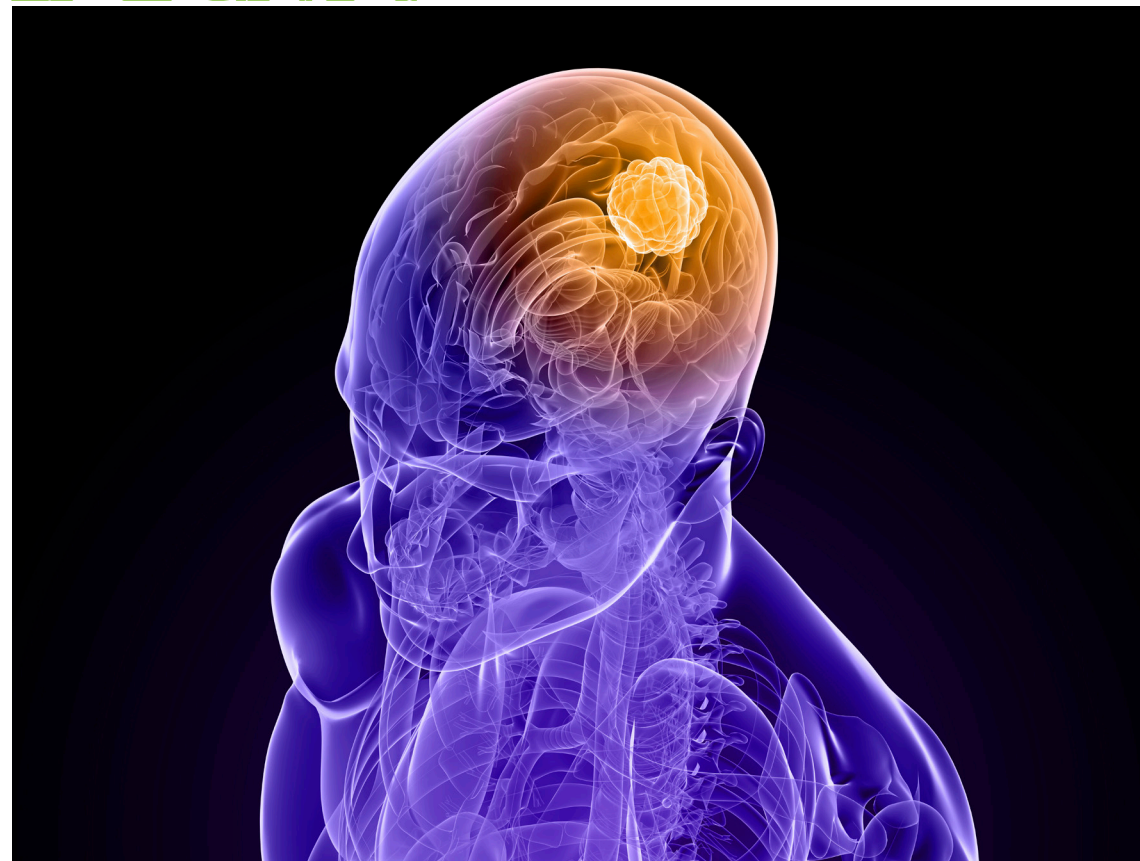


# Brain Tumor



**Q: What is a brain tumor?**

**A:** A brain tumor is an abnormal mass that result from a rapid division and increased number of cells

**Q: What causes a brain tumor?**

**A:** The causes of brain tumor are still unknown. Thus, they cannot be prevented.

**Q: Why signs and symptoms of a brain tumor occur?**

**A:** Brain tumor signs and symptoms can occur from the high pressure they exert on the brain and surrounding tissues, or by irritation or compression of neural structures.

**Q: What are signs and symptoms of a brain tumor?**

**A:** The brain tumor signs and symptoms may include:

- Headache, especially in the morning or during sleep.
- Nausea
- Vomiting
- Weakness on one side of the body
- Balance problem, like unbalanced walk
- Changes in eye movement
- Blurred or double vision
- Hearing problem
- General fatigue associated with changes in energy level or sleep pattern
- Behavioral changes
- Cognitive changes
- Memory and personality changes
- Seizures
- Decreased level of consciousness

**Q: What are the types of brain tumor?**

**A:** Brain tumor can be classified into two main types:

- Primary
- Secondary (Metastatic)

**Primary brain tumor**

- Primary brain tumor originates from the brain cells or the brain surrounding tissues, and it usually remains in the brain
- Primary brain tumor can be either benign (slow-growing), or malignant (fast-growing)

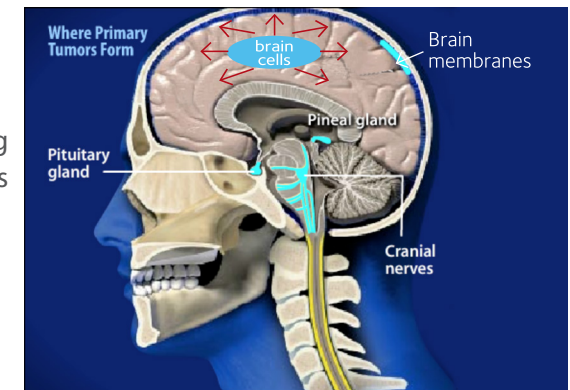


Figure 1. This picture shows the common locations of primary brain tumor

**Secondary brain tumor (Metastatic)**

- Secondary brain tumor is usually originated elsewhere in the body like lung or breast and spread to the brain, most likely through the blood stream
- Secondary brain tumor is always malignant (fast growing)

**Q: How to diagnose brain tumor?**

**A:** Nowadays, brain tumor is usually diagnosed by radiologic examinations which include:

**Computed Tomography (CT)**

It is series of X-ray views that produce cross-sectional images of the bones and soft tissues inside your body. This provides structural information about the status of organs and tissues.

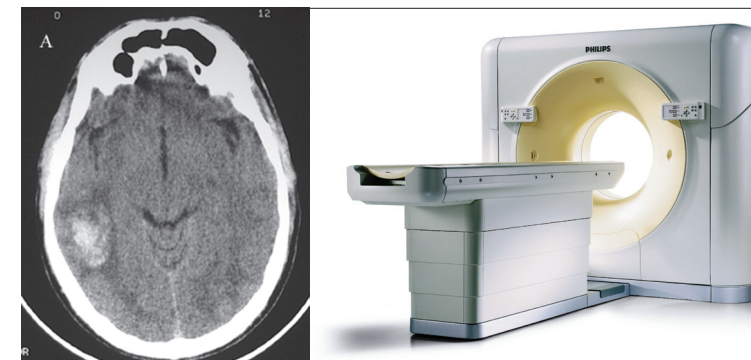


Figure 2

**Magnetic Resonance Imaging (MRI):**

It gives a detailed structural picture of the body organs and tissues by using a powerful magnetic field. (Look at Fig. 3)

**Cerebral Angiogram:**

- It is an x-ray test that uses a special dye to study the blood flow in the blood vessels of the head. It is done by inserting a thin catheter into a blood vessel in the groin or above the elbow. The catheter is guided to the head area then a dye is injected into the vessel to show the area more clear on the x-ray picture. This test can identify the blood vessels that supply the brain tumor. (Look at Fig. 4)



Figure 3



Figure 4

**Q: What are the treatment options for the brain tumor?**

**A:** The treatment options for brain tumor depends on its size, location, type, your age, and overall health.

**Q: How Brain tumors are usually treated?**

**A:** There are many options to treat brain tumors. You may need one or more of these options based on your condition. These options include:

- **Observation:**  
In certain conditions the patient will be kept under observation with regular out patient follow up and scheduled imaging.
- **Surgery:**  
Usually the operation is done to remove as much as possible of the tumor without injuring the brain tissues as it is important to maintain your neurological function.

- **Radiation:**

The main aim of the radiation therapy is to kill tumor cells by using high energy x-rays, gamma rays, or protons. Radiotherapy can be the primary therapy or the additional therapy based on your condition.

- **Chemotherapy:**

Chemotherapy is special type of medicines that might be given to you to stop or slow the growth of tumor cells. Chemotherapy can be the primary therapy, or the additional therapy depends on your condition. Chemotherapy can be given orally or intravenously.

**Q: What are the complications of brain tumor surgeries?**

**A:** You may experience one or more of the following complications:

- **Bleeding:** bleeding might occur during or after surgery. It might be due to increase blood flow that supplies to the tumor or injury of blood vessels which are closed to the tumor.
- **Infection:**  
Infection is a serious complication of brain tumor surgery. Infection at the surgical site is rare, but it can be developed in various parts of the body such as the lungs or bladder as a result of long period of immobility following the surgery. When brain tumor surgery is done, you will be spending several days in bed which increases your risk of developing hospital-acquired infections such as chest infection or a urinary tract infection.
- **Blood Clots:**  
A lack of movement associated with brain tumor surgery significantly increases the risk of developing a blood clot. When a blood clot forms in the veins of the leg, it travels through the bloodstream into the lungs. This blocks the flow of blood through an artery or a vein and possibly trigger a heart attack or stroke.
- **Brain Damage or Injury:**  
You may experience damage to the brain as a result of brain tumor surgery. An accidental injury to the brain during surgery can temporarily

or permanently increase problems with speech, memory, muscle weakness, balance, vision, and coordination.

• **Brain Swelling:**

Fluid may build up in the brain. Thus, you may need to receive steroids medicines that help to relieve brain swelling. This fluid presses on the brain tissues which lead to increase the pressure of your brain. This high pressure can affect the brain functions temporarily like: vision, memory, and speech till the pressure will be released. If the medicine is not effective your doctor might need to place a shunt for removal of the excess fluid to the peritoneal cavity to release the pressure.

**Q: What are the complications of radiation therapy?**

**A:** Some people do not have side effects after treatment, but you may have any of the following side effects:

- Nausea for several hours after radiation therapy.
- Tiredness after each radiation treatment.
- Hair loss for the part of the head that was treated with radiation.
- The skin on the scalp and ears may become red, dry, and tender.
- Swelling of brain tissues.
- Headache.
- Healthy cells around the brain tumor area can be affected by the radiation which will affect brain functions accordingly.
- Seizures.
- Increases the risk of having secondary tumors in the future.
- Radiation therapy may harm the pituitary gland. For children, this damage of pituitary glands can affect the growth and development of the child, and can cause learning difficulties.

**Q: What are the complications of chemotherapy?**

**A:** The side effects of chemotherapy depend mainly on which drugs are given and how much are their doses. The common side effects of chemotherapy include:

- Nausea and vomiting
- Loss of appetite

- Headache
- Fever and chills
- Weakness
- Easy to get infection
- Hair loss
- Bruising and bleeding

**The rehabilitation stage:**

Rehabilitation can be very important and effective part of your treatment. The goal of rehabilitation depends on your needs and how the tumor has affected your ability to carry out your daily activities. Some people may never regain their abilities as it was before having the brain tumor and after treating it. Several types of therapist can help you to return to normal activities as soon as possible. Those therapists include:

**A. Physical therapist:**

- Brain tumor and its treatment can cause paralysis, weakness, or balance problems. Physiotherapist helps you to regain your strength and balance as much as possible

**B. Speech therapist:**

- Speech therapist helps people who have trouble speaking, expressing thoughts, or swallowing and improves these functions.

**C. Occupational therapist:**

- This therapist helps people learn how to manage activities of their daily living, such as eating, using the toilet, bathing, dressing and writing.

**Follow up care:**

- You will need regular checkups after your treatment for brain tumor. This checkup includes frequent appointment with your doctor to do careful physical and neurological exams. In addition, your doctor will ask for repetitive MRI, or CT scans for many years after your treatment.