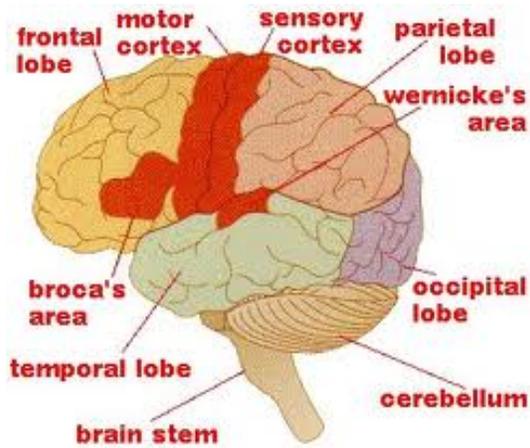


Brain Tumors



About Brain Tumors

The brain is the center of thought, memory, emotion, speech, sensation and motor function. The spinal cord and special nerves in the head called cranial nerves carry and receive messages between the brain and the rest of the body.

There are two types of brain tumors:

Primary — a tumor that starts in the brain. Primary brain tumors can be benign (noncancerous) or malignant.

Metastatic — a tumor caused by cancer elsewhere in the body that spreads to the brain. Metastatic brain tumors are always cancerous.

Primary tumors in the brain or spinal cord rarely spread to distant organs. Brain tumors cause damage because as they grow they can interfere with surrounding cells that serve vital roles in our everyday life.

Signs of Brain Tumors

No blood test or other screening exam can detect brain tumors, but there are often some outward signs. While tumors in different parts of the central nervous system disrupt different functions, some symptoms include:

- Headaches
- Nausea/vomiting
- Seizures
- Weakness or numbness on one side of the body
- Changes in vision, hearing or sensation
- Difficulty with speech
- Lack of coordination
- A change in mood or personality
- Memory loss

Diagnosing Brain Tumors

If you suffer from any of the initial signs of a brain tumor, your doctor will likely conduct some or all of the following tests:

- A physical exam to determine your overall health.
- A neurologic exam to evaluate brain and spinal cord function. Imaging studies, such as CT, MRI or PET scans, to look for signs of a brain tumor.
- If studies or scans indicate you might have a brain tumor, some tissue may be taken from the tumor to make an exact diagnosis. This test is called a biopsy.
- A spinal tap may also be performed to look for tumor cells. During this test, a needle is placed in the lower back to obtain a sample of cerebrospinal fluid. This fluid is then examined to see if tumor cells are present.



Brain Tumors

• Treatment of Brain Tumors

Surgery

For many brain tumors surgery is curative. Surgery is done to maximize tumor removal while minimizing adverse effect to healthy brain tissue. Depending on the tumor type, surgery may be the only local treatment that the patient requires. If needed, radiation can be used after the surgery to decrease the chance that the tumor recurs.

Medical Therapy

Chemotherapy may be required depending on the type of brain tumor that is diagnosed. The type of deliver may be a pill or an intravenous (IV) line.. A detailed consultation with a medical oncologist is required.

Radiation Therapy

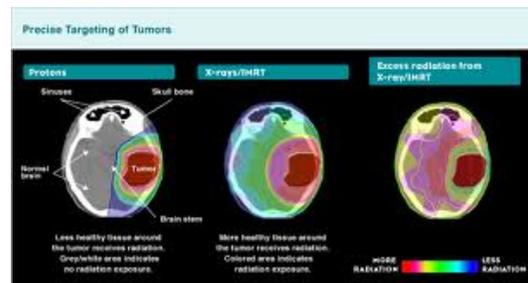
Radiation therapy is the careful use of radiation to safely and effectively treat many different kinds of tumors. Doctors called radiation oncologists use radiation therapy to try to kill tumors, to control tumor growth or to relieve symptoms using a machine called a linear accelerator. Radiation therapy works within tumor cells by damaging their ability to multiply. When these cells die, the body naturally eliminates them. Healthy cells near the tumor may be affected by radiation, but they are able to repair themselves in a way tumor cells cannot.

Before beginning radiotherapy a simulation, or planning session is required. The radiation oncologist and

your treatment team will then create a custom treatment plan using the appropriate radiotherapeutic technique. Techniques available in our practice are comprehensive and include three-dimensional conformal therapy, intensity modulated radiation therapy, stereotactic radiotherapy, and proton therapy.



The side effects of brain radiation can vary depending on your tumor and the technique used to treat it. Before treatment, your radiation oncologist will discuss any side effects — however rare — you may experience. Possible side effects can include fatigue, change in appetite, headaches, visual changes, hair loss, skin irritation, nausea, vomiting and/or unsteadiness. Some side effects can be treated with steroids or other medications. Talk to your doctor about any problems you experience.



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