

CIMS BRAIN TUMOUR

tissue. All three more precise techniques can be used for tumors in particularly sensitive areas. Ask your radiation oncologist about which technique is best for treating your tumor.

INTERNAL RADIATION THERAPY

Internal radiation therapy, or **brachytherapy**, works by placing radioactive sources in, or just next to, the tumor. During brachytherapy, a tube or balloon called a catheter may be inserted into the brain. The radiation will then be carried to the tumor using this catheter. The radiation source will then be left in place from several hours to several days to kill the tumor cells. In some cases, the radiation is permanently placed directly into the tumor or the area where the tumor was before surgery. This is less commonly used for treatment than external beam radiation therapy.

POSSIBLE SIDE EFFECTS

- Side effects from radiation can include fatigue, hair loss where you received radiation, scalp irritation and muffled hearing. These will usually resolve a month or so after treatment.
- Radiation may also cause some short-term memory loss and difficulty in thinking.
- Side effects are different for each patient. Medication may be prescribed to make you as comfortable as possible.
- If at any time during your treatment you experience discomfort, tell your doctor. They can prescribe medicine to help you feel better.

CARING FOR YOURSELF DURING TREATMENT

- Get plenty of rest during treatment, and don't be afraid to ask for help.
- Follow your doctor's orders. Ask if you are unsure about anything. There are no stupid questions.
- Tell your doctor about any medications or vitamins you are taking, to make sure they are safe to use during radiation therapy.
- Eat a balanced diet. If food does not taste good or if

you're having trouble eating, tell your doctor, nurse or dietician. They might be able to help you change the way you eat.

- Treat skin exposed to radiation with special care. Stay out of the sun, avoid hot or cold packs, only use lotions and ointments after checking with your doctor and clean the area with warm water and mild shampoo or baby shampoo.
- Battling cancer is tough. Seek out help from support groups and friends.



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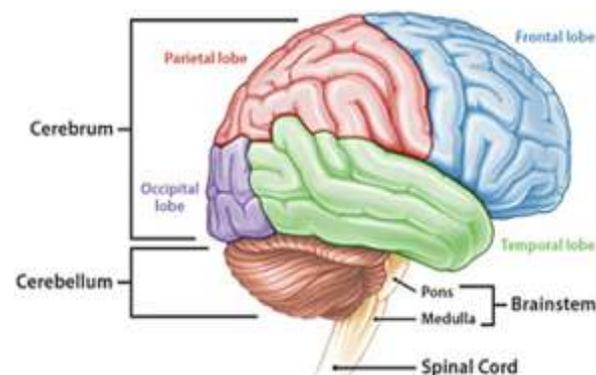


ABOUT BRAIN TUMORS

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

There are two general types of brain tumors:

- **Primary** - a tumor that starts in the brain. Primary brain tumors can be benign (not cancerous) or malignant (cancerous). Primary tumors in the brain or spinal cord rarely spread to distant organs.
- **Metastatic** - a tumor that is caused by cancer elsewhere in the body that spreads to the brain. Metastatic brain tumors are always cancerous. Brain tumors cause damage because, as they grow, they can interfere with surrounding cells that serve vital roles in our everyday life.



TREATING BRAIN TUMORS

If doctors determine that you have a brain tumor, the treatment options and prognosis are based on many factors, including tumor type, location and size of the tumor, how aggressive it appears (grade), as well as your age and health. Depending upon these and other factors, surgery, radiation therapy and medical therapy are possible treatment options.

Radiation Therapy

It is the careful use of high-energy X-rays to safely and effectively treat brain tumors. Radiation works non-invasively within tumor cell 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. Radiation therapy can be used after surgery or in some cases when surgery isn't safely possible.

Surgery

For many brain tumors, surgery is a curative part of treatment. A **neurosurgeon** will usually perform one surgical biopsy to determine what kind of tumor you have. Often, that is the definitive surgery. Surgery can be done to maximize tumor removal while minimizing nerve injury or effects on your normal functioning. Depending upon what tumor you have, surgery may be the only local treatment needed. However, often radiation is used after surgery to lessen the chances of recurrence or further tumor growth.

CHEMOTHERAPY

Sometime, a medication may be helpful instead of radiation or can be used to enhance the treatment of radiation. **Chemotherapy** has the ability to destroy cancer cells by different methods. Depending upon the kind of drug best suited for your kind of brain tumor,

chemotherapy may be given as a pill daily or by an intravenous line on a set schedule.

EXTERNAL BEAM RADIATION THERAPY

External beam radiation therapy involves a series of out-patient treatments with a machine called **linear accelerator**, or linac. The radiation beam is painless and treatment lasts only a few minutes. Treatments are given daily, Monday to Friday, usually over three to seven weeks.

Before beginning the treatment, you will be scheduled for a planning session to map out the area your radiation oncologist wishes to treat. This procedure is called a **simulation**. Simulation involves lying on a table, usually with a form-fitting mask to make sure treatment can be delivered the same way for each treatment session. A **CT scan** is performed with that mask, and then your doctor will design individualized treatment, often with information from other CT scans and MRIs you have had.

Different techniques can be used to give radiation for brain tumors. **Three-dimensional conformal radiotherapy (3-D CRT)** combines multiple radiation treatment fields to deliver precise doses of radiation to the brain. Tailoring each of the radiation beams to the patient's tumor allows coverage of the diseased cells while keeping radiation away from nearby organs, such as the eyes.

Intensity modulated radiation therapy (IMRT) is a form of 3-D CRT that further modifies the intensity of the radiation within each of the radiation beams.

Stereotactic radiotherapy can be used in some tumors to be even more precise. At most centers, X-rays (photons) are used for treatment. **Proton beams** different from X-rays, can give less radiation to normal