



Possible Side Effects of Radiation Treatment for Brain Tumors

Radiation damages cancer cells and normal cells that are in the treatment area or the beam path. Side effects are caused by damage to healthy cells and depend on the area of the body being treated. They can develop over time you may not have any side effects until a few weeks into treatment. There are treatments to help you deal with these side effects. Most side effects will go away slowly after treatment is done.

Treatment affects each patient differently, and you may not have these specific side effects. Side effects can also be different depending on the amount of radiation you get and your treatment schedule.

Often, you will see your radiation oncologist once a week while you are getting treatment. This visit with your care team is a good time for you to ask questions, talk about side effects, and make a plan to manage your side effects. However, you can report any new or worsening symptoms at any time to your treatment team.

Acute (Short-Term) Side Effects

Acute side effects happen during or right after treatment. Some of the most common acute side effects are:

- **Fatigue** is very common with radiation treatment and tends to begin a few weeks into therapy. Fatigue often goes away slowly over the weeks and months following treatment.
- **Hair loss** may occur where you get radiation or the areas where the beam enters your body. Hair often starts to regrow a few months after treatment. However, your hair may not grow back exactly as it was before treatment and for some, the hair loss becomes permanent.
- **Muffled hearing:** Your hearing may become muffled during treatment, meaning you won't hear as well as you usually do. This often goes away 2-4 weeks after finishing treatment.
- **Nausea and vomiting:** Nausea is when you feel sick to your stomach and vomiting is when you throw up. This can be mild or severe and can come in waves. Let your care team know if you feel nausea or are vomiting, this can cause dehydration, weight loss, and fatigue.
- **Skin reactions:** The skin in the treatment area may become red, irritated, dry, or sensitive. It may start to look like a sunburn. Treat the skin gently to avoid further irritation, and bathe carefully, using only warm water and mild soap. Avoid scented lotions and soaps, as these may cause more irritation. Avoid sun exposure, which can worsen the irritation.
- Some short-term memory loss and difficulty thinking can occur if you are treated with whole-brain radiation therapy.
- Brain tissue swelling can happen during treatment. You may get a headache or feel pressure in your head if this occurs. Your care team watches for signs of this and may prescribe medications to decrease swelling. Let your care team know if you are having these symptoms.

Chronic (Long-Term) Side Effects

Long-term effects can happen months to years after treatment has ended. The risks of long-term effects depend on the treatment area, the total dose that is given, and the radiation techniques that were used, as these continue to develop and improve.

Though the risk is low, you should be aware of these possible long-term effects:

- A second cancer in or near the radiation field. These are called secondary cancers, and they develop because of the exposure of healthy tissue to radiation.
- Radiation necrosis is a mass of dead (necrotic) tissue that forms at the site of the tumor. It happens months to years after radiation is given and is treated with surgery.
- Damage to healthy brain tissue causes headaches, seizures, or even death. There can also be a loss of brain function and the side effects depend on the area treated.
- Damage to the pituitary gland and other areas of the brain can affect hormone levels in the body, including thyroid and sex hormones.

Stereotactic Radiosurgery (SRS) Side Effects

Side effects of [radiosurgery](#) are often related to sending high doses of radiation to specific areas of the brain. For instance, if you are treated for an acoustic neuroma (a tumor involving the nerve that controls hearing), you might lose some hearing. Treatment for trigeminal neuralgia can lead to tingling or numbness of the face.

Talk to your care team about possible side effects of your treatment. They will be able to tell you what you can expect and how the side effects can be managed.

After treatment, talk with your care team about receiving a survivorship care plan, which can help you manage the transition to survivorship and learn about life after cancer. You can develop your own plan using the [OncoLife Survivorship Care Plan tool](#).

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