

Stereotactic Radiosurgery Treatment for the Brain and Skull

Your doctor has recommended a procedure called stereotactic radiosurgery (steh-ree-oh-TAK-tik RAY-dee-oh-SUR-ger-ee). Much like standard radiation therapy, this treatment uses a radiation machine called a linear accelerator to administer the treatment. However, stereotactic radiosurgery is administered at higher doses and in fewer treatments than standard radiation therapy.

Radiosurgery is used to treat cancerous and non-cancerous lesions in the brain, head, and skull without having to cut into the skull. Stereotactic radiosurgery works the same as all other forms of radiation treatment. It does not surgically remove the tumor or lesion, but it distorts the DNA of the tumor cells by delivering a single high-dose of precisely-targeted radiation using highly focused gamma-ray or x-ray beams that is focused on the specific area or areas of the brain where the tumor or other abnormality resides. Stereotactic radiosurgery minimizes the amount of radiation to healthy brain tissue. Although stereotactic radiosurgery is often completed in a one-day session, physicians sometimes recommend multiple treatments, especially for tumors larger than one inch in diameter.

The radiation beams are silent and invisible. You will not be able to hear or feel them as they pass through your body.

Preparing for radiosurgery

You will meet the members of your treatment team before the day of your treatment. The team includes your neurosurgeon, radiation oncologist, physicist, a nurse, and a radiation therapist. Before your treatment can be done, you will need some tests. These tests may include blood work, urine testing, magnetic resonance imaging (MRI), and/or a CAT scan (also called a CT scan or PET/CT scan).

The neurosurgeon, radiation oncologist, and nurse will talk with you about the treatment and will give you a brochure. Be sure to ask any questions you have. You will then be asked to sign the consent form for your treatment.

Fitting the immobilization device

In order to achieve a precise treatment, it is important to be accurately positioned and carefully immobilized. A mask is made to help hold your head and neck in place during the procedure. The mask is made of soft plastic. It molds to the shape of your head and neck. The mask has holes in it so you are able to breathe and see through it without difficulty. It takes about 15 to 20 minutes to make the mask. You may also be fitted with a bite block for the treatment. The bite block is similar to a dental mold tray and is closely fitted to your upper jaw. The therapist will fit you with the appropriate immobilization device to ensure that you remain in the same position, as comfortable as possible, for the treatment. Prior to start of treatment, please inform your nurse if you have any feelings of claustrophobia.

The day of your treatment

You should wear loose-fitting comfortable clothing for the procedure. Please do not wear any jewelry. Do not use moisturizers within 2 hours before your radiation therapy treatment. You can take all of your regular medicines before your treatment. If you think that you will be uncomfortable lying on the treatment table, please take pain medicine before you arrive that day. The day of your treatment, tell your nurse if you are having pain. We can give you medicine before starting treatment.

A family member or friend should come with you to the hospital on the day of your treatment. He or she will wait in the waiting area while you are receiving your treatment.

During the treatment

You will have to lie flat on a treatment table, which is similar to the table you lie on to have an x-ray.

Each treatment takes about 1 to 2 hours. If you become uncomfortable during the treatment, tell your team. You can take a brief break from the treatment.

The mask that was made for you will be placed on your head. The mask will remain on your head during the entire treatment.

The treatment team members caring for you will go to an outer room to administer your treatment. There are cameras in the treatment room so that the team can see you at all times. There is also a microphone so that they can talk with you throughout the treatment.

After stereotactic radiosurgery

After the treatment is finished, the mask and bite block if necessary, will be removed. The doctor will speak with you and your family member. You and your family member will receive instructions for your care. These are sometimes called discharge instructions. You will be able to go home immediately.

What to expect after treatment

The nurse will call you within 72 hours (3 days) after your treatment. If you have any questions or concerns, please call the number at the end of this sheet.

You will need a follow-up appointment with the neurosurgeon about 1 month after the treatment. Call to make this appointment soon after you get home.

Temporary skin changes

You may have temporary changes to your scalp or neck. These changes may include redness, dryness, scaling, and itchiness of the treated area. These skin changes usually occur 1 to 2 days after your treatment and last 1 to 2 weeks after your treatment.

You may use moisturizers such as _____ on the treated area. Do not use moisturizers within 2 hours before a radiation therapy treatment

Permanent skin changes

Permanent skin changes include increased sensitivity to hot and cold temperatures.

If the area being treated is exposed to the sun, apply sunscreen routinely to the treated area whenever you are outdoors for more than 10 minutes during the summer and winter. Use a sunscreen that does not contain PABA. It should have a sun protection factor (SPF) of 30 or more. Since the area being treated will be more sensitive than the rest of your skin, continue to protect the area from sun exposure after your treatment ends.

Hair thinning and hair loss

Hair loss may be temporary or permanent, depending upon the dose of radiation and your particular treatment plan. If your hair loss is temporary, it usually takes about 3 months before your hair begins to grow back.

Fatigue

Take frequent rest periods and pace your activities.

Save time for activities you enjoy. Plan them as part of your day.

Plan a short period of activity, such as a walk each day. Inactivity may actually make you more tired. Tell your nurse or doctor if you become extremely tired.

Take your prescribed medicines

Continue to take your prescribed medicines such as dexamethasone (Decadron®) or methylprednisolone (Medrol®). These can control the side effects of swelling from brain tumors.

Do not stop taking these medicines unless your doctor tells you that you may. Be sure to refill the prescriptions before your supply runs low.

Things to report immediately

Call immediately if you have any of the following symptoms:

- Leg or arm weakness
- Loss of bowel or bladder function
- Numbness
- Change in personality
- Confusion or decreased alertness
- Seizures or unusual muscle twitching
- Severe scalp or skin redness

Things to report to your nurse or doctor

Tell the nurse or doctor as soon as possible if you have any of the following symptoms:

- Skin redness, tenderness, itchiness, or rash
- Ear tenderness

To report these symptoms, or if you have any questions or concerns, please call:

_____.