

Patient Education

Patient Guide to Treating Spine Tumors

More than 1 million people in the United States are diagnosed with cancer every year. Approximately 60-70 percent of patients with cancer that has spread beyond the original site (called metastatic cancer) will develop tumors in the spine. There are two types of spine tumors:

- Primary spine tumors are tumors that begin growing in the spine.
- Metastatic tumors are tumors that have spread from another part of the body to the spine. Cancer that spreads to the spine most commonly comes from the lungs, breast, prostate, kidneys and thyroid.

Metastasis of cancer to the spine can cause many painful symptoms. If not treated, spinal tumors can:

- cause persistent pain,
- damage bones of the spine,
- cause the spine to be unstable and vulnerable to injury,
- compress the spinal cord and nerves, and
- lead to paralysis.

Treatment Options

Spinal tumor treatment depends on many factors such as the type of tumor, location of the tumor and the general health of the patient. Some treatment options include:

Medical Treatment: Drugs such as dexamethasone (steroid) can be used to reduce swelling if the tumor is pressing against the spinal cord. Pain medicine is used to control pain and discomfort.

Surgery: Some tumors often require surgery, especially if a tumor is causing the spine to be unstable.

Radiation Therapy: This treatment uses high-energy radiation to shrink tumors and kill cancer cells. Radiation is often the frontline treatment for spine metastases. It can control pain and stabilize or improve neurological function, such improving weakness, numbness and tingling.

Spine Stereotactic Radiosurgery

Spine stereotactic radiosurgery (SSRS) is an advanced spinal tumor treatment that delivers high doses of radiation given in one to three sessions. The procedure treats the tumor very accurately, thereby minimizing the radiation dose to nearby healthy tissue and organs. This treatment can provide effective pain and/or tumor control and minimizes risk to the spinal cord. SSRS is a non-invasive out-patient procedure that requires almost no recovery time.

Your Health Care Team

Your health care team includes many members. These include a radiation doctor (oncologist), neurosurgeon, neurologist specialized in cancer medicine (Neuro-Oncologist), nurse practitioner, nurse, medical physicist, dosimetrist and radiation therapist. The team members work together to create and deliver this very precise and focused radiation treatment.

Before the Treatment

Before treatment begins, you will meet with your radiation oncologist, neurosurgeon, and nurse to discuss the details of the treatment. You will be asked to come in for a planning session, called a **simulation**. This process involves making a body cradle to help you lie in the exact same position for precise treatment delivery. A mask may also be made. The mask is made of plastic mesh and is molded over your head and neck area. You will be able to breathe and see through the mask. These devices help keep you in a stable position and aid in delivering the treatment accurately.

A computerized tomography (CT) scan without contrast is taken to identify the exact location of the tumor. The radiation therapist will place marks on you using a removable sticker-like material and permanent marker or tiny tattoos for laser alignment. This process helps to later identify the position of the tumor when treatment begins. A Magnetic Resonance Image (MRI) of the area to be treated is often obtained as well, if one has not been recently performed, to help the doctors shape radiation dose away from critical structures like the spine.

The simulation process can take one to two hours. You will be asked to wear specific clothing and to bring your pain, anti-anxiety and/or other medicine with you. If you believe pain or anxiety will be a problem for you, we advise that you take your medication one hour prior to the simulation, and have a friend or relative bring you. You should not drive after taking these medicines. You will be asked to use the rest room, if needed, before the simulation. There are no diet restrictions. You may eat as you normally do, unless your health care team gives you other instructions.

Planning

Once the simulation is complete, it takes at least one full working week to develop the radiation treatment plan. The information obtained during the simulation as well as other scans that have been done are used by the doctor, dosimetrist and physicist to develop the precise treatment plan. You will receive your treatment date or dates. Your doctor will determine if you have one or more than one treatment session. Once the plan is developed, it will go through quality assurance tests and is also reviewed with the neurosurgeon.

Treatment Delivery

On the day of your treatment(s), wear the same exact clothing you wore at the simulation session. Follow the instructions for your medicines that your health care team gave you and bring your medicine with you. Before the treatment, you may take your pain and/or anxiety medicine as prescribed by your doctor.

Next, you will be set up in the exact same position as you were during the simulation session. You will be lined up using the marked places on your body and will have another CT scan plus additional x-rays to verify your position on the treatment table.

Your doctor, medical physicist and radiation therapist will be present during the treatment delivery. During the radiation treatment, you will not see, feel, hear or taste anything. The whole process can take up to two hours, but the actual radiation delivery (“beam-on” time) is less.

After Treatment

You can go home after the treatment is complete. You will receive instructions and medicine, as needed, for side effects. Most patients tolerate the treatment well without any significant side effects. Some common side effects include mild skin redness and fatigue. Your doctor will discuss with you other possible side effects specific to your treatment.

Follow-up and Outcomes

Six to eight weeks after treatment, you will be scheduled for an MRI scan of the spine and a follow-up visit with your doctor. You will then have regularly scheduled follow-up visits and MRI scans of the spine. Typically, 80-85 percent of patients have local pain relief within one month or less after treatment. Local control of tumor growth is usually about 80-90 percent.

Frequently Asked Questions

Will the treatment hurt?

No, the treatment does not cause any pain. Patients have described the experience as similar to having a chest x-ray.

How long is the treatment?

The simulation can take 1-2 hours and the treatment can take 1½-2 hours.

What is the recovery time?

Patients usually report some fatigue after spending a day at the hospital. Other than this, there is essentially no recovery time, and you can resume normal activities as soon as you feel able.

How will I be limited after treatment?

There are no limitations to your normal level of activity because of the treatment.

What special instructions will I have to follow before and after treatment?

You will need to bring a responsible adult with you to your treatment. This person should be able to drive you home after treatment if needed. You may take medicine for pain or anxiety, which may impair your ability to drive.

Can I receive (or will I need) the treatment more than once?

Whether you will need treatment again will be determined by your medical team based on how you are doing and your imaging results. We often perform only one course of spine SRS to an area, but the final decision depends on your circumstances and alternative options.

Reviewed 10/2019