

Ready to start planning your care? Call us at [800-525-2225](tel:800-525-2225) to make an appointment.

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Cancer Center

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relieving spinal tumor pain

treating spine tumors that don't need surgery

The following sections will give you a closer look at the different radiation therapy options available at Memorial Sloan Kettering.

## External Radiation Therapy

External radiation therapy focuses radiation to spine tumors from a source located outside the body. Our radiation oncologists use many methods to target spine tumors and deliver the most effective dose of radiation. At Memorial Sloan Kettering, our treatment experts use four types of external radiation therapy:

### Conventional External Beam Radiation Therapy

EBRT is the most common way to deliver radiation to spine tumors. In this procedure, your doctor focuses two low-dose radiation beams at your tumor. This treatment usually involves several sessions. EBRT may be a good option for you if you have tumors that have metastasized (spread).

### Intensity Modulated Radiation Therapy

[Intensity-modulated radiation therapy, or IMRT](#), delivers high doses of radiation while reducing exposure to your nearby organs. This procedure uses advanced software and 3D CT scans to mold radiation to the shape of a spine tumor. IMRT focuses high doses of radiation into the tumor, even when it's near important organs. This may a good treatment option for you if you have tumors that need a higher dose of radiation than what conventional external-beam radiation therapy gives.

### Image Guided Radiation Therapy

[Image-guided radiation therapy, or IGRT](#), combines cone-beam computed tomography (CBCT) imaging with intensity-modulated radiation therapy. Your treatment team will use CBCT imaging in each IGRT session to ensure accurate delivery. IGRT may be a good option for you if you have tumors that are resistant to standard doses of radiation, or if you've already had radiation therapy.

### Stereotactic Radiosurgery

[Stereotactic radiosurgery](#) is a precise, high-dose form of image-guided radiation therapy. This treatment uses state-of-the-art technology — advanced imaging and computer guidance — to carefully deliver large amounts of radiation to the tumor. This procedure allows your team to treat you in just a few sessions and protect nearby organs. Stereotactic radiosurgery may be the right treatment for you if you have spine tumors that are resistant to conventional external-beam radiation.

If your tumor resists conventional radiation, your treatment team may recommend [proton therapy](#). This advanced procedure delivers high doses of radiation to resistant tumors while limiting exposure to nearby healthy tissues.

## Brachytherapy

High-dose rate (HDR) [brachytherapy](#) is an internal form of radiation therapy. Your doctor places high doses of radiation right into the tumor for a short period of time. Treating the tumor from the inside out reduces the risk of radiation damage to nearby tissues.

The radiation oncologists at Memorial Sloan Kettering have pioneered a number of advanced brachytherapy treatments for spine cancer treatment. If your condition doesn't respond to external radiation therapy, you may be a candidate for one of the following brachytherapy techniques.

### HDR Brachytherapy Plaques

In this procedure, your doctor temporarily puts a thin piece of silicone coated with a high-dose radioactive film directly on tumor cells. The film is made of radioactive phosphorus. Your doctor puts the film in place during surgery and removes it before the operation ends. The radiation is very strong at the film's surface, but weakens away from the surface. This allows your doctor to deliver high doses of radiation to the tumor cells while protecting nearby healthy tissues.

### HDR Brachytherapy Catheters

Your surgeon can also deliver HDR brachytherapy with small catheters that go into the tumor while you're under general anesthesia. A computer-controlled treatment unit dispenses the prescribed amount of radiation through each catheter. After the procedure, the catheters are removed, and you can go home the same day.

## Reducing Side Effects

Everyone at Memorial Sloan Kettering wants to ensure you get the treatment that fits your unique needs. But our radiation oncology team, in particular, works to find new, effective ways to reduce your risk for side effects. They're always looking for more effective ways to target your tumor and avoid nearby tissue.

Side effects after radiation therapy depend on which part of your spine is treated. You may experience skin redness similar to a mild sunburn. If your doctor treats your upper part of your spine, you may get a sore throat. Your treatment team will explain all possible side effects for any radiation therapy they recommend.

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Available Monday through Friday, 9 a.m. to 5 p.m. (Eastern time)

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