

# Intracranial Stereotactic Radiosurgery: A Comprehensive Guide for Patients and Caregivers

## What is Intracranial Stereotactic Radiosurgery (SRS)?

Intracranial stereotactic radiosurgery (SRS) is a highly specialized and minimally invasive procedure used to treat a variety of brain tumors and other conditions. SRS delivers a high dose of radiation to a small, targeted area of the brain with extreme precision, while minimizing damage to surrounding healthy tissue.



### **Intracranial Stereotactic Radiosurgery** by Caimh McDonnell

★★★★☆ 4.6 out of 5

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SRS is typically used to treat small, early-stage brain tumors that are not easily accessible through traditional surgery. It can also be used to treat other conditions, such as arteriovenous malformations (AVMs), trigeminal neuralgia, and pituitary tumors.

## How does SRS Work?

SRS is performed using a specialized radiation therapy machine called a linear accelerator (LINAC). The LINAC delivers a beam of high-energy X-rays that are focused on the target area in the brain. The radiation dose is delivered in a single session, or over a few sessions over the course of a few days.

Before the SRS procedure, the patient will undergo a series of imaging tests, such as an MRI or CT scan, to create a detailed map of the target area in the brain. This map is used to plan the SRS treatment and to ensure that the radiation is delivered to the correct location with the utmost precision.

## **What are the Benefits of SRS?**

SRS offers a number of benefits over traditional surgery, including:

- **Non-invasive:** SRS is a non-invasive procedure, meaning that it does not require any incisions or open surgery.
- **Minimally invasive:** SRS is minimally invasive, meaning that it causes minimal damage to surrounding healthy tissue.
- **Precise:** SRS delivers radiation to the target area with extreme precision, which helps to minimize damage to surrounding healthy tissue.
- **Effective:** SRS is an effective treatment for a variety of brain tumors and other conditions.

## **What are the Risks of SRS?**

As with any medical procedure, there are some risks associated with SRS, including:

- **Radiation injury:** SRS can damage surrounding healthy tissue, which can lead to side effects such as swelling, headaches, nausea, and fatigue.
- **Tumor recurrence:** SRS may not be effective in treating all tumors, and the tumor may recur after treatment.
- **Radiation necrosis:** In rare cases, SRS can cause radiation necrosis, which is a condition in which the tissue in the target area dies.

## **What to Expect During the SRS Procedure**

The SRS procedure typically takes place in an outpatient setting, meaning that the patient can go home the same day. The procedure itself usually lasts for about an hour.

Before the procedure, the patient will be given a sedative to help them relax. The patient will then be positioned on the treatment table and the head will be immobilized using a special frame.

The radiation therapist will then use the imaging scans to target the treatment area in the brain. The radiation therapist will then deliver the radiation dose to the target area.

After the procedure, the patient will be monitored for any side effects. The patient may experience some mild side effects, such as swelling, headaches, nausea, and fatigue. These side effects typically subside within a few days.

## **Who is a Candidate for SRS?**

SRS is a good option for patients with small, early-stage brain tumors that are not easily accessible through traditional surgery. SRS can also be used to treat other conditions, such as arteriovenous malformations (AVMs),trigeminal neuralgia, and pituitary tumors.

The decision of whether or not SRS is right for a particular patient will be made by a team of doctors, including a radiation oncologist, a neurosurgeon, and a medical oncologist.

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