



California Pacific  
Medical Center

A Sutter Health Affiliate

# Advanced Radiation Therapy

## Stereotactic Radiosurgery and Radiotherapy

### RADIATION ONCOLOGY

At California Pacific Medical Center we are committed to bringing new and advanced diagnostic tools, medical treatments and surgical options to the physicians we serve and the patients they care for. Working jointly, our Radiation Oncology and Neurosciences departments provide your patients with comprehensive care utilizing state-of-the-art medical and surgical techniques.

For patient referrals:  
(888) 637-2762  
[www.cpmc.org/cancer](http://www.cpmc.org/cancer)  
(415) 600-3600

Community Based,  
Not For Profit

#### What are stereotactic radiosurgery and radiotherapy?

Stereotactic radiosurgery and radiotherapy deliver precise finely collimated beams of radiation to intracranial and extra-cranial lesions. This treatment modality can be an alternative to, or used in conjunction with surgery. Both single fraction radiosurgery and multiple-fraction radiotherapy treatments are intended to improve a patient's quality of life and decrease treatment related complications, by minimizing radiation dose to surrounding normal tissues.

#### What are stereotactic radiosurgery and radiotherapy used for?

These techniques are used to directly treat selected primary tumors of the brain and the skull base, such as meningiomas and vestibular schwannomas, many metastatic lesions of the brain, as well as other conditions such as arteriovenous malformations.



#### How does this therapy work?

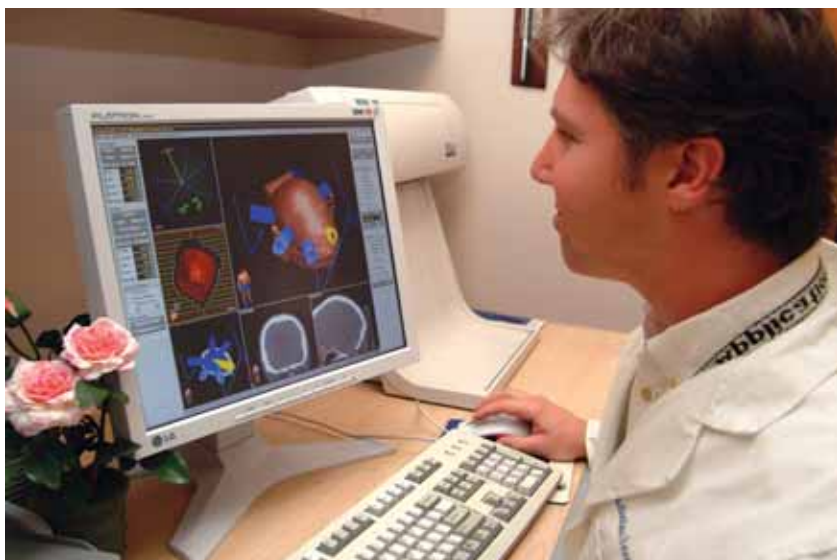
During the planning process, a 3-D visualization of the lesion(s) is done using MRI and CT technology. After 3-D imaging is complete, the treatment area is defined by a neurosurgeon and radiation oncologist. Next, powerful computers are used to arrange precise high-energy radiation beams to create an optimal treatment plan for each patient. A micro-multileaf collimator (MMLC) attached to a linear accelerator shapes the beams to precisely conform to the shape and size of the targeted lesion(s). This ensures delivery of an extremely precise dose distribution to the target, while sparing critical normal tissues and structures.

**Stereotactic radiosurgery** consists of a single treatment session. A rigid frame is attached to the head to ensure beam precision. Patients being fitted with a frame receive local anesthesia at stabilization sites. Radiosurgery patients should plan on being at the hospital for an entire day, arriving in the early morning and leaving early evening. The frame is removed prior to the patient's discharge home.

**Stereotactic radiotherapy** consists of two or more treatment sessions. A treatment stabilization mask, contoured to the

# Advanced Radiation Therapy

## Stereotactic Radiosurgery and Radiotherapy



patient's head and face, is used when multiple treatment sessions are required. This is a non-invasive procedure. Patients do not require any anesthetics for treatment planning or during treatment sessions.

Radiotherapy patients are treated with lower fraction doses for shorter time periods per session over several weeks. Each treatment session lasts approximately 30 minutes.

The procedures generally cause only minor discomfort and patients usually experience minimal side effects. Patients typically are treated as outpatients and are required to have an escort home.

### Who is a candidate for stereotactic therapy?

Patients receiving stereotactic therapy can be treated for one or more lesions simultaneously. Ideally the lesions should be 5 cm in size or smaller. Each patient's situation can vary and therefore, referring physician consultation with the radiation oncologist is necessary.

### Why choose stereotactic radiosurgery or radiotherapy at California Pacific Medical Center?

At California Pacific Medical Center we have assembled an expert team of radiotherapists and neurosurgeons experienced in the overall management of brain tumors and the specific techniques of radiosurgery.

The integrated stereotactic radiation treatment system used at California Pacific is designed for efficient use and patient comfort. Providing greater accuracy and efficiency in treatments, stereotactic procedures offer patients a better quality of life after treatment. This modern linear accelerator-based system is a viable alternative to other stereotactic techniques, allowing for fractionated treatments, thereby potentially reducing treatment-related morbidity. It has the additional advantage of allowing treatment of larger lesions than the Gamma Knife.

### What is the usual recovery time?

Most patients resume normal daily activities, such as work or school, within two to three days. Patients are usually discharged home within hours after receiving stereotactic radiosurgery or radiotherapy. However, if medically necessary, patients may be required to stay in the hospital over night for observation.

### What are the risks associated with this procedure?

While no procedure is risk free, the risks of this procedure vary with the location and size of the lesion. Follow up with our team of radiation oncologists and neurosurgeons, along with appropriate follow-up scans such as MRI, are routine, to ensure close monitoring and quality of care.

### For more information

For more information on stereotactic therapies please contact California Pacific's Radiation Oncology Department at (415) 600-3600.

### Location

#### **California Pacific Medical Center**

2333 Buchanan St., Level B  
Radiation Oncology  
San Francisco, CA 94115  
(415) 600-3600

**[www.cpmc.org/cancer](http://www.cpmc.org/cancer)**

**For patient referrals, please call (888) 637-2762.**