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Gamma Knife



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The Gamma Knife is a non-invasive radiosurgery system that delivers a single high dose of radiation to well defined targets in the brain. The Gamma Knife is commonly used for the treatment of benign and malignant brain tumors, but many patients have been treated for a variety of medical conditions since the UCSF Gamma Knife opened in September, 1991. Gamma Knife radiosurgery is an excellent choice for treatment of:

- Brain metastases
- Meningiomas
- Acoustic neuromas
- Pituitary adenomas
- Gliomas
- Arteriovenous malformations
- Trigeminal neuralgia
- Uncommon skull base tumors
- Epilepsy

Radiosurgery has been especially helpful for the localized, highly precise treatment of brain tumors. Due to the steep fall off of the irradiation fields (isodoses) from the center of the target to be ablated, normal structures such as the brain, and other vascular and neural structures around it, are relatively spared. This is achieved through the high mechanical precision of the radiation source, and the assured reproducibility of the target. The precision in the positioning of the patient, in the calculation of dosages, and in the safety of the patient, are all extremely high.



At UCSF, we use a team approach to care for our Gamma Knife patients. The Gamma Knife team includes radiation oncologists, neurosurgeons, physicists, radiation therapists, and nurses. Gamma Knife Radiosurgery Conference is held every Thursday afternoon. Each patient being considered for Gamma Knife treatment is discussed, and follow-up scans for treated patients are reviewed to ensure quality care. We treat five to eight patients with the Gamma Knife each week. Gamma Knife FAQ [2].

UCSF's Gamma Knife *Perflexion* unit, installed in 2007, includes an automated positioning system that offers even faster and more efficient treatments.

In 2011, we acquired the Extend Frame for the Gamma Knife that enables fractionated treatments for larger lesions or those in more sensitive locations.

For more information please see: <http://www.elekta.com> [3]

Gamma Knife referrals should be sent to gammarequests@neurosurg.ucsf.edu [4]

Source URL: <http://radonc.ucsf.edu/gamma-knife>

Links

[1] <http://radonc.ucsf.edu/penny-sneed>

[2] http://neurosurgery.ucsf.edu/index.php/radiosurgery_gammaknife_FAQ.html

[3] [http://www.elekta.com/healthcare-professionals/products/elekta-neuroscience/gamma-knife-](http://www.elekta.com/healthcare-professionals/products/elekta-neuroscience/gamma-knife-surgery/gamma-knife-)

[perfexion.html?utm_source=perfexion&utm_medium=redirect&utm_campaign=redirects](http://www.elekta.com/healthcare-professionals/products/elekta-neuroscience/gamma-knife-surgery/gamma-knife-perfexion.html?utm_source=perfexion&utm_medium=redirect&utm_campaign=redirects)

[4] <mailto:gammarequests@neurosurg.ucsf.edu>