South Sound Gamma Knife at St. Joseph

Leksell Gamma Knife® Icon™

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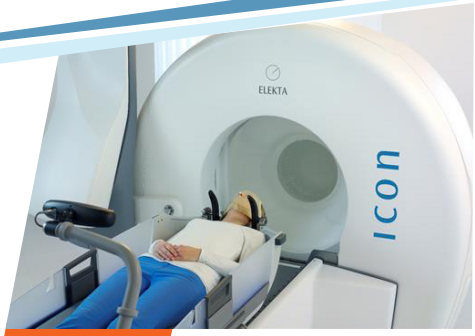
SouthSoundGammaKnife.com



A patient undergoing Leksell Gamma Knife Icon treatment

Radiosurgery with Leksell Gamma Knife Icon is a non-invasive technique that precisely delivers high radiation doses to targeted intracranial tissue, while sparing healthy surrounding tissue. It is preferred for its extreme accuracy, efficiency and outstanding therapeutic response.

Icon can be used to treat indications in the brain ranging from very small target sizes of a few millimeters to several centimeters –including areas of the brain that cannot be accessed with traditional surgery or are situated close to critical areas such as the brain stem, visual cortex, or auditory cortex.

Icon is the latest advance in Elekta's industry-leading platform for stereotactic radiosurgery (SRS), non-surgical radiation therapy used to treat functional abnormalities and small tumors of the brain. Leksell Gamma Knife is the only SRS system designed specifically to target brain tissue.

Icon is the sixth generation of Elekta's Gamma Knife system and is based on advances that have resulted from Elekta's extensive history in SRS technology and decades of collaboration with neurosurgeons and radiation oncologists around the world.

Gamma Knife has been the leading radiosurgery platform for more than 40 years, offering unparalleled accuracy in both the localization and radiation dose delivered to targeted brain tissue. This high level of precision, both in frame-based and frameless immobilization, makes the technology an increasingly used treatment option for patients with primary or metastatic brain tumors or other neurologic disorders such as severe facial pain (trigeminal neuralgia) and vascular malformations.

Icon can be used as a standalone treatment for a variety of brain cancers and neurologic disorders, in combination with surgery or chemotherapy, or as a "boost" following whole brain radiation therapy or surgical resection.

Gamma Knife by the numbers

Gamma Knife is the most comprehensively studied radiosurgery platform:

- Used in over 1 million patient procedures[1]
- More than 2,800 peer-reviewed journal articles on Leksell Gamma Knife published to date
- 74% of the peer-reviewed literature studying radiosurgery platforms with at least 30 patients (1,121 individual papers) are based on studies conducted with Leksell Gamma Knife, compared with only 26% for all other linac platforms combined (397 papers)

Unmatched precision

Gamma Knife radiosurgery is the most precise form of radiation therapy. The unique design of Leksell Gamma Knife results in:

> Two to four times better sparing of normal brain tissue compared with other SRS platforms, even when treating multiple brain areas at the same time[2]

> Up to 130-fold reduction in the amount of radiation delivered outside the brain compared with linac-based systems, which is important for improving the safety of SRS and minimizing side effects[3]

Features

Icon's features allow for unprecedented accuracy, and integrated computer-based scanning and treatment planning allows dosage and targeting to be viewed and calculated prior to the patient's treatment session.

Precise targeting and accurate dosing

Frameless immobilization option

Gamma Knife offers both frame-based and frameless immobilization. The frame-based option physically holds the patient's head in place during the treatment session. Patients for whom fixed frame stabilization is not appropriate can be treated using a mask, personalized for each patient. A high-definition, infra-red motion management system detects if the patient has moved outside of the treatment limit and automatically shuts off the radiation beam if such movement occurs. This mechanism ensures that radiation is delivered to targeted areas and prevents irradiation of tissue outside the treatment area during mask treatments.

Icon's Online Adaptive DoseControl™ integrates several features to ensure precise and accurate dosing in each treatment. Together with a stereotactic cone beam CT for absolute positioning, Icon treatment planning software automatically adapts for patient rotation dose by dose, without moving the patient. At the operating console, online dose evaluation compares the dose about to be delivered to the planned dose and the plan can be adjusted in real time.

Single dose or treatment over time

Gamma Knife Icon provides the flexibility for accurate single dose administration or multiple treatment sessions over time, which enables treatment of larger tumor volumes, targets close to critical brain structures, and new or recurring brain metastases.

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[1] Leksell Gamma Knife Society, September 2016

[2] Ma L, Nichol A, et al. Variable dose interplay effects across radiosurgcial apparatus in treating multiple brain metastases. IntJ ComputAssist RadiolSurg. 2014; 9(6): 1079–1086. Published online 2014 Apr 20. doi: 10.1007/s11548-014-1001-4

[3] *Lindquist C and PaddickI. The Leksell Gamma Knife Perfexion and comparisons with its predecessors, Neurosurgery 61: ONS 130-141 2007; VlachopoulouV, AntypasC, Delis H, et al. Peripheral doses in patients undergoing Cyberknife treatment for intracranial lesions. A single centre experience. Radiation oncology (London, England) 2011;6:157*

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