

Leksell Gamma Knife® Icon™

Frequently Asked Questions





What is Leksell Gamma Knife® Icon™?

Icon is a noninvasive, dedicated system for intracranial radiosurgery that is sometimes described as surgery without the scalpel. Icon is the sixth generation of Leksell Gamma Knife®, which has been the leading radiosurgery platform for more than 40 years. The treatment effect is created by focusing gamma radiation beams to a treatment target in a specific prescribed manner.

How does Icon treatment work?

During an Icon procedure up to 192 tiny beams of radiation are focused on a single tumor or other targeted area. The beams' approach can be shaped to best conform to the target. Treatment with Icon differs from conventional brain radiation therapy as it is programmed very precisely to deliver radiation at a finely focused point, where all of the beams converge to treat diseased tissue while sparing healthy surrounding tissue. The accuracy of the treatment is unsurpassed.

Why Icon?

Intracranial treatments demand exceptional precision, to maintain quality of life by preserving brain function and minimizing damage to healthy brain tissue. Gamma Knife technology offers unparalleled accuracy in even the most critical, difficult-to-access areas of the brain while sparing healthy normal brain tissue. Icon has additional features that enable treatment of previously challenging tumors, including large lesions or those abutting very sensitive areas such as the optic chiasm (an area in the brain where nerves to the eyes cross over each other).

What makes Icon so different?

Icon enables the unparalleled accuracy of Gamma Knife to be delivered in a single session or multi-session (hypofractionated) treatments for certain types of tumors. This allows additional options for expanded treatment approaches to destroy challenging tumors while preserving important surrounding tissues that could impact quality of life. Icon

also has features, such as a built-in stereotactic imaging and a real-time patient tracking system that support treatment accuracy and can shorten treatment times, allowing you a faster return to daily activities.

Will my head be shaved?

As there is no surgical incision, Gamma Knife treatment does not require your head to be shaved.

Does the treatment hurt?

The radiation is invisible and does not hurt. Some treatments use a head frame to hold your head still during the treatment and, when this is the case, there might be mild pain from administration of a local anesthetic or a pressure sensation when the frame is applied. With a relaxing couch and music, you may find yourself like many patients, who drift asleep and wake up wondering when treatment will begin.

What if I move during the treatment?

Your head frame or mask is secured during treatment and special accessories support you to help you lie very still. If you move beyond the strict parameters established, the system will instantly block the radiation.

Am I alone during treatment?

While the radiation is being delivered, you are alone in the treatment room. However, you and your clinical team can communicate at any time by intercom or hand signal.

Does the treatment leave me radioactive?

The treatment does not make you radioactive. The radiation delivered during the treatment does not remain in your body.

What conditions can be treated with Icon?

Icon can be used to treat a number of neurological disorders, including:

- Brain metastases (cancer that has spread to the brain)
- Recurrent gliomas (tumors that occur in the brain and spinal cord, arising from the gluey supportive tissue of the brain)
- Benign tumors such as meningiomas, which begin in the membranes surrounding the brain and spinal cord
- Acoustic neuromas (vestibular schwannomas), noncancerous growths that develop on the hearing and balance nerves near the inner ear
- Post-surgical pituitary tumors
- Vascular malformations such as arteriovenous malformations (AVMs)
- Functional disorders such as trigeminal neuralgia, a chronic condition causing severe facial pain
- Medication-refractory tremor

What are the benefits?

Due to the technology's exceptional accuracy, areas beyond the tumor itself don't receive much radiation exposure, minimizing the risk of side effects and damage to nearby healthy tissue or critical structure. There is no surgical incision made and general anesthesia is not required, so surgical and anesthesia-related risk and recovery are avoided.

Am I a candidate for Icon treatment?

Many variables are considered to determine your treatment options, including your medical history and general health, clinical examination findings, and diagnostic imaging, which may include computed tomography (CT), magnetic resonance imaging (MRI), and/or positron emission tomography (PET) scans.

Icon may benefit patients with lesions that are hard to reach or in a functionally critical area of the brain. Patients who are not candidates for other treatment approaches due to age or medical condition may be candidates for treatment with Icon. Icon may be prescribed in conjunction with surgery, other forms of radiation therapy and/or chemotherapy.

What are the side effects?

Gamma Knife radiosurgery is so precise that minimal damage occurs to healthy tissues surrounding the treatment target. There may actually be a lower risk of side effects than with other types of radiation therapy. Be sure to discuss potential side effects with your physician. Potential risks and side effects may include:

- For frame treatments, there may be tenderness where the frame was secured to the head
- Nausea and vomiting
- Dizziness
- Headaches
- Hair loss in the treatment area

For more information please visit www.gammaknife.com

