

FAQ

Question	Answer
What is the Gamma Knife?	<p>The Gamma Knife procedure, a type of stereotactic radiosurgery, bombards lesions with enough radiation to destroy them even in the most critical, difficult-to-access areas of the brain without delivering significant doses to healthy normal brain tissue. Faster and more precise than other radiosurgical tools currently available, the Gamma Knife treatment team guides the radiation to a target previously defined by advanced imaging techniques. The 192 individual beams simultaneously intersect with the accuracy of 0.2 – 0.3 millimeters. Referred to as “surgery without a scalpel,” the Gamma Knife procedure does not require an incision or opening the skull.</p>
What conditions can be treated by the Gamma Knife?	<p>Conditions for which the Gamma Knife is considered are:</p> <p>Malignant tumors such as</p> <ul style="list-style-type: none"> - Metastases: Tumors that have spread from other parts of the body. - Malignant gliomas <p>Benign tumors such as</p> <ul style="list-style-type: none"> - Meningiomas - Acoustic neuromas (vestibular schwannomas) - Pituitary tumors - Pineal tumors <p>Vascular malformations such as:</p> <ul style="list-style-type: none"> - Arteriovenous malformations (AVM's) - Cavernous angiomas (cavernous malformations) <p>Functional disorders such as:</p> <ul style="list-style-type: none"> - Trigeminal neuralgia
What if I have other medical conditions?	<p>Gamma Knife radiosurgery is especially valuable for patients whose neurological disorders require a difficult surgical approach or may be impossible to treat using conventional neurosurgical techniques. Patients of advanced age or in poor medical condition can be at an unacceptably high risk for anesthesia and conventional surgery making Gamma Knife treatment an ideal solution. Gamma knife technology also is highly beneficial for patients whose lesions are situated in an inaccessible or functionally critical area within the brain. In addition, the treatment can be used as an adjunct to the care of a patient who has undergone conventional brain surgery, radiation therapy or chemotherapy.</p>

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What does the Gamma Knife procedure involve?	First, a lightweight frame is attached to the patient's head. Local anesthesia is used to numb the pin sites and IV sedation is given to relax the patient. The patient then has an MRI and/or a CT scan to precisely locate the area being treated. Data from the imaging study is transferred to the treatment planning computer. While the patient rests with their family in a private waiting room, the treatment team (a neurosurgeon, radiation oncologist and physicist) uses advanced software to determine the treatment plan. This takes one or two hours to complete, depending on the complexity and location of the area(s) being treated. When the individual treatment plan is completed, the patient is placed on the Gamma Knife couch and precisely positioned. The patient is then moved automatically, head first into the machine, and treatment begins. Treatment typically lasts from 30 to 90 minutes during which time the patient feels nothing unusual. When the treatment is completed, the frame is removed and the patient is monitored for 30 to 60 minutes before going home.
How are patients referred for Gamma Knife treatment?	Most patients are referred to the Gamma Knife program by their doctors. However, some make self-referrals. The Gamma Knife team reviews each patient's records to determine if Gamma Knife treatment would be advantageous.
Will I be awake during the procedure?	When the frame is applied, the patient is given an IV sedative. The sedative will help the patient to relax, but you will still be awake throughout the procedure and may communicate with the treatment team.
Will my head be shaved?	No, the head is not shaved. In rare cases the treatment may cause some localized, temporary hair loss.
What can I expect after the treatment?	When the treatment is finished, the head frame will be removed. Sometimes there may a little bleeding from where the pins were attached to the head. In this case, gauze and pressure will be applies to stop the bleeding and keep the area clean. A temporary head dressing and is placed to keep the pin sites clean. It is recommended that the patient take it easy over the next 24 to 48 hours before resuming normal activities.

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What are the side effects of Gamma Knife treatment?	<p>Early complications may include:</p> <p>Common side effects:</p> <ul style="list-style-type: none"> • Tenderness at the pin sites <p>Uncommon complications:</p> <ul style="list-style-type: none"> • Headache • Skin reddening and irritation • Nausea <p>Delayed complications may include:</p> <p>Uncommon complication:</p> <ul style="list-style-type: none"> • Local loss of hair in superficial lesions • Local brain swelling at the treatment site • Seizure <p>Rare complications</p> <ul style="list-style-type: none"> • If the area being treated is near critical structures, there may be complications related to the site and condition being treated. Your Gamma Knife Physician will discuss this with you during your consultation.
Will my insurance cover this procedure?	Gamma Knife radiosurgery is reimbursed by most insurance companies, PPOs, HMOs and Medicare and Medicaid.
How many Gamma Knife Treatments are required?	In almost all situations, only one treatment is needed.
Once my treatment is completed, what will my follow up be?	Depending on what condition is being treated, a follow up MRI or CT scan will be scheduled in 8 weeks to 12 months after the treatment. The scan can be done close to where you live.
What preparation do I have to do to get ready for the treatment?	Before the treatment is done, patients will have a consultation with the Gamma Knife neurosurgeon and radiation oncologist. This consult usually takes place the day before the treatment. The day of the treatment, patients are instructed not to eat or drink anything for four hours prior to their scheduled arrival time.