



## Patient Information

# THE GAMMA KNIFE CENTER

# FACTS

### **Patient information about Gamma Knife**

Yale-New Haven Hospital Gamma Knife Center is the only stereotactic radiosurgical facility in Connecticut dedicated to treating head and skull base disorders with external radiation.

Gamma Knife is also called stereotactic radiosurgery. It is a noninvasive, bloodless neurosurgical procedure that delivers 201 targeted gamma rays to the head, with minimal or no damage to surrounding healthy tissues.

Gamma Knife is highly successful in treating conditions such as:

- benign and malignant brain tumors
- head and skull base tumors
- vascular malformations of the brain
- trigeminal neuralgia

### **Why is Gamma Knife better than other treatments?**

- Gamma Knife does not usually require general anesthesia or opening the head surgically.
- It is an excellent option if you cannot tolerate medications or are not a good candidate for open surgery (for example – the elderly or patients with other medical problems).
- The treatment is pre-planned on a computer, allowing the most accurate targeting of lesions of different sizes, shapes and depth.
- Recovery is rapid – you can usually return home the same day after a brief observation period and can return to your regular activities without any precautions.
- The procedure can be repeated safely after an interval of several weeks to months, if necessary.

### **What is the Gamma Knife procedure like?**

The procedure begins with your head being fitted with a frame specially designed for the treatment site. During this phase of treatment, imaging studies are performed (CT scans, MRI or angiography) to determine the exact location, size and depth of the tissue to be treated.

The imaging studies are used to develop an individualized treatment plan for you – the planning time may take two hours or more.

Once the treatment plan is complete and reviewed, you are attached by the frame to the Gamma Knife unit and are positioned so the target area is directly in the center of 201 converging gamma rays. Treatment time varies from 30 minutes to over three hours. You are conscious and can communicate with the treatment team at all times by video cameras and an intercom.

### **What kind of results does Gamma Knife offer?**

Gamma Knife offers excellent results for many conditions:

**Meningiomas** – Compared to surgery, which can result in up to 20 to 40 percent recurrence rate at 10-year follow-up, radiosurgery controls tumors in more than 90 percent of cases at 10-year follow-up.

**Acoustic neuromas** – Facial paralysis is sometimes a risk with surgery. With Gamma Knife, facial paralysis is rare and tumor control is achieved in 98 percent of patients at 10-year follow-up.

**Metastatic brain tumors** – Gamma Knife is just as effective as surgery in controlling metastatic lesions. Control rates vary, but on average are 90 percent at 1-year follow-up and 80 percent at 2-year follow-up. However, Gamma Knife has the added benefit of being able to treat surgically inaccessible lesions and multiple lesions in one sitting. It can also be used multiple times, as necessary. And, unlike other forms of external radiation, it is compatible with ongoing chemotherapy.

**Trigeminal neuralgia** – Approximately two-thirds of patients become pain free and an additional 20 percent achieve significant pain relief at 1-year follow-up. Fifty percent of patients continue to have pain relief at five years.

***What are the benefits of the Yale-New Haven Hospital Gamma Knife Center?***

- **Longstanding experience** – The Yale-New Haven Hospital Gamma Knife Center’s operating experience is the longest of any radiosurgery facility in Connecticut.
- **Professional expertise** – The center’s medical staff has several decades of cumulative experience in the use of Gamma Knife technology and significant experience allowing for predictable outcomes with a high degree of accuracy.
- **Medical achievements** – The center has developed preliminary experience in treating malignant primary brain tumors such as glioblastoma and ependymomas.

***How can I get treated at Yale-New Haven Hospital Gamma Knife Center?***

You should speak with your physician and ask for a consultation at the Gamma Knife Center. Your medical records and previous imaging studies must first be evaluated by a Gamma Knife Center physician or team of physicians specializing in your particular disorder.

Ask your physician to contact the Yale-New Haven Hospital Gamma Knife Center for more information or a referral:

**(203) 688-4040**

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