

## What is Gamma Knife radiosurgery?

Gamma Knife radiosurgery is a painless outpatient treatment that doesn't involve any knives or surgery at all. It's extremely accurate, using many small, focused radiation beams to treat a range of conditions in the brain, including benign and malignant tumors, arteriovenous malformations (AVMs), and functional disorders such as essential tremor and trigeminal neuralgia.

Directed from different angles, the beams cross over at the affected area of your brain, delivering the radiation dose precisely to the target while protecting the surrounding healthy tissue.

Since there is no need for a general anesthetic or open surgery, and there are only mild or no side effects, you'll most likely go home the same day as your treatment and quickly return to normal activities.

## What are the benefits of Gamma Knife radiosurgery?

Leading radiosurgery centers around the world choose Gamma Knife for its accuracy and excellent outcomes. About 90,000 patients are treated using Gamma Knife radiosurgery every year.

Here are some of the reasons physicians and patients around the world choose Gamma Knife:

- It's a painless, non-invasive outpatient procedure.
- Patients usually go home the same day and can quickly return to normal activities
- It's a gentler alternative to surgery, requiring no general anesthetic and with no risk of bleeding or infection
- It's extremely precise, delivering maximum dose to the target while protecting healthy brain
- It has been proven to provide beneficial outcomes and improved quality of life for patients
- It can even be used to treat certain inoperable brain tumors and abnormalities
- Side effects are rare and usually temporary

**If you have any more questions about Gamma Knife radiosurgery, talk to your care team or scan the QR code for more information.**



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## Gamma Knife Radiosurgery Protecting you, Protecting your mind



## What should I expect?

Gamma Knife radiosurgery is a simple and highly effective alternative to open surgery that has been used to treat over a million patients around the world. Here is what you can expect.

### 1. Consultation

Before you start Gamma Knife radiosurgery, your doctor will explain your condition and treatment options. You may be prescribed one or more Gamma Knife treatments, depending on your condition, as well as the size, number and location of targets.



### 2. Mask or headframe fitting

On the day of treatment, a specially made mask or lightweight headframe will help you to keep your head completely still during imaging and treatment.

If you are to wear a mask, this is made from a plastic mesh that is molded to fit the shape of your face. It may be made on the day of your treatment or a few days earlier. The mask will be placed over your face and fixed to the couch before imaging or treatment. It will feel tight but not uncomfortable and you'll be able to breathe normally.

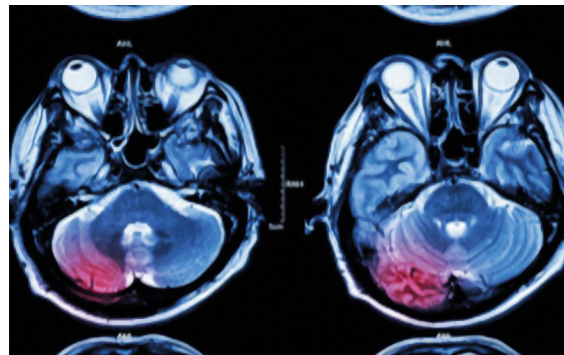
If you are to wear a headframe, a local anaesthetic will be applied at the points where the frame is fixed to your head. The frame will be positioned on your head by your care team and held in place with special pins. This may feel a little uncomfortable, but you'll still be able to move around, eat and drink normally.



### 3. Imaging

Images of your brain will be obtained using MRI or CT scanners (or both), and in some cases angiography, to accurately pinpoint the area to be treated. Your care team will help you into the correct position on the couch. If you are wearing a headframe, this will be attached to the couch to help you keep your head completely still during the scan.

After the scan you'll be able to rest until it's time for your treatment.



### 4. Treatment planning

While you are resting, your treatment team will use the images from your scans together with advanced treatment planning software to plan your individual Gamma Knife treatment with extreme precision. This may take 30–90 minutes depending on the location and number of targets. You'll be able to move around, eat and drink while you are waiting.

### 5. Treatment

When it's time for your treatment, you'll be taken to the Gamma Knife room and helped onto the treatment couch. Your headframe or mask will be fixed to the couch to help keep your head still and in the correct position during treatment. Once you're ready to begin treatment, the care team will leave the room and the couch will automatically move your head into the treatment area of the Gamma Knife. Depending on your individual plan, the treatment lasts from a few minutes to more than an hour. It's quiet and you won't feel anything. You can listen to music, talk to your care team at any time by intercom, or you may even fall asleep. If at any time you need assistance, you can press the safety button that your care team will give you to hold. This will pause the treatment while your care team addresses your needs.

When the treatment has finished, you'll automatically move out of the Gamma Knife. The care team will come back into the room and remove your mask or headframe.

### 6. After your treatment

Most patients go home immediately after the treatment and return to normal activities in a day or so. The full effect of the treatment may take several weeks or months. You'll have regular follow-up appointments and scans to monitor your progress.