

Gamma Knife®

Treatment with Leksell Gamma Knife® Perfexion™

Gamma Knife® surgery

Gamma Knife® surgery is a well-established method to treat selected targets in the brain. Leksell Gamma Knife® is not a knife in the normal sense of the word. The doctor makes no incisions in your head. Instead, very precisely focused beams of radiation are directed to the treatment area in the brain. The shape and dose of the radiation is optimized to hit only the target, without damaging surrounding healthy tissue. The patient is treated in one session and can normally return home shortly after treatment.

The treatment consists of four steps:

- ▶ **Step 1: Attaching the frame**
- ▶ **Step 2: Imaging: CT, MRI or Angiography**
- ▶ **Step 3: Treatment planning**
- ▶ **Step 4: Treatment**

The treatment is completed in one visit to hospital.



Before the treatment

Before treatment your doctor will inform you about the entire procedure and you will be required to sign a consent form. Gamma Knife® surgery does not require cutting or shaving of your hair. The next step is the application of the head frame.

Securing accuracy

A key component in Gamma Knife® surgery is the stereotactic head frame.

The frame allows the doctor to accurately pinpoint the target to be treated in your brain. This lightweight frame, which is attached to your head with four pins, ensures that the radiation beams can be directed with precision to the target. The frame also prevents your head from moving during imaging and treatment procedures. Local anaesthetic is applied where the pins are to be attached.

Target localisation

After the head frame is in place, a series of images are taken using Computed Tomography (CT) and Magnetic Resonance Imaging (MRI). The CT is performed in Radiation Oncology and a nurse will escort you to the Radiology Department for an MRI. Imaging is required to determine the exact size, shape and position of the target in the brain.

Treatment planning

Once your images have been taken, you can rest while your doctor develops a very precise and accurate treatment plan. Each treatment plan is unique. The doctor, together with other specialists in the team, makes the plan in a specially designed computer and calculates how the treatment should be performed.

The treatment

Once your treatment plan is completed, the actual treatment can start. You will lay down and your head frame will be secured to the treatment machine. You are awake during the procedure and will be able to communicate with your doctor or nurse through an audio and video connection.

When the treatment begins, the couch will move into the dome section of the unit. The treatment is silent and totally painless. If you wish, you can listen to music during the treatment.

The team will be monitoring the procedure at all times. The treatment may last anywhere from a few minute to more than an hour, depending on the size and shape of the target.

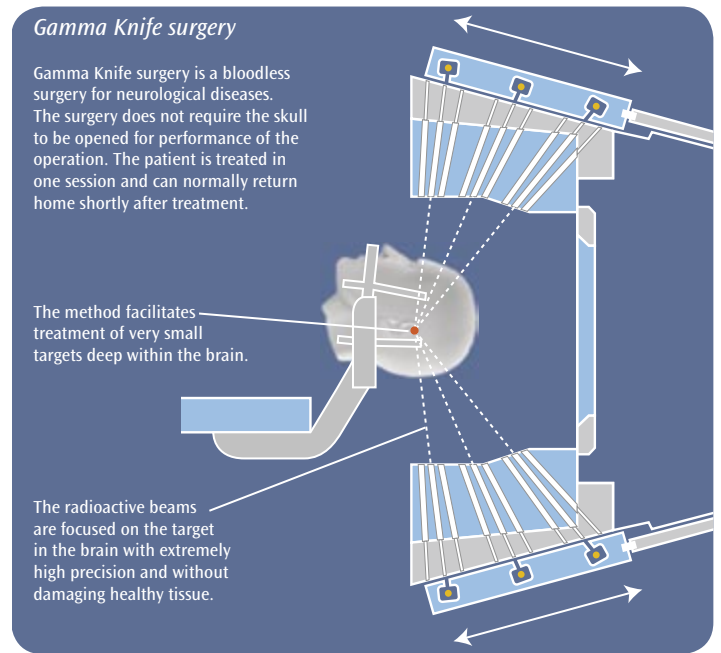
After treatment

When your treatment is complete, the head frame will be removed. Most patients report no problems after the head frame is removed, however some experience a mild headache, or minor swelling.

You will be provided with information upon discharge and you should be able to return to your normal routines in a day or so.

What happens next?

The effects of your treatment on your condition will occur over time. Your doctor will stay in contact with you to assess your progress, which may include follow-up MRI, CT or angiography images.



Where can I find more information?

**Ask your doctor for patient organisations and websites relevant to your diagnosis.
Always consult your doctor if you have any questions at all.**

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Partnering with Consumers - This patient information brochure supports National Safety and Quality Health Service Standard 2 (2.4.1). Consumers and/or carers provided feedback on this patient information.