Perfexion® Stereotactic Radiosurgery at Toronto Western Hospital

Information for patients and families

Read this resource to learn about:

- What it is
- How you need to prepare
- What to expect during it
- What to expect after
- Where to get more information
Your MRI is scheduled on:
Date: ________________________________________________________
Time: ________________________________________________________

Your Stereotactic Radiosurgery treatment is scheduled on:
Date: ________________________________________________________
Time: ________________________________________________________

What is the Stereotactic Radiosurgery?
Stereotactic Radiosurgery is a treatment for some diseases in the brain. Very precise beams of radiation are used to treat the affected area of the brain.

This procedure is good because the risk of possible harmful side effects from radiation to surrounding normal brain tissue is small. This is because the beams are precisely pinpointed on the target.

The Perfexion® unit at the Gamma Knife Centre will be used to treat you.

You can watch a video about the treatment at this website:
How should I prepare for my treatment?

Do this a week before your treatment:

- Plan to spend the whole day in the hospital. The planning and treatment times vary for each patient.
- Arrange for someone to drive you home after your treatment.
- You may have 1 visitor sit with you during the day and to take you home. If you are having an angiogram, you **MUST** have someone available to take you home.

Do this the day before your treatment:

- Be sure to read all the information given to you.

Do this on the day of your treatment:

- Do **NOT** eat or drink anything after midnight IF you are also having an angiogram (for AVMs). If you are not having an angiogram, you may have a very light breakfast.
- Do not wear any make up.
- Take your regular morning medicines with sips of water. **If you normally take medicine in the morning for diabetes (blood sugar), do not take these on the morning of treatment.** Instead, bring these with you and ask the nurse when to take them.
- Bring your medication with you in their original containers.

If you need a wheelchair and use a lift at home:

- Come in pajamas.
- Leave the lift sling underneath you for easy transfers.
**Bring these things with you to the hospital:**

- **Health card (OHIP card).** If you do not have an OHIP card, please bring another form of government-issued photo ID (such as a driver's license, passport, or other provincial health card).
- **Medicines you need to take during the day.** Bring them in their original containers. You will also need a list of all the medicines you are taking.
- **Something to help pass the time.** You can bring a book, crafts, DVDs or other items. You will not be able to wear glasses while the frame is on.
- **Music to listen to during your treatment.** You can bring your iPod or a CD.
- **A family or friend who can stay with you at the hospital, if you want.**

**Where do I go on the day of the procedure?**

Please take the East elevators to the 3rd floor.

Medical Imaging Reception  
Toronto Western Hospital, 399 Bathurst St.  
East Wing – 3rd floor (Waiting Room)

If there is no one there, please have a seat and the nurse will come to get you. DO NOT wait outside the Gamma Knife clinic because no one is there at that time.

**What can I expect before the treatment?**

There are 3 steps before your treatment:

1. Putting the head frame on  
2. Imaging – CT, MRI and/or Angiography  
3. Treatment planning
1. **Putting your head frame on**
   The stereotactic head frame is an important part of your treatment. It will be put on you the morning of your treatment. The head frame keeps your head very still during imaging and treatment. This helps make sure that the treatment only affects the target area in your brain. This frame stays on your head for the entire procedure.

   A neurosurgeon will attach the lightweight titanium frame to your head.

   Before they put it on, you will get a local anesthetic injection. It will numb the areas on your head where the pins will be attached. The injection stings and burns for about 30 seconds.

   Then, when your medicine is working, the doctor will place the pins. They will use adjustable posts and pins. You will feel some pressure when the pins are placed. This feeling goes away in about 5 to 10 minutes.

   You will be moving around by wheelchair for the rest of the day. This is because it is not safe for you to walk with the head frame on. Someone will take you to the room for imaging.
2. Imaging
   In this step, we will take images of your head and brain. It will show the exact size, shape and position of the target in your brain.

   Your doctors may use Magnetic Resonance Imaging (MRI), Computerized Tomography (CT) or an Angiogram to do this.

   **If you are getting a CT or an MRI:**

   For these procedures, a contrast (dye) may be injected into your veins. This will be done during the scan. It will help the doctors see your tumor(s) more clearly.

   If you are getting an MRI, tell your doctor if you have:

   - any implanted devices in your body (for example: a pacemaker.)
   - ever worked with metal products
   - any metal objects in your body

   The staff will fill out a questionnaire with you before your MRI.
If you are having angiography:

This is the test used if you have an Arteriovenous Malformation (AVM).

For this scan, a contrast (dye) will be injected into your veins. If you are allergic to the dye you must tell the doctor in the clinic before you are booked for treatment. You will be given a prescription for some special allergy medicine.

A transparent box will be placed on your head over the frame during the scan. When the scan is done, the radiation therapist will take the box off.

When your scans are done, you will go back to the Medical Imaging Day Unit. You will need to lay flat for 4 hours after the angiogram.

3. Planning your treatment
We will use the results from the imaging to develop the treatment plan. Your treatment planning team includes a:

- Neurosurgeon
- Radiation Oncologist
- Radiologist
- Medical Physicist

We will transfer your images to a specially designed computer. From here, your health care team will decide:

1. Which area to treat
2. How much radiation to give
3. How they will aim the radiation to treat the target
During the planning process:

- you will stay in the Medical Imaging Day Unit
- the nurse will look after you
- you will be given something to drink if you are having an angiogram
- all others patients may have something to eat and drink

You will have to stay in bed during this time. If you are having an angiogram, you will need to lie flat for 4 hours.

When your treatment plan is complete, the team will take you to the Perfexion (Gamma Knife) Unit. This is where you will get your treatment.

**What happens during the treatment?**

The radiation therapists will help you lie down on your back on the treatment bed. They will also help attach your frame to the treatment couch.

The radiation therapists will leave the treatment room during your treatment. But, they can see you on the video cameras. They can also talk to you if they need to.
Before your treatment starts, the couch will move so that your head will be inside the treatment unit.

During treatment, you will not feel the radiation. There is also no noise from the treatment unit. The treatment can take several hours to finish.

You may move in and out of the treatment unit several times during your treatment. The radiation therapists may also have to adjust the position of your head frame.

You will need to stay still during your treatment. During this time you can listen to music in the room or you can bring your own iPod or CD.
What can I expect after my treatment?

- The Neurosurgeon or Radiation Oncologist will remove your head frame.
- The pin sites on your forehead will be covered with small bandages. Do not get the pin areas wet for the next 24 hours.
- You may have some bleeding or discharge of fluid in the areas where the pins were placed.
- We will monitor you for 1 hour after we remove your head frame. Then you may go home.
- You may get a headache or minor swelling where the frame was attached. The nurse will give you some pain medicine if needed.

What do I need to do when I go home?

The nurse will give you a detailed list to follow when you get home.

You can go back to your normal activities when you get home. Listen to your body. Rest if you need to. Start activities when you are ready.
What are the possible side effects?

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<thead>
<tr>
<th>Possible side effects</th>
<th>What you can do</th>
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<tbody>
<tr>
<td><strong>Fatigue:</strong> Tiredness is a common side effect of radiation therapy.</td>
<td>Pace your activities and rest as needed. A well balanced diet and plenty of fluids may help.</td>
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<tr>
<td>The day of your treatment will be a long day. It can be very tiring.</td>
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<tr>
<td><strong>Headaches:</strong> Many patients get headaches from wearing the frame.</td>
<td>You may take Tylenol, Advil or a prescription pain medicine from your doctor if you need it.</td>
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<td><strong>Swelling:</strong> You may notice swelling around your eyes. The local anesthetic can cause this.</td>
<td>You can apply a cool compress to your eyes. This will ease the swelling.</td>
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<td><strong>Bleeding or discharge of fluid from the pin sites:</strong> There may be some blood or fluid leaking from the pin sites for 2 or 3 days after treatment.</td>
<td><strong>This is not a sign of anything serious.</strong> For bleeding, apply pressure with gauze for 5 minutes. The bleeding should stop. If the pin sites are leaking, clean the area with rubbing alcohol and cover with band-aids.</td>
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<td><strong>Nausea and vomiting:</strong> You may feel nausea (wanting to throw up) and may vomit (throw up). But, this is does not happen to many people.</td>
<td>Tell your doctor if you have an upset stomach. They can prescribe medicine to relieve the nausea and vomiting.</td>
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<tr>
<td><strong>Hair Loss:</strong> Some patients experience hair loss in a small area of the scalp. But this does not happen to many people.</td>
<td>Your hair will grow back within a few months.</td>
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</table>
Will I have a follow up appointment?

Before you leave the hospital, you will be given the time and date for your follow up appointment.

You will see your doctor at this appointment. You may also get an MRI.

Use the space at the end of this booklet to write your questions down.

Bring these to your follow up appointment or call the clinic.

Who can I contact if I have a question or concern?

You can call us with any questions or concerns you may have.

**Call this number from Monday to Friday, 8:30 am to 4:30 pm:**
Perfexion unit at TWH 416-603-5445

**Call one of these numbers on evenings, weekends and holidays:**
Neurosurgeon on-call 416-340-3155
Ask for the neurosurgeon on-call

Radiation Oncologist on-call 416-946-2000
Ask for the radiation oncologist on-call
Write your questions here: