Instructions for Having Gamma-Knife Radiosurgery

Gamma-Knife Radiosurgery is a type of radiation therapy used to treat tumors and other abnormal areas of the brain. Gamma-Knife Radiosurgery is usually a one-time therapy completed in a single day.

For more information about this surgery, please ask the nurse in the Radiation Oncology department for the booklet Gamma-Knife Radiosurgery.

Before Surgery

- The day before your Gamma-Knife Radiosurgery, you will be called and given information about your arrival time, what medicines you can take and what you can eat the day of surgery.

  **If you are to have an angiogram** (a scan that shows the vessels in the brain) before your Gamma Knife Radiosurgery, **do not eat or drink anything after midnight the day before your surgery.**

Day of Surgery

- You should come directly to the Radiation Oncology department located on the ground floor of The James Cancer Hospital. Please arrive at the time you were given. If you need more information or directions, you may call the Radiation Oncology department, between 8:00 a.m. to 4:00 p.m. on weekdays, at (614) 293-8415.

- You should plan to be in the Radiation Oncology department 4 to 5 hours or longer when you come for this treatment.

- **You will need to have a family member or friend come with you to drive you home.** You may be given medicine that will make you sleepy, and you will be tired after the treatment.
• Bring all the medicines/pills you are taking in their original bottles including:
  ▶ Medicines prescribed by any of your doctors
  ▶ Herbs
  ▶ Vitamins
  ▶ Over-the-counter medicines

• Wear clean, comfortable, warm clothing. **Do not wear anything that you have to pull over your head to remove.** Sweat pants, a button-up blouse or shirt, and a sweater or jacket that opens in the front are good choices.

• You may bring a favorite music CD (compact disk) or I-pod to listen to during the procedure. We have CD players available for you to use or you may bring your own CD player.

• You will be asked to remove jewelry, hearing aids and dentures before the procedure. You should leave valuable items at home or give them to the family member or friend who comes with you.

• You may wear contact lenses. You are not allowed to wear glasses during the procedure because the head frame will not fit properly.

**During Treatment**

Gamma-knife radiosurgery involves a team of medical experts from neurosurgery, radiation oncology and medical physics. Your treatment team uses special computer software to determine the size, location and shape of the area to be treated. Here is information about what will happen during the treatment.

1. **Head Frame**

• You’ll be fitted with a lightweight head frame to hold your head still during treatment. The head frame helps the doctor direct the radiation beams to the area to be treated.

• The head frame is held in place with adjustable posts and pins. You will be given an injection of medicine to numb the areas on your head where the pins will be attached. This medicine will sting and burn for about 30 seconds and then the areas will feel numb. You will feel some pressure when the pins are placed, but this will go away once the frame is on. A small area of your hair may need to be shaved to place the pins.
2. Scans or Imaging

- After the head frame is put on, you have a scan done. This test gives an image (specialized pictures) to help plan your treatment. You will have a computerized tomography (CT) scan, a magnetic resonance imaging (MRI) or an angiography to help pinpoint the target for treatment. The test you have will depend on the kind of image that is needed for your type of treatment.

- A device called an indicator box will be used during the scan. It is placed on your head over the frame. The indicator box helps to get precise measurements. A three dimensional image of the area to be treated is created. This information is then transferred to the computerized treatment planning system. This is what the doctors use to plan your exact treatment.

3. Computerized Treatment Planning

- The area to be targeted with the radiation is outlined after the images are transferred into the treatment planning computer. Final planning for your Gamma Knife treatment is done using these computerized images.

- While the treatment plan is being completed, you will have some time to take a break and may wait with your family member or friend in a treatment room.

4. Gamma Knife Radiosurgery

- You will lie on a special table during your Gamma Knife Radiosurgery treatment. You will be made comfortable. The head frame around your head will be attached to the gamma knife machine.

- The table will move into the unit to begin the treatment. The amount of time it will take for your treatment depends on the treatment planned for you.

- There is no noise made by the treatment machine. You may listen to music if you wish while receiving the treatment.

- Your doctor will be able to talk with you by intercom and see you through a TV screen during your treatment.

- After the treatment is finished, the head frame will be removed from your head. This does not hurt but you may feel a release of pressure.

- You will be watched for about 30 minutes after the treatment. You will be told when it is okay for you to leave the hospital.
After Gamma Knife Radiosurgery

- The areas where the pins were placed should heal in 7 to 10 days. They do not need any special care, but you should keep these areas clean and dry until healed. You may remove the bandage the next day.

- You may have some swelling near the eyes and at the pin sites. This swelling should go away in a few days. Your scalp may feel numb for several days.

- You may want to apply an ice bag to the pin sites 3 or 4 times a day for the first 48 hours after the treatment. This will help limit any swelling.

- You may wash your hair 2 days after your treatment. Continue to keep the pin sites clean and check them for any signs of infection.

- You may return to your normal activities as you can tolerate them.

When should I call the doctor?

Call your doctor if you have any of the following:

- Fever of 100.4 degrees Fahrenheit (38 degrees Celsius) or higher
- Increased redness at the pin sites
- Increased pain at the pin sites
- Drainage from the pin sites

Call your doctor **immediately** if you have any of the following:

- Seizures
- Severe headache
- Vision changes
- Numbness in your arms and/or legs
- Weakness

What follow-up care will I have?

- The results of the Gamma Knife treatment do not happen right away. They may show up over a period of time. You will have scans (CT, MRI or angiography) done again to measure the success of the treatment.
• The first scan is done about 2 months after the treatment. How often these scans will be done depends on your diagnosis.

• It is very important to keep your follow up appointments with the neurosurgeon and the radiation oncologist. You will be given information with the date, time and location for these appointments.

Who do I call if I have questions?

• If you have questions about your Gamma Knife treatment, call The James Radiation Oncology Department at (614) 293-8415. Ask for a nurse who works with Gamma Knife Radiosurgery.

• To reach the neurosurgeon in the evenings or weekends, call the hospital operator at (614) 293-8000 and ask for the neurosurgeon on call.