

GAMMA KNIFE (SRS) FRAMELESS RADIATION TREATMENT

WHAT IS GAMMA KNIFE?

Gamma Knife, also known as stereotactic radiosurgery (SRS) or Gamma Knife radiosurgery, is an outpatient radiation treatment method for brain tumors, central nervous system disorders, and other abnormalities in the brain such as the following:

- Primary Brain Tumors
- Vestibular Schwannoma Acoustic Neuroma
- Meningioma
- Glioblastoma
- Facial Nerve Pain (Trigeminal Neuralgia)
- Brain Metastases
- Arteriovenous Malformation (AVM)
- Pituitary Adenoma
- Essential Tremor

Despite its name, Gamma Knife treatment does not involve surgery. The goal of Gamma Knife treatment is to use radiation to stabilize, shrink, or destroy abnormalities in the brain. Gamma Knife can be utilized if your condition cannot be treated using traditional surgery techniques or if you are unable to undergo surgery. This treatment can also be combined with traditional surgery.

Mary Bird Perkins Cancer Center utilizes the Leksell Gamma Knife® Icon™ (LGKI) which is the most precise Gamma Knife device on the market. This device delivers 192 highly focused beams of radiation to the area of the brain in need of treatment. The surrounding healthy tissue receives only a small percentage of the radiation dose which minimizes the risk for unwanted side effects.

WHAT HAPPENS BEFORE RECEIVING FRAMELESS GAMMA KNIFE TREATMENT?

“Make Mask” Day and Imaging Scans (CT Scan for Radiation Treatment Planning (RTP) and MRI)

Prior to your treatment date, our Gamma Knife Coordinator will schedule a “Make Mask” Day during which a radiation therapist and/or a medical physicist will create a customized mask and headrest. This will be followed by imaging scans (such as a CT Scan and an MRI) which will be used to plan your Frameless Gamma Knife treatment based on the exact size, shape, location, and volume of the area in the brain in need of treatment.

Step One: Arrival for your “Make Mask” Day

- If you have completed your labs before your “Make Mask” Day, you may check in at Thomas J. Moran Imaging Center which is located on the first floor at Mary Bird Perkins Cancer Center at 4950 Essen Lane, Baton Rouge, LA 70809. Please Note: You may NOT have anything to eat or drink (except medications with sips of water) within four hours of your arrival on your “Make Mask” Day.
- If you are completing labs on your “Make Mask” Day, please arrive at least 45 minutes prior to your “Make Mask” Day appointment. You may complete your labs at Mary Bird Perkins Cancer Center at 4950 Essen Lane, Baton Rouge, LA 70809. After completing your labs, you may check in at Thomas J. Moran Imaging Center which is located on the first floor at Mary Bird Perkins Cancer Center at 4950 Essen Lane, Baton Rouge, LA 70809. Please Note: You may NOT have anything to eat or drink (except medications with sips of water) within four hours of your arrival on your “Make Mask” Day.

Step Two: Creating the Mask

- A member of our staff will escort you from Thomas J. Moran Imaging Center to the Gamma Knife area. Visitors will be asked to remain in the reception area.
- During the mask fitting, you will lie flat on the Gamma Knife table. A sheet of plastic mesh is placed in a warming oven which softens the material of the mask. While the material is soft, it is placed across your face, covering your forehead, eyes, cheeks, and chin. There is a large opening for your nose which will allow you to breathe easily. Once the material is completely cool, it will remain in the unique customized shape of your head. This process takes approximately 15 minutes.
- This mask and headrest will be utilized during your CT Scan and your MRI on your “Make Mask” Day and during subsequent imaging scans at Mary Bird Perkins Cancer Center. Our staff will store the mask and headrest within our facility for safe-keeping. The mask and headrest will be utilized on your Gamma Knife treatment day to ensure that that you remain in the correct position throughout your treatment.

Step Three: Imaging Scans (CT Scan for Radiation Treatment Planning (RTP) and MRI)

- Your radiation oncologist and neurosurgeon will create your specialized Frameless Gamma Knife treatment based on the results of a CT Scan and an MRI which will be completed on your “Make Mask” Day. It is important that your head is completely still throughout these imaging scans; therefore, your customized mask and headrest will be secured to each imaging machine (CT Scanner and MRI) to ensure that you remain in the correct position throughout each scan. The CT Scan may take approximately 30 minutes, and the MRI may take approximately 25 to 30 minutes. A CT Technologist may insert an IV before the scan for IV contrast.

Step Four: After “Make Mask” Day

- Radiation will not be delivered on your “Make Mask” Day; therefore, our Gamma Knife Coordinator will contact you after your “Make Mask” Day to coordinate your Frameless Gamma Knife treatment date(s) with your radiation oncologist.

HOW DO I PREPARE FOR MY “MAKE MASK” DAY AND IMAGING SCANS (CT SCAN FOR RADIATION TREATMENT PLANNING (RTP) AND MRI)?

Labs

- You will need to complete labs within 30 days BEFORE your “Make Mask” Day. If you complete your labs within the 30 days before your “Make Mask” Day, you may eat and drink before your labs are completed.
- If you are unable to complete labs within this timeframe, please arrive at least 45 minutes prior to your “Make Mask” Day appointment. You may complete your labs at Mary Bird Perkins Cancer Center at 4950 Essen Lane, Baton Rouge, LA 70809. Please Note: You may NOT have anything to eat or drink (except medications with sips of water) within four hours of your arrival on your “Make Mask” Day.

Eating, Drinking, Medications

- You may NOT have anything to eat or drink within four hours of your arrival on your “Make Mask” Day.
- You may take your medications with sips of water (unless directed otherwise) on your “Make Mask” Day.
- Please notify your physician if you will need medication for anxiety and/or pain relief BEFORE your “Make Mask” Day and/or your Frameless Gamma Knife treatment date.

Hair Preparation, Clothing

- In general, the mask will work to hold you steady during the imaging and treatment but excessive hair between the head and mask can allow for motion during the scan. Patients are strongly encouraged but not required to trim their hair as short as they are comfortable doing prior to your “Make Mask” day.
- Please arrive with clean, dry hair for your “Make Mask” Day. Please do not place any products in the hair or on the face. Your hair will not be shaved. Wear your hair loose and down. Do not use clips, pins or bands.
- Patients should not alter their hair between the mask fitting and treatment.
- Wear slip-on shoes, comfortable pants or shorts, and a loose-fitting shirt and/or jacket. All jewelry should be removed.

Visitors, Driver

- At this time, Mary Bird Perkins Cancer Center is allowing up to two visitors (above the age of 16 years old) per patient.
- If you intend to take medication for anxiety and/or pain relief prior to your appointment, a family member or friend will need to bring you to your appointment and drive you home. They do not necessarily need to stay throughout your appointment.

Implanted Device

- Please notify staff if you have an implanted device such as a pacemaker, aneurysm clip, implanted medication pump, implanted nerve stimulator, metal implant, cochlear implant, spine stabilization hardware, and/or any reason that you may not be able to complete an MRI.

HOW DO I PREPARE FOR MY FRAMELESS GAMMA KNIFE TREATMENT DATE?

Eating, Drinking, Medications

- You CAN eat and drink before your Frameless Gamma Knife treatment.
- You may take your medications with sips of water before your Frameless Gamma Knife treatment (unless directed otherwise).
- Please notify your physician if you will need medication for anxiety and/or pain relief BEFORE your Frameless Gamma Knife treatment date

Hair Preparation, Clothing

- Wash your hair and face the night before your Frameless Gamma Knife treatment. Please do not place any products in the hair or on the face. Wear your hair loose. Do not use clips, pins or bands. Your head will not be shaved.
- Patients should not alter their hair between the mask fitting and treatment.
- On the day of your Frameless Gamma Knife treatment, wear slip-on shoes; comfortable pants or shorts; and a loose-fitting shirt and/or jacket. All jewelry should be removed.

Visitors, Driver

- At this time, Mary Bird Perkins Cancer Center is allowing up to two visitors (above the age of 16 years old) per patient.
- If you intend to take medication for anxiety and/or pain relief prior to your Frameless Gamma Knife treatment, a family member or friend will need to bring you on the day of your treatment and drive you home after treatment. They do not necessarily need to stay throughout your treatment, however. Visitors are allowed to remain with the patient until treatment begins.

WHAT HAPPENS ON THE DAY OF MY FRAMELESS GAMMA KNIFE TREATMENT?

Step One: Arrival for your Frameless Gamma Knife Treatment

- Upon arrival to Mary Bird Perkins Cancer Center for your Frameless Gamma Knife treatment, you may check in at Thomas J. Moran Imaging Center which is located on the first floor at Mary Bird Perkins Cancer Center at 4950 Essen Lane, Baton Rouge, LA 70809.
- A member of our staff will escort you from the reception area of Thomas J. Moran Imaging Center to the Gamma Knife treatment room. Visitors will be asked to remain in the reception area.

Step Two: Frameless Gamma Knife Treatment

- A radiation therapist and medical physicist will position you for your Gamma Knife treatment table. You will lie flat with your customized mask and headrest secured to the Gamma Knife table. An X-ray will then be taken which ensures that the area in need of treatment remains in the correct position. Treatment will begin once correct positioning has been confirmed. Length of treatment depends on your individualized treatment plan, but is usually between 1-2 hours.
- You may move your arms and legs slowly during treatment; however, if you move your head once positioned on the Gamma Knife table and/or if you wish to take a break during treatment, the treatment will stop. Another X-ray will be performed to confirm positioning before treatment can resume.
- You will be awake during your treatment; however, if you feel that you need medication to relieve anxiety and/or pain prior to your treatment, please notify your physician BEFORE your treatment date.
- You will not feel, hear, or see the radiation being delivered; however, you may notice that the treatment table moves occasionally to deliver radiation beams from multiple directions. Although our staff will not remain in the Gamma Knife room during treatment, you will be under video monitoring and will be able to communicate with our staff via microphone.

Step Three: Treatment Session Completion and Discharge Home

- After your Frameless Gamma Knife treatment session is completed, the radiation therapist will release the mask and assist you from the treatment table. You will then be discharged home. Our staff will store your customized mask and headrest within our facility for subsequent treatments and imaging scans, if applicable.
- Depending on your diagnosis, multiple Frameless Gamma Knife treatments may be necessary; therefore, you may need to return for additional treatment sessions. Your physician will discuss your specialized plan of care prior to discharge. Please review the instructions under "How do I prepare for my Frameless Gamma Knife treatment date?" prior to each treatment session.

WHAT HAPPENS AFTER A FRAMELESS GAMMA KNIFE TREATMENT SESSION?

- The radiation delivered during your Frameless Gamma Knife treatment does not cause your body to become radioactive; therefore, you do not need to avoid being with others following treatment.
- The results of Frameless Gamma Knife treatment occur gradually. Depending on the condition being treated, treatment effects can occur within several months to years. Your physician will discuss if further imaging scans and/or follow up appointments are needed following your Gamma Knife treatment.
- If you need immediate medical attention, please dial 911 or go to the nearest Emergency Room. All other medical attention outside of Mary Bird Perkins Cancer Center's regular office hours (8AM to 4:30PM, Monday through Friday), will be answered by our telephone answering service at (225) 767 - 0847. A doctor from Mary Bird Perkin's Cancer Center will return your call.

FOR MORE INFORMATION

- Please visit marybird.org/gki-frameless/

Treatment with the Leksell Gamm Knife Icon® is provided in partnership between Mary Bird Perkins Cancer Center and Our Lady of the Lake