

# Gamma Knife® Radiosurgery

Patient Education Guide



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## Welcome



On behalf of our entire care team, I would like to welcome you to AdventHealth. For more than 100 years, we have dedicated ourselves to improving the lives of others by delivering advanced health care to the communities we serve. Our mission — to extend the healing ministry of Christ — has inspired us to build a unique health network dedicated to providing comfort, healing, and the discovery of new treatments and cures.

We're honored that you have entrusted us with your health. We look forward to caring for you.

Sincerely,

**Daryl Tol**

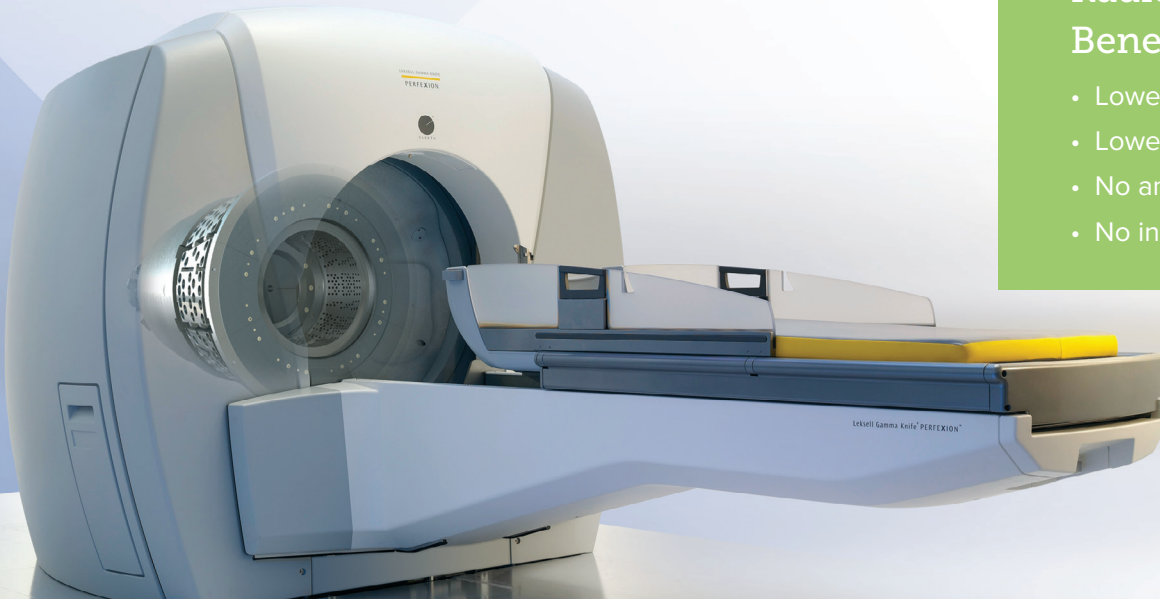
President & CEO

AdventHealth Orlando and Central Florida Region – Adventist Health System



## Radiosurgery Benefits

- Lower cost
- Lower risk of infection
- No anesthesia required
- No incision



## Radiosurgery Overview

Radiosurgery is a non-invasive procedure that utilizes powerful doses of radiation to treat diseased brain tissue while leaving surrounding tissue unharmed — accurate to within one millimeter of the targeted area. The Leksell Gamma Knife® Perfexion™ radiosurgery system produces finely focused beams of gamma radiation, maximizing accuracy, safety and patient comfort.

This procedure is commonly used to treat patients with brain tumors, vascular malformations and functional disorders. It often takes less than one hour, with patients resuming their regular activities the next day. Patients do not need to stop their routine medications to undergo radiosurgery.

## Gamma Knife® Procedure

A stereotactic frame — a mechanical device that helps position the Gamma Knife® — is attached to your head using local anesthesia and relaxation medication. After the frame is in place, you undergo an imaging study — such as magnetic resonance imaging (MRI) — to locate and target the diseased area.

Sometimes a computed tomography (CT) scan is performed for patients who have implants or a pacemaker and can't undergo MRI. Blood-vessel angiograms are performed for patients with blood-vessel malformations. Once the imaging exams are completed, a computer plan is created to define the target.

This takes approximately one hour while you rest comfortably. You are then positioned on the Gamma Knife® couch, where your treatment will take place.

### Treatment

Treatment times range from only a few minutes to several hours, depending on the complexity of the condition and the number of targets required. During this time, some patients may require additional relaxation medication. A large number of patients will be discharged at the end of the procedure. If you are discharged then, it is advised that you not drive until the following day.

## Preparing for Your Procedure

Before your procedure, you will meet a member of our nursing team, complete necessary paperwork and address any questions or concerns you may have. Our team will help guide you through the process.

### Before Your Procedure

- The night before your procedure, shampoo your hair and forehead thoroughly with an antibacterial soap.
- Do not eat or drink anything after midnight the night before your procedure.
- Bring your usual morning medications with you the morning of your procedure.
- If you are diabetic or on a blood thinner, inform the nursing staff.
- If you need pain medication during the night or in the morning, take with water and let the nursing staff know when you arrive.

### Day of Your Procedure

On the morning of your procedure, report to the Gamma Knife® Program on the first floor of the AdventHealth Medical Plaza. We recommend parking in the King Street Parking Garage or in the AdventHealth Cancer Institute parking lot. Valet parking services are also available beginning at 7:00 am at the main entrance of the AdventHealth Medical Plaza.

- Inform the nursing staff if you are allergic to any medications or if there is a chance you may be pregnant.
- You may bring a personal music device to listen to during the procedure.
- Wear comfortable clothes for your procedure such as shorts, sweatpants and a t-shirt. You may also bring a sweater or light jacket if you get cold easily.
- Wear closed-toe shoes such as sneakers.
- You must have a responsible adult available to drive you home after your procedure.

## After the Procedure

The head frame will be removed after your treatment has been completed. You can then have something to eat and drink. Your family will be allowed to come back and visit you until discharge. Once you have recovered — usually after about an hour — you will receive discharge instructions for your return home.

### Discharge Instructions

#### Discomfort

- Mild headache, scalp tenderness or numbness is common after the Gamma Knife® procedure.
- These symptoms usually resolve over a few days to a few weeks.
- If you have discomfort or tenderness around the pin sites, Tylenol is recommended.

#### Activity

- Rest for the remainder of the day — fatigue is common after Gamma Knife® radiosurgery.
- You may resume your usual activities the morning after your treatment.





### Care of Pin Sites

- Keep the sites clean and dry.
- Steri-strips or Band-Aids may be placed over the pin sites. These may be removed the day after the Gamma Knife procedure.
- Once the tenderness has subsided, the pin sites may be cleansed with mild soap and water.
- You may shampoo your hair any time after the first 24 hours, but other hair products should not be used until pin sites are healed.
- Keep the pin sites out of the sun for one week, and then use sunscreen until fully healed to prevent scarring.

### Medications

- Resume your routine medications unless otherwise instructed.

### Diet

- You may resume your normal diet.
- Do not drink alcoholic beverages for the first 24 hours after your Gamma Knife® procedure.

### Normal Possible Side Effects

- Numbness and swelling at the pin sites is not uncommon.

- In some patients, swelling or bruising can extend down to the eyelids and may last several days. You may apply a cool compress over the eyes if needed.
- Occasional nausea up to 24 hours after treatment may occur. If this persists longer than 24 hours, contact your physician.
- The skin in the area where the radiation beams pass through may occasionally become slightly reddened.
- In cases where the Gamma Knife® is treating an area close to the scalp, hair loss in that area can occur days to weeks after the procedure. If this does occur, it tends to be temporary, and new hair usually grows back with time.

### When to Call the Physician

- Persistent pin-site swelling lasting longer than one week after treatment
- Persistent bleeding from the pin sites
- Headache not relieved by Tylenol
- Fever greater than 101-degrees Fahrenheit not relieved by Tylenol

## After Care

It may take a few weeks or months for you to fully respond to the Gamma Knife® radiosurgery. In order to evaluate the effectiveness of the procedure, periodic visits and follow-up imaging studies — such as MRI scans — are performed. How often these evaluations are done depends on the nature of your condition.

Your physician will review the follow-up plan with you.

**If you have questions about the radiosurgery procedure or want more information, contact the Gamma Knife® care coordinator at 407-303-7944.**

# Additional Instructions

Call your physician's office for a follow-up appointment.

Dr. \_\_\_\_\_ Office number: \_\_\_\_\_

In:  Two weeks     One month     Six weeks  
 Two months     Three months     Six months     Other: \_\_\_\_\_

Schedule:  MRI scan     CT scan     Angiogram     Other: \_\_\_\_\_

In:  Two months     Three months     Six months     Other: \_\_\_\_\_



# About the AdventHealth Gamma Knife® Program

Established in 1996, the AdventHealth Gamma Knife® Program is the first of its kind in Central Florida and has treated thousands of patients thus far. We are currently the only center in Central Florida to offer Leksell Gamma Knife® Perfexion™, a non-invasive brain surgery technique for treating brain lesions with pinpoint accuracy up to 0.3 millimeters. This is one of the most technologically advanced, non-invasive brain surgery techniques available today.

LEARN MORE [AdventHealthNeuroInstitute.com](http://AdventHealthNeuroInstitute.com)

## AdventHealth Then & Now

*Established 1866:*

**30** DOCTORS

**1** UNIQUE  
FACILITY

**106**  
PATIENTS

*Today:*

**MORE THAN  
80,000**  
PHYSICIANS  
& STAFF

**47** AWARD-  
WINNING  
HOSPITALS IN NINE  
STATES

**5 MILLION+**  
PATIENTS SERVED  
ANNUALLY

AdventHealth is  
recognized by *U.S.  
News & World Report*  
as one of America's  
best hospitals.





# Our Health Equity Promise

## Patient Protection and Affordable Care Act: Section 1557

AdventHealth complies with applicable federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex. This facility does not exclude people or treat them differently because of race, color, national origin, age, disability or sex.

AdventHealth provides free aid and services to people with disabilities to communicate effectively with us, such as:

- Qualified sign language interpreters
- Written information in other formats (large print, audio, accessible electronic formats, other formats)

AdventHealth provides free language services to people whose primary language is not English, such as:

- Qualified interpreters
- Information written in other languages

**If you need these services, please call 407-303-5600 x1106707.**

If you believe that this facility has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability or sex, you can file a grievance or request that someone assist you with filing a grievance at 407-200-1324 or [FH.Risk.Management@AdventHealth.com](mailto:FH.Risk.Management@AdventHealth.com).

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically, through the Office for Civil Rights Complaint Portal, available at [ocrportal.hhs.gov/ocr/portal/lobby.jsf](http://ocrportal.hhs.gov/ocr/portal/lobby.jsf), or by mail or phone at:

**U.S. Department of Health and Human Services**  
200 Independence Avenue, SW  
Room 509F, HHH Building Washington, D.C. 20201  
1-800-368-1019, 800-537-7697 (TDD)

Complaint forms are available at [hhs.gov/ocr/office/file/index.html](http://hhs.gov/ocr/office/file/index.html).

## The statements below direct people whose primary language is not English to translation assistance:

**ATENCIÓN:** si habla español, tiene a su disposición servicios gratuitos de asistencia lingüística. Llame al número siguiente.

**CHÚ Ý:** Nếu bạn nói Tiếng Việt, có các dịch vụ hỗ trợ ngôn ngữ miễn phí dành cho bạn. Gọi theo số điện thoại dưới đây.

**注意:** 如果您使用中文, 您可以免费获得语言协助服务。请拨打下面电话号码。

**Atansyon:** Si ou pale kreyòl Ayisyen, gen sèvis asistans nan lang ou ki disponib gratis pou ou. Rele nimewo ki anba an.

**주의:** 한국어를 사용하시는 경우, 언어 지원 서비스를 무료로 이용하실 수 있습니다. 아래의 번호로 전화하십시오.

**UWAGA:** Jeżeli mówisz po polsku, możesz skorzystać z bezpłatnej pomocy językowej. Zadzwoń pod numer podany poniżej.

ملحوظة: إذا كنت لا تتحدث اللغة الإنجليزية فإن خدمات الترجمة متوفرة لك مجانًا. الرجاء الإتصال بالرقم أدناه.

**ATTENTION:** Si vous parlez français, des services d'aide linguistique vous sont proposés gratuitement. Appelez le numéro ci-dessous.

**PAUNAWA:** Kung nagsasalita ka ng Tagalog, maaari kang gumamit ng mga serbisyo ng tulong sa wika nang walang bayad. Tawagan ang numero sa ibaba.

**ВНИМАНИЕ!** Если вы говорите на русском языке, то вам доступны бесплатные услуги перевода. Для этого позвоните по нижеуказанному номеру.

**ACHTUNG:** Wenn Sie Deutsch sprechen, stehen Ihnen kostenlos sprachliche Hilfsdienstleistungen zur Verfügung. Rufen Sie die untere Nummer an.

**सुचना:** जो तमे गुजराती बोवता हो, तो नि:शुल्क भाषा सहाय सेवाओं तमारा माटे उपलब्ध छै. नीचेना नंबर पर फोन करो.

**ATENÇÃO:** Se você fala português, disponibilizamos serviços lingüísticos gratuitos. Ligue para o número abaixo.

**ध्यान दें:** यदि आप हिंदी बोलते हैं तो आपके लिए मुफ्त में भाषा सहायता सेवाएं उपलब्ध हैं। नीचे लिखे नम्बर पर सम्पर्क करें।

اگر شما فارسی زبان هستید، خدمات کمپی زبان بطور مجانی در دسترس شما قرار دارد. نو شماره زیر زنگ بزنید.

توجہ فرمائیے۔ اگر آپ اردو بولتے/بولتی ہیں تو آپ کے لئے لسانی خدمات مفت میسر ہیں۔ ذیل میں دئیے گئے نمبر پر کال کریں۔

**注意:** 日本語でお話になりたい場合には、無料の通訳サービスをご利用いただけます。下記の番号にお電話してください。

**ໄປດຊາບ:** ຖ້າວ່າ ທ່ານເວົ້າພາສາ ລາວ, ການບໍລິການຊ່ວຍເຫຼືອ ດ້ານພາສາ, ໃດຍບໍ່ເສັຽຄ່າ, ແມ່ນມີພ້ອມໃຫ້ທ່ານ. ກະລຸນາໃຫ້ນັ້ງເບິ່ງເບິ່ງຂໍ້ມູນ

**LUS CEEB TOOM:** Yog tias koj hais lus Hmoob, cov kev pab txog lus, muaj kev pab dawb rau koj. Hu tus xojtooj hauv qab no.

**ATTENZIONE:** Se parlate italiano, sono disponibili dei servizi di assistenza linguistica gratuiti. Chiamare il numero sotto indicato.

**407-303-5600 ☎ 407-303-3025**







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