

Baylor Radiosurgery Center

Sophisticated Radiosurgery for both Brain and Body



 **BAYLOR**
University Medical Center
at Dallas
Radiosurgery Center

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Hoblitze Hospital, First Floor
Dallas, Texas 75246

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BaylorHealth.com/RadiosurgeryCenter



The Baylor Radiosurgery Center has treated over 900 patients using advanced Gamma Knife and Cyber Knife technologies. At the Baylor Radiosurgery Center we strive to treat all patients like family by delivering safe, quality, and compassionate care.

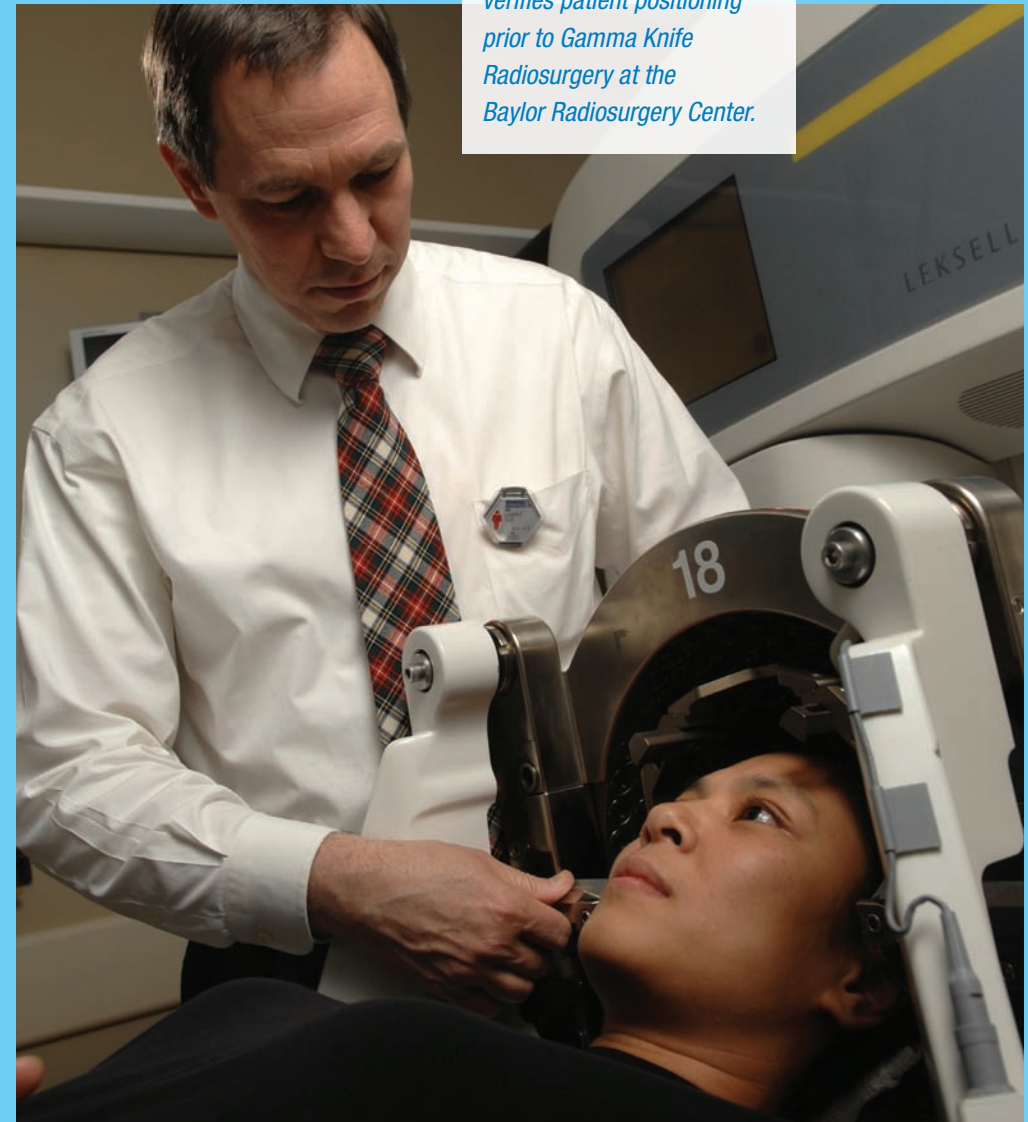
Dr. John O'Connor, M.D.
Medical Director, Baylor Radiosurgery Center

Radiosurgery uses powerful beams of precisely focused radiation to treat difficult tumors in the brain and elsewhere in the body. Radiosurgery is often effective when other methods of treatment have failed or cannot be used.

Baylor Radiosurgery Center offers you and your patients a full range of sophisticated radiosurgical options by combining two innovative radiosurgical systems: the **Gamma Knife®** and the **CyberKnife®**. Baylor University Medical Center at Dallas is the first medical center in Texas and one of the few in the world to combine these technologies within a single dedicated radiosurgical suite.

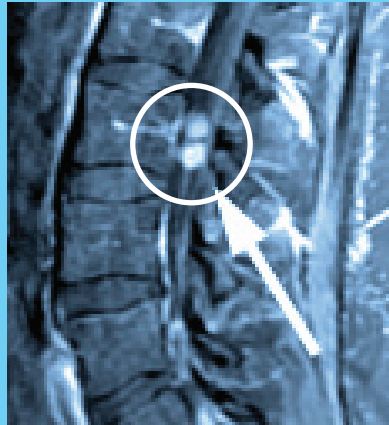
Because the Baylor Radiosurgery Center includes an **interdisciplinary radiosurgical team** on its medical staff, evaluation of your patient and selection of the appropriate radiosurgical procedure proceeds seamlessly and rapidly. The combination of advanced technology with dedicated expertise within a single center is a unique and powerful resource at Baylor Dallas.

Dr. Joe Gilio, Ph.D.,
*verifies patient positioning
prior to Gamma Knife
Radiosurgery at the
Baylor Radiosurgery Center.*

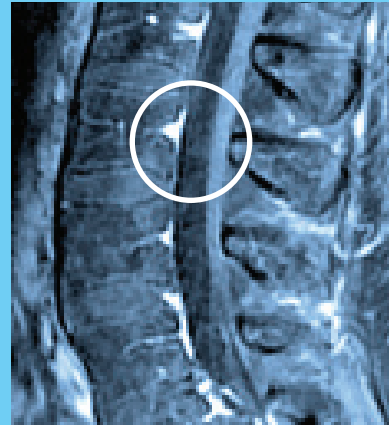


CyberKnife Radiosurgery

Spine



MRI Scan of Spine
Before Treatment



MRI Scan of Spine
Four Months After

The Radiosurgical Edge: Effective and Non-invasive

Stereotactic radiosurgery uses many precisely aimed, pencil-like beams of radiation to deliver extraordinarily high doses to the tumor target while sparing normal tissue only millimeters away. Radiosurgery has been a widely accepted treatment for difficult brain lesions for more than three decades. With advent of the CyberKnife, this technology is being applied to extracranial sites, such as lung, liver, prostate, pancreas, spine and kidney.

Advantages of radiosurgery:

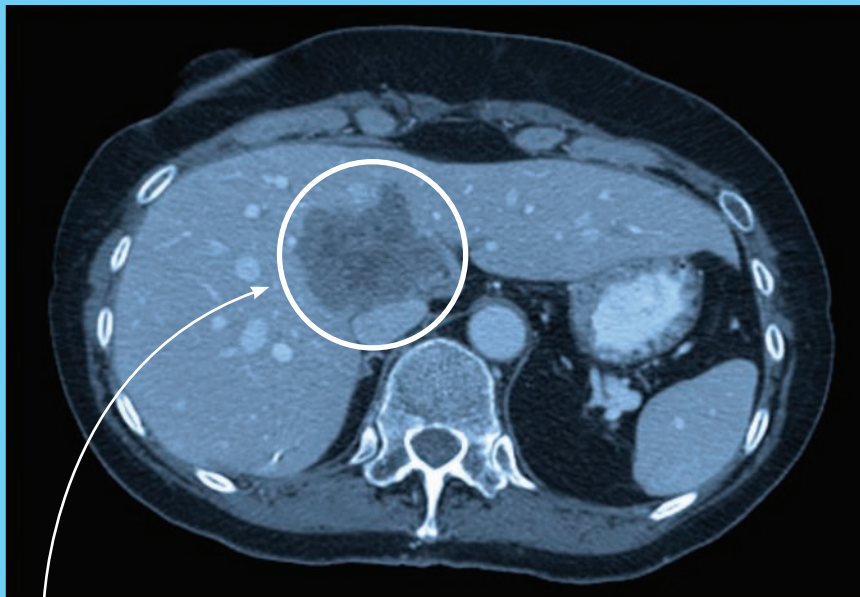
- High success rate for many tumors
- Treats tumors almost anywhere in the body
- Higher doses than conventional radiation
- Effective even after conventional radiation fails
- Can treat several tumors in one session
- Can be repeated
- Non-invasive, can be used when conventional surgery is prohibited
- Outpatient treatment completed in one to five days

Dr. John O'Connor, M.D.,
*Medical Director of the Baylor
Radiosurgery Center consults
with a patient prior to
CyberKnife Radiosurgery.*

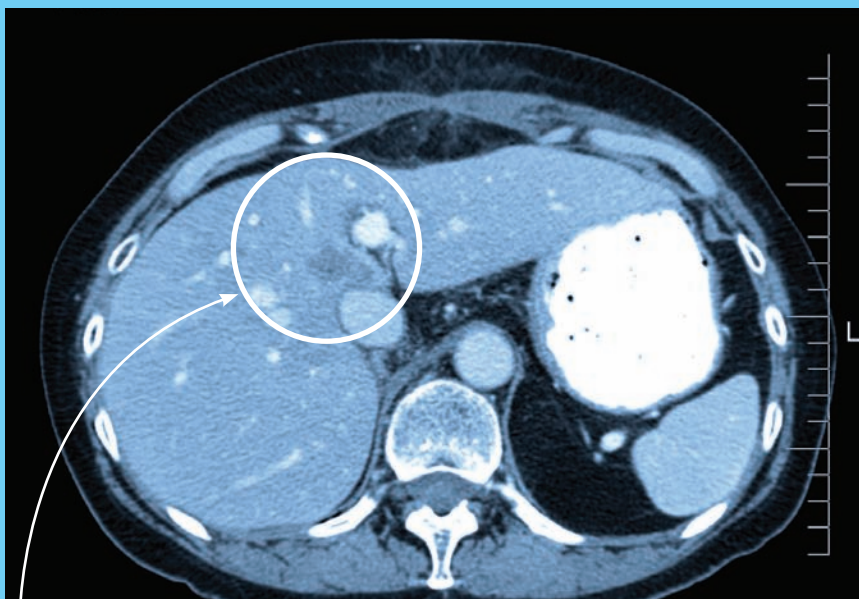


CyberKnife Radiosurgery

Liver Cancer



MRI of Liver Before Treatment
(Dark grey area indicates tumor)



MRI of Liver Four Months After CyberKnife Treatment

Numerous Conditions Treated

Radiosurgery can offer effective treatment of many conditions that are inoperable or untreatable with conventional therapy. Some of these conditions include:

Metastatic Brain Tumors. Rates of local control are high, even with 'radio resistant' tumors such as renal cell carcinoma. Response is often good even after conventional radiotherapy has failed, and multiple sites are easily and safely treated.

Primary Brain Tumors. Radiosurgery can provide local control of primary brain tumors, such as high-grade gliomas, medulloblastomas and ependymomas.

Extracranial Sites. The most exciting new application of radiosurgical technique is to treat tumors of the body:

- lung
- liver
- kidney
- prostate
- pancreas
- other organs

Physicians on the medical staff at Baylor Dallas are participating in national protocols for these new options.

Spinal Tumors. Using the advanced tracking system of the CyberKnife, metastatic and other lesions around – or even within – the spinal cord can be treated while minimizing the dose to the cord itself.

High-Risk Patients. Because radiosurgery is non-invasive, it can be offered to patients who are unable to undergo conventional surgery for medical reasons.

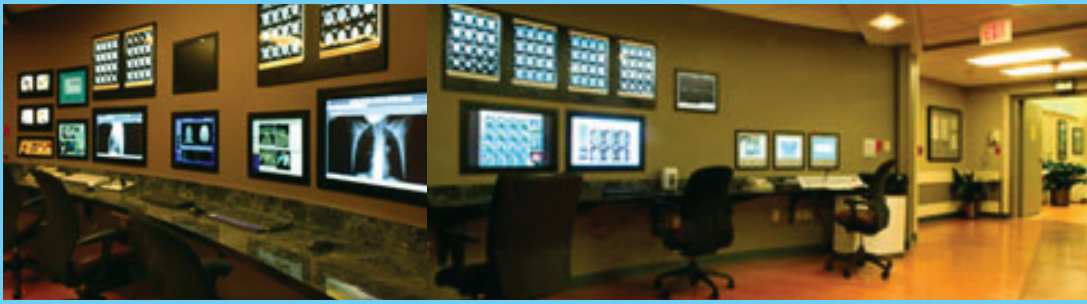
Meningiomas and Skull-Base Tumors. Radiosurgery can provide long-lasting local control, especially for residual tumors that cannot be safely removed by surgery.

Pituitary Tumors. Radiosurgery can be effective for control of both tumor size and unwanted hormonal secretion.

Acoustic Neuromas. Control rates are high and risk to the facial nerve is low.

Arteriovenous Malformations (AVMs). Radiosurgery can be effective for obliterating small, deep seated AVMs not amenable to surgical resection.

Trigeminal Neuralgia. Radiosurgery can be effective for relieving the facial pain of trigeminal neuralgia when other methods have failed or when surgery is contraindicated for medical reasons.



The Technology

The Gamma Knife directs 201 focused beams of radiation at the targeted lesion by means of a large helmet-like collimator. A special stereotactic frame is attached to the patient's head, providing greater accuracy. The model of Gamma Knife at Baylor Radiosurgery Center features a motorized, automated positioning system that allows shorter treatment times.

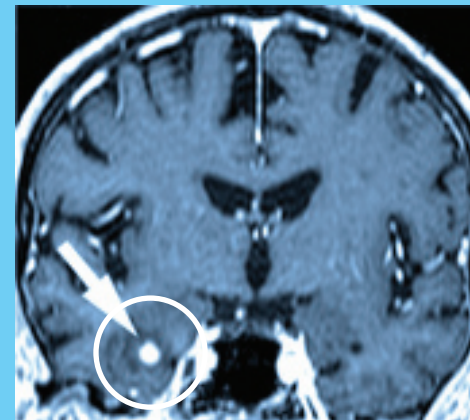
The CyberKnife provides a completely different way to perform radiosurgery. It consists of a large and powerful robotic system that stereotactically guides a modified linear accelerator around the patient, delivering one beam at a time. The system automatically uses X-rays of the patient taken during treatment to tell the robotic device how to compensate for patient movement, allowing the CyberKnife literally to "track" the tumor. During treatment of extracranial sites, the CyberKnife tracks motion induced by respiration to produce a precise treatment plan. This remarkable technology is also the secret behind the ability of the CyberKnife to treat difficult tumors requiring fractionation.

The Team

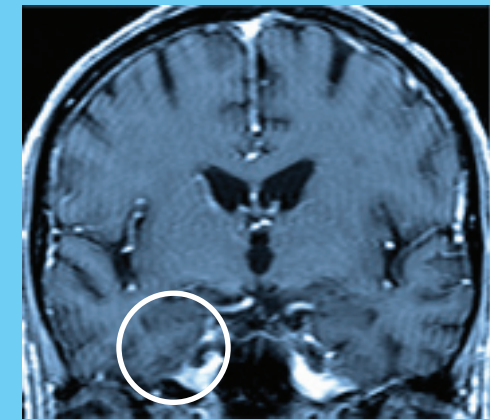
Baylor Radiosurgery Center, housed in its own wing at Baylor Dallas, is staffed by radiation oncologists, neurosurgeons, thoracic surgeons, surgical oncologists, urologists, otolaryngologists, physicists, radiation therapists and nurses dedicated to radiosurgery. Members of this team have years of experience in radiosurgery. This unique collection of professionals utilize advanced radiosurgical technologies: the Gamma Knife and the CyberKnife providing comprehensive radiosurgical care.

Baylor Radiosurgery Center holds a powerful concentration of resources for you and your patients that further expands the capabilities of Baylor's premiere neuroscience and cancer programs. Baylor Dallas has been ranked five times as one of the top 50 hospitals in the United States in both cancer care and neurology/neurosurgery in *U.S. News and World Report's* Best Hospitals issue.

Gamma Knife Radiosurgery Brain



MRI Scan of Brain
Before Treatment
(Arrow indicates tumor)



MRI Scan of Brain
Three Months After



Frequently Asked Questions

My doctor said that surgery would be too dangerous.

Can I be treated with radiosurgery?

Radiosurgery is non-invasive and involves no incisions or general anesthesia. Many patients that cannot have surgery and many tumors that are inoperable can be effectively treated with radiosurgery. For example, unresectable tumors in the lung, liver and pancreas can be treated with radiosurgery.

Can radiosurgery be effective for me even if I have already had radiotherapy and chemotherapy?

Because the doses of radiation that can be safely given with radiosurgery are so high, many tumors will respond to radiosurgery even if standard radiation therapy and chemotherapy cannot be used or has been disappointing.

What kinds of brain tumors can be treated with radiosurgery?

A wide variety of brain tumors often respond to radiosurgery. The chances of control of metastatic tumors that have spread to the brain from other organs are good even with “radioresistant” tumors, and several tumors can often be treated during the same procedure. Radiosurgery is often part of the treatment plan for primary brain tumors such as astrocytomas and gliomas, and can provide long-lasting control of meningiomas and other tumors of the skull base. Pituitary tumors can respond well to radiosurgery, and acoustic neuromas can be effectively treated with radiosurgery alone.

What kinds of tumors elsewhere in the body can be treated with radiosurgery?

In addition to treating tumors of the brain and spine, radiosurgery can treat difficult tumors of the lung, liver, adrenal gland, prostate and pancreas. Both primary and metastatic tumors throughout the body and brain can be treated with radiosurgery.

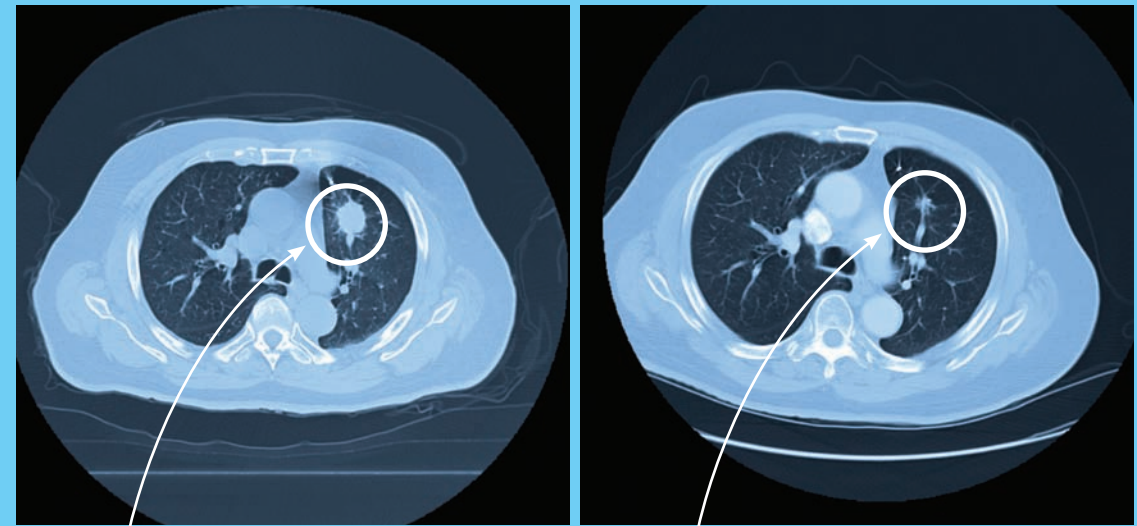
What about tumors of the spine?

Radiosurgery can be used to treat metastatic or primary tumors of the spine and spinal cord.

Can radiosurgery be used to treat conditions other than tumors?

Radiosurgery can be used effectively to treat vascular abnormalities called arteriovenous malformations (AVMs) and to treat a type of facial pain called trigeminal neuralgia.

CyberKnife Radiosurgery Stage I Non Small Cell Lung Cancer



CT Scan of Stage I Lung Cancer
Before Treatment
(Arrow indicates tumor)

CT Scan of Lung Four Months
After CyberKnife Treatment

Call Us Today

Baylor Radiosurgery Center is ready to be part of the treatment plan for your patients. For more information, to refer a patient, or to tour our facilities, please call the center at **214.820.7285**, Baylor ConsultLine at **1.800.9BAYLOR** or visit **BaylorHealth.com/RadiosurgeryCenter**