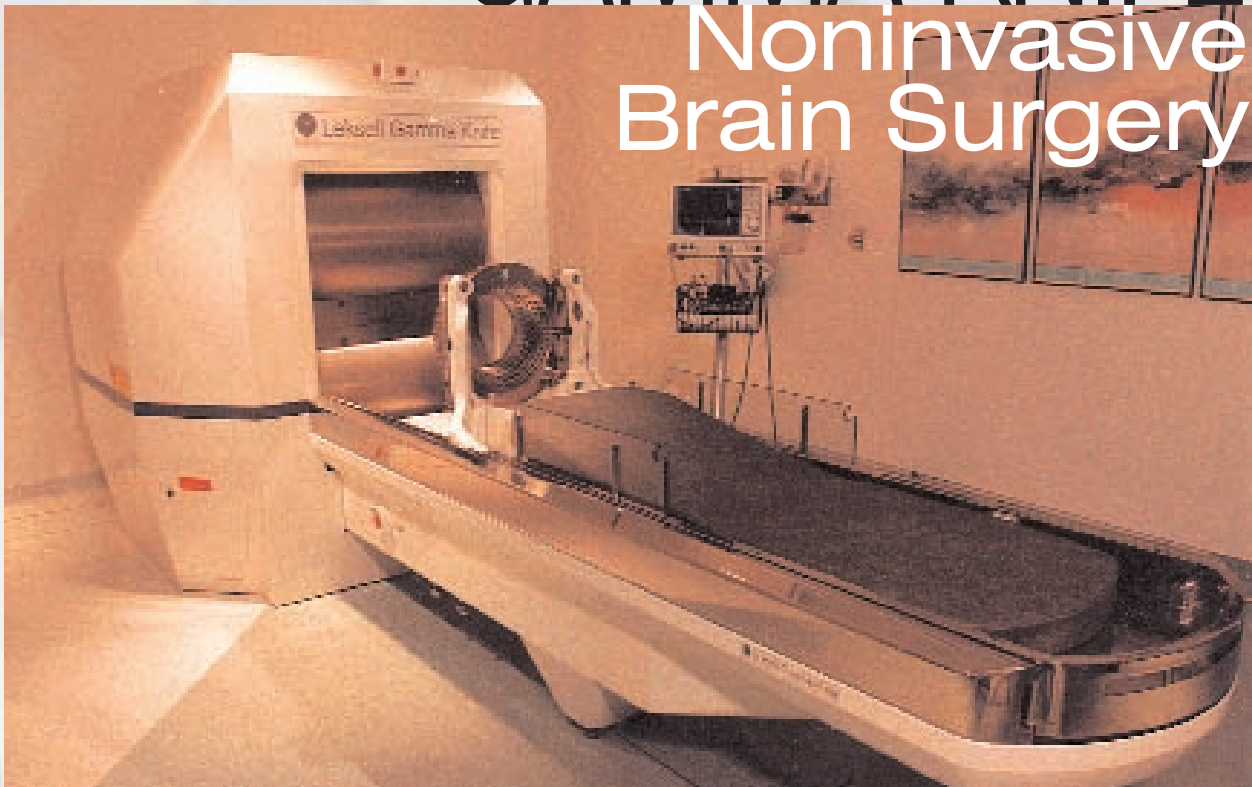


GAMMA KNIFE

Noninvasive Brain Surgery



In April, Barrow's Gamma Knife Center celebrated its fourth anniversary and treated its 1,000th patient.

Only 60 neuroscience centers nationally and 120 internationally offer this advanced, non-invasive treatment for brain tumors and other brain lesions.

Gamma Knife uses beams of ionizing radiation to destroy abnormal brain tissue while preserving surrounding healthy tissue. It accomplishes this by focusing 201 beams of cobalt-60 radiation on a precisely defined treatment site within the brain.

Gamma Knife can be an effective treatment for some patients with metastatic brain tumors, primary brain tumors, vascular abnormalities and functional disorders such as trigeminal

neuralgia. It is often an option for patients who are unable to undergo conventional neurosurgery or who need additional therapy to complement chemotherapy, radiation therapy or neurosurgery.

Because Gamma Knife radiosurgery does not require an incision, patients experience less discomfort, fewer risks, shorter hospitalization and recovery, and lower costs.

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Dr. Kris Smith specializes in Gamma Knife radiosurgery.



For 13 years, Lauri Heyob had worried about a tangle of veins and arteries in her brain—an arteriovenous malformation (AVM).

The vessels in an AVM weaken over time, making them prone to rupturing and bleeding.

“A bleed in the head could be very serious. It could be very debilitating, even cause death,” says the Chicago woman.

Finally, in April 2000 during Lauri’s yearly appointment at Barrow’s Gamma Knife Center, neurosurgeon Dr. Kris Smith gave her the news she’d been hoping for: The Gamma Knife treatment she had received three years before had worked. Her AVM was completely gone.

“They actually said they didn’t see the AVM any more,” says Lauri. “Can you imagine that after all those years?”

Neurosurgeons in Rockford, Illinois, had discovered the AVM in 1987 when Lauri, then just 27, went to the hospital complaining of a severe headache.

The AVM had ruptured, spewing blood into the cerebrospinal fluid. The neurosurgeons referred Lauri to Dr. Robert Spetzler at Barrow Neurological Institute.

During surgery to remove the AVM, Dr. Spetzler found that the AVM was so large and complex and located in such a critical area that removing it might result in brain damage.

On March 17, 1997, Lauri became Barrow’s first Gamma Knife’s patient.

Gamma Knife specialists began by attaching a lightweight frame to Lauri’s head. The frame was used to plan the treatment and to position her head during treatment.

Then, neuro-radiologists did an MRI scan that produced images of every millimeter of Lauri’s brain. These 144 images were sent to the Gamma Knife computer to create a map of Lauri’s brain. Dr. Smith used the map to define the target area

‘They didn’t see the AVM any more.

Can you imagine that after all those years?’

Lauri Heyob, first Gamma Knife patient

Instead, he reduced the size of it, restricting blood flow significantly. Afterward, Lauri returned to Barrow for yearly MRIs and angiograms.

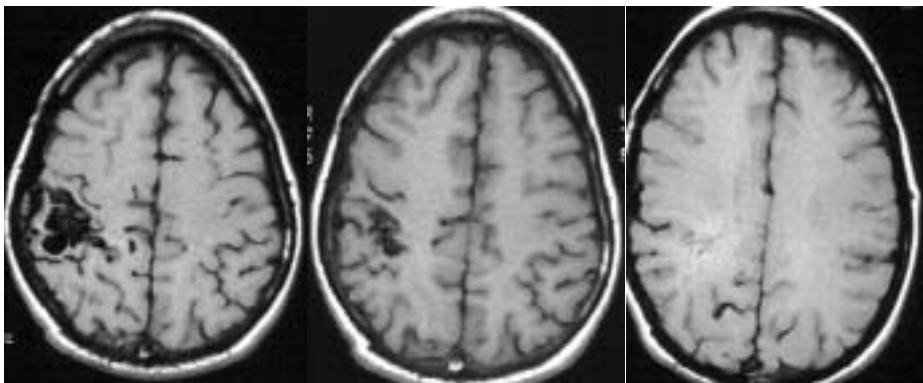
When Barrow opened its Gamma Knife Center in 1997, Dr. Smith suggested it as a treatment for Lauri’s AVM.

“I was pretty excited because they were optimistic about it eliminating my AVM, and it was non-invasive,” Lauri says.

and plan the treatment.

During the treatment, Lauri’s headframe was positioned in a metal helmet. Through the 201 holes in the helmet, beams of cobalt-60 radiation were focused on Lauri’s AVM. Gamma Knife specialists adjusted the position of her headframe 17 times to treat the entire AVM.

“The Barrow is the ultimate place to go in the U.S.,” says Lauri. “Dr. Smith and Dr. Spetzler are the absolute best.”



Yearly scans of Lauri’s AVM after Gamma Knife treatment show the lesion gradually disappearing.