



Radiation Oncology Consultants

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ROC June 2013 Newsletter

ILLINOIS GAMMA KNIFE CENTER NOW FEATURING PERFEXION™ The Most Advanced Radiosurgery System

New Technology Raises the Bar for Gamma Knife Procedures

To date more than 800,000 patients worldwide have undergone Leksell Gamma Knife surgery for brain tumors, vascular disorders, trigeminal neuralgia and acoustic neuroma. This fast, painless stereotactic radiosurgery, that requires no anesthesia or recovery, has shown superior clinical outcomes over the last 40 years. More than 2,500 peer-reviewed articles have been published regarding the effectiveness of Gamma Knife procedures, considered the gold standard in radiosurgery.

With pinpoint accuracy, the Gamma Knife can deliver a single high dose of radiation from multiple directions at intracranial and extracranial tumors and lesions, sparing vascular and neural structures outside the target area. Often requiring only one outpatient treatment, Gamma Knife procedures mean less physical strain on the patient, and less financial strain on the healthcare system.

New PERFEXION System



On June 13, 2013, the Alexian Brothers Neurosciences Institute hosted a blessing and open house to showcase the new PERFEXION Gamma Knife® installed at the Illinois Gamma Knife Center on the campus of Alexian Brothers Medical Center. PERFEXION represents the latest generation in minimally invasive cranial radiosurgery. Elekta, PERFEXION's manufacturer, reports "This new

integrated system, with its revolutionary design, provides full cranial reach. [It] is built to deliver outstanding patient and staff comfort and better dosimetry performance than any other radiosurgical system."

Since its opening in 2005, the Illinois Gamma Knife Center has treated approximately 1,500 patients. Patrick Sweeney, M.D., a ROC Radiation Oncologist, says that PERFEXION now offers two distinct advantages to patients and physicians over previous generations. First, the system enables greater access anywhere in the head, including the skull base and upper spine, allowing patients to lie comfortably for the procedure. Second, it allows for treatment of more than one target in the same session. "Fifty percent of our patients have been treated with the Gamma Knife for brain metastases," says Dr. Sweeney. "Two thirds of those patients have multiple tumors. Before PERFEXION, we would have to take time to plan and treat each tumor individually."

The Procedure

Diagnostic imaging, treatment planning and dose delivery are digitally integrated to allow for seamless information flow. When a patient arrives for the procedure, he/she is placed in a stereotactic head frame. Imaging is then performed and sent electronically to the treatment planning team. Gamma Knife uses 3-D planning to form the radiation dose to the exact size and shape of the affected area, allowing for full customization of treatment.

Once the plan is complete, the patient lies on the "couch", the moveable table that holds the frame and the patient's head motionless in a large metal cylinder-type helmet. Radiation then travels through 192 holes in the helmet sending the optimal radiation dose from cobalt-60 sources to the specified target.

Safety and Comfort

Enhanced safety features mean that PERFEXION offers a radiological accuracy of .50 mm while the system confirms the treatment target 10 times per second. Compared to previous systems, PERFEXION reduces per patient time by up to two hours, and treatment planning is performed twice as fast. "Patients are generally very happy since it saves them from an open neurosurgical procedure and they can return to normal activity the next day," says Dr. Sweeney. "Many people being treated for cancer spend a great amount of time driving to and from the doctor for their appointments. With PERFEXION, treatments are 30% faster and the procedure occurs in one morning as compared to the 2-5 visits required for other treatments." The procedure is covered by most insurance and often costs 25-30% less than traditional neurosurgery.

Gamma Knife Expertise

Dr. Sweeney has lectured nationally and internationally and is considered an opinion leader in Gamma Knife Radiosurgery. He has a proven record of accomplishment in treating metastatic tumors, vestibular neuromas, meningiomas and trigeminal neuralgia.

Diseases Treated

Accuracy matters when treating the brain. Gamma Knife radiosurgery is a unique non-invasive treatment that delivers multiple beams of extremely focused cobalt radiation which converge on one target in the brain. It is intracranial surgery without a scalpel and is less invasive for patients.

- **Brain Tumors** (Acoustic Neuroma/Vestibular Schwannoma, Glial tumor, Meningioma, metastatic brain tumor, pituitary tumor)
- **Functional Disorders** (Trigeminal Neuralgia or Parkinson's disease)
- **Vascular Disorders** (Arteriovenous Malformation or AVM, Dural Fistula)

Contact Us

PERFEXION Gamma Knife Radiosurgery is performed at the Illinois Gamma Knife Center in Elk Grove Village, IL. Dr. Patrick Sweeney and Dr. Ramji Rajendran are the ROC Radiation Oncologists performing the procedure with a Neurosurgeon. To contact one of these physicians regarding this treatment, please call the center 847.956.5428.