



WALLACE-KETTERING NEUROSCIENCE INSTITUTE

KETTERING HEALTH NETWORKSM

GAMMA KNIFE[®] PERFEXION[™]

REGION'S ONLY NEUROSURGICAL INTERVENTION WITHOUT INCISION!

Exclusively Providing:

- **Region's first and only Gamma Knife[®] Perfexion[™] is located at Kettering Medical Center**
- The "GOLD standard" for non-invasive intracranial radiosurgery for treatment of brain anomalies
- New hope for cancer and neurological patients

Patient Profile:

- Primary malignant and metastatic brain tumors
- Benign brain tumors (e.g., acoustic neuromas, meningiomas, & pituitary)
- Trigeminal neuralgia (facial pain)
- Vascular malformations (AVMs)

Physician Panel:

- **Dayton Neurosurgeons**
Jamal Taha, MD, Gamma Knife Medical Director
Raymond Poelstra, MD, FACS
Asif Bashir, MD
- **Cincinnati Neurosurgeons**
Jonathan Borden, MD
- **Columbus Neurotologist/Head & Neck Surgeon**
John Ryzenman, MD, Director of Ohio Ear Institute
- **Radiation Oncologist**
Philip Duncan, MD

Benefits:

- **Multidisciplinary Approach**
 - Patients are seen within 1 week of initial call to Gamma Knife Coordinator at (937) 395-8488 or 1-800-834-9815.
 - No interruption of chemotherapy treatments.

- Multidisciplinary team of specialists including neurosurgeons, radiation oncologists, neurologists, radiation physicists, and neuroscience nurses.
- After Gamma Knife radiosurgery, patients return to the referring physician for ongoing care as needed.

➤ Safe

- **Precise and improved delivery of a single high dose of radiation with pinpoint accuracy, thus sparing damage to healthy adjacent tissue.**
- **Faster treatment times.**
- **Enhanced patient experience with greater comfort.**
- Non-invasive surgical procedure that destroys brain tumors, helps improve functional disorders, and corrects vascular malformations once believed inoperable - with a high degree of accuracy.
- Fewer side effects, less risk, and shorter recovery time than conventional surgery.
- Safe, accurate treatment of tumors up to 4 cm without invasive surgery.

➤ Effective

- **Full cranial reach (lesions scattered throughout brain can now be treated in one session).**
- Generally an outpatient procedure, allowing the patient to return to normal daily activities within 24-48 hours.
- Effective as a primary treatment or in complement with radiation therapy and/or conventional surgery.
- Cost effective and less costly than open surgery and widely reimbursed by insurance and Medicare.
- Proven by more than four decades of clinical experience and documented results of 500,000 patients worldwide.

Accepting Referrals From:

- Neurologists, Neurosurgeons (AVM, brain tumors, trigeminal neuralgia)
- Neurosurgeons, Medical Oncologists, Radiation Oncologists (malignant brain tumors & mets)
- Neurologists, Dentists (trigeminal neuralgia)
- Neurologists, Endocrinologists (benign brain tumor: pituitary)
- Ear Nose Throat (benign brain tumor: acoustic neuromas)
- Primary Care Physicians (any condition listed on the reverse page)

Direct Scheduling Call

Diane Kessack, RN, BSN, Gamma Knife Coordinator
Phone (937) 395-8488 or 1-800-834-9815
 Fax (937) 395-8328

Patients are seen by appointment only at:

Kettering Medical Center, 3535 Southern Blvd., Kettering, OH 45429

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PATIENT PRESENTATION GUIDE

For consultation, call direct to Diane Kessack, RN, BSN, Gamma Knife Coordinator, at **(937) 395-8488**

Disease	Symptoms	Referral	Gamma Knife Radiosurgical Benefits
Metastatic Brain Tumors:	Headaches usually worsen when lying down, balance disturbances, cognitive changes, weakness/numbness in arms or legs, seizure, and unusual vomiting or visual changes	- Medical Oncologists - Radiation Oncologists - Neurosurgeons	Highly effective treating multiple lesions. 90% metastatic tumor growth control. Gamma Knife can be repeated if new brain metastases develop. Can be performed before or after whole brain radiation therapy (WBRT) and administered while on chemotherapy.
Malignant Brain Tumors: Glioblastoma Multiformi (GBM), Astrocytoma, Oligodendroglioma	Cognitive changes, balance disturbances, seizures, headaches, and various other symptoms depending on tumor location	- Primary Care - Medical Oncologists - Radiation Oncologists - Neurologists - Neurosurgeons	Effective in conjunction with or after conventional surgery. Can slow and/or stop tumor growth. Precision allows for preservation of adjacent healthy tissue and lower risk of injury than after conventional surgery.
Meningiomas: Benign brain tumors Can be malignant	Headaches, balance disturbances, personality changes, seizures, and various other symptoms depending on tumor location	- Primary Care - Neurologists - Neurosurgeons	Can effectively irradiate/cure small tumors (up to 4 cm or 1.5 inches). Used in conjunction with neurosurgery for larger tumors. Tumor control = 93%.
Acoustic Neuroma: Benign tumor on ear nerve	Hearing loss usually in one ear, balance disturbances, ringing in ears, headaches, and facial problems. Symptoms usually appear between age 30 - 60	- Primary Care - Ear Nose Throat - Neurologists - Neurosurgeons	Precision of procedure spares adjacent healthy tissue with highest preservation rate of all technologies. Tumor control = 97%. Incidents of side effects negligible (e.g., facial weakness).
Pituitary Adenomas: Benign tumors	Vision loss/double vision, hormonal imbalances (e.g., gigantism), difficulty with eye movements, and fatigue	- Primary Care - Endocrinologists - Neurosurgeons	Superior treatment for residual or recurrent tumors providing growth and long-term endocrine control. Gamma Knife can be used as primary treatment or after resection to treat residual and/or recurrent tumor.
Trigeminal Neuralgia (TIC): Disorder of the 5th cranial nerve involving part or all of one side of the face	Intermittent, lancinating facial pain usually involving one side of the face (gums/teeth, side of nose, forehead)	- Primary Care - Dentists - Neurologists - Neurosurgeons	Facial sensations usually preserved. 80-85% pain relief usually within 1-3 months after radial surgery. Gamma Knife can be repeated if total pain relief is not achieved. Best results occur when Gamma Knife is the first procedure chosen. MRI (using 1 mm slices) is necessary in ruling out tumor pathology.
Intracranial Arteriovenous Malformations (AVMs): Defects in the circulatory system composed of a tangle of arteries and veins believed to be congenital, rarely due to injury	Cerebral hemorrhage, seizures, severe headaches, neurological deficits. Patients commonly diagnosed between 20-40 years of age. AVMs that hemorrhaged once are at high risk of another bleed in the year after the first bleed	- Primary Care - Neurologists - Neurosurgeons	Option for patients who are not candidates for open skull surgery. 1-3 years after treatment, the irradiated vessels gradually degenerate and eventually close. This is a cumulative process with the earliest effects in 2-3 months. 50% of the effect is often seen within one year, 80% within two years, 90% within three years. After three years post initial Gamma Knife procedure, most residual AVMs can be treated again.

Visit wkni.org for details regarding the comprehensive services of The Wallace-Kettering Neuroscience Institute.