



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.