

UAMS possesses Arkansas' only Gamma Knife® Perfexion™

—the most advanced Gamma Knife system on the market today. Designed specifically for the non-invasive treatment of brain disease, the Gamma Knife Perfexion isn't actually a knife at all, but a radiosurgical tool which uses up to 192 beams of radiation to treat a variety of brain diseases while sparing surrounding healthy tissue.



For more information on the Gamma Knife Perfexion or to refer a case for review by our team, please call 501-603-1800 or visit us on the web: uamshealth.com/gammaknifesurgery.



Gamma Knife technology has been in use for over 40 years and has treated over 700,000 patients worldwide. The combination of this long history, the extreme accuracy of the system and over 3,000 peer-reviewed clinical articles supporting its use, makes Gamma Knife the “gold standard” for radiosurgery treatment for brain diseases. Additional benefits provided by the Gamma Knife Perfexion include:

- Outpatient, non-invasive procedure
- No incisions or general anesthesia
- Quick recovery in days, not weeks
- Covered by most medical insurances, including Medicare
- Unlimited cranial reach, treating single or multiple areas with ease
- No interruption of ongoing chemotherapy
- Can be used in conjunction with or independent of surgery, chemotherapy and other forms of radiation therapy
- Treatment for some inoperable diseases

UAMS®

UNIVERSITY OF ARKANSAS
FOR MEDICAL SCIENCES

UAMS Gamma Knife Center Indications Guide

Disease	Gamma Knife Benefits
<p>Acoustic Neuromas: Benign tumors typically located on or around the 8th cranial nerve</p>	<p>Clinical evidence reports long-term (5-15 years) tumor control rates of 93-100% for tumors less than 3 cm. Pre-radiosurgery hearing can now be preserved in 60-90% of patients. For intracanalicular tumors, hearing preservation can range from 73-100%. Research also supports greater than 95% of patients have preserved facial and trigeminal nerve function after radiosurgery. May be used in addition to surgery for tumors > 3 cm.</p>
<p>Cerebral Arteriovenous Malformations (AVM): An abnormal connection between arteries and veins in the brain</p>	<p>Can be used as a primary or supplemental treatment option along with surgery or endovascular embolization techniques. Treated vessels eventually close. Complete obliteration of AVMs takes place in approximately 70-90% of patients within 1-6 years of treatment. Residual AVM can be treated again if total occlusion has not occurred.</p>
<p>Malignant Brain Tumors: Malignant Glial Tumors, Glioblastoma Multiforme, Astrocytoma, Chondrosarcoma</p>	<p>Typically used in the treatment of residual or recurrent tumors. Effective in conjunction with conventional surgery, chemotherapy, and other forms of radiation therapy. Current research suggests using Gamma Knife at the time of tumor progression may lead to longer overall survival. Precise treatment helps allow for the preservation of adjacent healthy tissue.</p>
<p>Meningiomas: Typically benign brain tumors, but can be malignant</p>	<p>For small tumors of 4 cm or less, research supports that approximately 93-98% of patients experience long-term tumor control of 5-10 years defined as tumor shrinkage or no further tumor growth. Clinical data also supports that the control rate after stereotactic radiosurgery is equivalent to that after surgical resection for Simpson Grade 1 tumors and superior to grade 2 and 3-4 resections. Also effective in treating residual tumor tissue unable to be removed during surgery. Used in conjunction with conventional surgery for tumors larger than 4 cm.</p>
<p>Metastatic Brain Tumors: From a variety of cancers such as Breast, Lung, Colon, Prostate, Bladder, Kidney, and Skin (Melanoma)</p>	<p>Highly effective treating single and multiple lesions of all primary tumor types. Current research shows local control provided by treatment of metastatic tumors in any brain location exceeds an average of 85%. Gamma Knife can be repeated if new brain metastases develop. Can be performed alone, or before or after surgery and whole brain radiation therapy (WBRT). Randomized clinical trials show radiosurgery plus WBRT improved local control over WBRT alone. However, level 1 evidence has also shown that approximately 96% of patients treated with radiosurgery plus WBRT are significantly more likely to show a cognitive decline than those treated with radiosurgery alone. Gamma Knife can also be administered while patients are on chemotherapy.</p>
<p>Pituitary Adenomas: Benign tumors on the pituitary gland; can be both secreting or non-secreting tumors</p>	<p>Typically used in the treatment of residual or recurrent tumors following surgery. Clinical research supports tumor control rates for both non-secreting and secreting tumors to be between 70-90%. For secretory tumors, research supports approximately 50-60% of cases will achieve endocrine control in 12-60 months after treatment. Can be used as a primary treatment option when surgery is inadvisable.</p>
<p>Trigeminal Neuralgia: Disorder of the 5th cranial nerve on one part or all of one side of the face. Also known as Tic Douloureux</p>	<p>Current literature reports the rate of initial pain relief ranges from 78-94% usually within 1-3 months after treatment. Typically preserves facial sensations and can be repeated if necessary. Non-invasive alternative for patients who are unable to undergo microvascular decompression due to age or other co-morbidities. Helps patients on drug therapies reduce medications.</p>

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