

Brain cancer treatment options boosted with Gamma Knife

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Until recently, Nanci Redd thought she would need brain surgery if she wanted to stay in Akron, Ohio, to treat uncontrolled dizziness caused by a non-cancerous growth in her head.

Instead, she's scheduled to be the first patient treated with Akron General Health System's new Leksell Gamma Knife Perfexion unit.

The \$5 million machine uses precise beams of radiation instead of an actual knife to target and destroy [brain tumors](#) and other cranial disorders while minimizing damage to healthy tissue.

Patients who previously required Gamma Knife procedures were referred to Cleveland hospitals.

"This is a service to the community," said Dr. Georges Z. Markarian, chairman of the Neurosciences Department at Akron General. "The technology is really important because it provides a level of care that doesn't exist in this form."

For Redd, a 66-year-old retired bus driver and grandmother from Akron, the Gamma Knife procedure is preferred over [brain surgery](#).

Without treatment, doctors warned her, the growth could eventually affect her hearing and swallowing.

"For me," she said, "it sounds so much better than surgery. They said I'll

just be able to walk out of there by lunchtime."

The acquisition of the Gamma Knife is part of a \$30 million investment the health system is making to boost its ability to treat patients with [brain cancer](#) and neurological disorders, said Dr. Sarel "Charl" Vorster, medical director of the [neuroscience](#) institute.

"You have to be able to handle the patient through the whole care cycle," Vorster said.

During Gamma Knife treatments, a [neurosurgeon](#), [radiation oncologist](#) and physicist work together to determine how much radiation to use on the tumor and exactly where to direct it.

Patients receive a [local anesthetic](#) when a frame is attached to their head to keep it immobilized, Vorster said. They remain awake for the single [gamma radiation](#) treatment, which typically lasts 10 to 40 minutes.

The Gamma Knife can be a good option for some patients who have had lung, breast or other cancers spread to the brain, said Dr. Mitchel L. Fromm, chairman of the Department of Radiation Oncology at Akron General Medical Center.

The Gamma Knife also can be used to treat other brain and pituitary tumors, vascular malformations and functional disorders, such as some tremors and facial pain, Vorster said.

The precision allows minimal damage to nearby healthy tissue while destroying the tumor or malformation, Fromm said.

The goal is to "give as much as you can to the tumor but as little as you can to the normal tissue," Fromm said. "...Just imagine a firing squad with all the marksmen, all the people firing precisely hitting the target."

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