

Neurology & Neurosurgery



The exemplary team of physicians, caregivers and researchers at Baylor St. Luke's Medical Center continues to push the boundaries of what is possible in patient care through meaningful medical advancements and notable clinical achievements. This document highlights just a few of the stories that reflect our commitment to advanced services, innovative technology and forward-thinking care. Together, these accomplishments demonstrate how we remain at the forefront of medicine—bringing leading-edge solutions, improved outcomes and exceptional care to the patients and communities we serve.

Baylor St. Luke's Medical Center recognized as a GammaTile® center of excellence.

Neurosurgeons and radiation oncologists at Baylor St. Luke's Medical Center are recognized leaders in advancing brain tumor treatment and patient care. Most recently, Baylor St. Luke's physicians received the GammaTile® Center of Excellence designation for their use of a targeted radiation method on patients with operable brain tumors.

The GammaTile® is a bioabsorbable collagen implant embedded with radiation seeds that is placed into the surgical cavity at the time of tumor removal to provide immediate, localized treatment. This approach targets remaining cancer cells when they are at their lowest levels to help prevent regrowth, while minimizing radiation exposure to healthy brain tissue. Unlike conventional approaches, which often require a delay between surgery and radiation therapy to allow for wound healing, GammaTile® eliminates this treatment gap.

The designation of excellence reflects the exceptional level of expertise, case loads and continuing education at Baylor St. Luke's in the GammaTile® procedure, which has been adopted by more than 100 institutions since its market launch in 2020.



Read more about the GammaTile® implant for the treatment of operable brain tumors

Baylor St. Luke's Medical Center researchers uncover genetic factors for aggressive, recurrent meningiomas that may lead to more targeted, effective treatments.

Meningioma, a common brain tumor that can typically be treated successfully with surgery and radiation, can unfortunately reoccur in about 20% of cases and return multiple times.

Recently, researchers at Baylor St. Luke's Medical Center and Washington University School of Medicine have identified clinical and genetic predictors in this most aggressive, treatment-resistant form of meningioma—called multiple recurrent meningiomas (MRMs)—that promise future development of potential biomarkers and therapeutic agents for addressing these challenging tumors.

In a study of patients with primary meningiomas, Baylor St. Luke's researchers explored potential differences at the molecular level between MRMs and meningiomas that don't come back. They found that

MRMs are more numerous, larger and more common in men than in women. At the molecular level, MRMs also exhibit chromosomal instability and loss, factors that are more present in aggressive types of many human cancers. Moreover, the expression of certain genes is different in these recurrent tumors than in meningioma that does not return after treatment.

This information lays the foundation for developing precision medicine and better predicting at the time of the first surgery which meningiomas will most likely recur repeatedly. Knowing which meningiomas will come back again and again will fundamentally change how they are treated from the very beginning—vital knowledge for surgeons and their patients.

[Read about why some meningiomas recur and how they are treated](#)

Neurosurgeons at Baylor St. Luke's Medical Center are world renowned for awake brain surgery.



Patients with cavernous malformation—a condition where tiny abnormal blood vessels cluster and surround normal brain tissue—can exhibit symptoms like twitching, facial numbness and seizures. Often, the clusters, which appear as a spot on the brain, are

deemed inoperable and are managed with anti-seizure medication and sometimes, radiation to shrink the cluster.

But neurosurgeons at Baylor St. Luke's take a different approach to cavernous malformation: surgery—specifically, a procedure called an awake craniotomy. An awake craniotomy can identify parts of the brain that supply critical functions, including speech and motor function. To avoid damaging these functions, the surgeon will wake up the patient mid-operation and ask them to perform certain tasks, such as answering questions and making hand movements to ensure that what the surgeons are removing does not affect speech or motor functions.

Patients who come to Baylor St. Luke's Medical Center for this procedure are often seeking a second opinion after receiving an initial discouraging diagnosis. At Baylor St. Luke's Medical Center, their road to recovery after an awake craniotomy is much quicker and with better outcomes than other treatments.

[Read about one patient's successful awake craniotomy](#)

Baylor St. Luke's Medical Center researchers win 2025 stat madness for new discovery in how brain stores, recalls memories.

Neurosurgery researchers at Baylor St. Luke's Medical Center have won a coveted national award for their new discovery of how memories are stored and recalled.

Baylor St. Luke's researchers were able to show how star-shaped cells called astrocytes are involved in the learning and memory process.

Until now, memory recall had only been associated with the activity of brain cells called neurons. This new finding expands theories on memory by showing

direct roles for non-neuronal cells in the storage and retrieval of memories. It also opens the door to new lines of investigation that will decipher how astrocytes store memories, while further dissecting their specialized interactions with neuronal engrams (specific ensembles of neurons that form enduring biochemical and structural changes after an experience, allowing that memory to be stored and later recalled).

[Read more about the award-winning research](#)

Brain Surgeons at Baylor St. Luke's Medical Center experts in new treatment for brain aneurysms.

Cerebrovascular neurosurgeons at Baylor St. Luke's Medical Center reached a milestone in 2025 in the treatment of complex ruptured brain aneurysms by using a new novel treatment device that can reconstruct a ruptured blood vessel as small as one millimeter.



The minimally invasive, endovascular approach employs a new device called a Medtronic Pipeline Vantage 21 flow diverting stent that functions like a scaffold over which the body builds a new blood vessel lining. This effectively

seals off blood flow into the aneurysm, resulting in aneurysm cure. The outcome is complete reconstruction of the blood vessel without having to perform a more invasive, traditional open vascular neurosurgery.

Unlike traditional flow-diverting stents, which are made for large arteries approximately four millimeters wide, the new device is suitable for much smaller vessels.

Performed on a young female patient in early 2025, the novel treatment using the new device was only the second of its kind in Texas. Both surgeries were performed at Baylor St. Luke's—a testament to the expertise of its neurosurgery specialists.

[Read about one brain aneurysm patient's successful treatment with the new, minimally invasive stent](#)

Baylor Researchers at Baylor St. Luke's Medical Center lead first in human trial for recurrent glioblastoma.

Baylor researchers lead first in human trial for recurrent glioblastoma, a major unmet need for a universally fatal disease: The target, Glypican 3 (GPC3) was first described in GBM at Baylor College of Medicine. The CAR T cell was developed at Baylor College of Medicine and this trial will be conducted exclusively at BSLMC.

[Study details](#)

