

Epilepsy Center



IMPACT OF PHILANTHROPY



3,000
patient visits



1ST
MEG device
in Arizona



11
active research
studies

Led by Vladimir Shvarts, MD, the Barrow Epilepsy Center provides patients with access to advanced diagnostics tools and a multidisciplinary team of specialists dedicated to delivering world-class care and conducting innovative research. Over the past year, the Center has grown to include nine epileptologists, two neurosurgeons, three advanced practice providers, a patient navigation nurse, a social worker, and a surgical program coordinator.

In addition, Barrow is a National Association of Epilepsy Centers-accredited Level 4 Comprehensive Epilepsy Center, the highest designation in the field.

You contribute to innovative technology.

The Barrow Epilepsy Surgery Program provides hope to individuals with epilepsy who still experience seizures with medication.

Last year, Barrow acquired Arizona's first magnetoencephalography (MEG) system, a crucial tool for identifying patients who would benefit from surgery and guiding surgical interventions. This imaging technology can measure brain activity down to a millisecond, picking up on signals that electroencephalography (EEG) may miss. This makes the MEG invaluable to epilepsy surgeons, as it allows them to precisely target the areas causing seizures while minimizing risks to critical brain functions.



You advance life-changing epilepsy research.

Epilepsy Risk After Brain Injuries: About 15%-30% of patients who experience an acute brain injury will develop seizures or epilepsy within two years. Susan Herman, MD, is investigating whether high-density EEG and electrical source imaging can be used as a biomarker to predict which acute brain injury patients will develop epilepsy.

Deep Brain Stimulation (DBS) for Drug-Resistant Epilepsy: Andrew Yang, MD, director of the Epilepsy Surgery Program, is exploring the interactions between the brain's thalamus (where DBS for epilepsy is delivered) and its cortical regions, from which seizures originate. By understanding these interactions, Dr. Yang aims to refine DBS treatment for drug-resistant epilepsy.

You impact the lives of patients and families.

“After suffering from epilepsy for years, I had DBS surgery and it completely changed my life. I very rarely have seizures now and can spend time with my husband, play with my children, travel, and do all the things I love without fear of medication side effects. I have my life back thanks to Barrow.”

Sara Eeds



Read the full story:



SCAN ME



Vladimir Shvarts, MD, Director of the Epilepsy Center, with a patient.

On the Horizon

MEG Research: Once the MEG program is fully staffed, the team will use the device for research on the origins of seizures and specific changes associated with increased risk of seizures. They also plan to expand its use to analyze brain function in patients with traumatic brain injuries, strokes, brain tumors, and AVMs.

Neuromodulation Research: Out of the 3.4 million Americans living with epilepsy, more than 30% are unable to control their seizures with medication. Dr. Yang will continue his research into DBS therapies for drug-resistant epilepsy to better understand how it may reverse brain interactions that cause seizures.



The mission of Barrow Neurological Foundation is simple: to be the catalyst of our donors' passion for transformation by providing the resources for Barrow Neurological Institute to achieve its mission of saving human lives through innovative treatment, groundbreaking research, and educating the next generation of the world's leading neuroscience specialists.