

# Technology & Innovation

AdventHealth Neuroscience Institute

The AdventHealth Neuroscience Institute is a world-class center focusing on minimally invasive brain surgery, spine conditions, epilepsy, stroke, sleep disorders and interventional neuroradiology treatments. Our multidisciplinary team utilizes the following advanced tools and therapies to help those with brain, spine and nervous system disorders.

## Leksell Gamma Knife® Perfexion™

- Radiosurgery that can treat multiple brain lesions with advanced precision during one session; patients go home the same day following an outpatient procedure that does not require general anesthesia
- Represents the gold standard in radiosurgery; AdventHealth has the only Gamma Knife™ in Central Florida
- Delivers precisely directed radiation to the most complex tumors while protecting surrounding tissues and structures from exposure to radiation

## OPMI Pentero 900

- Surgical microscope used for minimally invasive brain surgeries (MIBS) and enhanced tumor definition
- Delivers brilliant visualization with state-of-the-art apochromatic optics, crystal clear video images in full HD quality and innovative fluorescence methods
- Designed for the most demanding microsurgical applications

## Laser Interstitial Thermal Therapy (LITT)

- Diode laser technology that uses light energy via a laser probe to precisely destroy tumor tissue and tissue damaged by radiation necrosis
- Minimizes damage to surrounding tissue, providing for minimal scarring and pain along with a faster recovery; patients are usually discharged within 24 hours
- AdventHealth has the only LITT in Central Florida

## Robotic Stereotactic Assistance (ROSA)®

- Comparable to a GPS system for the brain, this robotic tool can be used for any cranial procedure, but is primarily devoted to the treatment of epilepsy
- Features a robotic arm with six degrees of freedom to replicate human arm movement
- AdventHealth owns and utilizes the only ROSA® in Central Florida

## NeuroPace RNS®

- Similar to a pacemaker that monitors and responds to heart rhythms, the system is the first and only medical device that can monitor and respond to brain activity to reduce seizures
- Responsive neurostimulation for intractable epilepsy in adult patients
- It is a surgically implanted, yet reversible therapy
- Potential to lessen anxiety and greatly improve quality of life for patients suffering from epilepsy
- AdventHealth is the only hospital in Central Florida to have the NeuroPace RNS® System



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## Intraoperative 3-Tesla MRI & 40-slice CT

- Advanced medical imaging that improves surgical outcomes by allowing images to be taken while the patient is still in the OR
- Ensures the surgery has been successful and minimizes the potential need for a second operation
- Reduces exposure to radiation
- Located within our state-of-the-art neurosurgical suites

## ExcelsiusGPS™

- Cutting-edge robotic technology that combines surgical navigation and robotic guidance for minimally invasive spine surgery
- Designed to strengthen the safety and accuracy of spine surgery, this system provides enhanced visualization of patient anatomy throughout a procedure; streamlines surgical workflow and reduces radiation exposure for medical personnel
- Benefits include smaller incisions, reduced blood loss, lower risk of infection, reduced muscle damage and quicker recovery
- AdventHealth is one of only a handful of hospitals in the country with this system — giving our patients access to some of the most advanced treatment available. We are also the first center in America designated for physician observation and training with ExcelsiusGPS™.



## Mazor Robotics

- Incorporates an advanced guidance system that enables surgeons to perform minimally invasive, safer and more accurate spine surgeries
- Treats patients suffering from debilitating back pain or limited range of motion caused by spinal deformities and degenerative conditions
- Benefits include smaller incisions, reduced blood loss, lower risk of infection, reduced muscle damage and quicker recovery

AdventHealth complies with applicable federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex.

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