



AdventHealth Launches Neurocritical Care Fellowship Training Program

Approved by the United Council for Neurologic Subspecialties (UCNS) at the beginning of 2019, the new AdventHealth Neurocritical Care Fellowship Training Program offers 12-24 months of training in neurocritical care accredited by the UCNS. Trainees will rotate through the 40-bed neuroscience intensive care unit (ICU) housed at AdventHealth Orlando.

This training will provide opportunities for fellows to manage patients with life-threatening neurological and neurosurgical illnesses, including a range of acute neurologic conditions, such as acute ischemic stroke, intracerebral hemorrhage, subarachnoid hemorrhage, subdural hemorrhage, traumatic brain injury, spinal cord injury, refractory seizures and status epilepticus, central nervous system infections, and severe neuromuscular and neuroimmunologic diseases. They will also manage care for patients after complex neurosurgical and neuro-interventional procedures. Fellows will be mentored by a faculty of neurointensivists, vascular neurologists, epileptologists, neurosurgeons and critical care physicians.

In addition, this program provides fellows with the clinical skill set necessary to manage critically ill neurological and neurosurgical patients. This includes, but is not limited to, airway management, ventilator management, central and

arterial line placement, flexible bronchoscopy, hemodynamic management, bedside ultrasonography, brain oximetry interpretation, ICP monitoring and EVD management, multimodal advanced neuro-monitoring, neuro-telemetry and cEEG monitoring.

The fellowship is open to applicants with internal medicine, emergency medicine, neurology or neurosurgery residency training, or critical care fellowship training; the training may last up to 24 months. Fellows who have a previous fellowship in critical care medicine, pulmonary critical care, surgical critical care or anesthesia critical care are able to undergo a 12-month fellowship training curriculum.

AdventHealth Orlando is a nearly 1,300-bed hospital with 160 adult ICU beds, including 28 neuro/neurosurgical ICU beds and an additional 12 neuro/neurosurgical intermediate/stepdown beds.

For more information or to apply for this fellowship, contact Neuro ICU Medical Director Amay Parikh, MD, at amay.parikh.md@adventhealth.com or Fellowship Director Okorie Nduka Okorie, MD, at okorie.okoriemd@adventhealth.com.

Updates in Neurology and Neurosurgery

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AdventHealth Neuroscience Institute Committed to Providing Increased Access to Comprehensive, Patient-Centered Subspecialty Care

The AdventHealth Neuroscience Institute (NSI) cares for patients with a diverse range of neurologic conditions in an innovative, accessible, holistic and patient-centered manner. Using a consumer-centric framework for building systems of care around specific neurologic conditions, AdventHealth is committed to confronting challenges referring physicians and their patients face in obtaining timely care as well as creating nationally-recognized, destination programs in Central Florida.

In recent years, the national shortage of general and subspecialty neurologists has resulted in patients traveling long distances to obtain specialized treatment for conditions like movement disorders, neuromuscular diseases, neuroimmunology, headache, epilepsy and memory disorders. To address this, AdventHealth has launched a comprehensive brain health strategy that is attracting high-quality, subspecialty neurologists to treat patients with these conditions

and educate their caregivers. We are also focused on conducting rigorous research to uncover new and better diagnostic and treatment options. These subspecialists work together with AdventHealth's general neurologists, functional neurosurgeons and psychiatrists to provide patients with a comprehensive network of care. In addition, AdventHealth Neuroscience Institute physicians are supported by multidisciplinary outreach programs, including Parkinson's, Maturing Minds for Alzheimer's disease and dementia and more.

Surgery is another important focus within the institute and encompasses a multidisciplinary destination spine care center, a concierge program for minimally invasive brain surgery, and expanding access points for comprehensive stroke and neurovascular care. In addition, specific strategies are underway that are addressing the behavioral health needs of the region related to substance abuse, anxiety, depression, suicide prevention and access to care for the uninsured.

Over the next decade, we will continue to advance neurological and neurosurgical care to meet the evolving needs of the local and national communities.

Care Navigation

Minimally Invasive Brain Surgery (MIBS)	407-303-7944
Spine Center	407-303-9102
Epilepsy & MEG	407-303-7520
Center for Sleep Disorders	407-303-1994
Parkinson's Outreach Center	407-303-5295
Alzheimer's disease & Dementia	407-392-9237

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AdventHealth Spine Center Streamlines Care for Patients with Back Pain

Introduction

Low back pain is the leading cause of disability globally, affecting 70-80 percent of the population over their lifetime. It is also the most expensive benign condition in the United States. Nationally, more than \$60 billion is spent each year in spine care. Low back pain also represents one of the top 10 reasons patients visit AdventHealth emergency departments (EDs), and regionally, it is the second most common reason patients visit their primary care physicians.

In 2018, 26,000 back pain patients came through AdventHealth's 10 Central Florida EDs. These patients were evaluated, and most were discharged home with instructions to follow up with their primary care physicians. More than 13 percent of those patients returned to an AdventHealth ED in less than 30 days. Others were simply lost to follow-up.

To improve care and decrease readmissions, a back pain/ED navigation program was established in November 2018. Led by the AdventHealth Neuroscience Institute Spine Center, the navigation program streamlines care for patients with back pain and ensures they get to the right physician or care provider at the right time for the right care.

Methods

Initially, the AdventHealth Neuroscience Institute launched a one-month pilot

program in one ED, where any patient discharged with the primary discharge diagnosis of back pain was provided a direct phone number to follow up with a registered nurse (RN). This specialized referral center reviewed patients' specific symptoms and assessed their needs. Assistance provided included imaging scheduling, targeted physician appointments, ancillary services help or even a return to emergency services.

Data was compiled on patients being discharged with certain ICD-9 codes. This allowed the Spine Center care coordination team to proactively contact non-responders. Typically, after speaking to the patient, the RN referred the patient to either physical therapy, physiatry, pain management, orthopedic spine surgery or neurosurgery. Strict guidelines were developed for promptness of patient evaluation in these offices. Detailed, transparent records were kept of patient referrals. Patients were allotted evenly amongst participating physicians on a rotating schedule, promoting physician buy-in to the program.

AdventHealth Spine Center Goals

- Answer all phone calls on the same day and provide call-backs within 24 hours.
- Triage patients to the appropriate physician or care provider close to their home within three to five days.
- Make certain each patient receives the proper diagnosis and work-up.
- Ensure those patients who require surgery receive it in an expedited manner.
- Increase patient satisfaction, minimize the health care costs incurred and improve patients' quality of life.
- Decrease readmissions to the ED.

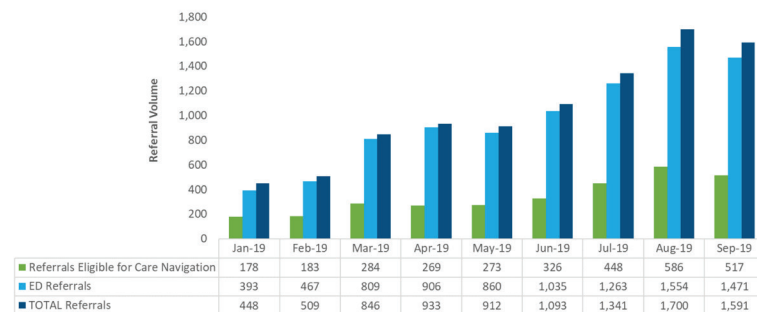
Results

At the conclusion of the one-month trial, 379 discharged patients were triaged to the proper physician or provider to receive the appropriate follow-up care, and most importantly, none of them needed to return to the ED. In addition, one patient who required immediate surgery was promptly identified and treated. Based on this success, AdventHealth gradually rolled out the program to all 10 of its hospital-based EDs, four free-standing AdventHealth EDs and a number of urgent care centers throughout the remainder of 2018 and into 2019.

As of October 2019, 7,000 patients have come through the Spine Center, navigated by experienced, specially-trained, neuroscience critical care RNs to the appropriate follow-up care. This includes 77 patients who required and received surgery as well as additional patients headed in that direction. The program has reached 1,700 patient Spine Center contacts per month (Figure 1). Figure 2 represents the referrals from the Spine Center based on specialty.

Referrals to Spine Center

Data Source: Cordata (Volumes by Referral Date)



*Reasons for Care Navigation Ineligibility:
PT declined care navigation, PT went to outside provider, Insurance not accepted, No services to offer

Appointments from Spine Center

Data Source: Cordata (Volumes by Appointment Date)

Specialty	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	2019 YTD
Neurosurgery	28	35	29	33	39	33	37	36	37	307
Physical Therapy	5	8	12	8	4	2	2	4	4	49
Anesthesiology	17	10	11	21	12	9	12	4	10	106
Orthopedic Surgery	7	2	4	3	6	5	3	7		37
Family Medicine	3	5	2						1	11
Physical Medicine & Rehab	3	5	1	2	3		1			15
Grand Total	63	65	59	67	64	49	55	51	52	525

Conclusion

The creation of the back pain/ED navigation program has accomplished several goals:

- Decreased the number of unnecessary back pain admissions to the hospital
- Improved patient satisfaction with the care-navigation process
- Provided physicians with appropriate high-yield referrals with the proper imaging
- Maintained network integrity through coordinated care for the AdventHealth system
- Established a database for care accountability and research
- Provided a much-needed human touch for these patients in need

The AdventHealth Spine Center care coordinators also provide the following personalized services:

- Education for their patients on their diagnosis, treatment and rehab options
- Facilitation of scheduling of additional testing as needed
- Coordination of treatment plan
- Communication with referring physicians
- Navigation of patients through the surgical process, if needed



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The Case for Value-Based Spine Care

According to the United States Bone and Joint Initiative, spine pathology is among the most common, most disabling and costliest disorders in the United States health care system. In fact, spine care is one of the top five expenses for most hospital systems, placing it under the microscope in today's cost-conscious health care environment. The challenges are compounded by the fact that outcomes tend to vary widely for both surgical and non-surgical spine care.

A New Evidence-based Approach

All of these factors, combined with the high volume of spine patients treated at AdventHealth, are driving development of a comprehensive, value-based model for spine care that aims to provide better coordinated care, improved outcomes, higher patient satisfaction rates and lower costs. About one year ago, our neuroscience team began applying an evidence-based approach to changing the way spine care is delivered, chipping away at this large challenge one issue and care pathway at a time. Key initiatives include the following:

- **Taking a multidisciplinary team approach to evaluate spine care pathways and outcomes** — This involves the neuroscience non-operative physicians, neurosurgeons, orthopedic spine surgeons, nurses, physical therapists, anesthesiologists and emergency room physicians all meeting regularly to continually improve the care provided to spine patients. This approach ensures that everyone involved in a patient's care has a seat at the table, and, together, we focus on eliminating the separate work silos -- taking a broader approach to care that incorporates all viewpoints.
- **Providing access to the latest spine technology** — Patients can benefit from computer-assisted surgery, intra-operative computed tomography (CT) navigation and the latest generation robotics systems.

- **Generating outcomes in complex spine surgeries that are higher than the national average** — Our multidisciplinary neuroscience team has identified key metrics and established baselines to track progress. We have also worked together to educate everyone who provides care for spine patients throughout our system about the new pathways and desired outcomes. Mechanisms have been implemented to track these key metrics and we are able to see the results in real-time to make prompt improvements.
- **Actively engaging in research** — This includes participation in U.S. Food & Drug Administration (FDA) clinical trials as well as research studies to track and improve long-term outcomes for spine patients.

Outcomes

These efforts have already paid off by achieving outcomes above the national average for both length-of-stay (LOS) and complication rates for our lumbar fusion patients.

Additional goals include lowering readmission rates, decreasing the number of patients who require post-surgical care in a skilled nursing facility, and facilitating a quicker return to work for the patient. Furthermore, we are focused on establishing consistent standards to optimize the pre-operative process and encompass more than just surgical care. We are addressing initial spine patient work-ups to implement standards and care pathways that ensure surgery is only performed when necessary. If a patient is deemed to need surgery, a meticulous, multi-pronged process is implemented to optimize the patient's care before surgery to achieve the best results possible.

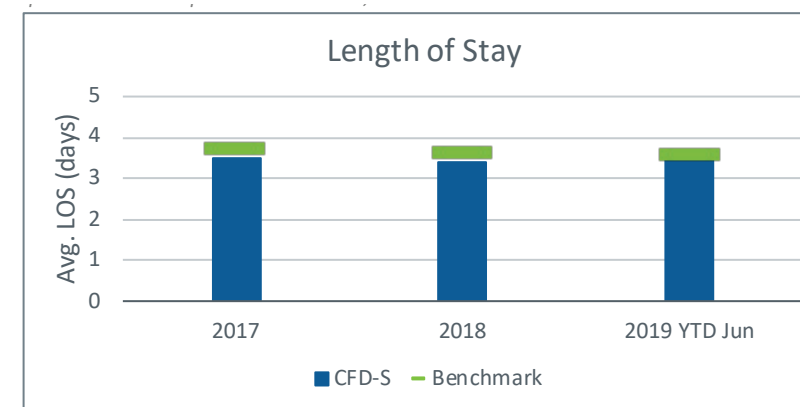
Finally, our neuroscience team is providing continuing medical education (CME) programs for primary care, emergency room and urgent care physicians, informing them about our evidence-based spinal care guidelines and their role in the care process. In addition to providing the best possible care for our patients, our goal is to become one of a handful of leading Spine Centers of Excellence across the country, which would include offering an employer-direct model.



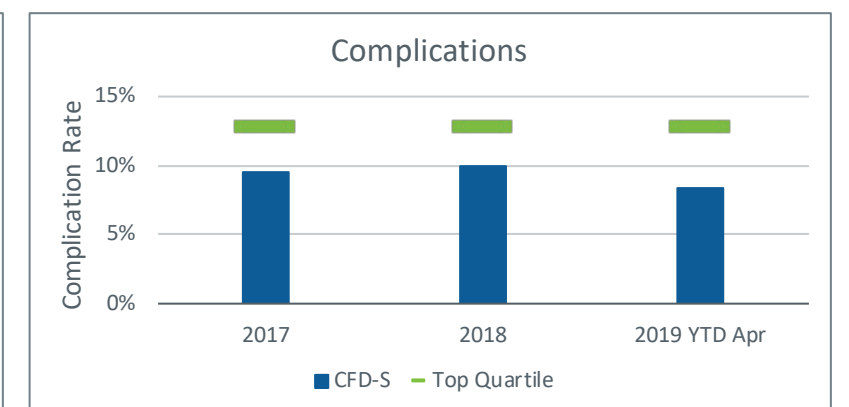
Data Sources: Cerner, Premier Quality Advisor

Patient Population: Adult Inpatient Encounters; MS-DRG 459-460

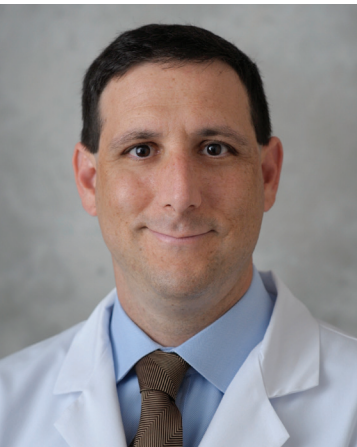
Lumbar Fusion Outcomes



	CFD-S	Benchmark	PT Volume
2017	3.50	3.72	789
2018	3.42	3.61	667
2019 YTD Jun	3.59	3.56	279



	CFD-S	Top Quartile	PT Volume
2017	9.5%	12.8%	786
2018	9.9%	12.8%	666
2019 YTD Apr	8.4%	12.8%	191



Melvin Field, MD
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Minimally Invasive Brain Surgery Program Studies the Benefits of Endoscopic Microvascular Decompression for Patients with Trigeminal Neuralgia

Trigeminal neuralgia (TN) is a disabling pain disorder causing paroxysmal shooting, stabbing, electrical pain in the face, gums, teeth and eyes. Its patients refer to it as the worst pain known to man. Once a proper diagnosis is made, most patients begin medications to treat their pain. Initial pain relief is common with medical therapy, but most patients eventually develop tolerance to the medications and require dose escalation or polypharmacy to attain adequate pain relief. Ultimately, a majority of patients either suffer intolerable breakthrough pain in spite of maximal dose escalation or side effects from higher dosages of

these medications at which point neurosurgical options are then pursued.

Over the years, neurosurgeons have developed a myriad of different surgical treatments in an attempt to cure patients of this debilitating pain while at the same time trying to minimize the risk associated with these types of treatments. Common neurosurgical treatments include trigeminal rhizotomies (radiofrequency, glycerol or balloon compression), radiosurgery (Gamma Knife or linear accelerator/LINAC), and microvascular decompression (MVD). Although there is no universal agreement as to why people develop trigeminal neuralgia, it is known that a majority of patients with classic signs and symptoms have a neurovascular compression of the trigeminal nerve -- it exits the pons in the cerebellopontine angle. Decompressing the nerve of this vascular conflict often alleviates the pain. This neurovascular compression is now commonly seen when obtaining fine-cut MR CISS/FIESTA imaging of the posterior fossa and is used to help guide the neurosurgeon in determining which treatment option to offer the patient with medically intractable trigeminal pain.

Treating Trigeminal Neuralgia with MVD

Most centers who routinely manage patients with medically intractable TN consider MVD the gold standard when medications are no longer a feasible option to control the pain. Of the neurosurgical treatments, MVD is highly effective in alleviating trigeminal pain and has a low rate of resultant trigeminal nerve injury causing facial paresthesias or numbness when compared to rhizotomy or radiosurgery. Released in April 2019, the European Academy of Neurology's new guidelines for the management of TN recommend that MVD be considered as the initial treatment option for all healthy individuals with medically intractable idiopathic TN unresponsive to medications.

Evaluating the Endoscopic Approach for MVD

Over the past 20 years, neuro-endoscopy and keyhole/minimal access approaches have gained wide acceptance as tools for treating various skull-base and deep-seated brain pathologies. Proponents of endoscopic and keyhole approaches often argue that better visualization and less surrounding tissue disruption lead to better outcomes. Since 2004, we have been embracing these tools in an attempt to improve patient outcomes for various brain conditions. Endoscopic keyhole posterior fossa surgery is one such example in the treatment of acoustic neuromas, meningiomas, chordomas, epidermoid tumors and various neurovascular compression syndromes, including trigeminal neuralgia.

Although described, no long-term large patient series has looked at the outcomes using this approach for TN to see how it compares to traditional MVD or other neurosurgical treatments used to manage TN pain. To help answer this

question, our Minimally Invasive Brain Surgery Program and the University of Central Florida's College of Medicine conducted a retrospective review of 300 consecutive patients undergoing endoscopic MVD (eMVD). For the study, 255 patients with medically intractable TN were included, and the results were presented at this year's Congress of Neurological Surgeons Annual Meeting in San Francisco, California.

Results

The results of the study showed that 95.5% of patients had resolution of their TN pain after eMVD surgery with continued pain relief at one-month post-surgery. The average pain reduction using the Barrow Pain Scale was 2.99, and 4.3% of patients noted some degree of facial paresthesia or numbness after surgery. No patients developed facial weakness or loss of hearing. Adverse effects presented by our group are shown in Table 1.

Table 1: Post-operative Adverse Events (n=255/300)

Adverse Effect	Yes (%)	No (%)	Missing Values (%)
Facial Numbness	11 (4.3)	233 (91.7)	10 (3.9)
Facial Paralysis	0 (0)	244 (96.1)	10 (3.9)
Hearing Loss	0 (0)	244 (96.1)	10 (3.9)
Dizziness/Loss of Balance	1 (0.4)	238 (93.7)	15 (5.9)
Ataxia	1 (0.4)	242 (95.3)	11 (4.3)
Dysphagia	0 (0)	244 (96.1)	10 (3.9)
Diplopia	5 (1.9)	238 (93.7)	11 (4.3)
Infection	2 (0.8)	241 (94.9)	11 (4.3)
Spinal Fluid Leak	1 (0.4)	243 (95.7)	10 (3.9)
Stroke	1 (0.4)	243 (95.7)	10 (3.9)
Chronic Headache	2 (0.8)	242 (95.3)	10 (3.9)

All five patients with diplopia had full resolution of symptoms at one month.

In our series, 22% did have partial recurrence of TN pain with a mean follow-up of 5.6 years (range 1.25 - 13 years). This compares favorably to Jannetta's hallmark series published in the *New England Journal of Medicine* with over 1,100 patients undergoing MVD for TN with a recurrence rate of 30% and a mean follow-up of 6.2 years as well as Broggi's series of 250 patients with a recurrence rate of 26% at a mean follow-up of 5 years. In addition, no observed increased risks or complications related to use of an endoscope compared to traditional MVD were found. Specifically, there were:

- No observed heat-related injuries
- No proximal cerebellar injuries
- No vascular injuries
- No increased neural deficits as a result of 2D versus 3D visualization
- No increased risk of infections or cerebrospinal fluids (CSF) leaks

Conclusion

In summary, eMVD is safe and effective as a primary neurosurgical treatment for idiopathic TN. Long-term follow-up suggests a low recurrence rate when compared to other treatment modalities, including traditional MVD, rhizotomies or radiosurgery. The risk of complication was also very low with this technique when compared to other treatment options. This is the largest series to date utilizing this technique, and our long-term data suggests that eMVD should be considered in the treatment armamentarium for the management of idiopathic TN.



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AdventHealth Neurovascular Team Enhances Patient Care with New Treatment Techniques and Technology

Our neurovascular team provides management of all vascular disorders of the brain and spine. As the busiest comprehensive stroke center in Central Florida, more than 200 patients per year have been treated with our clot-retrieval techniques. In addition, our group has been involved in numerous research projects to advance the care of neurovascular diseases, such as stroke. These recent trials include the DAWN trial which helped to demonstrate a benefit to treating patients with clot-retrieval techniques beyond six hours, resulting in new EMS protocols to help more stroke patients.

Our team has also expanded the ability to treat aneurysms with a minimally-invasive technique -- bringing new technology to Central Florida, such as the PulseRider device. We were the first in the area to utilize this device, a permanent nitinol (nickel titanium) self-expanding stent implant, which enables the treatment of bifurcation aneurysms. Previously, many of these aneurysms would have required an open surgical treatment. The Woven EndoBridge (WEB) Aneurysm Embolization System is another first. A permanent nitinol (nickel titanium) self-expanding mesh ball implant, WEB enables the treatment of wide-neck aneurysms without leaving any metal in the normal blood vessel.

Other neurovascular treatment options offered at our institute include treating aneurysms through minimal open craniotomy for clipping, stenting for cervical and intracranial stenosis, cerebral bypass, and treatment of arteriovenous malformations.



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Streamlined Emergency Department Protocols Improve Neuroscience Patient Care and Outcomes

Neuroscience care encompasses a variety of conditions that involve the structure or function of the nervous system and brain, and for patients with conditions like stroke, back pain and seizures, the emergency department (ED) is often their gateway to care. As ED physicians, our role is to stabilize the patient, help them feel better, assess and diagnosis their condition, and then direct them to the proper care pathway as quickly as possible. Since 2011, AdventHealth has been strengthening our ED protocols to improve time-to-treatment for all neurological patients throughout the system, including at our comprehensive stroke center in Orlando

and our tertiary EDs throughout Central Florida.

Expediting Care for Stroke Patients

Time-to-treatment is especially critical for stroke patients. We know that they can lose two million brain cell neurons every minute, which can impact their future functionality and quality of life. We also know that timely intravenous administration of tissue plasminogen activator (tPA) can dissolve the blood clot causing the stroke. This restores blood flow to the brain, minimizing brain tissue damage. In addition to saving lives, expediting stroke care and administration of tPA in the ED can mean the difference between a patient walking out of the hospital and living independently to ending up in a skilled nursing facility. Over the past eight years, we have built strategic relationships and pathways throughout the AdventHealth system as well as implemented a number of focused ED initiatives to enhance care for our stroke patients, including the following:

- Educating and empowering our physicians and staff to promptly and effectively recognize stroke, including giving our ED physicians the impunity to order stroke tests first if there is any suspicion at all of stroke
- Connecting our ED physicians to the right neuroscience specialists to facilitate timely transfers when needed
- Expediting phone calls and lab results
- Establishing dedicated tele-stroke physicians who are readily available with a five-minute-or-less response time to serve AdventHealth's tertiary centers and help facilitate transfers
- Designating a dedicated stroke nurse in our comprehensive stroke center in Orlando with direct access to anyone in the neurological care pathway, including radiology, pharmacy

and surgery -- significantly improving time-to-intervention

- Establishing primary stroke centers, which include dedicated inpatient neurological care floors, at AdventHealth's Altamonte Springs, Winter Park, East Orlando, Celebration, Kissimmee and Apopka hospitals

Results

The time-to-treatment standard for stroke is 60 minutes, and, as a result of implementing these targeted protocols, all AdventHealth facilities are currently under that threshold. For patients, this translates to quicker recovery, improved outcomes, and better functionality and quality of life. In fact, post-TPA bleed rates from stroke in our system now range from 2.8 - 3.3 percent, nearly half the national average of 5.9 percent. Plans are also underway to establish a second comprehensive stroke center in Central Florida in 2020.

Additional ED Medical Pathway Improvements

In addition to stroke, our neuroscience ED medical pathway improvement efforts focus on improving care for patients with back pain, seizures, and conditions like dementia and Alzheimer's disease:

- With back pain patients and the diagnosis and treatment of seizure patients in the ED, we have implemented several protocols that ensure timely transition of care to specialists for appropriate follow-up -- improving care, reducing readmissions and greatly decreasing the wait time for an appointment.
- A similar approach has been applied to the diagnosis and treatment of seizure patients in the ED, focusing on achieving more timely follow-up care from neurologists.
- We are in the process of establishing a Maturing Minds Pathway for the treatment of dementia and Alzheimer's disease patients in the ED, working with nursing homes and senior living facilities in the area to ensure these patients are brought to the ER first for appropriate medical care rather than simply Baker-acting them. The Baker Act is a Florida law that allows people with mental illnesses to be held involuntarily for up to 72 hours in a mental health treatment facility if they meet certain criteria.

The AdventHealth ED team remains committed to providing neurology patients with safe, expedited care and will continue to seek ways to improve and strengthen integration with the entire neuroscience team.



Nivedita Jerath, MD, MS
*Neuromuscular Division
Director
AdventHealth*

AdventHealth Establishes Adult Neuromuscular Program to Provide Patients with Convenient Multidisciplinary Care and Support

We are honored to welcome Nivedita Jerath, MD, MS, to AdventHealth as the medical director for Neuromuscular Medicine. She is a board-certified neurologist with outstanding credentials and a special interest in helping patients with hereditary motor and sensory neuropathies. A proud graduate of Harvard University, she earned her medical degree at the Mayo Clinic College of Medicine and returned to Harvard for her neurology residency. She completed consecutive fellowships in neurophysiology and neuromuscular diseases, and earned a master's degree in translational biomedicine at the

University of Iowa. Before moving to Central Florida to serve as medical director, Dr. Jerath served as Director of the Charcot-Marie-Tooth Association Center of Excellence and as a clinical assistant professor at the University of Florida.

The new AdventHealth Neuromuscular Medicine program takes a multidisciplinary approach to treating patients, allowing them to not only obtain their medical, physical therapy and occupational therapy appointments on the same day, but to also have treatment options, electrodiagnostic testing and genetic testing coordinated at the time of that appointment. Our team provides patients with a carefully scheduled day to meet the specific needs of their disease process.

Recently, there has been an advent of genetic testing and treatments for neuromuscular disorders, and we offer many of the latest options, including treatment for amyotrophic lateral sclerosis (ALS)/motor neuron disease, Pompe disease, amyloid neuropathy, Duchenne Muscular Dystrophy (DMD), spinal muscular atrophy, Lambert-Eaton myasthenic syndrome (LEMS), periodic paralysis and myasthenia gravis -- just to name a few. Our program also offers intravenous immunoglobulin (IVIG) treatment options, including subcutaneous IVIG.

A specialized team of experts assists patients with their treatment-related needs at the time of their appointment and works to help patients with specific neuromuscular-related needs, including mobility-related issues. We also offer a spiritual counseling service to help patients through difficult times on their journey.

Our program has partnered with several organizations to further enhance care and support for patients. This includes working closely with the Muscular Dystrophy Association (MDA) as well as specialized patient groups, like the Charcot-Marie-Tooth Association (CMTA), the Hereditary Neuropathy Foundation (HNF), the Peripheral Nerve Society (PNS), the GBS/CIDP Foundation International, the FSHD Society (facioscapulohumeral muscular dystrophy), and the ALS Association. Designated a Hereditary Neuropathy Foundation (HNF) Center of Excellence, the AdventHealth Neuromuscular Medicine program is in the early stages of research projects and clinical trials to become a renowned neuromuscular program for patients around the world.

AdventHealth Welcomes Neurosurgeon Chandan Reddy, MD, MS, FAANS, to Grow Deep Brain Stimulation (DBS) Program in Celebration, FL

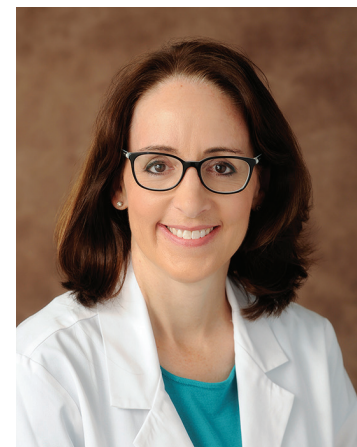


Board-certified neurosurgeon Chandan Reddy, MD, FAANS, recently moved to Orlando to enhance and grow the AdventHealth Neuroscience Institute DBS program. He has fellowship subspecialty training in functional neurosurgery and peripheral nerve as well as in general neurosurgery. Based primarily out of AdventHealth Celebration, he is currently welcoming new patients, including those with movement disorders, such as Parkinson's disease, essential tremor and dystonia.

Dr. Reddy graduated magna cum laude in cognitive neuroscience from Harvard University prior to returning to his home state for medical school at the University of Michigan. He then completed residency training at the University of Iowa with one year of subspecialty training at the Mayo Clinic in peripheral nerve neurosurgery, which includes brachial plexus injury, peripheral nerve tumors and entrapments. Dr. Reddy then returned to the University of Iowa hospital system as an Assistant Professor of Neurosurgery for five years before moving to the University of Florida in 2017.

While at the University of Florida, Dr. Reddy earned a master's degree in electrical engineering and published in the field of neural prosthetics - augmentation of the nervous system with electrical devices to help those with brain, spinal cord or peripheral nerve injury. He has extensive experience in deep brain and spinal cord stimulation as well as general cranial and spinal neurosurgery, including instrumentation. He is a member of the American Association of Neurologic Surgeons (AANS), Congress of Neurological Surgeons (CNS), Society for Neuroscience (SFN), American Society for Peripheral Nerve (ASPN), North American Neuromodulation Society (NANS) and the World Society for Stereotactic and Functional Neurosurgery (WSSFN).

Dr. Reddy believes that the next decade of neurosurgery will bring even more innovative treatment options to patient care -- allowing technology to fundamentally improve the quality of life for conditions previously thought to be without hope, including brain, spinal cord and peripheral nerve injury. By partnering with AdventHealth, he looks forward to making these technologies a clinical reality and serving patients throughout Central Florida.



Rosemary Laird, MD, MHSA
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Maturing Minds Program
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Maturing Minds Program's Memory Disorder Clinic Provides Diagnostic Evaluation, Care Plan Development and Caregiver Training and Support

According to the Alzheimer's Association, more than five million people are currently living with Alzheimer's disease, and this number is projected to triple to as many as 16 million in 2050. This epidemic is a tragedy in the making, not only for affected patients but for the 16 million+ family members who will be involved in their care as this neurodegenerative illness slowly robs patients of the ability to think and do for themselves. While this disease remains incurable, there are many ways to improve the quality of life for patients and their caregivers.

To address the needs of affected citizens, the Florida Legislature authorized the creation of 17 Memory Disorder Clinics (MDCs) throughout the state. These clinics provide comprehensive diagnostic and referral services for Alzheimer's disease and dementia patients, conduct research, and develop caregiver training and education.

In 2017, the AdventHealth Maturing Minds program was designated as a Memory Disorder Clinic and began serving a multicounty area that includes Orange, Seminole, Polk, Lake, Sumter and Hernando. The program is dedicated to promoting lifelong brain health. It serves those who are experiencing memory concerns and need a diagnostic evaluation as well as those who have received a diagnosis and are seeking help for their next step and clinical support over the course of the illness. The program also links families to community resources and conducts educational and screening programs promoting brain health to groups of all ages.

Dementia and the Importance of Cognitive Screening

While society is accustomed to preventive care and early diagnosis for many health concerns such as the flu, cancer and heart disease, there has been little focus placed on brain health and cognitive screening as people age. Many people think memory loss is simply a part of the aging process. However, this is not true. Everyone will notice their minds become a bit slower and that they have to work a bit harder than when they were younger, but dementia is a specific disease. Despite conventional wisdom that there is nothing to be done for patients with dementia, there are many ways health care providers can improve the quality of life for both patients and family caregivers during this tragic, long goodbye.

The place to start is with early diagnosis. Patients and caregivers should avoid brushing off complaints of changing memory as just "senior moments." Changes in cognitive ability, function, mood and personality that occur in early-stage neurodegenerative illnesses can place individuals at great personal risk. Memory lapses can lead to medication errors. Poor judgement may allow financial exploitation. Changes in mood or communication abilities can cause a wide range of disruption to relationships and family dynamics. Each of these can be signs of early disease and should be fully evaluated.

Taking a Multidisciplinary Approach to Provide Individualized Support for Patients and Caregivers

With the Maturing Minds program, a multidisciplinary team, including a registered nurse, physician, advanced nurse practitioners and licensed clinical social workers, works together and collaborates with the patient's primary care physician to fully evaluate concerns. A full history and physical exam along with cognitive testing are conducted to allow decisions about the need for brain imaging or blood tests. The team is focused on ensuring a careful review for conditions that can mimic dementia, such as medication side effects, sleep disorders, hearing issues, depression and anxiety. Our medical team also consults other clinicians as needed, including neuropsychologists, speech pathologists, physical therapists and pharmacists. This holistic approach leads the program to a proper evidence-based diagnosis and results in highly-individualized, targeted support for the patient and their caregivers.

If a diagnosis of Alzheimer's disease or an associated disorder is reached, we develop a customized care plan for the ongoing medical and day-to-day care of the patient. We also provide family caregivers with ongoing support, training and connections to community resources often needed over the course of these challenging illnesses.

Coordinating with Primary Care Physicians and Increasing Awareness

The Maturing Minds program's Memory Disorder Clinic works closely with primary care physician offices throughout the region to help their patients receive a proper diagnosis and support. Medicare patients can make an appointment with no referral required. Those under 65 years of age (or those who do not have Medicare) should check with their insurance company as they typically need a physician referral.

Beyond the clinic and in an effort to increase awareness, prevention and knowledge about the availability of screening to assess cognitive health, the Maturing Minds program also conducts community outreach to non-clinical groups as well as the professional health care community, including those working in nursing homes and assisted living facilities. At AdventHealth, we launched an online training program for those working with patients experiencing memory issues in the health care setting; to date, more than 5,000 have completed it.

Maturing Minds Program

- Diagnostic evaluation for patients with memory loss or other cognitive complaints
- Care plan development and caregiver training and support for patients with Alzheimer's disease and related issues

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the Date**

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