AdventHealth Kansas City Neuroscience Newsletter

July 2025

This edition includes:

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Introduction

I would like to invite everyone to our first neuroscience newsletter. The intent is to provide our colleagues with timely and informative updates within the neuroscience program for the AdventHealth Mid-America region. As a multidisciplinary team, we aim to deliver the highest quality care through coordinated efforts, and this newsletter reflects that mission. We hope you find this newsletter interesting and helpful.

Jayson Neil, MD, FAANS, FCNS
Neurosurgeon and AHMG Medical Director of Neurosciences

Welcome Dr. Jeffrey Kaplan

Jeffrey Kaplan, MD
AdventHealth Medical Group Neurology at Roeland Park

We are thrilled to announce the newest addition to our team! Dr. Jeffrey Kaplan is a board-certified neurologist with extensive expertise in multiple sclerosis (MS) and migraines. Dr. Kaplan trained at the University of Iowa and brings more than 20 years of clinical and research experience. He founded the Kansas City MS and Headache Center and is the Medical Director for the AdventHealth MS Infusion Center. For nearly two decades, Dr. Kaplan has been at the forefront of using BOTOX® and a multi-disciplinary approach to treat migraines in the Kansas City area.

In addition to expanding our neurology services, Dr. Kaplan brings a deep focus on advanced MS treatment strategies. Dr. Kaplan is a strong proponent of induction-based treatment for MS. “Induction therapy is an important treatment approach for patients with highly active or rapidly progressing multiple sclerosis,” says Dr. Kaplan. “Rather than escalating treatment gradually, induction therapy uses powerful immunosuppressive medications early in the disease course to rapidly reduce inflammatory activity and prevent long-term disability. It’s a proactive strategy best suited for select patients, and when carefully monitored, it can dramatically alter the trajectory of the disease.”

When not caring for patients, Dr. Kaplan speaks regularly at conferences on MS both in the US and in Europe. Dr. Kaplan is passionate about individualized, evidence-based care and looks forward to serving the community with cutting-edge diagnostics and treatment options.

Now Open: Neurology at Roeland Park

We’re excited to announce the opening of our new AHMG Neurology practice, specializing in MS and migraine care. This location is now accepting patients.

Location:
5675 Roe Blvd, Suite 240, Roeland Park, KS 66205

AHMG Neurology at Roeland Park offers:
- Multiple Sclerosis and Migraine care
- One board-certified neurologist and three advanced practice providers
- Neurotherapeutic infusion services beginning June 2025

Comprehensive Neuroscience Services

The AdventHealth Kansas City Neuroscience Program delivers integrated, compassionate, and cutting-edge care for a wide range of neurologic, neurosurgical, and pain conditions.

Neurosurgery

Back Pain
Brain Tumors
Carpal Tunnel
Cerebral Aneurysm/AVM
Disc Herniations & Ruptures
Pituitary Tumors
Radiculopathy & Sciatica
Radiosurgery for Brain & Spine Tumors
Scoliosis
Spinal Trauma or Fractures
Spinal Tumors

Neurology

Spinal Cord Injury
Parkinson's Disease
Bell's Palsy
Neuropathy
TIA & Stroke
Multiple Sclerosis
Headaches & Migraines
Movement Disorders
Memory Loss & Dementia
Epilepsy & Seizures
EMG
Myasthenia Gravis

Interventional Pain Management

Minimally Invasive In-Office Procedures
Epidural Steroid Injections
Diagnostic & Therapeutic Nerve Blocks
Trigger Point Injections
Radio Frequency Nerve Ablation
Spinal Cord Stimulator

We combine expertise, advanced imaging, clinical trials, and individualized treatment plans to ensure the highest quality of care for our patients. With world-class expertise and state-of-the-art minimally invasive technology our specialists are providing whole-person care for complex neurological conditions.

Minimally Invasive Tumor Treatment

AdventHealth Shawnee Mission now has access and is performing complex surgical resections of brain tumors utilizing the latest technology.

We recently removed a tumor from the dominant temporal lobe of a patient using our robotic exoscope which utilizes a heads-up 3D screen allowing everyone in the operative room to follow throughout the case. This was paired with intra-operative 3D navigation, minimally invasive tissue retractors, neuromonitoring, and Gleolan. Gleolan is an optical imaging agent used in glioma surgery to help surgeons visualize and remove cancerous tumors more effectively. It works by causing tumor cells to fluoresce, or glow, under a special blue light making them stand out from healthy tissue. The surgery went smoothly, and the patient recovered well and is being referred to our medical and radiation oncology teams for further treatment. This exemplifies the advancements that we are implementing to enhance patient care. Of course, if you have any questions, please reach out to us.

Jayson Neil, MD, FAANS, FCNS
AdventHealth Medical Group Neurosurgery

AdventHealth

Highlights from the 2025 AAN Annual Meeting

Several of our physicians attended the American Academy of Neurology (AAN) Annual Meeting this spring. The 77th Annual American Academy of Neurology meeting was held this year in San Diego. Over 14,500 Neurologists from all around the world attended. One of my biggest takeaways was that major changes are coming to the way we diagnose Multiple Sclerosis (MS).

MS has long been recognized as a disease that is “disseminated in time and space“. In the course of my career, MRI has revolutionized the way we make the diagnosis. We have gone from having no definitive treatment to having over 20 FDA approved drugs to treat the disease. In 2001, Ian McDonald led an international committee that specified diagnostic criteria which accurately diagnose MS as early as possible. There have been multiple subsequent revisions that have been referred to as “the McDonald Criteria”. In this past year, the 2024 McDonald Criteria were redeveloped and will be formally published, later this year.

The biggest new developments include the recognition that MS plaques have a unique appearance on certain MRI sequences that have not yet become part of the standard MRIs available outside of research facilities. With special “susceptibility-based imaging“ MS lesions can be identified as having a central vein and a paramagnetic rim. This helps distinguish them from other white matter signal hyperintensities which get more common in the general population as we age and can lead to misdiagnosis. Additionally, free kappa light chains in the CSF are now recognized as useful in augmenting the diagnosis.

The new provisions will allow patients to be diagnosed earlier. MS is a disease that tends to amplify itself and earlier treatment generally leads to less severe disease. It may be possible now to diagnose and treat more patients after their first neurologic symptoms, as well as in patients with no symptoms who are incidentally found to have abnormalities on their MRIs.

Gordon Kelley, MD
AdventHealth Medical Group Neurology at Shawnee Mission

Restorative Neuromodulation: ReActive8

Mechanical low back pain is a common condition associated with the spine, discs, and surrounding soft tissues. Although most episodes of mechanical low back pain resolve spontaneously within 4 weeks, some patients will develop chronic musculoskeletal low back pain lasting beyond 6 months of onset. Patients with chronic low back pain can endure impaired quality of life and functionality, anxiety, depression, and sleep disturbance.

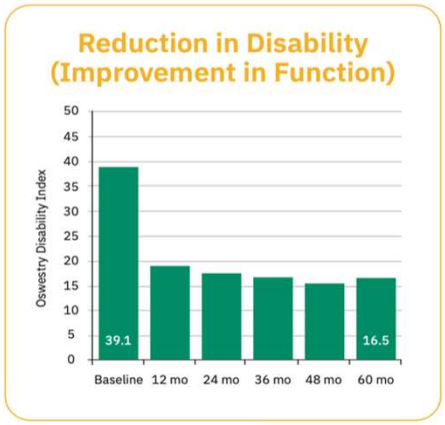
Chronic mechanical/musculoskeletal low back pain can occur because of dysfunction of a key stabilizing muscle of the lumbar spine- the multifidus muscle. The multifidus muscles play a crucial role in providing segmental spinal stability in response to changes in posture such as bending, twisting, and lifting. Some injuries to spinal structures can lead to persistent, compromised function of the multifidus muscles which can also affect the brain’s ability to contract the multifidi appropriately before changes in posture occur. This can result in weakened spinal stability and excessive load of spinal structures triggering low back pain.

Isolating multifidus muscle contractions to reverse impaired neuromuscular control is difficult to achieve voluntarily. To overcome these limitations to rehabilitation, a restorative neurostimulation system was developed to elicit isolated multifidus muscle activation- ReActiv8 by Mainstay Medical.

Candidates for ReActiv8 typically have a long-standing history of low back pain and:
1. A clinical history consistent with symptoms of multifidus dysfunction
2. Visible multifidus atrophy on a lumbar spine MRI
3. Demonstrate altered multifidus function on physical exam
4. Lack sciatica or surgical indication

ReActiv8 is an implanted device performed on an outpatient basis where electrodes are placed over the L2 medial branch on both sides of the spine and then tunneled underneath the skin to a battery site. Once implanted, patients typically perform two, 30-minute sessions of controlled multifidus contractions daily.

The Advent Health Pain Specialists were a participating site for the RESTORE trial comparing ReActiv8 to Optimal Medical Management (OMM), such as physical therapy and medications. At 1 year follow up, ReActiv8 demonstrated significant improvement in functionality and lower pain scales compared to the OMM group. Evaluating outcomes at 5 years with the ReActiv8- B Trial demonstrated substantial clinical improvement in both pain reduction and improved functionality that accrued over time. ReActiv8 is a thoroughly researched neuromodulation therapy with consistent and durable outcomes for patients with chronic mechanical low back pain evidenced by multifidus dysfunction. ReActiv8 has received regulatory approval in several geographic areas including the United States, Australia, United Kingdom, and Germany. Feel free to contact the AdventHealth Pain Specialists if you'd like to learn more about ReActiv8.



Smith Manion, MD
AdventHealth Pain Specialists

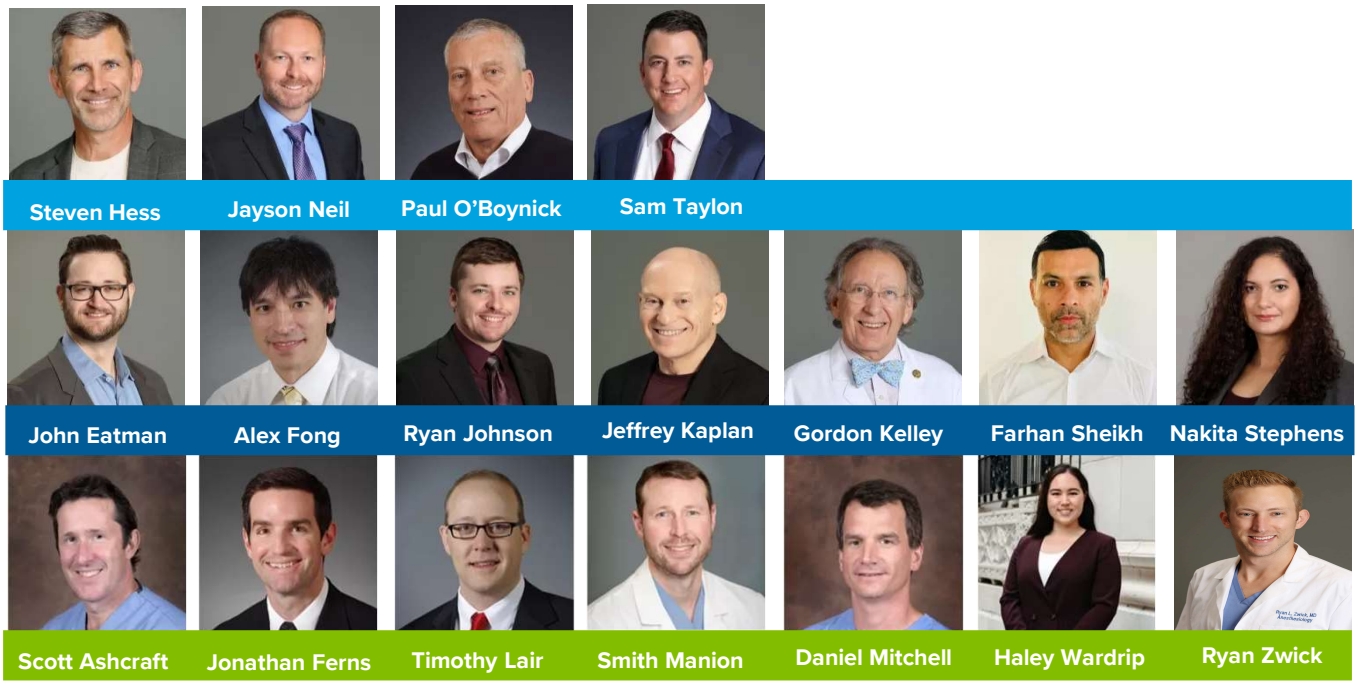
PRIMARY ENDPOINT:
Mean change in **Oswestry Disability Index (ODI)** score between the treatment and control arms at the 1-year follow-up visit:

-19.7 ± 1.4 **ReActiv8** group vs. **-2.9** ± 1.4 **OMM** group

Treatment | Control

1) Gilligan et al. Five-Year Longitudinal Follow-up of Restorative Neurostimulation Demonstrates Durability of Effectiveness in Patients with Refractory Chronic Low Back Pain associated with Multifidus Muscle Dysfunction. https://doi.org/10.1016/j.neurom.2024.01.006

Neuroscience Physicians



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