



NEUROSCIENCE
SPRING 2022
NEWSLETTER



Hackensack
Meridian *Health*

KEEP GETTING BETTER

MESSAGE FROM THE DIRECTORS

As winter 2022 comes to a close, the Hackensack Meridian Neuroscience Institute team is reflecting on the past year's opportunities, innovations, and accomplishments and looking forward to an exciting, bright future.

In 2021, Hackensack Meridian *Health* made significant investments in its three Neuroscience Institutes, expanding programs and services at its three academic hubs: Hackensack University Medical Center, JFK University Medical Center and Jersey Shore University Medical Center. Among our most significant investments was the recruitment of clinicians whose expertise, training, experience and professionalism will create a multidisciplinary team equipped to provide life-enhancing — and often life-saving — care to patients across all of New Jersey.

Similarly, our research and technology are advancing our understanding and treatment of ALS, stroke, epilepsy, Alzheimer's disease, concussion, tremors, brain tumors, Charcot-Marie-Tooth (CMT) neuropathies and other neurological conditions.

By enhancing the strength of our Neuroscience Institute across our entire health network, we will be able to continue attracting clinicians, research opportunities, and programs that help us deliver on our mission of providing outstanding neurological care and advancing the field of neuroscience.

Sincerely,



Alan Colicchio, M.D.
Chairman, Neuroscience Institute
Chairman, Department of Neurology
Jersey Shore University Medical Center
Vice Chair, Department of Neurology,
Hackensack Meridian School of Medicine



Thomas Steineke, M.D., Ph.D.
Chairman, JFK Neuroscience Institute
Chief, Division of Neurosurgery
Director, Skull Base, Neurovascular and
Pediatric Neurosurgery
JFK University Medical Center



**Florian Thomas, M.D., M.A.,
Ph.D., M.S.**
Chair, Department of Neurology and
the Neuroscience Institute
Hackensack University Medical Center
Founding Chair & Professor of
Neurology, Hackensack Meridian
School of Medicine

NEUROSCIENCE PROGRAM EXPANSIONS

Hackensack Meridian *Health* is committed to providing a network-wide continuum of neuroscience care for patients throughout New Jersey. Our Neuroscience Institute continues to expand its services in key program areas through the recruitment of physicians, including:

THOMAS CLARK, D.O.

Neurohospitalist
Riverview Medical Center

ANTHONY CONTE, M.D.

Complex and Reconstructive Spine Surgery
JFK University Medical Center

EDUARDO CORREIA, M.D.

Neuro-oncology
Jersey Shore University Medical Center

SHABBAR DANISH, M.D., F.A.A.N.S.

Chairman of Neurosurgery
Jersey Shore University Medical Center

ROCCO DIPAOLO, M.D.

Movement Disorders
Jersey Shore University Medical Center

SANDRA ESCANDON, M.D.

Headache & Neuromuscular Medicine
Jersey Shore University Medical Center

BRIAN GERHARDSTEIN, Ph.D.

Headache Medicine
JFK University Medical Center

ERIC HARGREAVES, M.D., Ph.D.

Neurosurgery, Movement Disorders
and DBS Neurophysiology
Jersey Shore University Medical Center

JOHN MICHAEL HEATH, M.D.

Geriatric Medicine, specializing in dementia and
Alzheimer's disease
Hackensack University Medical Center

HAO HUANG, M.D.

Headache Medicine
Hackensack University Medical Center
Assistant Professor of Neurology, Hackensack Meridian
School of Medicine

NICOLE MARCANTUONO, M.D.

Chief of Pediatric Physical Medicine and Rehabilitation,
specializing in brain injury and concussion
Jersey Shore University Medical Center

MONTE PELLMAR, M.D.

Headache Medicine
Jersey Shore University Medical Center

KAITLIN REILLY, M.D.

Director of Neurocritical Care
Hackensack University Medical Center
Assistant Professor of Neurology & Neurosurgery,
Hackensack Meridian School of Medicine

STACEY ELKHATIB SMIDT, M.D., M.S.T.R.

Pediatric Sleep Medicine, specializing in autism
spectrum disorder
JFK University Medical Center

NAVID TABIBZADEH, D.O.

Neurocritical Care
JFK University Medical Center

AWARDS AND ACHIEVEMENTS

Hackensack Meridian Health

- [Hackensack Meridian Health hospitals received the Get With The Guidelines-Stroke Gold Plus Quality Achievement Award from the American Heart Association's \(AHA\) Get With The Guidelines program.](#) The Stroke Care program has also received the AHA/American Stroke Association Stroke Honor Roll of the "Get With The Guidelines Stroke Gold Plus" Performance Achievement Award and Target: Stroke Honor Roll Elite Plus. Hackensack Meridian Health is the only health network in New Jersey in which every hospital has earned stroke center certification from the Joint Commission. Of the network's 12 hospitals, nine have received Primary Stroke Certification and three have received Comprehensive Stroke Certification from the Joint Commission.
- Pediatric neurosurgeon [Arno Fried, M.D.](#), has [implanted the first responsive neurostimulation \(RNS\) device in a patient to treat drug-resistant focal epilepsy.](#) The procedure was performed at Hackensack Meridian Joseph M. Sanzari Children's Hospital at Hackensack University Medical Center.
- Inspire® Therapy is now available at Ocean University Medical Center and JFK University Medical Center. [Hackensack Meridian Health was the first health system in New Jersey to offer Inspire® Therapy](#), which uses an implantable device as an alternative to continuous positive airway pressure (CPAP) therapy for people with obstructive sleep apnea.

Hackensack University Medical Center (HUMC)

- Hackensack University Medical Center established an interprofessional Amyotrophic Lateral Sclerosis (ALS) Center, which brings together all the specialists a patient and family may need to one clinic during a single visit. The new ALS Center is the second such program in the Hackensack Meridian Health network, the other is at Hackensack Meridian Jersey Shore University Medical Center. [Robert Connors, M.D.](#), neuromuscular specialist and assistant professor of Neurology at Hackensack Meridian School of Medicine, directs HUMC's ALS Center with [Florian Thomas, M.D., Ph.D.](#), founding chair and professor, department of Neurology and Neuroscience Institute, Hackensack University Medical Center and Hackensack Meridian School of Medicine.
- Hackensack University Medical Center **established New Jersey's first Heart and Brain Center** to evaluate and treat people with patent foramen ovale who have had a stroke not due to other causes and who are at risk of a second stroke. The clinic is a collaboration between the medical center's renowned cardiology and neurology experts in one multidisciplinary program and is the first of its kind in New Jersey.
- Hackensack University Medical Center's **Hospital Elder Life Program (HELP)**, designed to prevent delirium and improve older patients' hospital experience, was recently folded into the American Geriatrics Society (AGS) CoCare portfolio.
- Hackensack University Medical Center received the Cranial Neurosurgery Excellence Award (2022) from Healthgrades.



AWARDS AND ACHIEVEMENTS (CONTINUED)

Jersey Shore University Medical Center

- Jersey Shore University Medical Center's [Center for Paralysis and Reconstructive Nerve Surgery](#) treated its 500th patient with phrenic nerve reconstruction surgery. Surgeon [Matthew Kaufman, M.D., F.A.C.S.](#), is a pioneer in this type of surgery, which helps people with diaphragm paralysis from spinal cord injuries and isolated phrenic nerve injuries following surgery to breathe without a ventilator or more easily again.
- Jersey Shore University Medical Center's Center for Neuro-oncology treats adults and children with tumors and other abnormalities. By combining the expertise of [Shabbar F. Danish, M.D.](#), [Eduardo Correia, M.D.](#), and [William W. Maggio, M.D.](#) with a diverse group of highly trained specialists, the center expands Hackensack Meridian's neuro-oncology treatment to the southern region.
- Jersey Shore University Medical Center opened a new Headache Center, offering advanced [migraine and headache care](#) for patients in southern New Jersey. This is being led by [Monte Pellmar, M.D.](#)
- Patients with [Parkinson's disease and movement disorders](#) can now receive multidisciplinary care through Jersey Shore University Medical Center's comprehensive Center for Parkinson's Disease and Movement Disorders. This program is co-directed by [Rocco Dipaola, M.D.](#) and [Shabbar F. Danish, M.D.](#)
- Jersey Shore University Medical Center is the recipient of the following awards: Top 100 Hospitals for Stroke (2020, 2021, and 2022), Neurosciences Excellence award (2020, 2021, 2022), Cranial Neurosurgery Excellence Award (2022) by Healthgrades.
- The ALS Association designated [Jersey Shore University Medical Center's ALS Center as a Certified Treatment Center of Excellence](#) making it one of only two designated centers in New Jersey. Patients have access to multidisciplinary team members who are active members of the Northeast ALS Consortium under the guidance of [Mary Sedarous, M.D.](#), a neuromuscular fellowship trained and board certified neurologist. Through the center's unique relationship with the ALS Association, Greater Philadelphia Chapter and the local Joan Dancy Foundation, patients benefit from programs that extend beyond the clinic walls.

JFK University Medical Center

- JFK University Medical Center expanded its sleep medicine services. [Stacey Elkhatab Smidt, M.D., M.S.T.R.](#) specializes in diagnosing and treating pediatric sleep disorders, as well as neurodevelopmental and other neuro-related disorders, such as autism spectrum disorder.
- JFK University Medical Center expanded its dedicated neurocritical care service and fellowship program with the addition of [Navid Tabibzadeh, D.O.](#), supporting the central region's strategy to grow stroke and neurosurgical care.
- JFK University Medical Center is the recipient of the following awards: Top 100 Hospitals for Stroke (2022), Neurosciences Excellence Award (2022), Stroke Care Excellence (2020, 2021) by Healthgrades.
- JFK University Medical Center [plans to administer thrombolytics](#), drugs that help break up or dissolve blood clots, to every stroke patient who is a candidate within 30 minutes of arrival to the emergency department.



RESEARCH AND CLINICAL TRIALS

Four Clinicians Contribute to Breakthrough ALS Research

Four clinicians from Hackensack University Medical Center and Joseph M. Sanzari Children's Hospital at Hackensack University Medical Center, participated in [research that led to the discovery of a new and unique form of juvenile amyotrophic lateral sclerosis \(ALS\)](#). This subtype of ALS begins in childhood, worsens more slowly than usual, and is linked to the SPTLC1 gene responsible for the synthesis of a sphingolipid.

Epilepsy Research Shows Nasal Spray Seizure Rescue Medication Safe to Use with Oral Medication

Eric Segal, M.D., co-director of Epilepsy at Hackensack University Medical Center and assistant professor of Neurology at Hackensack Meridian School of Medicine, has [published new research showing that diazepam nasal spray*](#), is safe and effective for emergency seizure cluster treatment in patients who are already taking oral benzodiazepines. The research was published in Epilepsia, the official journal of the International League Against Epilepsy.

Medication Trials Now Open for Alzheimer's Disease, MS, and Hereditary Neuropathy

Hackensack Meridian Hackensack University Medical Center's Center for Memory Loss and Brain Health has [started enrollment for a clinical trial for ATH-1017](#), an investigational medication for treating mild to moderate Alzheimer's disease. According to clinical trial sponsor Athira Pharma, ATH-1017 enhances the HGF/MET system, one of the brain's repair mechanisms. Enhancing HGF/MET signaling may improve brain activity, repair brain connections, reduce stress and inflammation, and rescue brain cells, leading to rapid recovery of memory and function.

Additionally, Hackensack University Medical Center's Center for Memory Loss and Brain Health is participating in a multicenter [clinical trial to study the safety and efficacy of escitalopram](#), an antidepressant, for the treatment of agitation related to Alzheimer's disease. This study is sponsored by the National Institute on Aging. Johns Hopkins University is the principal site, and Hackensack University Medical Center started enrolling patients in November 2021.

[The Hereditary Neuropathy Center at the Neuroscience Institute at Hackensack University Medical Center has been awarded a research grant from the University of Pennsylvania](#) Orphan Disease Center in partnership with the Hereditary Neuropathy Foundation to analyze data from a unique patient registry to help better diagnose and treat Charcot-Marie-Tooth (CMT) neuropathies and to inform future clinical research focused on the condition. The Center has also activated another clinical trial for CMT1A that tests the ability of a polydrug, PXT3003, to correct the causative cellular defect. The successful first trial of this same drug, led for the U.S. by [Florian Thomas, M.D., Ph.D.](#), was published in a peer reviewed journal.

The **MS Center at Hackensack University Medical Center** has several trials underway that compare individual FDA approved drugs against each other and other trials that test drugs with novel biological mechanisms (BTK inhibitors) for their benefit for patients with MS.

RESEARCH AND CLINICAL TRIALS (CONTINUED)

Pediatric Neurologist Receives Grant Funding for Concussion Research

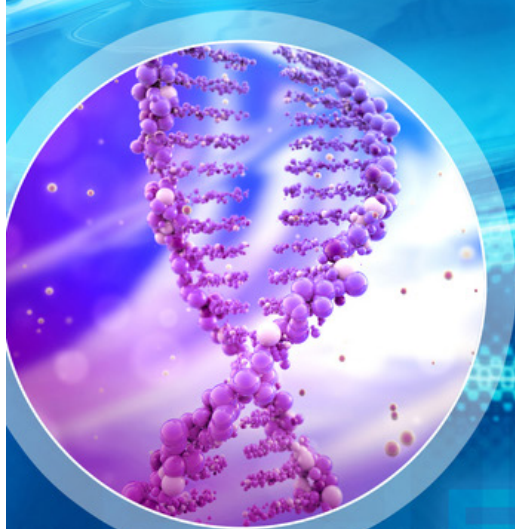
[Felicia Gliksman, D.O.](#), pediatric neurologist, director of the Pediatric and Adult Concussion Center at Hackensack University Medical Center and assistant professor of Pediatrics and Neurology at Hackensack Meridian School of Medicine, is the lead investigator of “Speech as an Indicator of Concussion Severity and Recovery in Pediatrics,” one of five projects selected for grant funding from the Hackensack Meridian School of Medicine Grant Program.

Three Neuro-Oncology Clinical Trials Currently Enrolling

[The Brain Tumor Treatment and Rehabilitation Center at JFK University Medical Center](#) – the most comprehensive and technologically advanced program for the diagnosis and management of brain and spinal cord tumors situated at a single site in New Jersey – is currently enrolling qualifying patients in three brain tumor/neuro-oncology clinical trials.

Clot Busting Medications to Reverse Effects of Ischemic Stroke

JFK University Medical Center is also currently part of ongoing TIMELESS trial that is looking into administering clot-busting medications within 24 hours of stroke onset. This latest advanced treatment option may help to expand the traditional three-hour window that is usually considered to be the period where the most stroke patients can be treated acutely to reverse the effects of an ischemic stroke.



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RESEARCH

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HARETRA. CRAS VEL DAPIBUS ERDS. SED EGET GRAVIDA LECTUS. SED SEMPER MAL
TUS VOLUTPAT EGET. PROIN POSUERE POSUERE COMMOD. VIVAMUS ORCI NULLA, V

ADVANCEMENTS IN NEUROSCIENCE

Our neurosurgeons are pioneers in the latest surgical techniques, combining technology and minimally invasive or noninvasive interventional approaches to perform complex procedures. Our teams also offer the newest treatment options, services and medications for a variety of neurological conditions. Recent advancements include:

Expanded Availability of Deep Brain Stimulation Treatment

Hackensack Meridian Health now offers [frameless deep brain stimulation \(DBS\)](#) at all its academic medical centers, including Hackensack University Medical Center, Jersey Shore University Medical Center and JFK University Medical Center. The recent addition of [Shabbar Danish, M.D.](#) to Jersey Shore University Medical Center allows patients in southern and central New Jersey to access this movement disorder treatment closer to home. Hackensack Meridian Health is New Jersey's most extensive, advanced and experienced health care network for [neurosurgical movement disorder treatment](#).

Incisionless Neurosurgical Tremor Treatment

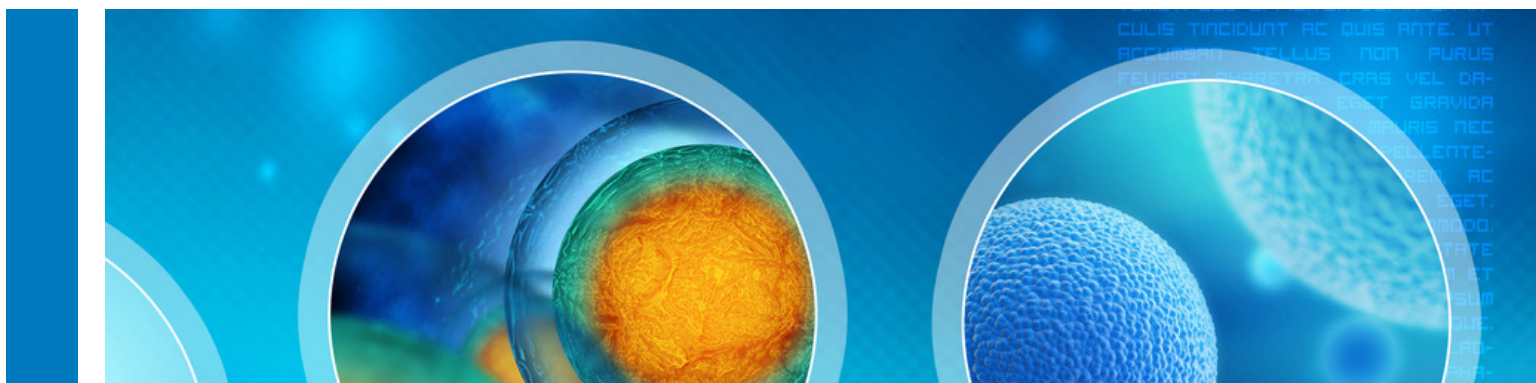
Hackensack University Medical Center became the first and only center in New Jersey — and one of only a few in the country — to offer noninvasive MRI-guided focused ultrasound to treat hand tremors. The treatment is approved by the U.S. Food and Drug Administration (FDA) for essential tremor and tremor-dominant Parkinson's disease that has not responded to medications.

Augmented Reality Put into Neurosurgical Practice

JFK University Medical Center is one of only seven centers nationally that is using Surgical Theater's SyncAR (augmented reality) technology during neurosurgery. The technology, recently approved for use by the FDA, digitally layers images into the surgical microscope showing a detailed three-dimensional image of the brain, built using a patient's MRI or CT scan. [Thomas Steineke, M.D., Ph.D.](#), Chair of JFK Neuroscience Institute, has led research showing how [the use of 3D simulation in surgical planning significantly reduces surgery time](#) and helps to predict which surgical clips to use to successfully seal off a bulging aneurysm on a blood vessel in the brain. "The technology improves surgical confidence by having all the necessary information within the microscope display," says Steineke.

MR-Guided Laser Ablation for Brain Tumors

[Shabbar Danish, M.D.](#) is the only surgeon in the Hackensack Meridian Health network — and one of only a few in New Jersey — to use MRI-guided laser ablation to treat brain tumors without the need for a traditional open craniotomy. [Internationally recognized for his contributions](#) toward advancing MR-guided laser therapy, Dr. Danish performs this procedure through a small hole in the skull using a thin laser applicator that precisely delivers cancer-destroying heat to the tumor. This minimally invasive treatment promotes faster recovery with a lower risk of complications for the patient.



ADVANCEMENTS IN NEUROSCIENCE (CONTINUED)

Advanced Surgical Care for Diaphragmatic Paralysis

The Center for Treatment of Paralysis and Reconstructive Nerve Surgery at Jersey Shore University Medical Center provides some of the most advanced surgical treatment techniques for paralysis and nerve injuries.

- **Phrenic Nerve Reconstruction Surgery** was pioneered by plastic and reconstructive surgeon [Matthew Kaufman, M.D., F.A.C.S.](#) as a method to reverse diaphragm paralysis and restore breathing functionality. This surgery involves a combination of nerve decompression and nerve grafting to bypass the site of the injury. Dr. Kaufman has performed over 500 surgeries, the largest worldwide experience with the procedure to date. A recent [article](#) published in the Annals of Plastic Surgery evaluates outcomes.
- **Diaphragmatic Pacemaker Surgery** is offered for select patients with unilateral or bilateral diaphragm paralysis due to phrenic nerve injury. Dr. Kaufman and thoracic surgeon [Thomas Bauer, M.D.](#) have vast experience in combining pacemakers with nerve reconstruction to optimize recovery in the most complex cases of diaphragm paralysis.
- **Video-Assisted Thoracic Surgery (VATS)** is another option provided by Dr. Bauer for patients who are ventilator dependent or who struggle to do daily tasks while breathing normally. This minimally invasive technique uses scopes to reconstruct phrenic nerves, suture the diaphragm and repair diaphragmatic hernias.

ALS Center Receives Grant from Christopher Reeves Foundation for Technology Lending Closet

The ALS Center at Jersey Shore University Medical Center received an [assistive technology grant to support a loan closet of Alternative Augmentative Communication devices and training program for patients with ALS](#). Through the progression of ALS, the muscles for breathing are impacted, which then further affects the patient's ability to speak well or clearly. Patients can use personalized methods such as voice banking to personalize speech generating devices to communicate to others.

Swoop Portable MRI

JFK University Medical Center became the [first hospital in New Jersey to operate Swoop, a new portable MRI](#) that can be wheeled to the bedside of critically ill patients. Manufactured by Hyperfine Research, Swoop is the world's first portable MRI and enables clinicians to obtain neurological images of critically ill patients at the point of care quickly and conveniently.

Care Protocol for Innovative Stroke Treatment: Tenecteplase

A new [treatment protocol that standardizes medical care for patients with acute stroke](#) using tenecteplase (TNKase®) was outlined in a published, peer-reviewed article in Neurology Clinical Practice, the American Academy of Neurology journal. JFK University Medical Center's Stroke and Neurovascular team in collaboration with Jersey Shore University Medical Center and Hackensack University Medical Center, created the clinical pathway now in use.



NEUROSCIENCE SERVICES OFFERED

Service Offering	Hackensack University Medical Center	Jersey Shore University Medical Center	JFK University Medical Center	Bayshore Medical Center	Mountainside Medical Center	Palisades Medical Center	Pascack Valley Medical Center	Ocean University Medical Center	Riverview Medical Center	Old Bridge Medical Center	Raritan Bay Medical Center	Southern Ocean Medical Center
ALS	■	■	■									
Concussion	■	■	■	■				■	■	■	■	■
Craniofacial	■	■	■									
Dementia & Memory Disorders	■	■	■									
Epilepsy	■	■	■	■	■	■		■	■	■	■	■
Headache	■	■	■		■	■		■				
Hereditary Neuropathy	■											
Multiple Sclerosis	■	■	■		■					■		
Neurosurgery	■	■	■		■			■	■			
Paralysis and Reconstructive Nerve	■	■										
Parkinson's Disease & Movement Disorders	■	■	■		■			■				
Pediatric Neurosurgery	■	■	■									
Sleep	■	■	■	■	■	■		■		■		■
Spine Surgery	■	■	■	■	■	■		■	■	■	■	■
Stroke	■	■	■	■	■	■	■	■	■	■	■	■

