

SPRING 2025

NeuroNEXT

from the Departments of Neurological Sciences and Neurosurgery

Spring into Neurological Care and Discovery

Spring is a season of renewal and growth—and a perfect time to celebrate the accomplishments of our faculty, residents, and students who advance our mission in patient care, education, research, and outreach.

Education remains central to our efforts. The Department of Neurological Sciences will host a PTSD symposium in June, bringing together experts to share the latest advances. The MS At Home Access (MAHA) program will present its first patient-centered house call model at the Consortium of Multiple Sclerosis Centers annual meeting.

Elsewhere in the department, faculty continue to explore novel health interventions, including an article in this issue on the use of massage guns. Sharing and analyzing patient health data remains a key challenge. UNMC, Nebraska Medicine, and the Great Plains IDeA-CTR recently hosted the Epic Cosmos Datathon to extract actionable insights from large-scale datasets. The Mind and Brain Health Labs are also making strides in studying patient sleep and driving behavior.

We are expanding our non-surgical care team in the Department of Physical Medicine and Rehabilitation and advancing clinical trials that directly improve patient care. Our healthcare providers continue to lead with skill and compassion.

Our trainees are thriving. Residents recently presented a paper on acute ischemic stroke at the Society of Stroke and Interventional Neurology. Graduate students have received prestigious fellowships; faculty were honored with iXCEL awards; and one of our High School Alliance students was recognized for her lab work.

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Matthew Rizzo, MD, FAAN
*Frances and Edgar Reynolds
Professor and Chair
Department of Neurological
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William Thorell, MD
*Professor of Neurosurgery
at UNMC
Chair of the Department of
Neurosurgery*



Howard Fox, MD, PhD
*Senior Associate Dean,
Research and Development,
College of Medicine
Professor, Department of
Neurological Sciences*

Continued from pg.1

We warmly welcome new staff members and express our deep appreciation to those who have served with dedication over many years.

We are also pleased to announce that William Thorell, MD, Professor of Neurosurgery at UNMC, has been appointed Chair of the Department of Neurosurgery. Dr. Thorell has been instrumental in developing the Stroke and Neurovascular Center, a leading interdisciplinary program at UNMC and Nebraska Medicine. We extend our sincere gratitude to Aviva Abosch, MD, PhD, for her outstanding leadership and service, and we wish her continued success in all future endeavors.

Finally, we share a heartfelt thank-you from the Ukrainian children who received toys through our recent drive. Their joy is a powerful reminder of the human impact behind our work.

Wishing you a wonderful season—and we hope you enjoy this Spring issue of NeuroNEXt.

Honoring Achievement in Research, Innovation, and Education

The University of Nebraska Presidential Graduate Fellowships recognize a select group of graduate students each year for outstanding academic performance and personal achievement. Funded by the University of Nebraska Foundation, the fellowship provides a stipend for full-time study. Congratulations to Daniel Estrella, PhD, who received this award. Working in the lab of Kelly Stauch, PhD (Neurological Sciences), Dr. Estrella studied the co-occurrence of brain pathologies across neurodegenerative diseases, including Parkinson's, Alzheimer's, Frontotemporal Dementia, and Traumatic Brain Injury. He defended his dissertation in March and is now a postdoctoral fellow in Dr. Rachel Bennett's lab at Harvard Medical School.

The fifth annual iEXCEL Innovation Awards were held February 18, honoring faculty and healthcare professionals for advancing education and research using simulation technologies. DONS faculty Christie Barnes, MD, and Daniel Surdell, MD, received the Teaching Technologies Award for their multimodal learning sessions on skull base anatomy, developed in collaboration with the University of Kansas Medical Center.

This summer, three undergraduate researchers will join DONS through the UNMC Summer Undergraduate Research Program (SURP): Zach Butsyak (MEG Lab), Sophia Kolb (Howard Fox, MD, PhD, Lab), and Tyler Raikar (Anna Dunaevsky, PhD, Lab). They will participate in current research and weekly seminars. Visit the [SURP](#) site for more information.



Zaid Najdawi, MD

Neurology residents study outcomes of acute ischemic stroke

by Zaid Najdawi, MD, Neurology Resident

UNMC Neurology residents Zaid Najdawi, MD (PGY-3), Sharon Peng, MD (PGY-2), and recent graduates Mohamed Elfil, MD, and Mohammad Aladawi, MD (Class of 2024), published a systematic review and meta-analysis examining the relationship between hemoglobin levels and clinical outcomes in patients with acute ischemic stroke (AIS) undergoing endovascular thrombectomy (EVT).

The paper, titled "Impact of Periprocedural Hemoglobin Level on the Outcomes of Endovascular Thrombectomy in Acute Ischemic Stroke Patients," was published in the **Canadian Journal of Neurological Sciences** and presented at the Society of Stroke and Interventional Neurology Annual Meeting.

The study analyzed data from 921 patients across four single-center studies and found that higher peri-procedural hemoglobin levels were significantly associated with better neurological outcomes at three months. Each 1 g/dL increase in hemoglobin was linked to a 22% greater likelihood of achieving functional independence. In contrast, patients with hemoglobin levels ≤ 13 g/dL in males or ≤ 12 g/dL in females had a 69% higher risk of mortality. No significant association was observed between hemoglobin levels and symptomatic intracranial hemorrhage (sICH).

These findings highlight hemoglobin as a potential prognostic marker in AIS patients undergoing EVT and underscore the need for further research to assess whether optimizing hemoglobin levels could improve long-term outcomes.

Can a massage gun cause a stroke?

by Pierre Fayad, MD

Advancing Health newsletter, Winter 2025

There are few reports on massage guns directly causing a stroke. However, there are plenty of reports on the dissection of cervical arteries leading to a stroke.

A cervical artery dissection occurs when a tear or injury to the blood vessel's wall in the neck separates the vessel wall layers and narrows the inner tubing. This separation can lead to a blood clot forming, which can then travel to the brain, causing a stroke.

Conceivably, a massage gun could cause a cervical artery dissection, especially if used aggressively or inappropriately on segments of the neck with gaps in the muscle and bone coverings.

Still, such an occurrence would be a minimally traumatic injury – and different from the direct or indirect traumatic injuries that often lead to dissections, such as those sustained in a car accident.

Depending on your unique physiology, rotating your neck suddenly may injure the cervical arteries. You may even be more prone to these types of injuries. So, avoid twisting, excessive stretching, extending, or flexing your neck.

Read the entire article in [Advancing Health newsletter](#).



from Advancing Health April 15, 2024

Department of Neurological Sciences welcomes new Residency Program Director



Steven Phillips, MD

Steven Phillips, MD, Assistant Professor in the Department of Neurological Sciences at the University of Nebraska Medical Center (UNMC),

has been a valued member of the institution since 2022. A native of southeastern Michigan, Dr. Phillips earned his Doctor of Osteopathic Medicine (DO) degree from the Michigan State College of Osteopathic Medicine. Inspired by influential mentors, he pursued advanced training through neurology residency at Indiana University and neurocritical care fellowship at Emory University.

During his time at Indiana University, Dr. Phillips met his wife, Haley, who shares his passion for neurology. Together, they have a one-year-old

daughter, Camille, and two cherished dogs.

Dr. Phillips' enthusiasm for neurology is rooted in its complexity and diversity. "Neurology is one of the fields where you encounter something new and learn something different almost every day," he explained. "It's incredibly stimulating. As a DO, I've always valued the hands-on aspect of patient care, and neurology offers the most comprehensive physical exam of any specialty."

Currently serving as the Associate Director of the Neurology Residency Program at UNMC, Dr. Phillips will assume the role of Program Director in July, succeeding Dr. Amy Hellman. Reflecting on the transition, Dr. Hellman shared, "I have found working with the residents as Program Director to be incredibly rewarding. I know that Steve is going to do a great job taking over the role. He has already built a great rapport with the residents and is dedicated to their training. It is

comforting to know that I am leaving the residents and the program in such caring and capable hands."

Dr. Phillips is dedicated to enhancing the residency program by expanding and modernizing the educational experience. His plans include incorporating simulation-based training to standardize approaches to complex patient cases, reintroducing classroom-based learning, and broadening educational opportunities earlier in residency. His vision is to ensure the program remains innovative and diverse, fostering growth and excellence for its residents.

Three interesting facts about Dr. Phillips

- He went flyfishing in Cuba
- He's a talented woodworker
- His medical school hockey team won multiple men's league championships

Research Highlights

Congratulations to the UNMC College of Medicine on securing grant and funding awards totaling over \$15 million in new funding from November 2024 to January 2025. Among the recipients, from Department of Neurosurgery - Professor Michele Aizenberg Ansari, MD (University of Pennsylvania) and Assistant Professor Afshin Salehi, MD, MS (GE HealthCare) and from the Department of Neurological Sciences – Professor Joseph Americo Fernandes, MD (Massachusetts General Hospital); Professor Bernd Fritsch, PhD (University of Arizona); Associate

Professor Kelly Stauch, PhD (Michael J. Fox Foundation and Assistant Professor Peng Zhong, PhD (Nebraska EPSCOR) were recognized for their contributions. To read more, <https://go.unmc.edu/ubv6>

UNMC also has been selected to participate in a large clinical trial of rare, severe seizure disorders. Olga Tarashenko, MD, PhD, will lead the UNMC component of the PCORI-Funded (Patient-Centered Outcomes Research Institute) study. Visit <https://go.unmc.edu/pcori> for details on this trial.



Kuan Chen, PhD received a \$200,000 grant from the Alzheimer's Association International Research Grant Program—making him the sole recipient of this award in Nebraska. The grant supports research aimed at developing new treatments for dementia and deepening our understanding of brain health.

Smiles All Around

by Valia Gumenyuk, PhD



Ukrainian girl with toys

In November 2024, together with Sara Pirtle and the Student Alliance for Global Health (UNMC), we launched a toy fundraiser for children in Ukraine who lost a parent due to the Russian war. Over three months, generous people from Nebraska donated more than 450 toys! These beautiful gifts were shipped to Ukraine with the invaluable help of humanitarian organizations.

Children from Kherson, Mykolaiv, and Odesa received these toys with joy and gratitude, offering a small but meaningful source of comfort during this tragic time. These children continue to live with the trauma of war, having lost a parent and enduring daily attacks from Russian

drones, missiles, and bombs. It is difficult to imagine their everyday reality, and while there is no cure for war-induced trauma, acts of kindness can bring light into their lives.

As people of a great country with big hearts, we have the power to make a difference! By sending our support and standing with Ukraine in these difficult times, we offer hope to those who need it most. From all Ukrainians, we extend our deepest gratitude to the people of Nebraska and the USA for their unwavering support! Enjoy a [video](#) of those whom you made smile! We hope their smiles bring you smiles.

Donations and the toy drive continue. Here is the link for on-going donations

SCAN THE QR CODE



Slava Ukraini!
- Valia Gumenyuk

RESIDENCY NEWS

The 9th Annual Resident Research Day was held on May 15 in the Davis Global Center's iEXCEL facility on the UNMC campus. The event featured poster and podium presentations from PGY-4 residents. Congratulations to all participants for their outstanding work!

Resident Appreciation Week took place February 24–28. Our team enjoyed a week of celebration, with all activities thoughtfully organized by Kyra Gause, Graduate Medical Education (GME) Senior Program Coordinator, and Michal Chernov, GME Educational Program Coordinator II.

To show our appreciation, we treated residents to lunch from Feta's Greek Restaurant, coffee from The Beanery's coffee truck, and donuts from Sweet Magnolias—along with a few extra surprises. We are deeply grateful for their dedication and hard work. They are the future of neurology, and we look forward to all they will achieve.



Residents enjoying coffee during Resident Appreciation week

EMPLOYEE SPOTLIGHT



Michal Chernov

Michal's story began with a shared goal—finding love online—which led to an unexpected and lasting connection. Originally from Montreal, she met her

now-husband, Alex, who was living in Omaha, Nebraska, through an online dating platform nine years ago. What began as a long-distance relationship soon grew into a meaningful partnership, despite the challenges of living in different countries.

Their bond ultimately brought Michal to Omaha, where she fell in love with the city's charm—from its vibrant RiverFront to its changing seasons. As their relationship deepened, Michal and Alex began the immigration process and are now happily married.

Michal's professional journey also flourished in Omaha. She currently serves as the Residency Program Coordinator in the Department of Neurology at UNMC, where she oversees compliance for 25 residents and organizes key departmental events. She finds fulfillment in collaborating with her team and contributing to the growth and success of the residency program.

Hers is a story of love across borders, and of personal and professional growth along the way. Welcome to the Department of Neurology, Michal!

3 Facts about Michal

- She speaks 3 languages – Russian, French, and English
- She has 2 dogs and 1 cat
- She has visited over 10 countries – her favorite? Italy.

The UNMC MS Division: “Reaching New Heights”

by Rana Zabad, MD,
Professor and Director of the Multiple Sclerosis Program



Rana Zabad, MD

The UNMC Multiple Sclerosis Program in the Department of Neurological Sciences was awarded a \$139,000 EMD Serono “I’M IN” Neurodisparities Fellowship Grant. Launched in 2022, the initiative aims to address barriers contributing to disparities in multiple sclerosis (MS) care within institutions and society. UNMC was one of only three institutions selected this year, alongside Cleveland Clinic and the University of Utah. The fellowship seeks to challenge the status quo and promote inclusion of underrepresented communities.

Two fellows will join UNMC this academic year:

- **Ayush Gupta, MD**, earned his medical degree from Jawaharlal Nehru Medical College in Aligarh, India, completed a pediatric residency at the All India Institute of Medical Sciences in Delhi, and a pediatric neurology residency at the University of Louisville.
- **Sulafa Saffarini, MD**, graduated from the University of Jordan Faculty of Medicine and completed her neurology residency at Wayne State University in Detroit. She will join UNMC in July.

The UNMC MS Program is also participating in a **Phase I CAR-T clinical trial**:

- **Title:** *A Phase 1, Open-label Study to Evaluate the Safety and Clinical Activity of Azercabtagene Zapreleucel in Participants with B-cell Mediated Autoimmune Disorder (TG-Azercel)*
- **Principal Investigator:** Rana Zabad, MD, FAAN

This first-in-human trial evaluates azercabtagene zapreleucel (azer-cel), an allogeneic CAR-T therapy for progressive MS. It is sponsored by TG Therapeutics and led by Dr. Zabad in collaboration with Matthew Lunning, DO, FACP, Associate Professor in Oncology and Hematology at UNMC.

Dr. Zabad, Division Chief of the Comprehensive MS Center, brings deep expertise in MS care and clinical trials. The center serves approximately 4,000 patients and is recognized by the National MS Society and CMSC. Dr. Lunning, an expert in lymphoma and cellular therapy, is also Assistant Vice Chancellor of Clinical Research and Associate Vice Chair of Research in Internal Medicine.

UNMC is among the few centers nationwide selected to conduct this innovative trial, reflecting its strong clinical and research capabilities.



Renee Stewart, APRN-DNP

CMSC Platform Presentation

Renee Stewart, APRN-DNP and lead of the MS at Home Access (MAHA) program, presented at the annual Consortium of Multiple Sclerosis Centers (CMSC) Conference on May 30, 2025, in Phoenix, Arizona. She will be joined by MS specialty providers from New York to deliver a joint presentation titled “Developing Effective Care Models for People Living with Advanced MS.”

Renee will highlight the distinctive features of the MAHA program, the first patient-centered, comprehensive house call program in the U.S. designed to deliver a full spectrum of home-based care to individuals with MS and other demyelinating diseases.

The annual MS Strong event supports the MAHA program - details below.

SAVE THE DATE

MS Strong Event

Sunday, October 5, 2025

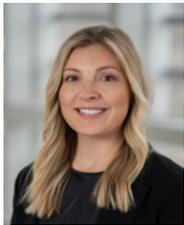
Gene Leahy Mall

1001 Douglas Street

Omaha, NE 68102

Registration opens June 2nd. Fun Run/Walk/Roll (\$30), 5K Race (\$40)
Registration includes race bib and official race shirt.

New Faculty & Staff



Jenna Reaves, MSN, FNP

Jenna Reaves, MSN, FNP, joined the Department of Neurological Sciences. From Omaha, she has been practicing as a neurology nurse practitioner. Her passion

for the field began with hands-on experience—first as a bedside nurse in the neuro ICU, and later as a nurse practitioner working alongside a neuromuscular specialist. Jenna now looks forward to expanding her expertise as she transitions into caring for patients with movement disorders.

Three things you may not know about Jenna:

- I played soccer in college.
- I love to ski.
- I’ve never had a McDonald’s hamburger.



Kaitlyn Leaman, MPAS, PA-C

Kaitlyn Leaman, MPAS, PA-C, is a physician assistant specializing in epilepsy in the Department of Neurological Sciences. Originally from Elkhorn, Nebraska,

she was drawn to neurology and epilepsy for their rapid advancements and the opportunity to build lasting relationships with patients. Kaitlyn holds a Master of Physician Assistant Studies and is certified by the National Commission on Certification of Physician Assistants. She is also a member of the American Academy of Physician Associates.

Three things you may not know about Kaitlyn:

- I love golden retrievers.
- I grew up with llamas.
- I’m a board game fanatic.



Julie Halstead

Julie Halstead has joined the Great Plains IDEa-CTR at UNMC as a Project Coordinator. Before this role, she served as the Marketing Specialist at Vivacity

Infrastructure Group, where she managed conferences and trade shows and supported marketing strategy across social media, email, and events. She also served as the company’s in-house graphic designer. Julie brings a decade of marketing experience and seven years of graphic design expertise. She holds degrees in English and Graphic Design.

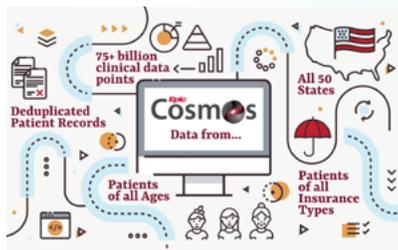
Three things you may not know about Julie:

- I am a twin.
- I was born in Germany.
- I love to laugh!

2025 Epic Cosmos Datathon Advancing Population Health Research

by Elizabeth Reisher and Luther Mardock, Great Plains IDeA-CTR

The 2025 Epic Cosmos Datathon, hosted by UNMC, the Great Plains IDeA-CTR, and Nebraska Medicine, brought together researchers, clinicians, and data scientists to explore critical health questions using the Epic Cosmos dataset. This national, collaborative, de-identified dataset—built from electronic health records (EHRs) across participating Epic health systems—spans over 299 million patient records and supports large-scale population health research



From cosmos.epic.com

Event Highlights

The Datathon began with a welcome from David Cloyed (Nebraska Medicine) and Rusty McCulloh, MD (UNMC), who introduced over 50 participants to the event's goals and the research potential of Epic Cosmos. Interdisciplinary teams worked throughout the day on diverse topics, concluding with group presentations of their findings.

DATATHON RESEARCH TEAMS & HIGHLIGHTS

- **Social Determinants of Health:** This team examined how social factors impact healthcare access and outcomes, focusing on disparities in telehealth use, rural mortality, chronic disease management, and preventive care.
- **Inpatient Care & Quality:** Analyzed the impact of COVID-19 treatments, noting that remdesivir was associated with reduced 30-day readmission rates. The team underscored the complexity of Cosmos data and the need for precise research questions.
- **Pediatric & Maternal Health:** Investigated gestational hypertension management, assessing medication use, blood pressure trends, and birth outcomes.
- **Rural Health & Access to Care:** Compared rural and urban use of bariatric surgery and GLP-1 agonists, identifying disparities in obesity treatment and access.
- **Mental Health & Substance Use:** Studied potential links between coronary artery bypass grafting (CABG) and dementia, considering postoperative cognitive decline and improved cerebral perfusion.
- **Cancer Oncology:** Examined secondary malignancies, including lung cancer after breast cancer and myeloid disorders following Doxorubicin exposure, highlighting the importance of cross-institutional collaboration.

AAN 2025: A Week of Learning and Connection for UNMC

by Subin Mathew, MD, MBBS



Sheida Koohsari, MD, Matthew Rizzo, MD, FAAN, FAFA, Courtney Venegas, MD, Haley Riley, MD, Mark Jendas, MD, Joseph Benes, MD, and Gabriella Rizzo, MD

The University of Nebraska Medical Center (UNMC) had a strong presence at the 2025 American Academy of Neurology (AAN) Annual Meeting in San Diego. Faculty, residents, and advanced practice providers gathered for a dynamic week of learning, collaboration, and professional development.

Elizabeth Hartman, MD, led a session emphasizing the value of teamwork, shared problem-solving, and fresh perspectives in general and comprehensive neurology.

Matthew Rizzo, MD, FAAN, FAFA, lectured on neurological decision-making in aviation and driving, focusing on eligibility challenges for operators with neurological conditions. With Jun Ha Chang, PhD, Dr. Rizzo also presented *Wheels and Wrists: Mapping Parkinson's Dopamine-Driven Mobility Landscape*, offering insights into real-world motor function and dopamine's role in Parkinson's disease.

UNMC's academic contributions included seven poster presentations showcasing ongoing research and innovation. The meeting served as a valuable opportunity to educate, exchange knowledge, and reconnect with colleagues nationwide.

The datathon highlighted the potential of Epic Cosmos to drive impactful, population-level research. Congratulations to all participants for their valuable contributions—we look forward to seeing these efforts inform future health initiatives.

Launching an ACGME-Accredited Neurocritical Care Fellowship

by Subin Mathew, MD, MBBS



Daryl Gress, MD



Amol Patil, MD, FCCP

The Neurocritical Care ICU at the University of Nebraska was founded in 2014 by Daryl Gress, MD, and Amol Patil, MD, FCCP, to address the growing need for specialized, multidisciplinary care of critically ill neurological and neurosurgical patients. Since then, the program has expanded significantly in clinical and academic scope.

One major piece, however, was missing: an ACGME-accredited neurocritical care fellowship. While our services and educational efforts grew, we lacked a formal pathway to train fellows under national standards. In 2023, we began the process of creating this fellowship. With strong support from neurology, neurosurgery, critical care, and multiple departments, we developed a robust curriculum, identified dedicated faculty, and built a rotation structure designed to deliver comprehensive training.

We are proud to announce that our fellowship is now fully ACGME-accredited. This is a major milestone for Nebraska and the region, allowing us to recruit and train future neurointensivists from across the country, including residents/fellows from neurology, neurosurgery, and critical care backgrounds.

We aim to provide excellent care to critically ill neurology patients while integrating advanced multimodal neuromonitoring techniques to guide precision management and improve outcomes.

This achievement marks the beginning of a new era in academic neurocritical care in Nebraska, with a renewed commitment to excellence in education, clinical care, and innovation.

Next-Gen Healer: High schooler Daniela Sanchez makes her mark

by Karla Lynch, Clinical Study Coordinator, President, UNMC/NM LatinXcellence ERG



Daniela Sanchez

We are proud to recognize Daniela Sanchez, a High School Alliance student in the Mind and Brain Health Labs and a standout at Bellevue West High School.

The **UNMC High School Alliance** program gives high school students interested in a health care profession the opportunity to observe, shadow, and work alongside world-renowned health care professionals and researchers at UNMC and Nebraska Medicine.

Throughout the 2024-2025 academic

year, Daniela showed exceptional dedication to her research. She was recognized in the Behavioral and Social Sciences Division at the 2025 Metropolitan Science and Engineering Fair for her project on "Association between Polypharmacy and Quality of Life Measures in Older Adults." Daniela will be attending Creighton University's College of Nursing this fall. She has received the Creighton Founders Award, the Roman A. Shaffel, S.J., and the Labaj Scholarship Award.

Congratulations to Daniela and all the high school students. We look forward to their continued success!

BIG Neuroscience Seminar Series

by Kelly Stauch, PhD

The Department of Neurological Sciences hosted the monthly Big Ten Neuroscience Seminar Series on Monday, March 24, 2025, via Zoom. This series brings together the neuroscience community to showcase the research of graduate students, postdoctoral fellows, and early career faculty throughout the country.

Xioake Xu, a graduate student in the lab of Howard Fox, MD, PhD, gave a talk titled "Transcriptomic and epigenetic assessment of the morphine effect on brain myeloid cells in cART-suppressed SIV infection," and Daniel Estrella, a graduate student in the lab of Kelly Stauch, PhD, presented his work titled "Parkinson's disease relevant pathological features are manifested in male Pink1/Parkin deficient rats." Congratulations to all who presented their work.

The next Big Ten Neuroscience Seminar Series will be hosted by Purdue University on April 28, 2025. Visit [Huck Institutes of the Life Sciences at Penn State](#) for upcoming seminars and information on the 2025 Big Ten Neuroscience Annual Meeting, July 21-22, 2025.

PROVIDER OF THE QUARTER



Mark Jerdas, MD

Mark Jerdas, MD, Neurology Resident, was chosen by the nurses and staff of the 6th floor Neurosciences unit as the Provider of the Quarter.

He was specifically applauded for his communication skills, comradery, approachability, and just overall enjoy having him on the floor.

Congratulations, Dr. Jerdas!

Better Sleep, Safer Roads: How Previous Nightly Rest Affects Driving in Older Adults

by Jun Ha Chang, PhD
Instructor, Mind and Brain Health Labs

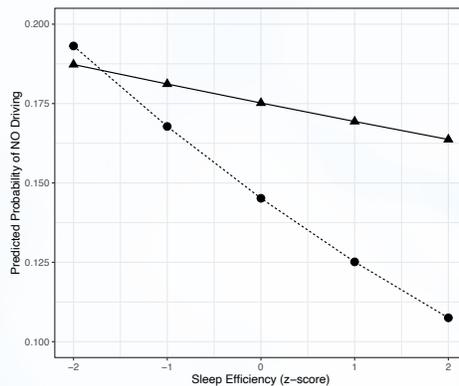


As people age, maintaining independence—especially the ability to drive—becomes increasingly important,

particularly for those with memory or thinking difficulties. A recent study from the Mind and Brain Health Labs (under review by *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*) examined how nightly sleep affects next-day driving behavior in older adults, both with and without cognitive impairment.

Researchers followed 149 adults aged 65–90 over a 12-week period, using wrist-worn sleep monitors and in-vehicle sensors to track sleep and driving behavior in real-world settings. Better sleep quality—measured by the percentage of time

spent asleep while in bed—was associated with a greater likelihood of driving the next day, especially among participants with cognitive impairment. These individuals appeared more cautious: they tended to avoid driving after a poor night's sleep and were more likely to drive after a restful one.



Predicted probability of no driving based on sleep efficiency.

Longer total sleep time, regardless of quality, was linked to a lower chance of driving the next day in both groups. This suggests that it's not just how long people sleep, but how well they sleep, that influences everyday decisions like driving.

These findings position sleep quality as a potential digital biomarker—a measurable indicator of day-to-day functional capacity. Tracking sleep could support efforts to maintain safety and autonomy in aging adults and guide targeted interventions. Next steps include combining sleep data with other real-world measures—such as walking patterns and hospital visits—to see whether sleep changes can help predict meaningful clinical outcomes, including transitions to dementia. The team is also exploring wearable-based interventions to support daily decision-making for older adults with cognitive challenges.



Samuel Bierner, MD

Non-surgical care team continues to grow in the Department of Physical Medicine and Rehabilitation

by Samuel Bierner, MD, Chair, Department of Physical Medicine and Rehabilitation

The Department of Physical Medicine & Rehabilitation's (PM&R) goal is to provide non-surgical treatments to help those with physical impairments and to offer easy access to expert care. To reach this goal, PM&R continues to add faculty in key positions.

Alexander D'Angelo, MD, joined the department in February 2024 as a musculoskeletal medicine specialist. He splits his time between Madonna Rehabilitation Hospital in Omaha and Nebraska Medicine, where he also staffs the consult service.

Seella Nimmo, MD, a UNMC graduate, joined the department in September 2024 following the completion of a Pediatric Rehabilitation Medicine fellowship. Dr. Nimmo sees outpatients and hospital consults at Children's Nebraska and inpatients at the pediatric unit of Madonna Rehabilitation Hospital in Omaha. She hopes to develop a multidisciplinary spasticity clinic at Children's soon with neurosurgery and pediatric orthopaedics.

Anna Woods, DO, will join our department in September of this year to be the medical director of the Nebraska Medicine spasticity clinic. In addition, she will have clinical time at the Omaha VA and Madonna Rehabilitation Hospital in Omaha. She completed her residency at UNMC and will



Seella Nimmo, MD

Continued from pg.10

complete her brain injury medicine fellowship at Baylor Scott and White Health, Dallas, in June.

The PM&R residency program matched four students (from Iowa, South Dakota, and Missouri) for the 2025-2026 academic year after 80 interviews. All our current senior residents matched into Accreditation Council for Graduate Medical Education (ACGME) fellowships - two in Pain Medicine and one each in Brain Injury Medicine and Sports Medicine. The department offers an ACGME-accredited Brain Injury Medicine Fellowship, which is open to Neurology, Psychiatry, and PM&R graduates.

Education is at the forefront of the PM&R residency program. Our residents, Charlie Dawson, MD, Kirby Lundy, MD, Trevor Champagne, MD, and Rotem Hass, MD, presented their research at the 7th Annual Graduate Medical Education research symposium on April 29, 2025.

We have ongoing collaborative clinical research projects with the Madonna Research Institute and the UNO Department of Biomechanics, which are being conducted at the Madonna Omaha campus. The Research Institute has a gait laboratory and other technology under the supervision of Arash Gonabadi, PhD.

PM&R is proud to grow its faculty team, who provide expert care and continues to move the field forward.

Ways to Support Neurosciences



Emily Tiensvold

We are committed to providing the best treatment available today, as well as pioneering new therapies for the future. Our team of internationally recognized physicians and researchers is dedicated to saving lives, relieving suffering, and reducing the terrible impact of neurological disease on our patients, families, and community.

Private donations play a critical role in advancing our state-of-the-art research, treatment, education, and patient care programs. Whether you would like to support patient care, research in a particular disease area, or the education of our next generation of doctors and scientists, your charitable gift can be directed to a project or topic that is most meaningful to you.

Gifts can be directed to any fund of your choice, or you can talk to Emily Tiensvold with the University of Nebraska Foundation about a donation to your area of special interest:

emily.tiensvold@unfoundation.org



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If you have any news or upcoming events that you would like featured in the next edition of the *NeuroNExT UNMC* newsletter, please send the information to shgriffin@unmc.edu



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