

FALL 2023

NeuroNEXT

from the Departments of Neurological Sciences & Neurosurgery

Beyond the Diagnosis: Unveiling Hope in the Neuro-ICU

by Courtney Venegas, MD, Neurology Resident & Subin Mathew, MD

Many people don't understand how patients, families, and caregivers can bear the devastation of the diseases that neurologists see every day in the Neurological Intensive Care Unit (Neuro-ICU). However, hope and redemption may rise from the depths of despair. Dr. Courtney Venegas shares her experiences in the Neuro-ICU.

During my Neuro-ICU rotation, I had a particular experience when a patient presented with acute hypoxic respiratory failure, spinal epidural abscess, and osteomyelitis. The patient was urgently intubated and sedated so oxygen saturations could be maintained.

It seemed that this patient's trajectory would follow patient situations that I saw during my training. I remember feeling nervous and wanted to know everything that was going on during this hospital stay so that I could accurately convey the case to my attending physician. But as I continued to care for this patient, I discovered that what should have been a typical case became an experience that changed my perspective on life.

To my astonishment, my critically ill patient was finally weaned off the ventilator after almost an entire month of life support. Although there were large memory gaps, the patient became much



Illustration by Zaid Najdawi, MD, Neurology Resident, PGY-II

more oriented as time passed. The patient was later discharged to acute rehabilitation to build strength and is now able to walk unassisted. The aggressive infection healed, and the severe back pain subsided.

Ultimately, this is a story about someone who beat all the odds thanks to skillful care, family support, and a will to live. What I want to emphasize is that the relationships I developed with this patient

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and family, alongside the people taking care of them at the bedside, revealed the true beauty of hope.

During a tragedy, at a time of traditional holiday cheer and family togetherness, I saw a patient and family show the best of humanity — something worth fighting for. I saw nurses, doctors, advanced practitioners, dieticians, respiratory therapists, physical therapists, pharmacists, care techs and more, form a united group who pushed through hardships, faced

adversity, and worked together as one team to provide the best care to their patient. My exposure in that first month of the Neuro-ICU, and particularly, my encounter with this patient and this family, initiated the first of many experiences that I will treasure forever.

The ICU is a battleground — sometimes you win and sometimes you lose, but we do our best as a team. All these encounters hold a story of power and hope.

Beyond the Diagnosis

Greetings and happy fall to everyone. As the seasons change, there is one constant in the year and in our mission — the care our patients receive beyond the diagnosis. In this issue, several of our nurses in the Neuro Intensive Care Unit, the Multiple Sclerosis at Home Access program, and Neuroscience Unit, share their stories on caring for patients and families during critical health care times. We also feature stories on current education seminars in Lewy Body Dementia and palliative care along with collaborative research, clinical trials, fundraising events, and accomplishments by those who care for our patients.

We hope you enjoy this fall edition of our NeuroNExT Newsletter!



Matt Rizzo, MD, FAAN, FANA
Francis and Edgar Reynolds Professor and Chair, Department of Neurological Sciences



Aviva Abosch, MD, PhD
Nancy A. Keegan and Donald R. Voelte, Jr. Professor and Chair, Department of Neurosurgery



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

Welcome! New Faculty

Neurological Sciences



Joan Severson, MS

Joan Severson is co-founder and president of Digital Artefacts, and a new adjunct faculty to the Department of Neurological Sciences (DONS).

Joan is the CEO and co-founder of HumanTrue. She holds an MS in computer science interaction from the University of Iowa and more

than 20 years of experience leading design and development of advanced technology solutions.

Throughout her career, Joan has assembled a multidisciplinary team, encompassing computer science, engineering, human factors, human-computer interaction, medicine, GIS, data analysis, and design, to provide innovative solutions to pharmaceutical companies, government agencies, and leading institutions. Previously, Joan led the advanced technologies and digital biomarkers team at Clinical ink and was the co-founder, president, and general manager of Digital Artefacts, which was later acquired by Clinical ink. She played a pivotal role in creating BrainBaseline, a comprehensive domestic and international digital health platform for decentralized clinical trials, enabling the capture, analysis, and development of digital biomarkers from complex cognitive, voice, mobility, and behavioral data.

Neurosurgery



Grace Lai, MD, PhD, Assistant Professor

Dr. Lai is an assistant professor of neurosurgery at UNMC. She specializes in pediatric neurosurgery. She received a BA in psychology at Cornell University and a PhD in neurobiology and behavior at Columbia University in New York City, where she studied developmental psychology and language

pathways in children with autism. Inspired by the patients and families she worked with during graduate school, she went on to receive her MD at the University of California, San Diego, completed residency in neurological surgery at Northwestern University, and fellowship in pediatric neurosurgery at the University of California, San Francisco. She is excited to work with her patients, research and medical teams at Nebraska Medicine and Children's Nebraska to provide the best care and discover new treatment options for pediatric neurosurgical conditions.

Her clinical interests include brain and spinal cord tumors, neurovascular disorders, spina bifida, hydrocephalus, and craniosynostosis. Her research interests include optimization of behavioral and cognitive outcomes, improvement of access to care and clinical trials for brain tumors, hydrocephalus, and traumatic brain injury.



Christopher Kovach, PhD, Assistant Professor

Dr. Kovach is an assistant professor of neurosurgery at UNMC. A native of Topeka, Kansas, Dr. Kovach received his doctorate in neuroscience from the University of Iowa. His passion for human brain physiology through intracranial recordings in surgical patients was ignited during the early years of medical

school at the University of Iowa (ex-stomping grounds for DONS faculty Drs. Dave Warren and Matt Rizzo), which evolved into a fellowship and then focused PhD studies. He completed post-doctoral fellowships at the University of Iowa with Matthew Howard, MD, and at California Institute of Technology with Ralph Adolphs, PhD. In his UNMC role, Dr. Kovach will participate in Dr. Abosch's NIH sponsored award, "Adaptive Neurostimulation to Restore Sleep in Parkinson's Disease: An Investigation of STN LFP Biomarkers in Sleep Dysregulation and Repair." His research interests include the development of computational and statistical tools to understand the electrical signals generated by the brain.

Welcome New Fellow

Neurological Sciences – Neuropsychology Fellow

Kyle Greenman, PhD



Three things people may not know about me:

- I am a classically trained cellist.
- I have been a chinchilla rancher.
- I love art and photography.

I trained in clinical neuropsychology at the Palo Alto VA Medical Center, the University of California, San Francisco, and the University of California, Davis, completing an internship in neuropsychology at Samaritan Health Services in Corvallis, Oregon. I have notable experience in substance use treatment, family system work, health psychology, and psychodynamic psychotherapy. My previous research examined executive functioning in adolescents, the role of language in non-verbal tasks and psychometric validity, a personality measure for bariatric presurgical evaluation.

Fear and Anxiety

In August, Josue Avecillas-Chasin, MD, PhD, in the Department of Neurosurgery, enrolled his first subject for the NIH sponsored project, “Intracranial Neurophysiological Signatures of Fear and Anxiety in Humans.”

This trial seeks to identify biomarkers of fear and anxiety in humans through enrollment of subjects diagnosed with epilepsy who will have stereotactic depth electrode placement. Included is a photo of the research teams from UNMC and the University of California, Los Angeles, preparing for the first subject using a virtual reality headset to transport the patient in a video game-like environment.



‘Battle of the Brains’ Trivia Night fundraiser

“What popular doll experienced its peak in popularity between 1983 and 1986?”

This is an example of an ‘80s trivia question from the Nebraska Stroke Association (NSA) “Battle of the Brains” trivia night held on October 7. More than 110 attendees gathered at Hillcrest Country Club in Lincoln, Neb. to support NSA.

Every 40 seconds, someone in the United States experiences a stroke, impacting nearly 5,000 individuals in Nebraska each year, including those younger than 49 years of age. NSA presented the Stephanie Wever Courage Award (named for a former NSA board member and stroke survivor who passed away in 2015), the Exceptional Stroke Healthcare Provider Award, and the Outstanding Stroke Advocate Award. The goal of the event was to raise awareness for stroke and provide assistance to stroke survivors across the state. Some recent initiatives include an interactive resource map on the website (nebraskastroke.org) that allows people to find stroke related support in their area, a video resource library, virtual support groups, and financial assistance.

For those of you who didn’t know, the answer to that popular doll — the Cabbage Patch Kid.

Updates from **Neurosurgery**

NIH K12 Pipeline Accelerator Meeting



Caroline Davidson, MD

Dr. Caroline Davidson, neurosurgery PGY-5 resident, was accepted to participate in the K12 Pipeline Accelerator meeting.

The event is NIH-sponsored and held in November 2023. The focus is to enhance the pool of women and those underrepresented in medicine to become successful neurosurgeon-scientists and to promote diversity of research in all neurosurgical subspecialties including trauma, spine, pediatrics, and pain. A limited number of residents are accepted for this prestigious meeting.

Exceptional Stroke Healthcare Provider Award

William Thorell, MD, professor, Department of Neurosurgery, received the Exceptional Stroke Healthcare Provider Award from the Nebraska Stroke Association.

Dr. Thorell has been instrumental in the development of The Stroke and Neurovascular Center, an inter-disciplinary medical team at the UNMC/Nebraska Medicine. Nebraska Medicine is the home to the first and only Comprehensive Stroke Center in Nebraska and the surrounding region.



Tim Upton, William Thorell, MD, and Renae Upton (Director of the SHARP Race event) at the award ceremony on October 7

Updates from the **Mind & Brain Health Labs**

The Mind & Brain Health Labs at the UNMC Department of Neurological Sciences is dedicated to clinical and translational research to support mind and brain health across the lifespan for the people and communities we serve.

We use technology like smart watches, phones, and sensors in cars — along with innovative data analysis tools — to learn how our health affects our behavior, movement, sleep, mobility, and quality of life in the real world. This research also enables us to find new ways of tracking overall health and identifying early signs of disease, allowing for earlier treatment, better outcomes, and independence.

Over the summer, we were honored to host several groups of students as part of the Science Education Partnership Aware (SEPA) and the Indigenous Summer Program for Advancing Research Knowledge (I-SPARK) programs. These programs offer students exposure to health science fields and aim to deepen relationships between UNMC, the Great Plains Area Tribal Chairmen's Health Board, and K-12 schools in Nebraska and South Dakota. Students learned about digital health and how researchers can implement technology to learn more about disease.



This is an exciting time in research as we strive to better understand the effects of impairment and disease on patterns of behavior at home, work and play and travel in between. Successful discovery depends on active engagement and

participation of community members, together with scientists and physicians, working to develop new tools and technologies that support mind and brain health.

If you are interested in joining one of our studies, please see the list of studies. For further details, you may call **402.559.6870** or email **mbhl@unmc.edu**.

Available Mind & Brain Health Labs Studies

▶ **CBD and PTSD in Adults** (IRB # 159-22-FB)

This investigator-initiated clinical trial seeks to better understand the effects of a new formulation of cannabidiol (CBD) on symptoms of post-traumatic stress disorder (PTSD) in adults between the ages of 21 and 65. People with and without PTSD are invited to participate. Comparing people with and without

PTSD may help us better understand how PTSD affects a person's daily life.

People with PTSD will take a study medication (CBD or a placebo) and all participants will wear a smart watch to understand daily activity and sleep patterns. Participants will also have the option to participate in driving procedures and fMRI scans. This information can

inform us on how PTSD and comorbid psychiatric disorders (e.g., anxiety and depression) improve our understanding of the use of CBD on treating this population and develop new types of measures to assess symptom severity and outcomes in people with PTSD.



► **Driving and Alzheimer's Disease (IRB # 522-20-FB)**

This is a study of active drivers between the ages of 65-90 with a range of cognitive abilities, from normal to impaired. The study aims to evaluate how changes in a person's memory or thinking affect how they sleep, move, and drive to develop better ways to detect early impairments in Alzheimer's disease. Participants have a sensor package installed in their cars to measure driving, and they wear a smart watch to measure daily patterns of movement activity and sleep. How a person sleeps, moves, and drives may provide "digital biomarkers" to diagnose health changes in the real-world — even before reaching the clinic. Early detection may enable earlier help and treatment in patients with early Alzheimer's disease and related neurodegenerative disorders.

► **Mind and Brain Health Registry (IRB #398-15-EP)**

We seek volunteers to join a research registry of people who are interested in taking part in mind and brain health research at UNMC. Together, we are working to support research aiming to improve mind and brain health. A registry is a list of people who are interested in being contacted about ongoing research studies. Joining a registry does not mean you have to participate in any research studies. You may decline to participate in any research study you learn about.

The Mind and Brain Health Labs Seminar Series features UNMC palliative care physician

The Mind and Brain Health Lab's Seminar Series hosted Lou Lukas, MD, in September.



Lou Lukas, MD

Her talk, "Psychedelics: A New Lens to Explore Mind Brain Health," reviewed the ancient and modern history of psychedelics and discussed MDMA, psilocybin, and ketamine, as potential new treatments for depression, addiction, PTSD, and the existential distress of serious illness. Dr. Lukas encourages dialog on recent mechanistic studies and applications for future research along the CTR continuum.

Dr. Lukas is a palliative care physician at the Omaha Veterans Administration Medical Center (VAMC). She is a UNMC associate professor in the Department of Internal Medicine, Division of Geriatrics and Palliative Medicine, and holds a courtesy appointment in the Department of Neurological Sciences. She is investigating the use of psychedelic agents as treatments for people with serious illness. She hopes to inspire and mentor researchers and clinicians who want to explore psychedelic agents in their research and practice.

Dr. Lukas is the principal investigator for multimethod evaluation of the impact of a psilocybin and internal family systems-based intervention to address the distress related to pancreatic cancer, the most lethal solid tumor malignancy. This study team includes researchers from the Buffet Cancer Center, the Omaha VAMC, the Core for Advanced Magnetic Resonance Imaging (CAMRI), community therapists, and faculty at University of Nebraska-Lincoln Communication Studies Department. She is also building a team of VAMC and UNMC researchers and clinicians that crosses five academic departments to explore a psilocybin-based intervention for adults with liver dysfunction associated with alcohol use disorders, beginning with a study of safety and pharmacokinetics.

Dementia with Lewy bodies

Philanthropic support increases Lewy Body Dementia outreach efforts

by Julie Pavelka, APRN-NP, FNP-BC

In 2020, we received philanthropy support from a grateful patient's family for a UNMC and Nebraska Medicine Lewy Body Dementia (LBD) Initiative to enhance clinical care and support, research and education.

As part of this initiative, we developed a specialized LBD Clinic to focus on the needs of LBD patients, their families, with care by LBD experts. Our LBD Clinic integrates providers from social work, nutrition therapy and psychiatry, to reduce multiple clinic visits, and time consuming travel. We also work closely with physical therapy, speech therapy, occupational therapy, and palliative care to assure our patients, families, and caregivers have access to all necessary disciplines to enhance the quality of their lives.

We started a monthly LBD support and wellness group that began with eight people in November 2021 and now averages 40 participants each month! During the monthly group, families and caregivers network with each other to discuss topics relevant to their evolving needs, while people with LBD can attend a wellness program with music, speech,



Julie Pavelka, APRN-NP, leads the LBD support group.

physical and occupational therapy, or commiserate with other persons who have LBD, to discuss shared issues. The group meets at the Heartland Neurological Therapy and Wellness Center in Waterloo, Neb.

The "Lewy Body Dementia Initiative Inaugural Conference" for patients and their families and caregivers convened on Wednesday, September 27, at the Scott

Conference Center in Omaha, Neb. The conference, offered in-person and via Zoom, provided marvelous networking and learning experiences for patients and families, on the latest developments in LBD care and research. We also publish a quarterly LBD newsletter, offering a conduit for additional education to our LBD Community, with information for them on emerging LBD clinical trials.

Updates from the Multiple Sclerosis Division

Have you met our new Multiple Sclerosis Fellow?

The Multiple Sclerosis Fellowship Program welcomed Chelsie Thompson, MD, to the DONS in July.

Dr. Thompson is the program's fourth clinical Multiple Sclerosis (MS) Neuroimmunology fellow for the 2023 – 2024 academic year. Dr. Thompson joins our program from Colorado where she graduated summa cum laude from the University of Colorado at Denver and then Rocky Vista University College of Osteopathic Medicine in Parker, CO, in May 2019. She completed the HealthOne Swedish Neurology Residency Program at Sky Ridge Medical Center in Englewood, serving as chief resident in her final year.

Dr. Thompson has volunteered and served her community by participating in Bike and Walk MS, Project C.U.R.E., and Denver Writes (a community to help young writers in the Denver area). Her longstanding fascination with the brain

foreshadowed her pathway to MS and neuroimmunology, including a pluripotent stem cell project to restore myelin sheath to improve impulse conduction and function for multiple sclerosis patients during her undergraduate years. Dr. Thompson plans to return to her hometown to offer and expand on the care available to people with MS in Colorado, making a meaningful contribution to their welfare and well-being.

UNMC's MS program is committed to mentorship of emerging clinical experts building relationships and communication as mentors. This fellowship will hopefully strengthen relationships among a network of passionate, expert MS care providers in Nebraska and our surrounding regions. We train our fellows to successfully care for patients facing



Chelsie Thompson, MD

the most difficult challenges, and to feel they always have a home with us. Dr. Thompson's clinical fellowship was made possible thanks to a generous philanthropic donation from the Kelley Family to the MS Neuroimmunology fellowship program.

Team MS Strong Prepares for Their Second Half Marathon

The Multiple Sclerosis at Home Access (MAHA) program is a unique, comprehensive, home-based program for individuals living with MS and significant disability.

In May 2022, Renee Stewart, APRN-DNP, who devotes much of her time assisting the MAHA Program, Kristen Bayly, Nurse Care Coordinator for the MAHA Program, Nancy Lenz, PT, with Key Complete Home Therapy and Kim Kozelichki, an

individual who is served by the MAHA program, ran the Lincoln Half Marathon. The team pushed Kim in an adaptive wheelchair for the duration of the race, and then, with their assistance, she was

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Renee Stewart, APRN-NP

able to cross the finish line on her own two feet. On October 22, 2023, the team embarked on their second half marathon. This year they will be participating in the “Omahalf” marathon, hosted by Nebraska Marathon in Aksarben Village. The goal for this race is the same as the previous race — to use an adaptive wheelchair throughout the race and assist Kim across the finish line on her own two feet, for a second time.

The team is excited to have Christina Liekhus join them this year (a woman living with MS whom Renee has the privilege of working with in her traditional MS clinic). She has competed in the Boston Marathon three times, ran the MS Run in the U.S., and completed countless other races.

“Having Christina join the team not only highlights the value and importance of

exercise in MS, regardless of physical ability, but exemplifies the support in the MS community regardless of each individual’s unique journey,” says Stewart.

The MAHA team is also preparing to host its second MS Strong community race event, scheduled for May 4, 2024, in Aksarben Village in Omaha. Priority funding from this event will continue to support exercise scholarships to MS Forward Gym and Horizon Spine PT for those individuals served by the MAHA program. The team invites all individuals living with MS, family, friends, and community members to join. Stay tuned for more details! In addition, Renee has been invited to serve on a committee



with the Consortium of Multiple Sclerosis Centers, collaborating with MS specialty clinicians from across the country, focusing efforts on creating consensus guidelines on aging in MS. Through experiences and knowledge in her work with the MAHA program, she will bring the unique perspective of those aging with MS and significant disability.

Multiple Sclerosis Clinical Trials

Clinical Trials | MS-Link

The UNMC Multiple Sclerosis Program is one of ten centers in the U.S. that was chosen to collaborate in an interdisciplinary nationwide research community to improve the care of individuals with multiple sclerosis through the Multiple Sclerosis Leadership and Innovation Network (MS-LINK).

MS-LINK comprises two research networks, which include real-world data/patient-reported outcomes and scientific/precision medicine. The first network — the real-world data and patient-reported outcomes network will collect, generate, and analyze large-scale, longitudinal data from these ten different centers to answer clinical questions directly impacting MS patients’ daily lives and to bring patient-centered solutions. The second network — the scientific and precision medicine network — will address individual patient needs by creating physician resources and conducting innovative research looking at patients’ genetic, environmental and lifestyle variability. This network recently launched its first research collaboration with the National MS Society.

Clinical Trial | TREAT-MS

The University of Nebraska Medical Center is actively recruiting patients in **TR**aditional versus **E**arly **A**ggressive **T**herapy for **M**ultiple **S**clerosis (TREAT-MS) in a multicenter clinical trial. This trial, supported by the Patient-Centered Outcomes Research Institute (P.C.O.R.I.), will help inform patients and healthcare professionals on the best approaches to treat patients with early relapsing-remitting multiple sclerosis. In addition, this study will help identify specific patient population characteristics or short-term biomarker(s) that are strongly predictive of long-term disease-associated disability.

If you are interested and/or know someone who may be interested, please contact the Neurological Science Research Center at **402.552.6233**.

Great Plains IDeA-CTR Network award renewed for its 8th year

by Kati Cordts, PhD

The Great Plains IDeA-CTR Network, a collaborative effort between eight partner institutions across Nebraska, was recently renewed for its eighth year.

Now in its second cycle, the five-year Great Plains IDeA-CTR award is headquartered out of the UNMC Department of Neurological Sciences and led by professor and chair Matthew Rizzo, MD. Funded by the National Institutes of Health/National Institute of General Medical Sciences and totaling more than \$20 million per cycle, the Great Plains IDeA-CTR focuses on developing early career researchers into independent scientists and increasing the infrastructure and other resources needed to support clinical and translational research (CTR) around the region.

Renewed funding will support continued work toward the Great Plains IDeA-CTR Network objective to leverage existing strengths in regional education, training and mentor programs, and build a comprehensive and integrated portfolio aimed at developing successful clinical translational research investigators.

“With generous funding from the National Institutes of Health and a belief that ‘together we are better,’ the Great Plains IDeA-CTR Network seeks to advance the NIH mission to improve the health of Americans across the lifespan through



Kati Cordts, PhD
Chief Scientific Administrator,
Great Plains IDeA-CTR

innovative research, high-quality patient care, outreach to underserved populations and premier educational programs in the areas of mind, brain, and body,” Dr. Rizzo says.

\$5.9M Awarded to Support Supplemental Projects

As part of the Great Plains IDeA-CTR parent award, two supplemental projects were recently funded – AdvICE and FHIR – totaling \$5.9M in total project costs.

First, a vaccine project brings together three investigators from two IDeA state institutions — UNMC and the University of Montana (UM) — to establish the Advancing Vaccine Informatics, Communication and Education (AdvICE) project. This team science development award aims to address the lack of effective and scalable interventions to improve and assess vaccine confidence and uptake in the U.S. Leveraging health informatics to design and test an mHealth app. The goal of this project is to facilitate vaccine communication, education, and decision support.

The second supplement award supports a dramatic expansion of research capacity across Nebraska. This project aims to support Fast Healthcare Interoperability

Resources (FHIR) capacity at rural sites, increase data literacy across our network, and expand data-sharing cloud infrastructure for clinical and translational efforts requiring FHIR and other EHR data-sharing across sites. This project will greatly enhance the network’s ability to support observational studies, pragmatic research, and clinical trial recruitment across the state through information sharing while also supporting rural health clinics’ compliance with the 21st Century Cures Act mandates.

The Great Plains IDeA Clinical Translation Research (CTR) Network is open for membership to researchers, non-researchers, and UNMC community members.



Emily Frankel, MPH, PBRN Community Program Manager, Great Plains IDeA-CTR, and Elizabeth Reisher, MS, Data Access Specialist, Great Plains IDeA-CTR, at the 2023 Nebraska Rural Health Association Conference

Awards & Accomplishments

Marco Gonzalez-Castellon, MD, is elected Fellow of the American Heart Association (FAHA)

From the American Heart Association: "The fellowship is awarded by the Stroke Council and recognizes members for excellence, innovative and sustained contributions in the areas of scholarship, practice and/or education, and volunteer service within the AHA/ASA."

In addition to the Premium Professional benefits, FAHAs are entitled to the following rights and privileges:

- Recognition of scholarly, education, practice, and leadership accomplishments by peers
- An 8x11 FAHA certificate suitable for framing
- Entitlement to use the designation FAHA
- Access to the FAHA lounge at Scientific Sessions
- Early registration for Scientific Sessions and the Stroke Conference



Congratulations to Dr. Gonzalez for being elected for this prestigious award.



Kaylene Linhart, APRN, is awarded "Provider of the Quarter" by the staff on the 6th floor Neuroscience Unit

From the 6 Neuro staff: "Kaylene has been a tremendous asset to our unit. She provides exceptional care and attention to her patients. She goes above and beyond to communicate and coordinate the multidisciplinary care needed by our stroke patients."



T. Scott Diesing, MD, was the invited author of the recent American Academy of Neurology Continuum

The article is titled, "Neurology of systemic disease: Neurologic Manifestations of Gastrointestinal and Nutritional Disorders."

<https://pubmed.ncbi.nlm.nih.gov/37341328/>



Rana Zabad, MD, was selected as a multiple sclerosis abstract reviewer for the American Academy of Neurology scientific meeting.

The 2024 meeting will be held in Denver, Colo. Dr. Zabad was also appointed by MDPI editor as a member of the editorial board for *Brain Sciences Journal*.



Afsaneh Shirani, MD

Selected to serve on the Nebraska Medical Association Diversity, Equity, and Inclusion Task Force.



Elizabeth Hartman, MD

American Academy of Neurology General Neurology Section Chief until March 2025. Dr. Hartman is General Neurology Division Chief as of July 2023.



Graduate student Meghan Ramirez

Recently awarded the Society for Neuroscience (SfN) Trainee Professional Development Award (TPDA). The TPDA grants students a travel stipend and complementary conference registration for the SfN International Conference in Washington, DC, this November. Meghan is the third student in Dr. David Warren’s lab to win this prestigious award along with Connor Phipps and Abi Heller-Wight. Meghan, along with three other members of the lab, will be presenting research at the upcoming SfN conference.

Students and staff will present preliminary data from the ongoing National Institute on Aging-supported Polygenic Risk for Alzheimer’s disease in Nebraska Kids (PRANK) study that aims to observe the association between genetic Alzheimer’s disease (AD) risk and AD vulnerable brain structure and function in periadolescents. Meghan Ramirez, graduate student, will present her research on age-related differences of hippocampal recruitment during relational memory. Shalmali Mirajka, medical student, will present her research on the associations between salience and

frontoparietal intranetwork connectivity and executive functions tasks in periadolescent children. Research Clinical Coordinator Anna Wilhelm will present her research on hippocampal resting-state functional connectivity and relational memory differences in periadolescent children. Abi Heller-Wight, graduate student, and MD/PhD Scholar, will present her research on hippocampal subfield volumes in periadolescent children and their association with spatial working memory, learning of paired associates, and age.





Through the eyes of our Neurocritical Care Nurses

by Subin Mathew, MD & Sallie Weathers, BS

Nicole Eckstrom, RN, left and Amy Moore, RN, right, in Neuro ICU

The Neurocritical Care Unit at Nebraska Medicine is a high-pressure environment with patients requiring close monitoring as their conditions can change in seconds. Neurologically ill patients need specific care and surveillance by trained neuroscience nurses. Our nurses constantly monitor life supporting machines, watch patients' reactions to medication, and assess patients while providing comfort to anxious families and friends.

Nicole Eckstrom and Amy Moore have been Nebraska Medicine neurocritical care nurses for several years. While their experiences differ, the one thing that stays constant is their passion for helping some of the most critically ill patients.

Their days in the Neurocritical Care Unit are anything but ordinary.

Nicole looks at her profession like every day is a new learning opportunity. "Yes, we get a lot of the "same" patients; however, you learn to individualize their care,"

Eckstrom says. "In the Neuro ICU, clinical changes can be very subtle. Our patients need close monitoring. You also get to know them well, along with their families, in their most vulnerable state. Most of our patients are here for an extended period, which allows you to develop a unique bond with them and learn their personalities."

For Amy, her typical shift includes expecting the unexpected. "I start with assessing my patients every hour for any neuro/vitals changes, repositioning/cleaning and

attending to any additional drains/drips. But it is not uncommon for my day to change in a second," Moore says.

In 2020, the entire world shifted as the COVID-19 pandemic hit. There became an even greater appreciation for healthcare workers across the globe - especially those in intensive care units. Each day brought new challenges to the Neurocritical Care Unit during the pandemic. Amy recognizes that before the pandemic hit, nursing always felt rewarding and patients/families were grateful for the care provided, but the pandemic challenged some of those beliefs.

During COVID-19, nurses burnt out due to the emotional and physical toll. "Taking care of patients during COVID-19 was extremely difficult for many reasons. Patients were only able to communicate with families over the phone or Zoom calls during the initial phase. Later, we started allowing only one or two visitors. This was extremely difficult, especially working in the Neuro ICU with patients who aren't always able to speak due to their condition. It was also extremely difficult when it came to communicating and updating family over the phone, as it was hard to give them continuous updates, while also trying to give their loved one's lifesaving care amid staff shortages," Amy says.

Gratefully, Amy found strength through a strong group of family and coworkers. "They kept me going every day with laughter and nice little moments to get through the long shifts. My family helped me by making sure I had the time to decompress after my shifts both mentally and emotionally, as that was a new thing I needed during COVID-19."

For Nicole, the pandemic made her passion for nursing even stronger. "I think witnessing patients without family members at the bedside is what really encouraged me to stay in nursing. These patients needed someone who deeply cared. I also felt a lot of empathy for the new graduate nurses. There was not much support to learn because of the high acuity and increased ratios. Having experience, I felt it was

essential to encourage and support them as best as I could," Moore says.

Through the challenging work of nursing in the Neurocritical Care Unit, both Moore and Eckstrom continue to love the work that they do. They shared some of their most memorable moments of nursing.

Nicole's most memorable moments include helping a patient with a brain aneurysm and serious subarachnoid hemorrhage. "This patient was here for over three weeks. I really got to know the family, and they still reach out to me. I was lucky to see them at the Sharp race for brain aneurysm survivors. It was awesome to see how well my patient is currently doing! This experience is one of many of why I love being a critical care nurse."

Amy feels that every patient has impacted her in one way or another. Her most memorable experience includes the hardship of losing a patient. "I once had a young patient with a wonderful family who unfortunately suffered a massive brain injury leading to brain death. The family was devastated by this news, and there was nothing we could do. Then there are moments when our doctors and nurses must shift from caring for the patient to the grieving family. The family was grateful for everything we did for their loved one. Before they left, they thanked us through grief and tears. I always think about how I help people through the hardest days of their lives, and those families and patients will stick with me forever."

Through the chaos of the pandemic and medical staff shortage that has redefined the healthcare industry during the past few years, nothing has been as consequential as the tidal shift that took place in the nursing field. Amid massive resignations and retirements, the resilience, innovation, and unwavering care demonstrated by our ICU nurses has shown us how they put their excellent training to the ultimate test.



University of Nebraska Medical Center
Department of Neurological Sciences
988440 Nebraska Medical Center
Omaha, NE 68198-8440

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 sallie.weathers@unmc.edu

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