

The Neurotransmitter

UT Health Austin Pediatric Neurosciences at Dell Children's

Promoting Discovery and Innovation in the Pediatric Neurosciences



Dear Colleagues:

Welcome to **UT Health Austin Pediatric Neurosciences at Dell Children's**. In this issue, we highlight our new chief of pediatric neurosurgery and co-chief of pediatric neurosciences, Elias Rizk; several recent accomplishments and events; and upcoming conferences.

As our nationally ranked program continues expanding its impact in Central Texas and beyond, we remain dedicated to offering outstanding educational opportunities, promoting research and scholarly activity, and delivering exceptional multidisciplinary clinical care for all children with neurological disorders.

E. Steve Roach, MD

Co-Chief of Pediatric Neurosciences
roache@austin.utexas.edu

Elias Rizk, MD, PhD, MSc

Co-Chief of Pediatric Neurosciences
elias.rizk@austin.utexas.edu

RIZK APPOINTED CHIEF OF PEDIATRIC NEUROSURGERY & CO-CHIEF OF PEDIATRIC NEUROSCIENCES



We are excited to announce the appointment of **Elias Rizk, MD, PhD, MSc**, as the new chief of pediatric neurosurgery at Dell Children's Medical Center and co-chief of UT Health Austin Pediatric Neurosciences at Dell Children's. Rizk previously served as chief of pediatric neurosurgery at Pennsylvania State University and the Milton S. Hershey

Medical Center in Hershey, Pennsylvania. He is a professor in Dell Medical School's Department of Neurosurgery.

Rizk earned his medical degree from the American University of Beirut and went on to complete a PhD in neuroscience and a master's in public health from Penn State College of Medicine. He completed his neurosurgery residency at the Milton S. Hershey Medical Center, followed by a fellowship in pediatric neurosurgery at Children's of Alabama. As a postdoctoral fellow, he worked with Bermans Iskandar, MD, at the University of Wisconsin School of Medicine and Public Health, focusing on neuro-regeneration.

Specializing in the management of complex clinical conditions such as spina bifida, hydrocephalus, craniosynostosis, and brachial plexus injuries, Rizk led multidisciplinary clinics for spina bifida and craniofacial anomalies at Penn State. He has also made significant contributions to trauma and surgical quality improvement initiatives to enhance outcomes in pediatric care.

In addition to his clinical expertise, Rizk's research focuses on axonal regeneration, particularly the role of DNA methylation in neuronal repair. He has championed the use of bioprinting technologies for craniofacial reconstruction and advanced treatments for hydrocephalus. With over 150 publications, Rizk is an accomplished academician. Among his many honors at Penn State, he was named Physician of the Year in 2024, received the Barron Leadership Award in 2021, and received the Outstanding Teacher Award in 2020.

"We are thrilled to welcome Dr. Rizk to our team," said **E. Steve Roach, MD**, co-chief of Pediatric Neurosciences. "We look forward to his leadership in advancing pediatric neurosurgery at Dell Children's and UT Health Austin."

A SECOND OPINION

This 10-year-old girl presented for a second opinion regarding previously diagnosed migraine with aura. Her headaches began around seven years of age and since then have occurred three to four times per week. Most of her headaches last 10 to 15 minutes, but they sometimes last an hour or two. The headache is described as throbbing, and the pain always occurs in the right temporal-parietal region. Each episode is associated with photophobia, phonophobia, and nausea. Two minutes before the headaches begin, she usually experiences visual symptoms, described as shimmering rainbow lines or dots in both eyes. The scotomas initially gradually enlarge but resolve within 5 to 10 minutes. The attacks conclude with vomiting, and she is left with fatigue necessitating a nap. She has had no cranial autonomic symptoms or obvious seizures.

The family first sought care one year after symptom onset. An MRI at the earlier facility reportedly showed a brain calcification that was initially attributed to previous mild head trauma. However, serology was positive for toxoplasmosis, and she began therapy for toxoplasmosis and an unknown medication for migraine. The family was concerned because the headaches did not improve with treatment.

Presenting Diagnoses

1. Migraine with aura
2. History of cerebral toxoplasmosis

Are there diagnoses to consider other than migraine? Does she need additional diagnostic studies? Is the earlier positive toxoplasmosis titer clinically significant or coincidental?

See below for additional discussion.

FEATURED ARTICLE: PREINJURY FACTORS AFFECT THE COURSE OF CONCUSSION IN ADOLESCENTS



Laura Winstone-Weide, PhD



Kelly Gettig, DNP, APRN



Cynthia Austin, PhD, ABPP

The concussion literature has increasingly shown that preinjury factors influence the course of concussion recovery. In a recent *Annals of the Child Neurology Society* article, neuropsychology fellow **Laura Winstone-Weide, PhD**, with colleagues **Kelly Gettig, DNP, APRN**, and **Cynthia Austin, PhD, ABPP**, used structural equation modeling (SEM) to examine the contribution of preinjury factors, baseline symptoms, and first-visit symptoms to the time required to return to baseline following injury.

SEM is an advanced statistical technique that allows simultaneous consideration of multiple variables as well as mediation analysis to test direct and indirect effects. The study analyzed prospectively collected data from 642 adolescents who were assessed in the Dell Children's concussion clinic. Preinjury variables included a history of headache, anxiety, depression, attention-deficit/hyperactivity disorder, learning disability, previous concussions, and female gender. A particular strength of the study was the diversity in patient ethnicity (54% Hispanic), insurance status (41% Medicaid), and mechanism of injury (54% sports-related concussion), facilitating broader generalization across adolescent concussion populations.

Preinjury headaches, depression, and anxiety had the strongest direct effects on baseline symptoms. Adolescents with preinjury depression and/or anxiety took an average of four to six additional days to clearance for high-risk activities. Notably, a history of prior concussions or learning disability *did not* influence symptom reporting or recovery when considered simultaneously with other risk factors. The study emphasizes the unique, additive effects of preinjury factors on symptom reporting and concussion recovery. The authors concluded that preinjury risk factors should be viewed as a constellation, with particular attention to mental health factors in concussion management.

The Traumatic Brain Injury and Concussion Program at Dell Children's Medical Center was established in 2018 and has evaluated over 2,000 patients. Its complex concussion clinic focuses on children and adolescents with risk factors for prolonged recovery time. In addition to collecting data to support evidence-based guidance on concussion management and recovery expectations, clinic staff members provide annual concussion management education to hundreds of school nurses, athletic trainers, and coaches. Their work recently led to modification of the Texas High School Coaches Association's required return-to-play education to include active rehabilitation.

Winstone-Weide LK, Gettig K, Austin CA. Postconcussive symptom severity, risk factors for prolonged recovery, and mental health history: pathways of influence in a diverse pediatric sample. *Ann Child Neurol Soc.* 2024;2:281-289, doi.org/10.1002/cns3.20094.

PEDIATRIC NEUROSCIENCES WELCOMES NEW COLLEAGUES

UT Health Austin Pediatric Neurosciences at Dell Children's has grown dramatically since it was founded in 2019. The multidisciplinary program currently features 20 child neurologists, 21 advanced practice providers, four pediatric neurosurgeons, three pediatric physical medicine and rehabilitation specialists, eight pediatric neuropsychologists, two genetic counselors, and a pediatric neuro-ophthalmologist. We recently welcomed new colleagues to the program.



Karen D. Evankovich, PhD, is an associate professor of neurology and a pediatric neuropsychologist. Her research interests include the cognitive and psychosocial effects of pediatric epilepsy as well as the cognitive and psychosocial difficulties in children and adolescents with demyelinating disorders and the relationships of these issues to disease-related factors.

Evankovich joins our program from Houston, Texas, where she was the clinical program director of pediatric neuropsychology at Texas Children's Hospital and an associate professor of pediatrics at Baylor College of Medicine. She earned her bachelor's degree from Stanford University followed by her master's in clinical psychology and PhD in clinical neuropsychology from the University of Houston. She completed both her internship in clinical child psychology and postdoctoral fellowship in pediatric neuropsychology at Yale University School of Medicine. She is a member of the American Psychological Association, the American Academy of Clinical Neuropsychology, and the International Neuropsychological Society.



Amanda Sitton, RN, is our program's first neonatal neurology nurse navigator. She collaborates with multidisciplinary teams to develop personalized care plans and coordinates referrals to our subspecialty clinics. Sitton earned a Bachelor of Science in nursing from the University of Arkansas and previously worked as a nurse in the Dell Children's neonatal intensive care unit. She has completed End-of-Life Nursing Consortium training, and her interests include quality enhancement initiatives and data analysis. A palliative care champion and two-time Daisy Award nominee, she is highly involved in refugee outreach and other community service.

ELECTED & SELECTED

Clarke Receives Child Neurology Society's Gold Humanism Award



*Jorge Vidaurre, MD, of Nationwide Children's Hospital and
The Ohio State University College of Medicine presenting the award to Clarke*

Congratulations to **Dave F. Clarke, MD**, professor of neurology and chief of the Dell Children's Comprehensive Pediatric Epilepsy Center, for receiving the 2024 **Arnold P. Gold Foundation Humanism in Medicine Award** from the Child Neurology Society. The peer-nominated award honors a child neurologist or developmental pediatrician who has been selected by the CNS Awards Committee in recognition of extraordinary and ongoing humanism in their career. Clarke and other society award winners were honored during a reception at the annual CNS meeting in San Diego. [Read about Clarke and his contributions to humanism in medicine.](#)

Ferrante & Ortman Selected to Editorial Board of *Seminars in Pediatric Neurology*



Leah Ferrante, MD



Chelsey Ortman, MD

Leah Ferrante, MD, assistant professor of neurology and co-director of the Dell Children's neuro-neonatal intensive care unit program, and **Chelsey Ortman, MD**, assistant professor of neurology, were recently appointed to the editorial board of *Seminars in Pediatric Neurology*. Ferrante and Ortman guest edited the journal's **October 2024 and December 2024 issues**, both on neurocutaneous syndromes in the pediatric population.

IN THE NEWS

12 Faculty Members Named *Austin Monthly's* Top Doctors of 2025

Twelve of our pediatric neuroscience physicians were recently recognized among *Austin Monthly's Top Doctors*. Each year the magazine asks area physicians to nominate up to three physicians in their field whom they would trust to care for their own family. The top-rated physicians from over 50 medical fields are then verified to be in good standing with the appropriate medical boards. We congratulate these 12 physicians and all our doctors for exemplifying the highest standards of care.



Kristen Arredondo, MD
Pediatric epilepsy



Glendaliz Bosques, MD
Pediatric rehabilitation



Dave Clarke, MD
Pediatric epilepsy



Jane Edmond, MD
*Pediatric
neuro-ophthalmology*



Daniel Freedman, DO
*Epilepsy and functional
disorders*



M. Omar Iqbal, MD
Pediatric neurosurgery



Louisa Keith, MD
*General neurology, NICU
and cardiac follow-up*



Faheem Mahomed, MD
Pediatric rehabilitation



Sara Pavitt, MD
Headache in children



E. Steve Roach, MD
Genetic disorders, stroke



*Elizabeth Tyler-Kabara,
MD, PhD*
Pediatric neurosurgery



*Veda Vedanarayanan,
MD*
*Neuromuscular
disorders*

Ferrante Featured in *Austin American-Statesman* for Neuro-NICU Care



Leah Ferrante, MD, was featured in an *Austin American-Statesman* article on a newborn who was treated for multiple strokes and seizures in the neuro-NICU, one of the only multidisciplinary, subspecialty neuro-NICU programs in the country. “It’s phenomenal,” said Ferrante of the baby’s current development. “Not only does he look typical, he’s actually developmentally advanced.” [Read the full story.](#)

Roach Interviewed by *Neurology Today* on Infantile Spasm Treatment



E. Steve Roach, MD, was interviewed for a recent *Neurology Today* article about a study comparing vigabatrin and ACTH as second-line therapy for infantile epileptic spasms. [Read the article.](#)

CEREBRAL PALSY CLINIC CO-HOSTS FIRST ANNUAL SYMPOSIUM



Symposium presenters Glendaliz Bosques, MD, John Heydemann, MD, and Elizabeth Tyler-Kabara, MD, PhD

On January 11, the **Dell Children's Comprehensive Cerebral Palsy Clinic** co-hosted the first annual Pediatric Cerebral Palsy Symposium with Central Texas Pediatric Orthopedics. Held at Dell Children's, the half-day conference educated community therapists on the treatment and management of spasticity, dystonia, and movement disorders across the continuum of care. Dell Med faculty presentations included "Surgical Management of Movement Disorders" by pediatric neurosurgeon **Elizabeth Tyler-Kabara, MD, PhD**, and "Cerebral Palsy Mimickers" by pediatric rehabilitation medicine chief **Glendaliz Bosques, MD**.

"The inaugural symposium marked a significant step toward enhancing care for children and youth with cerebral palsy in Austin and the surrounding areas," said Bosques. "Our goal is to make this a recurring event—creating a platform for continuous learning and partnership, ensuring we can provide the best possible care for the children and families we serve. Together, we can grow, learn, and make a lasting impact."

"This was a fantastic opportunity to engage with our community occupational and physical therapists who care for our patients with CP," said Dell Children's Pediatric Rehabilitation Center therapy program manager **Catherine Harrison, PT, DPT**. "This course allowed for open communication and collaboration between our medical providers and our community partners. It highlighted the medical pathway and procedures a lot of these children will undergo while under the care of their community therapists."



Catherine Harrison, PT, DPT, moderating the Q&A panel discussion

DURHAM PRESENTS TIMOTHY M. GEORGE, MD, MEMORIAL LECTURE



Susan Durham, MD, MS, presenting the keynote lecture

The third annual Timothy M. George, MD, Memorial Lecture, held at Dell Children's on November 8, was presented by Susan Durham, MD, MS, professor of clinical neurological surgery at Keck School of Medicine of USC, holder of the J. Gordon McComb Family Chair in Neurosurgery, and chief of neurosurgery at Children's Hospital Los Angeles. Durham spoke on building a multidisciplinary pediatric brachial plexus program and described the contributions of each specialty to the brachial plexus team.





Pediatric neurosurgeon Kevin Kumar, MD, PhD, presenting at the symposium

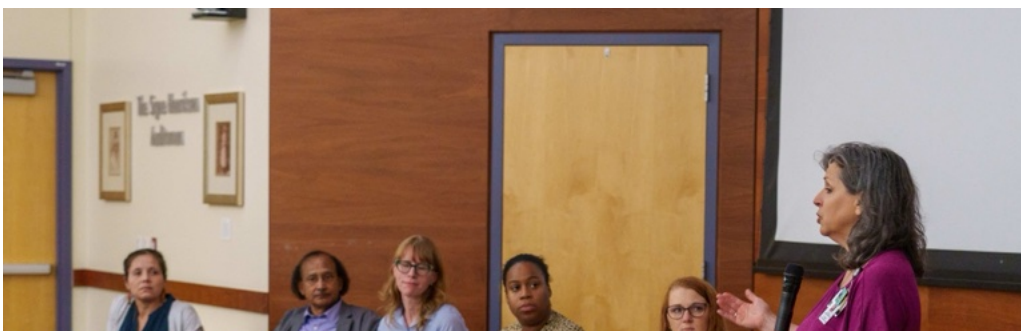
Durham's keynote lecture was part of the Timothy M. George, MD, Memorial Lecture Research Symposium: Access to Care in Pediatric Neuroscience, a mini symposium featuring presentations by pediatric neuroscience and pediatrics faculty members. Dell Med assistant professor of neurosurgery **Kevin Kumar, MD, PhD**, discussed microglia replacement therapy for pediatric brain tumors, a specialty area of his clinical research. Other Dell Med faculty speakers included assistant professor of pediatrics Ryan Lowery, MD, clinical assistant professor of pediatrics Michelle Gallas, DO, and associate professor of pediatrics Maria Monge, MD.

Timothy George was a professor of neurosurgery at Dell Med and a pediatric neurosurgeon at Dell Children's when he died unexpectedly in 2019. George graduated from New York University Grossman School of Medicine before completing his neurosurgery residency at Yale University and his pediatric neurosurgery fellowship at Northwestern University. He joined the faculty of Duke University in 1996 and in 2006 moved to Dell Children's.

"Dr. George and I shared a mission of increasing diversity in pediatric neurosurgery, particularly when it came to getting out into communities and schools to teach kids about a career in pediatric neurosurgery," said Durham.

Previous memorial lecture guest speakers have included **John (Jay) Wellons III, MD, MSPH**, professor of neurological surgery and pediatrics and chief of pediatric neurological surgery at Vanderbilt University Medical Center; and **Bermans Iskandar, MD**, professor and chair of pediatric neurosurgery at the University of Wisconsin School of Medicine and Public Health.

PROGRAM CO-SPONSORS THIRD ANNUAL NEUROFIBROMATOSIS FAMILY DAY





NF Family Day panel discussion

More than 60 patients and family members gathered at Dell Children's for the third annual Neurofibromatosis Family Day Meeting on November 2. Co-sponsored by the Dell Children's Neurofibromatosis Center of Excellence, UT Health Austin Pediatric Neurosciences at Dell Children's, and the Children's Tumor Foundation, this free meeting allowed patient families affected by NF to learn the latest developments in clinical care and research through presentations and Q&A sessions in both Spanish and English. Attendees also received guidance on school resources and heard firsthand accounts of experiences from other NF families.

Pediatric neuroscience presentations included "A Clinical Overview of NF1 in Children" by **Manikum Moodley, MD**, professor of neurology and co-director of the Neurofibromatosis Center of Excellence; "Neurosurgical Problems in Patients With NF" by neurosurgery assistant professor **M. Omar Iqbal, MD**; "Genetics of NF1" by genetic counselor **Natalie Lillie, MS, CGC**; "Unlocking School Resources for Students With NF" by social workers **Kayla Richards, LCSW**, and **Keshayka Williams, LCSW-S**; and "Gene Therapies Overview" by program coordinator **Karla Robles-Lopez, MD, PhD**.



NF center coordinator Karla Robles-Lopez, MD, PhD, with co-directors

The **Dell Children's Neurofibromatosis Clinic** is the only Central Texas member of the NF Clinic Network of the Children's Tumor Foundation. It provides accelerated access for patients with neurofibromatosis as well as comprehensive, multidisciplinary, state-of-the-art care in a family-centered environment. With subspecialty expertise, the clinic is committed to providing the best care at each stage of the disease, as well as offering transitional care into the adult NF program.

A SECOND OPINION: EPILOGUE

This child's headaches were in many regards typical of migraine, with throbbing pain, scotomata, nausea, and vomiting. Given the population frequency of migraine, her initial migraine diagnosis was understandable. But she also had several features that were atypical of migraine, such as the consistent localization of the headache to one area, the very short pain duration for most of the attacks, the rapid onset of lethargy following the headaches, and the very stereotypical nature of the episodes. It was appropriate to consider other diagnoses, especially given her failure to respond to therapy and her earlier abnormal MRI.

We were unable to obtain her earlier MRI for review, but follow-up imaging confirmed a right posterior temporal-occipital lesion without a definite mass effect and containing small calcifications and punctate areas of contrast enhancement. Subsequent scans have remained stable. An EEG showed episodic 2-3 Hz delta activity from the right hemisphere, and a subsequent long-term EEG confirmed focal epileptiform discharges during the headaches. She started levetiracetam for epilepsy, and her symptoms improved. Whether the brain lesion represents the residual from an earlier toxoplasmosis infection or a benign neoplasm is currently under discussion.

This child highlights the importance of differentiating migraine with aura and ictal headache. Although her clinical manifestations resembled those of migraine, key differences raised suspicion for a secondary headache disorder. Ictal epileptic headache occurs as a manifestation of focal epilepsy. These headaches begin at the onset or during a seizure, are typically ipsilateral to the epileptiform discharges, and significantly improve or resolve with seizure termination. Ictal headaches are relatively uncommon, occurring in approximately 5% of patients with epilepsy, whereas postictal headaches occur in 20%-50% of patients with epilepsy. Headaches associated with ictal events are more likely to occur with focal seizures than with generalized seizures.

The treatment of ictal headache centers on managing the underlying epilepsy, so careful evaluation to determine the correct headache diagnosis and ensure appropriate treatment is essential.

Final Diagnosis

1. Ictal epileptic headaches
2. Cerebral toxoplasmosis versus benign neoplasm

Additional Reading

1. Cai S, Hamiwka LD, Wirrell EC. Peri-ictal headache in children: prevalence and character. *Pediatr Neurol*. 2008;39(2):91-96.
2. Caprara F, Letícia A, Rissardo JP, et al. Characteristics of post-ictal headaches in patients with epilepsy: a longitudinal study. *Seizure*. 2020;81:244-249.
3. Kanemura H, Sano F, Ishii S, et al. Characteristics of headache in children with epilepsy. *Seizure*. 2013;22(8):647-650.

Join Us for the Sixth Annual Practical Pediatric Neuroscience Symposium

The sixth annual Practical Pediatric Neuroscience Symposium will be held on **Saturday, May 17**, at Dell Children's with virtual access. The target audience is general pediatric practitioners who care for children with a wide range of neurological disorders. This free event will feature several interactive presentations by faculty members of the pediatric neurosciences program on a broad range of topics. Each presentation will provide specific techniques and evidence-based recommendations for diagnosis and management. Details on registration and CME forthcoming.

Save the Date: IMPRES Pediatric Epilepsy Surgery Conference

The Lurie Children's Epilepsy Center in collaboration with the Dell Children's Comprehensive Pediatric Epilepsy Center present the second annual IMPRES: Improving Access & Health Equity in Epilepsy. The conference will take place **June 20-22** on the campus of Northwestern University in downtown Chicago, Illinois. Details on registration and CME forthcoming. [View the tentative agenda.](#)

JUNE 20-22, 2025

IMPRES Conference

Innovative Minds:
Pediatric Research in
Epilepsy Surgery

ROBERT H. LURIE MEDICAL RESEARCH CENTER AT NORTHWESTERN UNIVERSITY
CHICAGO, ILLINOIS

The Neurotransmitter, 2025, Issue 1

To subscribe to *The Neurotransmitter*, email pedineurosciences@austin.utexas.edu.

Missed an issue? [Access previous newsletters.](#)

UT Health Austin Pediatric Neurosciences at Dell Children's is a clinical partnership between Dell Children's Medical Center and UT Health Austin, the clinical practice of Dell Medical School at The University of Texas at Austin.

For additional program information:

[UT Health Austin Pediatric Neurosciences at Dell Children's](#)
[Comprehensive Pediatric Epilepsy Program](#)
[Pediatric Neurosciences Blog](#)

Follow us on [X](#)