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The Neurotransmitter

Promoting Discovery and Innovation in the Pediatric Neurosciences

UT Health Austin Pediatric Neurosciences at Dell Children's



Dear Colleagues:

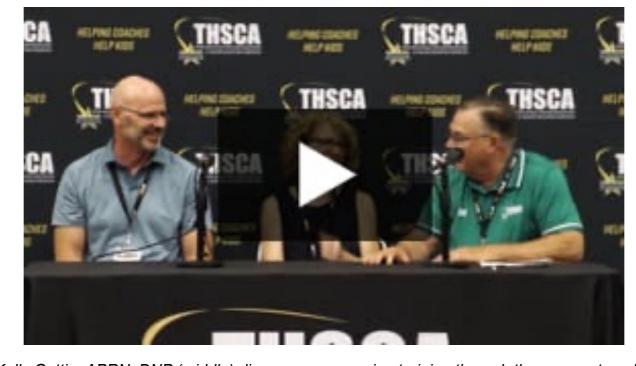
Welcome to UT Health Austin Pediatric Neurosciences at Dell Children's. In this issue, we highlight two of our concussion clinic providers who created a required statewide concussion training module; a controversial article on child neurology training requirements; new faculty and staff; and our ongoing involvement with Women in Neuroscience, a nonprofit organization dedicated to building a diverse community of female students who pursue careers in neuroscience and neurology.

As our 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.

Elizabeth Tyler-Kabara, MD, PhD Chief of Neurosurgery ECTK@utexas.edu

E. Steve Roach, MD Chief of Neurology roache@austin.utexas.edu

GETTIG & AUSTIN CREATE CONCUSSION TRAINING MODULE FOR TEXAS COACHES



Kelly Gettig, APRN, DNP (middle) discusses concussion training through the new partnership between Dell Children's Medical Center and the Texas High School Coaches Association at a recent joint press conference with Adam Bauman, vice president of Orthopedics, Sports & Rehabilitation Services of Ascension Texas, and THSCA Executive Director Joe Martin.

On July 17, the Texas High School Coaches Association (THSCA) announced at its annual conference that Dell Children's Medical Center will be its Official Medical Wellness Provider. As part of the partnership's educational initiatives, **Kelly Gettig, APRN, DNP**, director of the Dell Children's Traumatic Brain Injury/Concussion Clinic, and **Cynthia Austin, PhD**, concussion clinician, collaborated with Ascension Texas Sports Performance to create the THSCA's official concussion competencies training presentation. The training is designed to fulfill the state's concussion education requirement for high school coaches, teachers, and athletic trainers and will replace the previous online concussion competency, which had 2.5 million in viewership.

Gettig and Austin, both neurology faculty members at Dell Medical School, presented on active rehabilitation following concussion at the THSCA conference and were interviewed by Bally Sports Regional Networks about their education initiatives. Gettig also participated in a joint THSCA–Dell Children's press conference with Joe Martin, THSCA's executive director, to discuss the clinic's role in concussion training.

Through the new partnership, Gettig and Austin will advocate for return-to-play legislation that reflects best practice for concussion management. "We believe our role as a specialty clinic is to improve outcomes for every adolescent athlete with concussion by ensuring they have access to active rehabilitation as soon as possible following injury," said Gettig. "Our partnership with THSCA is a direct pipeline to achieving that goal for athletes throughout Texas."

The Dell Children's concussion program will continue expanding in October with the addition of pediatric neurosciences faculty member Kyleen Willsey, MD, who will work primarily with the concussion program.

TRADITION! TRADITION! TRADITION?



E. Steve Roach, MD

Training requirements for child neurologists have generated lots of sometimes contentious discussion in recent years. But reminiscent of Mark Twain's quip about the weather, everyone talks about it, but nobody does anything. In a recent commentary in the *Annals of the Child Neurology Society*, editor-in-chief **E. Steve Roach, MD**, tackled the thorny and often controversial issues around residency training by posing a series of questions and challenging leaders in the field to reassess whether decades-old training requirements are still optimal.

Child neurology has changed dramatically in the last half century. When certification

began, many child neurologists saw adult patients as well as children, and in the absence of noninvasive imaging, adult neurology experience no doubt increased lesion localization skills. Numerous advances now compete for curriculum time. A half century ago, we had only a rudimentary understanding of stroke in children, the diagnosis and treatment of central nervous system tumors, the neurological problems of neonates, epilepsy management, and neuroimmunology. Dramatic advances in genetics now allow precise diagnosis of rare disorders and, increasingly, sophisticated treatments using gene therapy or mechanism-based treatments derived from a deep understanding of the molecular biology of genetic diseases. The need to introduce trainees to these and other advances now competes with time-honored rotations for curriculum time. What is the best return on the time invested?

The commentary asks lots of questions but makes only one major recommendation: we are long overdue for a formal reassessment of our trainees' needs. Whatever you think of the current certification requirements, you are likely to find the article both interesting and provocative.

Read the commentary.

A SECOND OPINION

This 16-year-old girl presented for a second opinion after two witnessed convulsive seizures. Several years earlier, she began having periods of "zoning out" followed by fatigue. These trancelike episodes each lasted for up to a minute and had gradually increased in frequency to once or twice per day. She was unaware of some of the episodes but claimed to recall others. Her early development had been normal, but she had trouble paying attention in school and in recent years became forgetful. She was previously diagnosed with depression and posttraumatic stress disorder related to earlier abuse. Two years earlier the unresponsive episodes had been dismissed by a neurologist as psychogenic nonepileptic seizures (PNES) after a normal electroencephalogram (EEG). Her physical examination was normal.

A second EEG following the onset of convulsions revealed continuous slowing of the background rhythm in the left posterior hemisphere, but no epileptiform discharges were documented. Magnetic resonance imaging (MRI) showed a well-circumscribed calcific mass protruding into the left temporal horn of the lateral ventricle (Figure).

What additional diagnostic studies might be appropriate? What additional diagnoses should be considered? What is the prognosis?

See below for additional discussion.

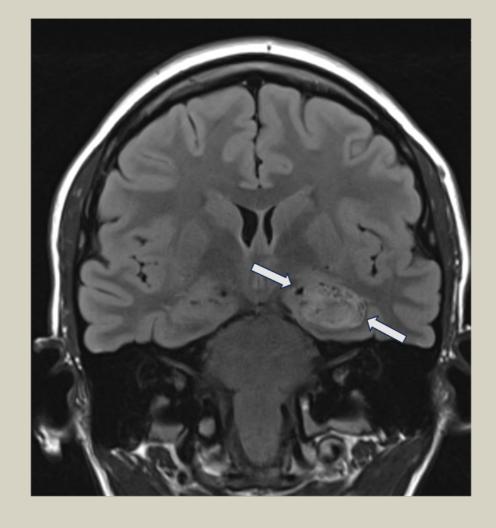


Figure: Magnetic resonance imaging showing a calcific mass protruding into the left temporal horn of the lateral ventricle.

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 now features 20 child neurologists, 19 advanced practice providers, two pediatric neurosurgeons, two pediatric physical medicine and rehabilitation specialists, eight pediatric neuropsychologists, and a pediatric neuro-ophthalmologist. We recently welcomed new colleagues to the program.



Samantha Irwin, MB BCh, MS, joins our Pediatric Headache Center as an associate professor of neurology at Dell Medical School and director of the Pediatric Headache Fellowship program. She received her medical degree from the School of Medicine Trinity College Dublin, completed her child neurology residency at the University of Toronto's Hospital for Sick Children, and completed a fellowship in headache neurology at the University of California, San Francisco. Prior to Austin, Irwin was an assistant professor of neurology and the Pediatric Headache Fellowship director at UCSF. She is a member of the American Academy of Neurology, Child Neurology Society, American Headache Society, Canadian Headache Society, and International Headache Society and serves on the editorial board of Annals of the Child Neurology Society.



Natalie Lillie, MS, is a genetic counselor in the Pediatric Neurosciences Program and the Dell Medical School Department of Neurology. She received her Master of Science in Genetic Counseling from Boston University Chobanian and Avedisian School of Medicine. Her clinical and research interests include neuromuscular, neurodevelopmental, and movement disorders. Prior to joining our program, she was a genetic counseling assistant in the Division of Movement Disorders at Brigham and Women's Hospital and trained in the Boston Children's Hospital Department of Neurology, the Department of Pediatrics at Stanford Medicine Children's Health, and the Boston University Genetic Counseling Program.



Rachel Meler, APRN, FNP, is a board-certified nurse practitioner in the Pediatric Neurosciences Program. She specializes in pediatric neurosurgery. Previously, she was a family nurse practitioner in the Pediatric Abdominal Transplant Center at UT Health Austin and served as a nurse at Dell Children's for several years. Meler earned her master's in nursing from The University of Texas at Arlington. She is a member of Texas Nurse Practitioners.

COLLEAGUES IN THE NEWS

Edmond Featured in Austin American-Statesman for Life-

Changing Surgical Care



Pediatric neuro-ophthalmologist **Jane Edmond**, **MD**, is one of the experts helping a six-year-old boy have a more typical life through surgeries to improve his vision and reduce bullying. Read about the life-changing care she

has been providing for this child with Pfeiffer syndrome in the Austin American-Statesman.

"Time Is Brain": Roach Interviewed by *Austin American-Statesman* for Pediatric Stroke Protocol Expertise



E. Steve Roach, MD, was recently interviewed by the *Austin American-Statesman* about how a 13-year-old boy who suffered a stroke could change the stroke protocol at Dell Children's and other children's hospitals. Roach wrote the first statement on pediatric strokes for the American Heart Association/American Stroke Association in 2008 and more recently established Dell Children's stroke care plan, which has been adopted by several children's hospitals in the country. Read the full story.

ELECTED AND SELECTED

Keith Participates in American Academy of Neurology Leadership Forum



Louisa Keith, MD, chief of the Pediatric Neurodevelopmental Program, was selected as one of the 31 American Academy of Neurology members to participate in the 2023 Palatucci Advocacy Leadership Forum (PALF). The annual forum trains neurologists to become advocacy leaders in their institutions and communities by building skills in action planning, media relations, and grassroots advocacy.

"PALF was an amazing weekend with a group of passionate neurologists committed to improving patient care across the life span," said Keith. "The training sessions and opportunity to form relationships with supportive mentors and peers gave me tools to translate big-picture ideas into achievable, actionable steps."

Brumback Featured on NINDS Podcast



Pediatric neurologist **Audrey Brumback**, **MD**, **PhD**, was a featured guest on the September 8 episode of the National Institute of Neurological Disorders and Stroke's *Building Up the Nerve* podcast, designed to help neuroscience trainees navigate the life cycle of a grant application. In this episode, "Demystifying Clinician-Scientist Careers," Brumback and colleagues Erika Augustine, MD, associate chief science officer at Kennedy Krieger Institute, and Edjah Nduom, MD, associate professor at Emory University, discussed the clinician-scientist's role in conducting research and the paths to becoming a research-physician. Listen to the full episode.

Edmond Receives Lifetime Achievement Award



Congratulations to Jane Edmond, MD, who received a lifetime achievement award from Houston Methodist Hospital and the Houston Ophthalmological Society. Edmond is director of the Mitchel and Shannon Wong Eye Institute at Dell Medical School, interim vice dean of professional practice, professor and chair in the Department of Ophthalmology, and 2023 president-elect of the American Academy of Ophthalmology.

PEDIATRIC NEUROSCIENCES SPONSORS SIXTH ANNUAL WOMEN IN NEUROSCIENCE INTERNSHIP



Karen Ramos, Emanuela Ilboudo, OR nurse Shannon Neely, RN, and surgical technician Tracy Losoya

This summer, 25 interns completed the sixth annual Women in Neuroscience (WiN) Summer Intensive internship program, supported by UT Austin's Department of Neuroscience in the College of Natural Sciences and the Department of Neurology at Dell Medical School.

WiN's eight-week paid internship encourages high school seniors and college students from historically underrepresented backgrounds to pursue careers in neuroscience and neurology. WiNterns from Ann Richards School for Young Women Leaders, Huston-Tillotson University, and UT Austin's College of Natural Sciences partner with faculty mentors, attend daily seminars to build professional development skills, gain clinical and lab experience, and present their research at the conclusion of the program. They also receive ongoing mentorship.

Pediatric neuroscience faculty mentors this year included Audrey Brumback, MD, PhD (autism), Dave Clarke, MD (pediatric epilepsy), Rosario DeLeon, PhD (pediatric neuropsychology), and Elizabeth Tyler-Kabara, MD, PhD (pediatric neurosurgery). E. Steve Roach, MD, taught a half-day course on biomedical writing.

"Being able to speak to numerous health care professionals gave me great insight into all the rewards and challenges of their careers," said WiNtern Karen Ramos. "I gained so much knowledge from asking questions and seeing them treat patients. In addition, seeing men and women from different ethnic backgrounds excelling in their specialty is motivating. Now I know I can do this!"

For more information on WiN, visit www.neurowomen.org or follow the organization on X @helloNeuroWomen.



Emanuela Ilboudo, Dave Clarke, MD, and May Tun





WiNterns Karen Ramos, Emanuela Ilboudo, Ma and May Tun

May Tun, Emanuela Ilboudo, Karen Ramos, and Rosario DeLeon, PhD

A SECOND OPINION: EPILOGUE

Additional Clinical Information

The patient was admitted to the epilepsy monitoring unit, where 11 seizures lasting between 20 seconds and 2.5 minutes were captured. The seizures were characterized clinically by unresponsiveness with behavioral arrest, rocking body movements, chewing automatisms, and humming or moaning. Two of these seizures progressed to include bilateral tonic-clonic movements, but all seizures stopped without intervention. The corresponding ictal EEG was at first poorly localized, with initial diffuse voltage attenuation and rhythmic theta activity that became more prominent over the left frontotemporal region as the seizures progressed.

An interictal SPECT study revealed decreased activity in the left medial temporal lobe, while the ictal SPECT showed subtly increased activity within the adjacent left inferior frontal lobe and left superior temporal lobe on ictal scan. Computed tomography confirmed dense calcification of the left temporal lobe mass seen on MRI.

She did not tolerate levetiracetam and has continued to experience seizures despite combined therapy with topiramate and lacosamide. Surgical removal of the left temporal lobe mass is pending.

Discussion Points

In retrospect, this patient's findings reinforce several important clinical lessons. Given the similar appearance of her recorded seizures, her earlier unresponsive episodes were almost certainly focal-onset seizures. While depression and posttraumatic stress disorder might increase the likelihood of PNES, a normal interictal EEG cannot reliably eliminate an epilepsy diagnosis in children with focal-onset seizures. Similarly, her partial recollection of the trancelike attacks may be unusual but does not eliminate epilepsy. Forgetfulness is common among children with uncontrolled seizures, even when the seizures are relatively subtle or infrequent. Finally, epilepsy is common among individuals with confirmed PNES.

The location, well-circumscribed appearance, and dense calcification of the mass suggest a choroid plexus papilloma or, less likely, a ganglioglioma. Increasing seizure frequency or severity, such as the onset of secondary generalization as seen here, can occur as a natural progression of epilepsy, but worsening seizures can also herald an expanding lesion. Failure to respond to adequate doses of antiseizure drugs is also typical of seizures resulting from a tumor. Fortunately, complete tumor resection usually results in resolution of the seizures.

Final Diagnoses

- Long-standing focal-onset seizures with intermittent secondary generalization
 Left temporal lobe tumor, probably a choroid plexus papilloma, pending surgery
- 3. Long-standing depression and posttraumatic stress disorder

Additional Reading

Duke ES, Wells E, Vezina G, Packer RJ. Tumors of the Nervous System. In: Roach ES, ed. *Pediatric Neurology Clinical Assessment and Management*. New York: Springer; 2021:135-156.

Clarke DF, Shah EG, Perkins FF. The preoperative evaluation of drug-resistant epilepsy. *Pediatr Neurol.* 2020;112:78-83.

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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

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