Announcement for April 27, 2026 Pediatric Neuroscience Grand Rounds.

The University of Arizona College of Medicine – Tucson

Barrow at Phoenix Children's Neuroscience Grand Rounds

Engineering the Future of Spinal Surgery

Nicholas Theodore, MD
Chairman, Department of Neurosurgery
University of Arizona, Phoenix College of Medicine.
Physician Executive for the Neuroscience Service Line
Banner Health

Learning Objectives
At the conclusion of this activity, participants will be able to:

- Identify advances in image guided spinal surgery
- Analyze outcomes for vertebral column shortening for tethered cord
- Analyze the role of ultrasound in neurosurgery

Nicholas Theodore, MD, is the Chairman of the Department of Neurosurgery at the University of Arizona, Phoenix College of Medicine. He is also the Physician Executive for the Neuroscience Service Line at Banner Health. He was most recently the Donlin M. Long Professor and Professor of Neurosurgery, Orthopaedic Surgery, and Biomedical Engineering at Johns Hopkins University School of Medicine. He is Co-Founder of the HEPIUS Innovation Laboratory. He graduated from Cornell University and received a Cornell Tradition Academic Fellowship. He graduated from medical school with honors at Georgetown University and was inducted into the Alpha Omega Alpha (AOA) honor society.

After interning at Bethesda Naval Hospital, Dr. Theodore was a Senior General Medical Officer with the United States Marine Corps in Okinawa, Japan. He spent time on the clinical service at the NIH, working with Dr. Edward Oldfield, and completed his neurosurgical residency and fellowship under the direction of Drs. Robert Spetzler and Volker Sonntag at the Barrow Neurological Institute (BNI). He then served as Chief of the Division of Neurosurgery at Naval Medical Center San Diego, overseeing the largest neurosurgery complement in the Navy.
In 2003, he became the Director of the Neurotrauma Program and Associate Director of the Neurosurgery Residency Program at the Barrow Neurological Institute (BNI). From 2009 to 2016, he was a Professor of Neurosurgery, Chief of the Spine Section, and Director of the Complex Spine Fellowship at the BNI.

His areas of interest include brain and spinal cord injury, minimally invasive surgery, robotics, and personalized medicine. He has authored over 400 scientific publications and has received many research awards, including the Tasker, Mayfield, and NASS Awards. In 2021, he received the Meritorious Service Award from the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves. In 2024, he received the Leon Wiltse Award from NASS, recognizing his excellence in clinical research in spine care. He has also received several grants from the National Institutes of Health, the National Science Foundation, and the Department of Defense.

In 2010, along with Neil Crawford, PhD, he founded Excelsius Surgical, a robotics company based in Phoenix, Arizona, which was acquired by Globus Medical in 2013. The technology associated with this venture led to the

development of the first real-time image-guided surgical robot for spine surgery. It was the most successful launch of a surgical robot in the history of medical devices. Over 500 devices have been deployed worldwide, and over 150,000 cases have been completed. He has started and sold several other medical device companies.
He is actively involved in injury prevention and has been associated with ThinkFirst for many years, serving as both the Medical Director and National President of the Board of Directors. In 2018, he was appointed Chairman of the National Football League's Head, Neck, and Spine Committee. In 2025, Dr. Theodore edited the definitive textbook on neurological injuries in athletes, The Brain, Spine, and Nerves in Sports, published by Thieme.

In 2020, Dr. Theodore was awarded a five-year $13.48 million grant from the Defense Advanced Research Projects Agency (DARPA) as a principal investigator in the Bridging the Gap Plus (BG+) program to develop cutting-edge implantable sensors and devices for the diagnosis and management of acute spinal cord injury. This led to the development of two unique devices, which are undergoing final testing for first-in-man deployment. He also serves as an advisor to DARPA and is actively involved in translating medical devices into practice. In 2025, his lab published a paper describing the first multi-analyte blood test for acute spinal cord injury.

He has been happily married to his wife, Effie, for 30 years and has raised two sons, both of whom rowed on the heavyweight varsity crew in college. Costa graduated from Cornell University in 2020 and graduated magna cum laude from Georgetown Law in 2025. John graduated from Columbia University in 2023 and is in medical school at Emory University.

Barrow at Phoenix Children's

Virtual Live Streaming Neuroscience Grand Rounds
Monday's from 7:00 – 8:00 a.m.

Zoom Information: CNI Grand Rounds
Meeting ID: 993 7837 3233

Join from PC, Mac, iOS or Android:
https://PhoenixChildrensHospital.zoom.us/j/99378373233?pwd=UXBudHZLemRYK056ZWZvMm8yUzNkUT09

Or join by phone: (408) 638-0968 (US Toll) or (646) 558-8656 (US Toll)

The Attendance code will be listed in the chat at the beginning of the presentation and every 20 minutes thereafter until the conclusion.

Please text the attendance code to the Grand Rounds Attendance number: (866) 327-3062 or log into the CloudCME website: http://CME.arizona.edu and enter the attendance code.

- Please make sure to enter your cell phone number in your profile
- Please note that the attendance code is different each week

Attendance codes are only valid 15 minutes before the activity start time and for 24 hours after the activity end time.

Overall Activity Objectives:

1. 1 Incorporate new abilities and strategies to diagnose, manage and treat the complex neurological pediatric patient using the most relevant, up-to-date clinical information.

2 Analyze and apply the latest research, clinical data and American Board of Pediatrics (ABP) and American Board of Psychiatry and Neurology (ABPN) guidelines regarding various pediatric neuroscience disorders
3 Implement improvements in pediatric healthcare and safety issues for various pediatric neurological conditions so as to facilitate practice-based learning and systems-based practice.
4 Counsel patients and families on short-term and long-term prognoses and treatment options for a variety of neurological conditions in the pediatric population.
5 Translate knowledge into practice improvement with the goal of improving outcomes of patients with pediatric neurological and psychiatric disorders.

6 Improve patient care outcomes for children with complex neurological conditions by integrating up-to-date information and research to determine the best course of action.

Session Objectives:
1 Identify the clinical differences in pediatric neuroimmunological conditions.
2 Describe the breadth of diagnostic studies and treatment options in pediatric neuroimmunological conditions.
2.

Accreditation Statement:
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of The University of Arizona College of Medicine - Tucson and Phoenix Children's Hospital The University of Arizona College of Medicine - Tucson is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The University of Arizona College of Medicine - Tucson designates this Live Activity for a maximum of 1.00 *AMA PRA Category 1 Credit(s) ™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Relevant Financial Relationships Statement(s):
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Name of individual	Individual's role in activity	Nature of Relationship(s) / Name of Ineligible Company(s)
Kara Stuart Lewis, MD, FAAN, FAHS	Activity Director	Nothing to disclose - 10/17/2025
Nicholas Theodore, MD	Faculty	Royalties or Patent Beneficiary-Globus Medical, Inc. - 02/23/2026