



Global Neuro

Preliminary program
Global Neuro Course with Hands-on
Training for Residents

Neurotrauma and Neurocritical Care

November 2-3, 2024

Nashville, United States

Global Neuro welcomes you!

On January 1, 2018, AONeuro became Global Neuro to broaden our geographical reach and to collaborate with multiple partners. Our new foundation is incorporated in Switzerland and is ready to serve you and improve educational and practical experiences in patient care and outcomes.

We offer educational events across the world, with rigorously prepared and evaluated curricula in multiple cultural and educational formats. Global Neuro's educational offerings include lecture presentations, interactive case discussions, small group discussions, practical exercises, simulation exercises, and online education. Global Neuro strives to increasingly collaborate with regional, national, and international societies and organizations to deliver symposia and courses at congresses and annual meetings. These partnerships enable us to provide the best formats possible.

While our initial educational efforts began with neurosurgeons, we are increasingly collaborating with neurologists, emergency physicians, trauma surgeons, neurointensivists, neuro-anesthesiologists, neuroradiologists, and other neuro professionals to provide comprehensive education and program development opportunities. Emergency care, specific neurological care, and recovery are too complex to depend upon a single discipline. As such, collaboration is required to be able to make the greatest impact on our patients' progress and outcomes.

We hope this program meets your expectations, as it is based on continuous development, study, evaluation, and discussion. Please let us know if you have ideas or suggestions for how we can enhance your learning and educational experience.

Join our network of professionals as we work together to improve the results in neuro care and rehabilitation for all our patients.

Warm regards!



Andrés M. Rubiano

President Global Neuro Foundation

Course description

This course for residents covers the current best strategies and considerations for managing neurotrauma patients and is based on competencies defined in Global Neuro's curriculum. The course focuses on cranial and spinal trauma. The content is delivered using multiple methods: Comprehensive lectures concentrate on the understanding of core material. Interactive case presentations further deepen this knowledge and enrich the discussion on trauma management. Practical sessions teach the application of Global Neuro principles to the management of Neurotrauma.

Target participants

The Global Neuro Course—Neurotrauma and Neurocritical Care for Residents has been developed for neurosurgical residents to provide additional education on the complex management issues surrounding traumatic injuries, including traumatic brain injury, spinal cord and spinal column injury, blunt vascular injury, and peripheral nerve injury. Hands-on sessions are provided to stimulate interest in surgical and procedural techniques for managing the diverse types of injuries neurosurgeons in practice must address when taking trauma call. Residents will be exposed to a variety of perspectives from neurotrauma leaders around the country on the use of multimodality neuromonitoring and complex management issues to augment their experiences in their home training programs. They will also be exposed to current thoughts on the future of the specialty.

Learning objectives

By completing this course, participants will be better able to:

1. Review evidentiary bases for prognostication, diagnosis, and management of various neurotrauma injuries, including those to the brain, spinal cord, peripheral nerves, spinal column, craniofacial structures, and craniocervical vasculature.
2. Be familiar with the breadth and depth of neurotrauma diagnoses, treatments, and controversies.
3. Understand the surgical anatomy and be facile with basic techniques including: ventriculostomy, decompressive craniectomy, evacuation of subdural hematoma, and internal fixation for occiput to C2, subaxial cervical spine, and thoracolumbar spine injuries.
4. Be familiar with innovations taking place in the care of neurotrauma patients.
5. Be familiar with controversies in neurotrauma, areas of equipoise and lack of evidence, and understand the arguments for various positions regarding controversial management issues.

All attendees and all faculty are asked to kindly stay for the entire duration of the course.

Course Chairs

Shelly D. Timmons, MD, PhD
David O. Okonkwo, MD, PhD
Gregory W. Hawryluk, MD, PhD

Local Hosts

Scott Zuckerman, MD, MPH
Michael C. Dewan, MD, MSCI
Reid C. Thompson, MD

Invited Faculty

P. David Adelson, MD	Wheeling, WV
Rocco A. Armonda, MD	Washington, DC
Randall M. Chesnut, MD	Seattle, WA
Michael C. Dewan, MD, MSCI	Nashville, TN
Gregory W. Hawryluk, MD, PhD	Cleveland, OH
Geoffrey T. Manley, MD, PhD	San Francisco, CA
T. Jayde Nail, MD	Boston, MA
Laura B. Ngwenya, MD, PhD	Cincinnati, OH
David O. Okonkwo, MD, PhD	Pittsburgh, PA
Matthew W. Pease, MD	Indianapolis, IN
Emily P. Sieg, MD	Louisville, KY
Martina Stippler, MD	Boston, MA
Douglas P. Terry	Nashville, TN
Reid C. Thompson, MD	Nashville, TN
Shelly D. Timmons, MD, PhD	Milwaukee, WI
Sharon Webb, MD, PhD	Greenville, SC
Scott Zuckerman, MD, MPH	Nashville, TN
Nathan Zwagerman, MD	Milwaukee, WI

Saturday, November 2, 2024

Continental Breakfast (30 Minutes)
07:30 – 08:00

Session I: Diagnosis and Prognosis (115 Minutes)
8:00 – 9:55

Welcome and Introductions; Global Neuro Overview (5 Minutes) Hawryluk

Whaddya Know? (10 Minutes) Nail

- Based upon categories from the long-running public radio quiz show.
- Audience Response System to be used to ask ~10 questions about TBI and SCI diagnosis, prognosis, and management.
- Responses will be used to level-set knowledge level of audience and help faculty direct comments to level of sophistication.

Prognostication in TBI: What Do We Know? (20 Minutes) Chesnut
Neuroimaging Innovations in TBI and SCI (20 Minutes) Okonkwo

Q&A / Open Discussion (10 Minutes)
All Session Speakers

Neurocritical Care Issues in TBI Management (20 Minutes) Ngwenya
Cognitive Sequelae and Rehabilitation After TBI (20 Minutes) Terry

Q&A / Open Discussion (10 Minutes)
All Session Speakers

Coffee Break (20 Minutes)
9:55 – 10:15

Session II: Fundamentals of Neurotrauma Management (120 Minutes)

10:15 – 12:15

***Wait, wait...Don't Tell Me!* (10 Minutes)**

Okonkwo

- Based upon the long-running public radio knowledge and trivia game, audience members will pit their knowledge of neurotrauma facts on management against expert panelists in a quick round of 10 questions.
- Categories: Current Events; Bluff the Residents; Limerick Challenge

Management of Craniofacial Trauma (20 Minutes)

Nail

Management of Pediatric Spine Trauma (20 Minutes)

Adelson

Q&A / Open Discussion (10 Minutes)

Management of High C-Spine Trauma (20 Minutes)

Zuckerman

Management of Subaxial Cervical Spine Trauma (15 Minutes)

Sieg

Management of Thoracolumbar Trauma (20 Minutes)

Zwagerman

Q&A / Open Discussion (10 Minutes)

Working Lunch (60 Minutes)

12:15 – 13:15

Transition to Room (5 Minutes)

Local Attractions (3 Minutes)

Dewan

***Let's Make a Deal!* (10 Minutes)**

Ngwenya

- Attendees will be asked to guess the value/cost of various supplies. Winners will receive door prizes, such as Global Neuro - and sponsor- branded items, models / sawbones, free registration for future courses, etc.

Video Demonstrations Over Lunch for All Three Sessions (39 Minutes)

Door #1: Ventriculostomy and Craniotomy (10 Minutes)

Door #2: Cervical Spine Fixation Techniques (10 Minutes)

Door #2: Thoracolumbar Spine Fixation Techniques (10 Minutes)

Door #3: Endovascular Simulator (6 Minutes)

Transition to Lab (5 Minutes)

Session III: Session V: Hands-On Sessions (150 Minutes)

13:15 – 15:45

Hands-On Sessions (150 Minutes)

Door #1: Ventriculostomy and Craniotomy (60 Minutes - 27 Attendees)

- This session is designed with realistic cranial models, fixation devices, parenchymal monitors, and ventricular catheters. Goals are to be facile with instruments required to perform these procedures, understand external landmarks, be familiar with both basics and nuances of technique. Model also allows for evacuation of subdural hematoma, resection of intracranial tumor, placement of shunt.
- Set up for nine stations, 3 each: EVD, Monitoring, Decompressive Cranioplasty, SDH Evacuation, 15" each.
- Rotate every 20 minutes.

Chesnutt (Co-Leader Crani)

Webb (Co-Leader EVD)

Stippler (SDH Evacuation)

Other Faculty: Adelson, Timmons

Door #2: Spine Fixation Techniques (60 Minutes, 27 Attendees)

- This session is designed to provide experience with various fixation techniques of the occiput to C2 and the subaxial cervical spine. Goals are to be facile with the instrumentation, understand landmarks and trajectories, and indications for techniques.
- Set up for nine stations, 3 each: Occiput to C2, Subaxial C-Spine, Thoracolumbar Spine
- Rotate every 20 minutes.

Zwagerman (Co-Leader for Upper C-Spine)

Sieg (Co-Leader Subaxial C-Spine)

Okonkwo (Co-Leader Thoracolumbar Spine)

Nail (Co-Leader Thoracolumbar Spine)

Other Faculty:

Cervical Spine: Armonda, Hawryluk, Ngwenya, Zuckerman

Thoracolumbar Spine: Khan, Manley, Pease

Door #3: Return to Prior Stations or Neurovascular Simulator (30 Minutes)

- This session will allow attendees to return to prior stations for confirmation of information or techniques, or to finish procedures from prior sessions OR rotate through a brief endovascular catheter insertion simulator with opportunity to deploy endovascular devices.
- Neurovascular Simulation: Set up for three stations.

TBD (Leader)

Other Faculty: Armonda, Webb

Beverage Break and Transition to Lecture Hall (10 Minutes)

15:45 – 15:55

Session IV: Special Topics in Neurotrauma I (PEARLS) (80 Minutes)

15:55 – 17:15

***Jeopardy!* (10 Minutes)**

Zwagerman

- In the Style of Jeopardy, audience members will compete to answer 10 questions regarding special topics. The moderator will read the answer / clues until the correct answer is shouted out. The answer must be formulated as a question.

Blunt Vascular Injuries (15 Minutes)

Khan

Post-Traumatic Seizure Disorders (15 Minutes)

Pease

Penetrating Brain Injury Management Pearls (15 Minutes)

Armonda

Penetrating Brain Injury Guidelines (15 Minutes)

Hawryluk

Q&A / Open Discussion (10 Minutes)

All Session Speakers

Wrap-Up and Prize Distribution (15 Minutes)

17:15 – 17:30

Networking Reception with Faculty, Sponsors, Attendees (60 Minutes)

(Soft Drinks, Wine, Beer, Hors d'oeuvres)

18:00 – 19:00

Faculty Dinner Off-Site with Sponsors

9:15 – 21:00

Sunday, November 3, 2024

Continental Breakfast (30 Minutes)
07:30 – 08:00

Session V: Special Topics in Neurotrauma II (PEARLS) (95 Minutes)
08:00 - 09:35

\$10,000 Pyramid (10 Minutes)

Sieg

- Attendees will answer questions by neurotrauma categories: brain injury, spinal cord injury, spinal column injury, peripheral nerve injury, blunt vascular injury, and neurocritical care. The moderator will list single word clues for a particular syndrome associated with each category until the correct answer is shouted out.

Peripheral Nerve Injury (15 Minutes)

Webb

Decompressive Craniotomy (15 Minutes)

Timmons

Geriatric Patients with TBI (15 Minutes)

Stippler

Reversal of Antithrombotic Medications (15 Minutes)

Sieg

Biomarkers in TBI and SCI (15 Minutes)

Manley

Q&A / Open Discussion / Prizes (10 Minutes)
All Session Speakers

Session VI: Controversies and Emerging Issues (30 Minutes)
09:35 - 10:05

To Tell the Truth

- Scripted statements on a controversial topic citing evidence from three panelists making convincing arguments.
- Two are false and one is true.
- Audience must decide which statement is true and respond via ARS.
- Each panelist with a false statement then explains why their statement was false.
- Multiple statements will be provided by each panelist.

Use of Artificial Intelligence in Neurotrauma (30 Minutes)

Moderator Armonda
Adelson
Pease

Coffee Break (10 Minutes)
10:05 - 10:15

Session VI: Controversies and Emerging Issues, Continued (90 Minutes)

10:15 - 11:45

Chronic Traumatic Encephalopathy (30 Minutes)

Moderator Hawryluk
Chesnut
Okonkwo
Terry

Steroids in Spinal Cord Injury (30 Minutes)

Moderator Okonkwo
Chesnut
Manley
Timmons

Management of Chronic SDH (30 Minutes)

Moderator Ngwenya
Stippler
Webb

Session VII: The Future of Neurotrauma with Boxed Lunches (85 Minutes)

11:45 - 13:10

A New Framework for TBI Nomenclature & Classification (15 Minutes) Manley

Quality Registries, Benchmarking, Certification (15 Minutes) Timmons

The Price is Right (10 Minutes)

Dewan

- The moderator will ask various questions about epidemiology, costs of care, societal burden, and other socioeconomic factors related to neurotrauma, and audience members will respond anonymously.

Global Clinical Burden of Neurotrauma (15 Minutes)

Zwagerman

Global Financial Burden of Neurotrauma (15 Minutes)

Zuckerman

Global Neurotrauma Panel Discussion (25 Minutes)

Dewan, Thompson, Zuckerman, and Zwagerman

Thank You, Reminders, and Wrap-Up (5 Minutes)
13:10 - 13:15

Timmons