Preliminary Program

AONeuro Course —
Controversies in Neurotrauma: Brain and Spinal Cord

November 5 – 7, 2015
Fairmont Pittsburgh
Pittsburgh, Pennsylvania
Welcome

Welcome to AONeuro! In AO North America’s continued commitment to surgeon education:

It is our distinct pleasure to announce a special educational offering for Neurotrauma which represents a collaborative effort between AOSpine North America and AONeuro North America.

This unique course will provide participants with an outstanding opportunity to advance their knowledge and surgical skills in brain, spine and spinal cord trauma through didactic lectures and case-based discussions. Faculty selection includes recognized Neurotrauma leaders who are eager to share their knowledge and experience with you. We hope that you will consider registering for this course and sharing this opportunity with your colleagues.

Course Chairs

David O. Okonkwo, MD, PhD
Nicholas Theodore, MD, FACS

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Message from the Program Coordinator

On behalf of AO Foundation and your local and international faculty, I would like to welcome you to this AONeuro educational event.

AONeuro is a unique worldwide multi-specialty community that includes cranial Neurosurgeons, Neurologists, Neurointensivists, Neuro Anesthesiologists, Neuro Traumatologists and Neurological professionals who are involved in cranial neurological trauma, cranial oncologic and cerebrovascular surgery, cranial reconstruction and cranial congenital anomalies surgery.

Our organization creates a forum for specialists from all over the world who have common interests and enthusiasm in these fields. It is our goal to encourage and inspire residents, fellows, and experienced practitioners by means of education, academic stimulation instruction and international communication to pursue more fulfilling, rewarding and productive careers in these fields.

Education has always been a major pillar in the AO Foundation. Currently, more than 46,000 surgeons participate in over 750 AO educational events worldwide per year. AONeuro is committed to communicating the latest advances, treatment information, protocols in education, equipment and new developments as we strive to improve your educational experience by providing you education at the forefront of your specialty.

Your cranial neurological colleagues are working diligently to bring you the latest in cranial neurological education and, most specifically, have initiated programs in the area of traumatic brain injury. Cranial AO Neurosurgeons collaborate with their AOSpine colleagues to bring you the latest developments in combined brain and spinal cord trauma. For years, cranial neurological surgeons have cooperated with craniomaxillofacial colleagues in the areas of facial and cranial trauma, congenital craniofacial anomalies, and skull base trauma and surgery to provide the multidisciplinary perspective necessary to manage these areas.

AONeuro is a project of the AO Foundation, established to learn the needs and educational structure which cranial neurologists require to improve their worldwide educational efforts. AONeuro cooperates with AOSpine and AOCMF (Craniomaxillofacial) to provide multidisciplinary course education, and seeks to add a cranial dimension to existing AO Education in the present specialty areas of Orthopedics, Spine, Craniomaxillofacial and Veterinary surgery.

We hope that your experience with us over the next few days will result in the acquisition of new knowledge, skills and understanding that can directly translate into improved care for your patients.

We also hope that, as a result of this educational event, you will develop a longer term relationship with AOSpine and AONeuro, become a member of our communities, take advantage of our website www.AOFoundation.org, explore our comprehensive online medical reference tool and phone app AO Surgery Reference (www.AOSurgery.org), take up AO Membership, and participate in AONeuro and AOSpine courses and educational opportunities. You may also even wish to acquaint yourself with AOCMF educational events in the areas of congential anomalies surgery, craniofacial trauma and skull base surgery.

Make these organizations yours by bringing your opinions, ideas and contributions. Enjoy the camaraderie of our unique network, and help us maintain and expand the preeminent educational position that the AO Foundation enjoys worldwide.

Yours sincerely,

Paul Manson, MD
Coordinator, AONeuro Pilot Program
CME Mission Statement

The Continuing Medical Education (CME) mission of AO North America (AONA®) is to provide comprehensive multidisciplinary needs-based education to surgeons, fellows, and residents in the specialties of orthopedic, hand, craniomaxillofacial, spine, neurosurgery, and veterinary surgery in the areas of trauma (i.e., operative reduction and fixation), degenerative disorders, deformities, tumors, and reconstruction.

Expected results of AONA’s CME activities for surgeons, fellows, and residents are to:
- Increase their knowledge base and surgical skill level
- Improve competence by applying advances of knowledge in patient care in the areas of trauma, degenerative disorders, deformities, tumors, and reconstructive surgical techniques
- Address practice performance gaps by improving management of all aspects of musculoskeletal injuries and disorders (i.e., pre-operative planning to post-operative care)
Course Overview

Managing neurotrauma patients in an evidenced-based manner is challenging for even the most experienced clinician. Choosing the best available operative and nonoperative treatment options requires balancing numerous parameters and coordinating care between multiple disciplines. Formulating optimized, cooperative treatment plans requires understanding of the complex underlying pathophysiology, limitations of current monitoring systems, evolution of the injury over time and with treatment, and limitations in the available literature.

This course is designed to provide participants with a unique opportunity to advance their evidence-based knowledge and surgical skills in brain and spinal cord trauma through didactic lectures and case-based discussions with renowned neurotrauma thought leaders. Systematic, surgical, and critical care considerations in managing patients with traumatic brain and spinal cord injuries will be addressed.

Target Audience

Neurological Surgeons, Neurointensivists, Orthopedic Spine Surgeons and other specialists involved in the care of the neurotrauma patient will benefit from attending this course. Residents and Fellows will also find this course to be of interest.
Learner Objectives

At the conclusion of this Course, the participant should be able to:
- Recognize clinically relevant pathophysiology and pathomechanisms of traumatic brain and spinal cord injuries
- Classify injuries according to fracture morphology, instability, and neurological status
- Apply evidence-based decision making to the management of the patient
- Assess the neurological status of the patient and utilize the injury severity score
- Apply guidelines to managing adult and pediatric neurotrauma patients
- Apply methods and techniques for neuromonitoring
- Reduce / decompress / stabilize neurotrauma patients appropriately

Accreditation

AO North America is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Designation Statement

AO North America designates this live educational activity for a maximum of 13.5 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This course meets the requirements of the American Board of Neurological Surgery (ABNS) for Part II of Maintenance of Certification: Lifelong Learning and Self-Assessment and the CME external trauma-related requirements of the American College of Surgeons, Committee on Trauma (ACS COT).

For Canadian Based Physicians Attending AONA Courses

All live conferences or live courses held outside of Canada can be reported as accredited group learning activities under Section 1 of the MOC Program if they are developed by a university, academy, college, academic institution or physician organization.

Courses sponsored by AO North America meet the criteria of the Royal College of Physicians and Surgeons for accredited group learning activities.
Faculty

Course Chairpersons

David O. Okonkwo, MD, PhD
Professor and Executive Vice Chair
Department of Neurological Surgery
University of Pittsburgh
Pittsburgh, Pennsylvania

Nicholas Theodore, MD, FACS
Chief, Spine Section
Director, Neurotrauma Program
Clinical Professor of Surgery
Barrow Neurological Institute
Phoenix, Arizona

Bizhan Aarabi, MD, FACS, FRCS(C)
Professor
Director of Neurotrauma
Department of Neurosurgery
University of Maryland
Baltimore, Maryland

Sanjay S. Dhall, MD
Associate Professor
Director of Spinal Neurotrauma
San Francisco General Hospital,
University of California San Francisco
Department of Neurological Surgery
San Francisco, California

Gretchen M. Brophy, Pharm.D., FCCM
Professor
Departments of Pharmacotherapy & Outcomes
Science and Neurosurgery
Virginia Commonwealth University
Medical College of Virginia Campus
Richmond, Virginia

James Harrop, MD
Professor
Division Director, Spine and Peripheral Nerve Surgery
Departments of Neurological and Orthopedic Surgery
Jefferson Medical College
Philadelphia, Pennsylvania

Randall M. Chesnut, MD, FCCM, FACS
Integra Endowed Professor of Neurotrauma
Department of Neurological Surgery
Department of Orthopaedic Surgery
Professor, School of Global Health
Harborview Medical Centre
University of Washington
Seattle, Washington

Ryan Kitagawa, MD
Assistant Professor
Director of Neurotrauma
Vivian L Smith Department of Neurosurgery
University of Texas Health Science Center of Houston
Houston, Texas
Faculty (continued)

Richard B. Rodgers, MD, FAANS, FACS
Assistant Professor
Director of Neurotrauma and Neurocritical Care
Department of Neurological Surgery
Indiana University School of Medicine
Goodman Campbell Brain and Spine
Indianapolis, Indiana

Lori Shutter, MD, FCCM
Professor
Vice Chair of Education, CCM
Departments of CCM, Neurology & Neurosurgery
University of Pittsburgh/UPMC
Pittsburgh, Pennsylvania

Shelly D. Timmons, MD, PhD, FACS, FAANS
Director of Neurotrauma, Geisinger Health System
Neurosurgery Residency Program Director,
Geisinger Health System
Associate Director for Neurosciences Adult ICU
Geisinger Medical Center
Clinical Associate Professor, Temple University
Department of Neurosurgery
Danville, Pennsylvania

Shawn Wright, MD
Department of Critical Care Medicine
St. Joseph’s Hospital and Medical Center
Barrow Neurological Institute
Phoenix, Arizona

Faculty list subject to change.
## Preliminary Program
### Thursday, November 5, 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda Item</th>
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<tbody>
<tr>
<td>18:30 – 18:45</td>
<td>Welcome and Introduction to AONeuro / AOSpine Course</td>
</tr>
<tr>
<td>18:45 – 19:15</td>
<td>Controversies in Traumatic Brain Injuries (TBI) – Healthy Skepticism</td>
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<tr>
<td><strong>19:15 – 21:00</strong></td>
<td><strong>Moderated Panel Discussion – Neurotrauma Scenarios #1:</strong></td>
</tr>
<tr>
<td>19:15 – 21:00</td>
<td>1. Decompressive Craniectomy Versus Other Second Tier Treatments;</td>
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<tr>
<td>19:15 – 21:00</td>
<td>2. Unilateral Facet Fracture Dislocation</td>
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<tr>
<td>21:00</td>
<td>Adjourn for the Evening</td>
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# Preliminary Program

## Friday, November 6, 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda Item</th>
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<tbody>
<tr>
<td>08:00 – 08:10</td>
<td>Welcome and Course Objectives / AO CMF and Neurotrauma Initiatives</td>
</tr>
<tr>
<td>08:10 – 08:30</td>
<td>Basics of TBI Resuscitation and Early Stabilization</td>
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<tr>
<td>08:30 – 08:50</td>
<td>Surgical TBI Management Guidelines</td>
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<tr>
<td>08:50 – 09:10</td>
<td>Intracranial Pressure (ICP) and Cerebral Compliance in TBI</td>
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<tr>
<td>09:10 – 09:30</td>
<td>Advanced Monitoring – PbrO2, JvSO2, PRX, Micro Dialysis, Electrophysiology</td>
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<tr>
<td>09:30 – 09:50</td>
<td>New Oral Anti-Coagulants, Coagulation Disorders and Their Correction in Neurotrauma</td>
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<tr>
<td>09:50 – 10:10</td>
<td>Question and Answers</td>
</tr>
<tr>
<td>10:10 – 10:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10:30 – 10:50</td>
<td>Penetrating Trauma</td>
</tr>
<tr>
<td>10:50 – 11:10</td>
<td>Management Dilemmas in Pediatric TBI</td>
</tr>
<tr>
<td>11:10 – 11:30</td>
<td>Physiology Management in the Neuro ICU</td>
</tr>
<tr>
<td>11:30 – 12:30</td>
<td><strong>Moderated Panel Discussion – TBI Case Scenarios</strong></td>
</tr>
<tr>
<td>12:30 – 13:15</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:45 – 14:10</td>
<td>Timing of Surgery for Spinal Cord Injury</td>
</tr>
<tr>
<td>14:10 – 14:30</td>
<td>Blunt Cerebrovascular Injury</td>
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<tr>
<td>14:30 – 14:50</td>
<td>Rational Use of Methylprednisolone in SCI</td>
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<tr>
<td>14:50 – 15:10</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>15:10 – 15:30</td>
<td>Classification Systems for Spine Fractures</td>
</tr>
<tr>
<td>15:30 – 16:30</td>
<td><strong>Moderated Panel Discussion – Neurotrauma Scenarios #2</strong></td>
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<tr>
<td>16:30</td>
<td>End of the Day Wrap-up</td>
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# Preliminary Program

**Saturday, November 7, 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda Item</th>
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<tbody>
<tr>
<td>08:00 – 08:10</td>
<td>Welcome and Introduction to Day 2: Controversies and Debates</td>
</tr>
<tr>
<td>08:10 – 08:30</td>
<td>Type II Odontoid Fractures</td>
</tr>
<tr>
<td>08:30 – 08:50</td>
<td>Chronic SDH &amp; Restarting Anticoagulation</td>
</tr>
<tr>
<td>08:50 – 09:10</td>
<td>Decompressive Craniectomy: Yes or No</td>
</tr>
<tr>
<td>09:10 – 09:30</td>
<td>Burst Fractures: Brace vs Surgery</td>
</tr>
<tr>
<td>09:30 – 09:40</td>
<td>Cervical Spine Clearance</td>
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<tr>
<td>09:40 – 10:00</td>
<td>Discussion</td>
</tr>
<tr>
<td><strong>10:00 – 10:20</strong></td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10:20 – 10:40</td>
<td>Seizure Prophylaxis and Management in TBI</td>
</tr>
<tr>
<td>10:40 – 11:00</td>
<td>Neurotrauma Prevention Strategies</td>
</tr>
<tr>
<td>11:00 – 11:20</td>
<td>Return to Play After Concussion</td>
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<tr>
<td>11:20 – 11:35</td>
<td>Discussion</td>
</tr>
<tr>
<td>11:35 – 11:55</td>
<td>Blood Pressure Management and Spinal Cord Perfusion</td>
</tr>
<tr>
<td>11:55 – 12:15</td>
<td>End of Course Audience Response and Closing</td>
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<tr>
<td>12:15</td>
<td>Adjourn</td>
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*Preliminary program subject to modification.*
Presentation Information

Faculty Disclosure
It is the policy of AO North America to abide by the Accreditation Council for Continuing Medical Education Standards for Commercial Support. Standard 2: “Disclosures Relevant to Potential Commercial Bias and Relevant Financial Relationships of Those with Control over CME Content,” requires all planners, including course directors, chairs, and faculty, involved in the development of CME content to disclose their relevant financial relationships prior to participating in the activity. Relevant financial relationships will be disclosed to the activity audience. The intent of the disclosure is not to prevent faculty with a relevant financial or other relationship from teaching, but to provide participants with information that might be of importance to their evaluation of content. All potential conflicts of interest have been resolved prior to the commencement of this activity.

Off-Label / Experimental Discussions
Some medical devices used for teaching purposes and/or discussed in AO North America’s educational activities may have been cleared by the FDA for specific uses only or may not yet be approved for any purpose. Faculty may discuss off-label, investigational, or experimental uses of products/devices in CME certified educational activities. Faculty have been advised that all recommendations involving clinical medicine in this CME activity are based on evidence that is accepted within the profession of medicine as adequate justification for their indications and contraindications in the care of patients. All scientific research referred to, reported or used in this CME activity in support or justification of a patient care recommendation conforms to the generally accepted standards of experimental design, data collection and analysis.

Conflict of Interest Resolution Statement
When individuals in a position to control or influence the development of the content have reported financial relationships with one or more commercial interests, AO North America utilizes a process to identify and resolve potential conflicts to ensure that the content presented is free of commercial bias.

Liability Statement
AO North America faculty and staff assume no personal liability for the techniques or the use of any equipment and accessories used for teaching purposes in the laboratory. The certificate provided pertains only to the participants’ completion of the course and does not, in any way, attest to the proficiency of the participants’ clinical experience.

Disclaimer
The opinions or views expressed in this live continuing medical education activity are those of the faculty and do not necessarily reflect the opinions or recommendations of AO North America or any commercial supporter. The certificate provided pertains only to the participants’ completion of the course.
Course Tuition and Registration

**Tuition:** $375.00 U.S.D.

Course, breakfasts, coffee breaks and lunch will be provided.

Registration is available online only at [www.aona.org](http://www.aona.org)

**We encourage early registration, as seating is limited.**
Upon receipt of your online registration you will be sent via email a confirmation of your registration in the Course, along with hotel and travel information to assist you in making your arrangements.

**PLEASE NOTE:** Registration deadline is October 5, 2015.

**ADA Statement**
AO North America fully intends to comply with the legal requirements of the Americans with Disabilities Act. If any registrant is in need of accommodation, please do not hesitate to submit a written request at least one month prior to this activity.

**Until an email confirmation is received, please do not consider yourself registered in this Course.**

**For Information:**
Contact AONA Customer Service Department
Phone: (800) 769-1391  
(610) 695-2459
Fax: (610) 695-2420
Email: customerservice@aona.org
Hotel and Travel

A block of rooms has been reserved at the Fairmont Pittsburgh. If you have not done so, please make your hotel reservations as soon as possible as the room block tends to fill quickly. Be sure to indicate that you are attending the “AO North America Course” when making reservations to ensure you receive the group discount of $219.00 single/double (available until October 5, 2015, or until room block fills, whichever comes first). Check-in time is after 3:00 pm and check out is by noon. For more information on the Fairmont Pittsburgh Hotel, please visit their web site at http://www.fairmont.com/pittsburgh/

Hotel Information:
Fairmont Pittsburgh
510 Market Street
Pittsburgh, PA 15222
412-773-8800

Hotel Concessions:
* Complimentary guestroom wifi internet
* Complimentary Health Club and Fitness Center access for registered guests

Air Transportation
AAA is AO North America's preferred travel agent. Please contact AAA Travel at 800-259-4023 or www.concursolutions.com to make your travel arrangements. Refer to code (N15US4011) when making your reservations. Air travel costs are the responsibility of the participant.

Ground Transportation and Parking*
The Fairmont Pittsburgh is located approximately 16 miles from the Pittsburgh International Airport (PIT). The hotel offers valet parking services at $24 for the day and $32 for overnight. Self-parking is also available in the Three PNC Plaza Garage. Public parking rates apply.

* Prices are subject to change.

Please visit our website: www.aona.org to register for this Course and for other course offerings.
Preliminary Program

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Brain and Spinal Cord

AO North America
Department of Continuing Medical Education
1700 Russell Road
Paoli, PA 19301

Registration is available only online: www.aona.org
Hotel and Registration deadline: October 5, 2015

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