




## AO Spine NA Course - Principles and Treatment of Spinal Disorders for Residents

 December 10, 2021 - December 11, 2021  
Baltimore, Maryland, USA

AO Spine North America Principles courses are intended to address the additional training needs and practice gaps of the orthopaedic and neurological spine residents. This course is designed to offer residents the opportunity to learn the AO principles of anatomic reduction of fracture fragments; stable fixation to ensure proper healing while allowing the surrounding tissue to strengthen; atraumatic surgical technique to preserve the blood supply to the bone fragments and soft tissue; and early, pain-free mobilization so the patient can be returned to function as soon as possible as they apply to spinal surgery. The course will also provide basic exposure to spinal disorders from expert teaching faculty from both orthopaedic and neurological spine surgery.

The modular course format will focus on the spine patient in a conceptual, case study and practical exercise format. Participants in small groups will rotate through each module over the 2-day period. All participants are encouraged to bring HIPAA compliant cases for discussion to maximize their experience at the course.

### TARGET AUDIENCE

Enrollment in the Course is limited to orthopaedic and neurological surgery residents.

Method of payment is required at time of registration for late cancellation and no-show fee.



## Event Summary

### Tuition:

Level Name: Participant - Spine  
Pricing Tier: Resident  
Tuition: \$0.00

### Course Prerequisite(s):

No Prerequisites

### Venue:

Hilton Baltimore Inner Harbor  
401 West Pratt Street  
Baltimore, MD, USA  
Phone Number: 445-573-8700  
<http://www3.hilton.com/en/hotels/maryland/hilton-baltimore-BWICCHH/index.html>

### Language(s):

English

### Directly Provided by:



### Professional Level Prerequisite(s):

- Residency Year 1
- Residency Year 2
- Residency Year 3
- Residency Year 4
- Residency Year 5
- Residency Year 6
- Residency Year 7
- Residency Year 8
- Fellow

## CME

### Continuing Education Credit: 13.00



- **ACCME Accreditation Statement** - 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 13.00 **AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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 aspects of traumatic injuries and musculoskeletal disorders (i.e., pre-operative planning to post-operative care)

## Learning Objectives

Upon completion, participants should be able to:

- Perform a complete neurological assessment and identify potentially unstable spinal injuries
- Order appropriate imaging
- Classify the injury according to fracture morphology, instability, and neurological status
- Describe the best operative and non-operative treatment option for each patient based upon the available evidence
- Reduce / Decompress / Stabilize appropriately
- Demonstrate basic knowledge of the principles of bone and soft tissue healing
- Identify the anatomic and biomechanical issues in a spinal fixation
- Collaborate in the rehabilitation plan for the patient
- Identify and manage post-injury and post-operative complications
- Apply psychomotor skills developed during practical exercises into surgical practice

## Faculty



### Clarke, Michelle - Co-Chairperson

MD, PhD  
Professor  
Department of Neurologic Surgery  
Mayo Clinic College of Medicine  
Rochester, Minnesota

Dr. Michelle Clarke is Professor of Neurologic Surgery and Orthopedics at Mayo Clinic where she also serves as program director for the neurosurgery enfolded spine fellowship. She has been on staff at Mayo since 2009. Her undergraduate degree is in Aerospace Engineering from the Princeton University, her medical degree is from Georgetown University, and she completed residency in neurosurgery at Mayo Clinic. She completed a complex spine fellowship focusing on spinal oncology at Johns Hopkins University before returning to Mayo. Dr. Clarke also has a master's degree in bioethics and a PhD in Medical Education. She is currently an active member of the AANS, NSA, and the SNS. Dr. Clarke's involvement in AO Spine NA began as an AOSpine fellow in 2009. Her current practice focuses on intradural and vertebral column malignancies, although a significant component includes complex spine trauma and degenerative disease.



### Grabowski, Gregory - Co-Chairperson

MD  
Vice Chair of Academics; Prisma Health Orthopedic Center  
Professor, University of South Carolina School of Medicine  
Medical Director, Prisma Health Spine Center  
Fellowship Director, Prisma Health Spine Center  
Spine Consultant, University of South Carolina Department of Athletics  
Columbia, South Carolina

Gregory Grabowski, MD, graduated from the University of Maryland School of Medicine. He completed his residency in orthopedic surgery at the University of Vermont, and spine fellowship at UPMC. Dr. Grabowski joined the University of South Carolina School of Medicine faculty in 2011. He currently serves as Vice Chair of Academics and Orthopedic residency program director at the Prisma Health Orthopedic Center, Medical Director and Fellowship Director of the Prisma HealthSpine Center, and the spine consultant for the USC Gamecocks Athletic Department.



### Chutkan, Norman B - Education Advisor

MD  
Dr  
Director of Education  
The CORE Institute  
Professor  
University of Arizona College of Medicine Phoenix  
Phoenix, Arizona



### Cheng, Joseph - Lecturer

MD, MS  
Frank H. Mayfield Professor and Chair  
Director, Neurosurgery Spine Fellowship  
Department of Neurosurgery  
University of Cincinnati College of Medicine  
Cincinnati, Ohio

Dr. Cheng completed his Neurosurgical training at the Medical College of Wisconsin along with a post-residency Fellowship in Complex Spinal Surgery. During that time, he has also received a Master's degree in Biomedical Engineering at Marquette University with a special emphasis in spinal biomechanics and modeling. His research interests include healthcare policy, outcomes science, spinal biomechanics and modeling, spinal deformity, and minimally invasive spinal techniques. Dr. Cheng is a respected educator and has received a number of awards including being named the 2011 ACS/AANS Health Policy Scholar. He is a fellow of the American Association of Neurological Surgeons (AANS) and American College of Surgeons (ACS) and an active member and leader of many other professional organizations including the AANS/CNS Trauma Section, American Medical Association, AO Foundation, Congress of Neurological Surgeons, North American Spine Society, Wisconsin State Medical Society, and the Tennessee Neurosurgical Society. He is the past Chairperson for the AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves. Dr. Cheng is currently the Frank Mayfield Professor and Chair of Neurosurgery at the University of Cincinnati, along with being Director of the Neurosurgery Spine Fellowship.



### Devine, John - Lecturer

MD  
Professor  
Chief of Spine Surgery  
Department of Orthopaedic Surgery  
Medical College of Georgia  
Augusta University  
Augusta, Georgia

Dr. John Devine is Professor of Orthopaedic Surgery and Chief of Spine Surgery at the Medical College of Georgia at Augusta University in Augusta, Georgia. He is a graduate of F. Edward Hebert School of Medicine at the Uniformed Services University of the Health Sciences and completed his orthopaedic residency at Madigan Army Medical Center. Dr. DeVine completed an orthopaedic spine fellowship at The Maryland Spine Fellowship in Baltimore MD. He specializes in conservative and surgical treatment for back and neck pain, degenerative disc disease, pediatric and adult deformity, spine trauma, spine tumors, and reconstructive spine surgery.

**France, John - Lecturer**

MD  
Vice Chairman and Chief of Spine Surgery  
Department of Orthopaedic Surgery  
West Virginia University  
Morgantown, West Virginia

Dr John France is Professor of Orthopaedic Surgery and Neurosurgery at West Virginia University where he also serves as vice chairman of Orthopaedic surgery and chief of spine surgery. He has been at West Virginia University since 1995 after serving as an Orthopaedic surgeon in the United States Air force at Wilford Hall Medical Center, Lackland AFB, San Antonio, Texas. His undergraduate degree was from the University of Pennsylvania, medical degree for the University of Pittsburgh, he stayed at the University of Pittsburgh as a General Surgery intern then went to the State University of New York in Buffalo for Orthopaedic residency, and finally did his spine fellowship at the University of Colorado. He is currently an active member and serves on and as chair of committees in the AAOS, SRS, CSRS, OTA, and NASS. He began as AO Trauma faculty in 1993 then was involved in AO Spine from its onset in the mid 1990's. His involvement in the AO has been extensive serving on and as chair of various national and international committees as well as serving as faculty for innumerable courses. He is currently chair of the international faculty development committee. His current practice still includes a significant amount of complex trauma in addition to his tertiary spine practice.

**Jackson II, Keith L - Lecturer**

MD  
Chief  
Department of Surgery  
Eisenhower Army Medical Center  
Fort Gordon, Georgia

Keith L. Jackson, MD, is the Chief of the Department of Surgery at Dwight D. Eisenhower Army Medical Center. He previously served as the Orthopedic Surgery Residency Program Director at Eisenhower Army Medical Center and as Chief of Orthopedic Surgery at Fort Bragg, North Carolina. Dr. Jackson completed a fellowship in adult spine surgery at UPMC in 2014, following completion of his orthopedic surgery residency at Eisenhower Army Medical Center in 2013. He earned his Doctor of Medicine from Georgetown University School of Medicine in 2008.

**Spina, Nicholas - Lecturer**

MD  
Assistant Professor  
Department of Orthopaedics  
University of Utah  
Salt Lake City, Utah

Nicholas Spina MD is a member of the University of Utah Department of Orthopaedics. His clinical interest include degenerative and traumatic conditions of the spine as well as adult spinal deformity. His research interest include health outcomes, adult spinal deformity, and biomechanics. He completed his orthopaedic surgery residency at the University of Pittsburgh and orthopaedic spine fellowship at the University of Utah.

**Wolinsky, Jean-Paul - Lecturer**

MD  
Dr  
Neurosurgery and Orthopedic Surgery  
Vice Chairman of Neurosurgery  
Director of Spinal Oncology  
Northwestern University  
Chicago, Illinois

**Yassari, Reza - Lecturer**

MD, MSc  
Professor of Neurosurgery & Orthopedics  
Leo M. Davidoff Department of Neurosurgery  
Montefiore Medical Center/Albert Einstein College of Medicine  
Director, Montefiore Spine Center, Surgical Services  
Director, Neurosurgery Residency Program  
Bronx, New York

Dr. Yassari earned his medical degree from the Medical University in Vienna, Austria. After his basic surgical training in England, he completed his residency in Neurosurgery at the University of Chicago Medical Center. Subsequently he underwent fellowship training in Spinal Oncology and Reconstructive and Complex Spine at Johns Hopkins University. He is Professor of Neurosurgery and Orthopedic Surgery, the Surgical Director of the Montefiore Spine Center as well as the Director of the Neurosurgery Residency Program at Montefiore Medical Center/Albert Einstein College of Medicine. In addition, he is a Faculty at the Albert Einstein's Center for Global Health and leads annual Neurosurgical Missions to Mongolia and Ghana.

## Agenda

### Day 1

**Friday, December 10, 2021 - 08:00 - 17:30 - (includes breaks, travel-time and meals)**

Schedule	Title	Moderator	Faculty	Room
08:00 - 08:30	Welcome / Course Objectives / AO Spine / Pre-Assessment		Clarke, M Grabowski, G	
08:30 - 08:40	Travel to Modules			
08:40 - 10:10	MODULE A: CERVICAL TRAUMA			
08:40 - 10:10	MODULE A: CERVICAL TRAUMA - Case 1: OC-C1 Dislocation		Yassari, R	
08:40 - 10:10	MODULE A: CERVICAL TRAUMA - Case 2: C2 Fracture (Odontoid)		Wolinsky, J	
08:40 - 10:10	MODULE A; CERVICAL TRAUMA - Case 3: Cervical Facet Dislocation		Yassari, R	
08:40 - 10:10	MODULE B: ADULT DEFORMITY			
08:40 - 10:10	MODULE B: ADULT DEFORMITY - Case 1: Adult Deformity Principles		France, J	
08:40 - 10:10	MODULE B: ADULT DEFORMITY - Case 2: Thoracolumbar Kyphosis		Jackson II, K	
08:40 - 10:10	MODULE B: ADULT DEFORMITY - Case 3: Degenerative Scoliosis with Back and Leg Pain		France, J	
08:40 - 10:10	MODULE C: THORACOLUMBAR TRAUMA			
08:40 - 10:10	MODULE C: THORACOLUMBAR TRAUMA - Case 1: T12 B2 Injury without Deficit			
08:40 - 10:10	MODULE C: THORACOLUMBAR TRAUMA - Case 2: L1 A3 Injury with Conus Medullaris Syndrome		Spina, N	
08:40 - 10:10	MODULE C: THORACOLUMBAR TRAUMA - Case 3: T6 C2 Injury			
08:40 - 10:10	MODULE D: CERVICAL SPINE LAB	Cheng, J Devine, J		
08:40 - 10:10	MODULE D: CERVICAL SPINE LAB - A. Cervical Lateral Mass Screws			
08:40 - 10:10	MODULE D: CERVICAL SPINE LAB - B. C2 Pedicle Screws			
08:40 - 10:10	MODULE D: CERVICAL SPINE LAB - C. C1 Lateral Mass Screws			
10:10 - 10:30	Coffee Break / Travel to Modules			
10:30 - 12:00	MODULE A: CERVICAL TRUAMA			
10:30 - 12:00	MODULE A: CERVICAL TRAUMA - Case 1: OC-C1 Dislocation		Yassari, R	
10:30 - 12:00	MODULE A: CERVICAL TRAUMA - Case 2: C2 Fracture (Odontoid)		Wolinsky, J	
10:30 - 12:00	MODULE A; CERVICAL TRAUMA - Case 3: Cervical Facet Dislocation		Yassari, R	
10:30 - 12:00	MODULE B: ADULT DEFORMITY			
10:30 - 12:00	MODULE B: ADULT DEFORMITY - Case 1: Adult Deformity Principles		France, J	
10:30 - 12:00	MODULE B: ADULT DEFORMITY - Case 2: Thoracolumbar Kyphosis		Jackson II, K	
10:30 - 12:00	MODULE B: ADULT DEFORMITY - Case 3: Degenerative Scoliosis with Back and Leg Pain		France, J	
10:30 - 12:00	MODULE C: THORACOLUMBAR TRAUMA			
10:30 - 12:00	MODULE C: THORACOLUMBAR TRAUMA - Case 1: T12 B2 Injury without Deficit			

10:30 - 12:00	MODULE C: THORACOLUMBAR TRAUMA - Case 2: L1 A3 Injury with Conus Medullaris Syndrome	Spina, N
10:30 - 12:00	MODULE C: THORACOLUMBAR TRAUMA - Case 3: T6 C2 Injury	
10:30 - 12:00	MODULE D: CERVICAL SPINE LAB	Cheng, J Devine, J
10:30 - 12:00	MODULE D: CERVICAL SPINE LAB - A. Cervical Lateral Mass Screws	
10:30 - 12:00	MODULE D: CERVICAL SPINE LAB - B. C2 Pedicle Screws	
10:30 - 12:00	MODULE D: CERVICAL SPINE LAB - C. C1 Lateral Mass Screws	
12:00 - 12:30	Lunch	
12:30 - 13:00	Pediatric Scoliosis	France, J
13:00 - 13:10	Travel to Modules	
13:10 - 14:40	MODULE A: CERVICAL TRAUMA	
13:10 - 14:40	MODULE A: CERVICAL TRAUMA - Case 1: OC-C1 Dislocation	Yassari, R
13:10 - 14:40	MODULE A: CERVICAL TRAUMA - Case 2: C2 Fracture (Odontoid)	Wolinsky, J
13:10 - 14:40	MODULE A; CERVICAL TRAUMA - Case 3: Cervical Facet Dislocation	Yassari, R
13:10 - 14:40	MODULE B: ADULT DEFORMITY	
13:10 - 14:40	MODULE B: ADULT DEFORMITY - Case 1: Adult Deformity Principles	France, J
13:10 - 14:40	MODULE B: ADULT DEFORMITY - Case 2: Thoracolumbar Kyphosis	Jackson II, K
13:10 - 14:40	MODULE B: ADULT DEFORMITY- Case 3: Degenerative Scoliosis with Back and Leg Pain	France, J
13:10 - 14:40	MODULE C: THORACOLUMBAR TRAUMA	
13:10 - 14:40	MODULE C: THORACOLUMBAR TRAUMA - Case 1: T12 B2 Injury without Deficit	
13:10 - 14:40	MODULE C: THORACOLUMBAR TRAUMA - Case 2: L1 A3 Injury with Conus Medullaris Syndrome	Spina, N
13:10 - 14:40	MODULE C: THORACOLUMBAR TRAUMA - Case 3: T6 C2 Injury	
13:10 - 14:40	MODULE D: CERVICAL SPINE LAB	Cheng, J Devine, J
13:10 - 14:40	MODULE D: CERVICAL SPINE LAB - A. Cervical Lateral Mass Screws	
13:10 - 14:40	MODULE D: CERVICAL SPINE LAB - B. C2 Pedicle Screws	
13:10 - 14:40	MODULE D: CERVICAL SPINE LAB - C. C1 Lateral Mass Screws	
14:40 - 15:00	Coffee Break / Travel to Modules	
15:00 - 16:30	MODULE A: CERVICAL TRAUMA	
15:00 - 16:30	MODULE A: CERVICAL TRAUMA - Case 1: OC-C1 Dislocation	Yassari, R
15:00 - 16:30	MODULE A: CERVICAL TRAUMA - Case 2: C2 Fracture (Odontoid)	Wolinsky, J
15:00 - 16:30	MODULE A; CERVICAL TRAUMA - Case 3: Cervical Facet Dislocation	Yassari, R
15:00 - 16:30	MODULE B: ADULT DEFORMITY	
15:00 - 16:30	MODULE B: ADULT DEFORMITY - Case 1: Adult Deformity Principles	France, J

15:00 - 16:30	MODULE B: ADULT DEFORMITY - Case 2: Thoracolumbar Kyphosis	Jackson II, K
15:00 - 16:30	MODULE B: ADULT DEFORMITY - Case 3: Degenerative Scoliosis with Back and Leg Pain	France, J
15:00 - 16:30	MODULE C: THORACOLUMBAR TRAUMA	
15:00 - 16:30	MODULE C: THORACOLUMBAR TRAUMA - Case 1: T12 B2 Injury without Deficit	
15:00 - 16:30	MODULE C: THORACOLUMBAR TRAUMA - Case 2: L1 A3 Injury with Conus Medullaris Syndrome	Spina, N
15:00 - 16:30	MODULE C: THORACOLUMBAR TRAUMA - Case 3: T6 C2 Injury	
15:00 - 16:30	MODULE D: CERVICAL SPINE LAB	Cheng, J Devine, J
15:00 - 16:30	MODULE D: CERVICAL SPINE LAB - A. Cervical Lateral Mass Screws	
15:00 - 16:30	MODULE D: CERVICAL SPINE LAB - B. C2 Pedicle Screws	
15:00 - 16:30	MODULE D: CERVICAL SPINE LAB - C. C1 Lateral Mass Screws	
16:30 - 17:30	Reception	

## Day 2

**Saturday, December 11, 2021 - 07:30 - 14:10 - (includes breaks, travel-time and meals)**

Schedule	Title	Moderator	Faculty	Room
07:30 - 08:55	MODULE A: LUMBAR DEGENERATIVE DISEASE			
07:30 - 08:55	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 1: L4 Disk Herniation		Cheng, J	
07:30 - 08:55	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 2: Lumbar Spinal Stenosis		Yassari, R	
07:30 - 08:55	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 3: Degenerative and Isthmic Spondylolisthesis		Cheng, J	
07:30 - 08:55	MODULE B: CERVICAL DEGENERATIVE DISEASE			
07:30 - 08:55	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 1: C5/6 Disk Herniation with Radiculopathy (anterior and posterior options)		Devine, J	
07:30 - 08:55	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 2: Cervical Stenosis with Myeloradiculopathy		France, J	
07:30 - 08:55	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 3: Multilevel Cervical Stenosis with Myelopathy and Kyphosis		Devine, J	
07:30 - 08:55	MODULE C: TUMOR / INFECTION			
07:30 - 08:55	MODULE C: TUMOR / INFECTION - Case 1: Hematogenous Osteomyelitis		Wolinsky, J	
07:30 - 08:55	MODULE C: TUMOR / INFECTION - Case 2: Metastatic Tumor			
07:30 - 08:55	MODULE C: TUMOR / INFECTION - Case 3: Primary Tumor		Wolinsky, J	
07:30 - 08:55	MODULE D: LUMBAR SPINE LAB	Jackson II, K Spina, N		
07:30 - 08:55	MODULE D: LUMBAR SPINE LAB - A. Lumbar Pedicle Screws			
07:30 - 08:55	MODULE D: LUMBAR SPINE LAB - B. Thoracic Pedicle Screws			
07:30 - 08:55	MODULE D: LUMBAR SPINE LAB - C. Pelvic Fixation			
08:55 - 09:05	Travel to Modules			
09:05 - 10:30	MODULE A: LUMBAR DEGENERATIVE DISEASE			

09:05 - 10:30	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 1: L4 Disk Herniation	Cheng, J
09:05 - 10:30	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 2: Lumbar Spinal Stenosis	Yassari, R
09:05 - 10:30	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 3: Degenerative and Isthmic Spondylolisthesis	Cheng, J
09:05 - 10:30	MODULE B: CERVICAL DEGENERATIVE DISEASE	
09:05 - 10:30	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 1: C5/6 Disk Herniation with Radiculopathy (anterior and posterior options)	Devine, J
09:05 - 10:30	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 2: Cervical Stenosis with Myeloradiculopathy	France, J
09:05 - 10:30	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 3: Multilevel Cervical Stenosis with Myelopathy and Kyphosis	Devine, J
09:05 - 10:30	MODULE C: TUMOR / INFECTION	
09:05 - 10:30	MODULE C: TUMOR / INFECTION - Case 1: Hematogenous Osteomyelitis	Wolinsky, J
09:05 - 10:30	MODULE C: TUMOR / INFECTION - Case 2: Metastatic Tumor	
09:05 - 10:30	MODULE C: TUMOR / INFECTION - Case 3: Primary Tumor	Wolinsky, J
09:05 - 10:30	MODULE D: LUMBAR SPINE LAB	Jackson II, K Spina, N
09:05 - 10:30	MODULE D: LUMBAR SPINE LAB - A. Lumbar Pedicle Screws	
09:05 - 10:30	MODULE D: LUMBAR SPINE LAB - B. Thoracic Pedicle Screws	
09:05 - 10:30	MODULE D: LUMBAR SPINE LAB - C. Pelvic Fixation	
10:30 - 10:50	Coffee Break / Travel to Modules	
10:50 - 12:15	MODULE A: LUMBAR DEGENERATIVE DISEASE (with lunch)	
10:50 - 12:15	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 1: L4 Disk Herniation	Cheng, J
10:50 - 12:15	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 2: Lumbar Spinal Stenosis	Yassari, R
10:50 - 12:15	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 3: Degenerative and Isthmic Spondylolisthesis	Cheng, J
10:50 - 12:15	MODULE B: CERVICAL DEGENERATIVE DISEASE (with lunch)	
10:50 - 12:15	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 1: C5/6 Disk Herniation with Radiculopathy (anterior and posterior options)	Devine, J
10:50 - 12:15	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 2: Cervical Stenosis with Myeloradiculopathy	France, J
10:50 - 12:15	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 3: Multilevel Cervical Stenosis with Myelopathy and Kyphosis	Devine, J
10:50 - 12:15	MODULE C: TUMOR / INFECTION (with lunch)	
10:50 - 12:15	MODULE C: TUMOR / INFECTION - Case 1: Hematogenous Osteomyelitis	Wolinsky, J
10:50 - 12:15	MODULE C: TUMOR / INFECTION - Case 2: Metastatic Tumor	
10:50 - 12:15	MODULE C: TUMOR / INFECTION - Case 3: Primary Tumor	Wolinsky, J
10:50 - 12:15	MODULE D: LUMBAR SPINE LAB (with lunch)	Jackson II, K Spina, N
10:50 - 12:15	MODULE D: LUMBAR SPINE LAB - A. Lumbar Pedicle Screws	

10:50 - 12:15	MODULE D: LUMBAR SPINE LAB - B. Thoracic Pedicle Screws	
10:50 - 12:15	MODULE D: LUMBAR SPINE LAB - C. Pelvic Fixation	
12:15 - 12:25	Travel to Modules	
12:25 - 13:50	MODULE A: LUMBAR DEGENERATIVE DISEASE	
12:25 - 13:50	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 1: L4 Disk Herniation	Cheng, J
12:25 - 13:50	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 2: Lumbar Spinal Stenosis	Yassari, R
12:25 - 13:50	MODULE A: LUMBAR DEGENERATIVE DISEASE - Case 3: Degenerative and Isthmic Spondylolisthesis	Cheng, J
12:25 - 13:50	MODULE B: CERVICAL DEGENERATIVE DISEASE	
12:25 - 13:50	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 1: C5/6 Disk Herniation with Radiculopathy (anterior and posterior options)	Devine, J
12:25 - 13:50	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 2: Cervical Stenosis with Myeloradiculopathy	France, J
12:25 - 13:50	MODULE B: CERVICAL DEGENERATIVE DISEASE - Case 3: Multilevel Cervical Stenosis with Myelopathy and Kyphosis	Devine, J
12:25 - 13:50	MODULE C: TUMOR / INFECTION	
12:25 - 13:50	MODULE C: TUMOR / INFECTION - Case 1: Hematogenous Osteomyelitis	Wolinsky, J
12:25 - 13:50	MODULE C: TUMOR / INFECTION - Case 2: Metastatic Tumor	
12:25 - 13:50	MODULE C: TUMOR / INFECTION - Case 3: Primary Tumor	Wolinsky, J
12:25 - 13:50	MODULE D: LUMBAR SPINE LAB	Jackson II, K Spina, N
12:25 - 13:50	MODULE D: LUMBAR SPINE LAB - A. Lumbar Pedicle Screws	
12:25 - 13:50	MODULE D: LUMBAR SPINE LAB - B. Thoracic Pedicle Screws	
12:25 - 13:50	MODULE D: LUMBAR SPINE LAB - C. Pelvic Fixation	
13:50 - 14:10	Post Assessment Test / Closing Remarks	Clarke, M Grabowski, G

## AO NA Disclaimer 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 a 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.

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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.

### **Disclaimer:**

AONA does not endorse nor promote the use of any product/device of commercial entities. Equipment used in this course is for teaching purposes only with the intent to enhance the learning experience.

### **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:**

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## Acknowledgment

### **In-Kind Support**

AO North America gratefully acknowledges in-kind support for equipment and technical staff from J&JMedTech.

### **Educational Grant**

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