


Preliminary Program

AOSpine Course – Principles and Treatment of Spinal Disorders for Residents

August 19 – 20, 2016

Hyatt Regency Toronto
Toronto, Ontario



Advancing
spine care
worldwide



Our purpose and responsibility is to shape our members' skills and understanding of spine principles; to establish new values and incentives for the creation of knowledge, the sharing of wisdom and the development of new tools and techniques that improve patient care, patient outcomes and the cost effectiveness of spine surgery.

Excellence in Spine

Table of Contents

CME Mission Statement	4
Course Overview	5
Target Audience	6
Learner Objectives	6
Accreditation	6
Designation Statement	6
Faculty	7–8
Preliminary Program	9–14
Presentation Information	15
Tuition and Registration	16
Hotel and Travel	17

Message from AOSpine North America Chairman

Welcome to AOSpine North America!

As Chairman of AOSpine North America it is my distinct pleasure to introduce you to this unique and exciting organization. I invite you to play an active role in advancing interdisciplinary spine care, education and research through the many opportunities afforded by AOSpine North America. We pride ourselves in being part of the largest global, academically-oriented interdisciplinary fellowship of spine surgeons.

Dramatic challenges to health care and expectations around patient care delivery are mandating a shift in the way spine surgeons practice. Evidenced-based, multidisciplinary care is replacing previous models of practice and this is an area where the AO can add significant educational value.

The AO ('Arbeitsgemeinschaft Osteosynthesefragen') is a noncommercial entity dedicated to education, research and advancement of surgical care provided in a fellowship of like-minded surgeons spanning the globe. Based on the concepts and philosophies of the AO, AOSpine International (AOSI) has enjoyed an amazing growth in membership and activities. AOSI is regionally represented by North America, Latin America, Asia-Pacific, Europe, and the Middle East. AOSI (currently chaired by Dr. Jeff Wang of Los Angeles) coordinates and oversees the global educational and research offerings. These include the Global Spine Congress, the World Forum for Spine Research, publishing 2 Spine periodicals (Evidence Based Spine-care Journal (EBSJ), The Global Spine Journal and a number of textbooks on spine care, as well as organizing a sizeable number of educational and research offerings.

Activities of AOSpine North America include educational events delivered by recognized leaders in their fields. In addition to education there is a multicenter research network constituted by premier North American institutions with award-winning projects (AOSNA Clinical Research Network) North America's largest peer-reviewed fellowship support program, and many peer-reviewed grant-funding opportunities. As an organization we also enjoy an ongoing strong partnership with AO North America for educational support and direction, featuring a well-established Continuing Medical Education organization with common commitment to the AO principles and the "AO family" in North America. In contrast to many other formal societies we are intentionally inclusive of specialties and origins and value our straightforward ability to provide academic advancement with the least amount of bureaucracy.

These are exciting times. We hope you will enjoy your exposure to AOSpine North America and join us in our further development as an active participant!

With warm regards,



Michael G. Fehlings, MD, PhD, FRCS, FACS
Chairman, AOSpine North America

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

AOSpine North America Principles courses are intended to address the additional training needs and practice gaps of the orthopedic 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 orthopedic 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 orthopedic and neurological surgery residents PGY levels 1-8.

Learner Objectives

At the conclusion of this Course, the participant 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 nonoperative treatment option for each patient based on the available evidence
- Reduce/decompress/stabilize appropriately
- Demonstrate the basic knowledge of the principles of bone and soft tissue healing
- Identify the anatomic and biomechanical issues in spinal fixation
- Collaborate in the rehabilitation plan for the patient
- Identify and manage postinjury and postoperative complications
- Apply psychomotor skills developed during practical exercises into surgical practice.

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

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

The faculty of this Course is composed of international surgeons distinguished in the field of operative fracture care.

Course Chairpersons

Carlo Bellabarba, MD
Professor, Department of Orthopaedic & Sports Medicine
Joint Professor, Department of Neurological Surgery
University of Washington School of Medicine
Acting Chief of Orthopaedics
Harborview Medical Center
Seattle, Washington

W. Bradley Jacobs, MD, FRCSC

Assistant Professor
Division of Neurosurgery
Calgary Spine Program
University of Calgary
Calgary, Alberta

Education Advisor

James M. Schuster, MD, PhD
Associate Professor of Neurosurgery
Director of Neurotrauma
Chief of Service, Neurosurgery
Penn Presbyterian Medical Center
University of Pennsylvania
Philadelphia, Pennsylvania



Invited Faculty *(continued)*

Henry Ahn, MD, PhD, FRCS(C)

Assistant Professor

University of Toronto Spine Program

St Michaels Hospital

Department of Surgery

Toronto, Ontario

Michael G. Fehlings, MD, PhD, FRCSC,
FACS

Professor of Neurosurgery, University of Toronto

Halbert Chair in Neural Repair and Regeneration

Vice Chair Research, Department of Surgery

University of Toronto

Toronto, Ontario

John C. France, MD

Professor, Orthopaedics & Neurosurgery

Vice Chairman and Chief of Spine Surgery

Department of Orthopaedic Surgery

West Virginia University

Morgantown, West Virginia

Gregory Grabowski, MD

Assistant Professor

Assistant Program Director

Department of Orthopaedics and Sports Medicine

University of South Carolina School of Medicine

Columbia, South Carolina

Eric Klineberg, MS, MD

Associate Professor

Adult & Pediatric Spinal Surgery

Department of Orthopaedics

Sacramento, California

Ilya Laufer, MD

Assistant Attending

Memorial Sloan Kettering Cancer Center

Assistant Professor

Weill Cornell Medical College

New York, New York

Robert Molinari, MD

Professor

Chief, Division of Spinal Surgery

Department of Orthopaedic Surgery

University of Rochester

Rochester, New York

Daniel Sciubba, MD

Associate Professor of Neurosurgery, Oncology
and Orthopaedic Surgery

Director, Spine Research

Johns Hopkins Hospital

Baltimore, Maryland

Lali Sekhon, MD, PhD, FRACS, FACS

Sierra Neurosurgery Group

Reno, Nevada

Suzanne Tharin, MD, PhD

Assistant Professor

Department of Neurosurgery

Stanford University

& Palo Alto VA

Stanford, California

Faculty list subject to change.

Preliminary Program

Friday, August 19, 2016

Time	Agenda Item
08:00 – 08:30	Welcome / Course Objectives / AOSpine / Pre-Assessment
08:30 – 08:40	Travel to Modules
	SESSION I
08:40 – 10:10	MODULE A: CERVICAL TRAUMA <ul style="list-style-type: none">– Case 1: OC-C1 Dislocation– Case 2: C2 Fracture (Odontoid)– Case 3: Cervical Facet Dislocation
08:40 – 10:10	MODULE B: ADULT DEFORMITY <ul style="list-style-type: none">– Case 1: Adult Deformity Principles– Case 2: Thoracolumbar Kyphosis– Case 3: Degenerative Scoliosis with Back and Leg Pain
08:40 – 10:10	MODULE C: THORACOLUMBAR TRAUMA <ul style="list-style-type: none">– Case 1: T12 B2 Injury without Deficit– Case 2: L1 A3 Injury with Conus Medullaris Syndrome– Case 3: T6 C2 Injury
08:40 – 10:10	MODULE D: CERVICAL SPINE LAB <ul style="list-style-type: none">– A. Cervical Lateral Mass Screws– B. C2 Pedicle Screws– C. C1 Lateral Mass Screws
10:10 – 10:30	Coffee Break / Travel to Modules
	SESSION II
10:30 – 12:00	MODULE A: CERVICAL TRUAMA <ul style="list-style-type: none">– Case 1: OC-C1 Dislocation– Case 2: C2 Fracture (Odontoid)– Case 3: Cervical Facet Dislocation
10:30 – 12:00	MODULE B: ADULT DEFORMITY <ul style="list-style-type: none">– Case 1: Adult Deformity Principles– Case 2: Thoracolumbar Kyphosis– Case 3: Degenerative Scoliosis with Back and Leg Pain

Preliminary Program

Friday, August 19, 2016 (continued)

Time	Agenda Item
10:30 – 12:00	MODULE C: THORACOLUMBAR TRAUMA <ul style="list-style-type: none"> – Case 1: T12 B2 Injury without Deficit – Case 2: L1 A3 Injury with Conus Medullaris Syndrome – Case 3: T6 C2 Injury
10:30 – 12:00	MODULE D: CERVICAL SPINE LAB <ul style="list-style-type: none"> – A. Cervical Lateral Mass Screws – B. C2 Pedicle Screws – C. C1 Lateral Mass Screws
12:00 – 12:30	Lunch
12:30 – 13:00	Group Lecture: Adolescent Scoliosis
13:00 – 13:10	Travel to Modules
	SESSION III
13:10 – 14:40	MODULE A: CERVICAL TRAUMA <ul style="list-style-type: none"> – Case 1: OC-C1 Dislocation – Case 2: C2 Fracture (Odontoid) – Case 3: Cervical Facet Dislocation
13:10 – 14:40	MODULE B: ADULT DEFORMITY <ul style="list-style-type: none"> – Case 1: Adult Deformity Principles – Case 2: Thoracolumbar Kyphosis – Case 3: Degenerative Scoliosis with Back and Leg Pain
13:10 – 14:40	MODULE C: THORACOLUMBAR TRAUMA <ul style="list-style-type: none"> – Case 1: T12 B2 Injury without Deficit – Case 2: L1 A3 Injury with Conus Medullaris Syndrome – Case 3: T6 C2 Injury
13:10 – 14:40	MODULE D: CERVICAL SPINE LAB <ul style="list-style-type: none"> – A. Cervical Lateral Mass Screws – B. C2 Pedicle Screws – C. C1 Lateral Mass Screws
14:40 – 15:00	Coffee Break / Travel to Modules

Preliminary Program

Friday, August 19, 2016 (continued)

Time	Agenda Item
	SESSION IV
15:00 – 16:30	MODULE A: CERVICAL TRAUMA <ul style="list-style-type: none">– Case 1: OC-C1 Dislocation– Case 2: C2 Fracture (Odontoid)– Case 3: Cervical Facet Dislocation
15:00 – 16:30	MODULE B: ADULT DEFORMITY <ul style="list-style-type: none">– Case 1: Adult Deformity Principles– Case 2: Thoracolumbar Kyphosis– Case 3: Degenerative Scoliosis with Back and Leg Pain
15:00 – 16:30	MODULE C: THORACOLUMBAR TRAUMA <ul style="list-style-type: none">– Case 1: T12 B2 Injury without Deficit– Case 2: L1 A3 Injury with Conus Medullaris Syndrome– Case 3: T6 C2 Injury
15:00 – 16:30	MODULE D: CERVICAL SPINE LAB <ul style="list-style-type: none">– A. Cervical Lateral Mass Screws– B. C2 Pedicle Screws– C. C1 Lateral Mass Screws
16:30 – 17:30	Reception



Preliminary Program

Saturday, August 20, 2016

Time	Agenda Item
	SESSION V
07:30 – 08:55	MODULE A: LUMBAR DEGENERATIVE DISEASE <ul style="list-style-type: none"> – Case 1: L4 Disk Herniation – Case 2: Lumbar Spinal Stenosis – Case 3: Degenerative and Isthmic Spondylolisthesis
07:30 – 08:55	MODULE B: CERVICAL DEGENERATIVE DISEASE <ul style="list-style-type: none"> – Case 1: C5/6 Disk Herniation with Radiculopathy (anterior and posterior options) – Case 2: Cervical Stenosis with Myeloradiculopathy – Case 3: Multilevel Cervical Stenosis with Myelopathy and Kyphosis
07:30 – 08:55	MODULE C: TUMOR / INFECTION <ul style="list-style-type: none"> – Case 1: Hematogenous Osteomyelitis – Case 2: Metastatic Tumor – Case 3: Primary Tumor
07:30 – 08:55	MODULE D: LUMBAR SPINE LAB <ul style="list-style-type: none"> – A. Lumbar Pedicle Screws – B. Thoracic Pedicle Screws – C. Pelvic Fixation
08:55 – 09:05	Travel to Modules
	SESSION VI
09:05 – 10:30	MODULE A: LUMBAR DEGENERATIVE DISEASE <ul style="list-style-type: none"> – Case 1: L4 Disk Herniation – Case 2: Lumbar Spinal Stenosis – Case 3: Degenerative and Isthmic Spondylolisthesis
09:05 – 10:30	MODULE B: CERVICAL DEGENERATIVE DISEASE <ul style="list-style-type: none"> – Case 1: C5/6 Disk Herniation with Radiculopathy (anterior and posterior options) – Case 2: Cervical Stenosis with Myeloradiculopathy – Case 3: Multilevel Cervical Stenosis with Myelopathy and Kyphosis

Preliminary Program

Saturday, August 20, 2016 (continued)

Time	Agenda Item
09:05 – 10:30	MODULE C: TUMOR / INFECTION <ul style="list-style-type: none">– Case 1: Hematogenous Osteomyelitis– Case 2: Metastatic Tumor– Case 3: Primary Tumor
09:05 – 10:30	MODULE D: LUMBAR SPINE LAB <ul style="list-style-type: none">– A. Lumbar Pedicle Screws– B. Thoracic Pedicle Screws– C. Pelvic Fixation
10:30 – 10:50	Coffee Break / Travel to Modules
	SESSION VII
10:50 – 12:15	MODULE A: LUMBAR DEGENERATIVE DISEASE (with lunch) <ul style="list-style-type: none">– Case 1: L4 Disk Herniation– Case 2: Lumbar Spinal Stenosis– Case 3: Degenerative and Isthmic Spondylolisthesis
10:50 – 12:15	MODULE B: CERVICAL DEGENERATIVE DISEASE (with lunch) <ul style="list-style-type: none">– Case 1: C5/6 Disk Herniation with Radiculopathy (anterior and posterior options)– Case 2: Cervical Stenosis with Myeloradiculopathy– Case 3: Multilevel Cervical Stenosis with Myelopathy and Kyphosis
10:50 – 12:15	MODULE C: TUMOR / INFECTION (with lunch) <ul style="list-style-type: none">– Case 1: Hematogenous Osteomyelitis– Case 2: Metastatic Tumor– Case 3: Primary Tumor
10:50 – 12:15	MODULE D: LUMBAR SPINE LAB (with lunch) <ul style="list-style-type: none">– A. Lumbar Pedicle Screws– B. Thoracic Pedicle Screws– C. Pelvic Fixation
12:15 – 12:25	Travel to Modules

Preliminary Program

Saturday, August 20, 2016 (continued)

Time	Agenda Item
	SESSION VIII
12:25 – 13:50	MODULE A: LUMBAR DEGENERATIVE DISEASE – Case 1: L4 Disk Herniation – Case 2: Lumbar Spinal Stenosis – Case 3: Degenerative and Isthmic Spondylolisthesis
12:25 – 13:50	MODULE B: CERVICAL DEGENERATIVE DISEASE – Case 1: C5/6 Disk Herniation with Radiculopathy (anterior and posterior options) – Case 2: Cervical Stenosis with Myeloradiculopathy – Case 3: Multilevel Cervical Stenosis with Myelopathy and Kyphosis
12:25 – 13:50	MODULE C: TUMOR / INFECTION – Case 1: Hematogenous Osteomyelitis – Case 2: Metastatic Tumor – Case 3: Primary Tumor
12:25 – 13:50	MODULE D: LUMBAR SPINE LAB – A. Lumbar Pedicle Screws – B. Thoracic Pedicle Screws – C. Pelvic Fixation
13:50 – 14:10	Post Assessment Test / Closing Remarks

Preliminary program subject to modification.

AO North America gratefully acknowledges in-kind support for equipment and/or technical staff from DePuy Synthes.

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 relationships 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.

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.

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.

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.

AONA 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.

General Information

Registration Fees

The tuition for this course has been waived for all orthopedic and neurological spine surgery residents. However, there is a no-show fee of \$100.00 that will be charged to your credit card in the event that you do not cancel two weeks prior to the course start date.

Registration Procedure

Registration is available online only at www.aona.org

We encourage early registration, as seating is limited. Upon receipt of your online registration and payment, you will be sent an email confirmation of your registration in the course, along with hotel and travel information to assist you in making your arrangements. Participants who register after the course is full will be placed on a wait list and contacted if space becomes available.

PLEASE NOTE: Registration deadline is **July 18, 2016.**

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

Hotel Accommodations

Room rate

A block of rooms has been reserved at Hyatt Regency Toronto. 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 rate of \$195.00 CAN single/double (available until July 18, 2016 or until the room block fills, whichever comes first). Check-in time is 3:00 p.m. and check-out time is 12:00 noon. For more information on the Hyatt Regency Toronto, please visit their web site at: www.torontoregency.hyatt.com

Reservations procedure – book by July 18, 2016

To make your hotel reservation, please call the Hyatt Regency Toronto 1-416-343-1234 and ask to book a room for the “AONorth America Principles and Treatment of Spinal Disorders for Residents” group.

Deadline: It is strongly recommended that participants book their hotel rooms as soon as possible, as space will fill rapidly. Reservations at the group rate may not be available after July 18, 2016.

Course Site:

Hyatt Regency Toronto
370 King Street West
Toronto, Ontario, Canada, M5V 1J9
416-343-1234

While at the Hyatt Regency Toronto you will enjoy:

*Complimentary guestroom wireless internet

Air Transportation

AAA is AO North America’s preferred travel agent. Please contact AAA Travel (800-259-4023) or www.concursolutions.com to make your flight arrangements. Refer to code GL#N16CA5352 when making your reservations.

Travel

For assistance with travel to and from Toronto, you are invited to contact AAA Travel (800-259-4023). The Hyatt Regency Toronto is approximately 40 minutes from Toronto Pearson International Airport (YYZ). Taxis and shuttles are available. Complete information will be provided in the confirmation email.

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

What if you could access
clinical case studies through
just one mouse click?



AOSpine offers subscribed members CaseBase, a collaborative knowledge platform to compare and comment on all aspects of spinal cases, plus many other membership benefits and discounts!




Visit www.aospine.org for more information.

Join AOSpine now!

AOSpine – the leading global academic community
for innovative education and research in spine care,
inspiring lifelong learning and improving patients' lives.

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Preliminary Program

Principles and Treatment of Spinal Disorders for Residents

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Registration is available only online: www.aona.org
Hotel Registration Deadline: July 18, 2016