AO Spine Online Course—Endoscopy

Self-directed learning experience
October 26–December 2, 2020

Synchronous live event
December 3–5, 2020
14:00–17:25 CET
Mission
The AO’s mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

Purpose statement
The global academic spine community promoting excellence in patient care and outcomes

The AO Spine principles

1. Stability
   Stabilization to achieve a specific therapeutic outcome

2. Alignment
   Balancing the spine in three dimensions

3. Biology
   Etiology, pathogenesis, neural protection, and tissue healing

4. Function
   Preservation and restoration of function to prevent disability
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Welcome

Dear AO Spine online course participant,

Welcome to AO Spine’s online lumbar endoscopy course at the AO Davos Courses 2020!

Endoscopic spine surgery truly represents what minimally invasive techniques are all about: less access-related problems, faster recovery, and fewer complications.

The course will take online teaching to a totally different level. In the self-directed precourse activities, you will have six weeks of online teaching using various learning materials, interactive discussions, and daily feedback from expert faculty. This will cover the basics of endoscopic surgery of the lumbar spine, including the interlaminar and transforaminal discectomy approaches, in addition to the more advanced stenosis decompression techniques. This first part will be followed by a very interesting synchronous live event in December, where internationally recognized faculty will take you through the step-by-step techniques of the procedures. This will take the form of highly interactive group discussions in virtual rooms using surgical videos to highlight the pearls and pitfalls of each procedure.

Sincerely yours,

Muhammed Assous
Course chairperson
Event description

The AO Spine Online Course—Endoscopy will consist of two parts. The first part is a six-week, self-directed learning experience with educational content that includes recorded lectures, webinars, and reading material, as well as a discussion platform on which you can reflect and discuss your learnings with your faculty and peers. This six-week component will take you from the basics of endoscopic lumbar spine surgery, through interlaminar endoscopic lumbar discectomy (IELD) and transforaminal endoscopic lumbar discectomy (TELD) discectomy approaches, to the more advanced techniques of lumbar endoscopic laminotomy for bilateral decompression (LE-ULBD), interlaminar lateral recess decompression (IE-LRD), transforaminal endoscopic lumbar foraminotomy (TELF) and transforaminal endoscopic lateral recess decompression (TE-LRD).

The second part of the course is a three-day, synchronous, live online event (December 3–5) during which you, along with the faculty, will participate in live case discussions and surgical technique demos with interactive live discussions. This interactive live course in December will then follow to reinforce knowledge gained in the first part of the course. This will take the format of lively case discussions specifically picked to cover indications, approaches, surgical techniques, and managing complications of all endoscopic lumbar procedures.
Goals of the course
This comprehensive online course will benefit both beginners and more experienced endoscopic surgeons. Focusing on the lumbar spine, surgeons new to this extremely exciting field will learn the basic endoscopic principles, endoscopic tasks, and how to safely perform transforaminal and interlaminar discectomy. More experienced surgeons will get an excellent opportunity to broaden their endoscopic practice to include decompression of various types of degenerative stenosis in the central canal, lateral recess, and foramen.

Target participants
This course is targeted at fully qualified medical specialists who have considered, but have not yet adopted, endoscopy. It also targets endoscopic surgeons who want to broaden the spectrum of endoscopic procedures they offer to their patients.

Learning objectives
• Identify various components of the endoscope, equipment, and operating room (OR) setup.
• Discuss lumbar pathologies suited to start endoscopic practice.
• Describe the steps to perform TELD and IELD.
• Explain the rationale behind selecting TELD or IELD for a given disc herniation.
• Discuss measures to prevent and manage complications pertinent to TELD and IELD.
• Identify the more advanced spectrum of endoscopic lumbar surgery related to stenosis, and patient selection.
• Describe the steps to perform various endoscopic procedures used to treat stenosis in the lumbar spine.
• Select the appropriate endoscopic approach to various stenosis types in the lumbar spine.
• Discuss measures to prevent and manage complications pertinent to endoscopic lumbar decompression.
Chairperson

Muhammed Assous  
Jordan

Educational advisor

Atiq Uz-Zaman  
Pakistan

International faculty

Rizwan Akram,  
Pakistan

Junseok Bae,  
Korea

Vincent Hagel,  
Germany

Saad Hamdan,  
Jordan

Jin-Sung Luke Kim,  
Korea

Mike Wang,  
United States
Event structure

Week 1:
Faculty: Rizwan Akram, Saad Hamdan
- Identify various components of the endoscope, equipment and OR setup.
- Discuss lumbar pathologies suited to start endoscopic practice.

Week 2:
Faculty: Rizwan Akram, Saad Hamdan
- Describe the steps to perform TELD and IELD.
- Explain the rationale behind selecting TELD or IELD for a given disc herniation.

Week 3:
Faculty: Rizwan Akram, Saad Hamdan
- Describe the steps to perform TELD and IELD.
- Explain the rationale behind selecting TELD or IELD for a given disc herniation.
- Discuss measures to prevent and manage complications pertinent to TELD and IELD.

Week 4:
Faculty: Rizwan Akram, Saad Hamdan
- Identify the more advanced spectrum of endoscopic lumbar surgery related to stenosis, and patient selection.
- Describe the steps to perform various endoscopic procedures used to treat stenosis in the lumbar spine.

Week 5:
Faculty: Rizwan Akram, Saad Hamdan
- Describe the steps to perform various endoscopic procedures used to treat stenosis in the lumbar spine.
- Select the appropriate endoscopic approach to various stenosis types in the lumbar spine.

Week 6:
Faculty: Rizwan Akram, Saad Hamdan
- Describe the steps to perform various endoscopic procedures used to treat stenosis in the lumbar spine.
- Discuss measures to prevent and manage complications pertinent to endoscopic lumbar decompression.

Synchronous live event
December 3–5, 2020
General structure
There will be a total of nine, 55-minute group discussions (three each day).

- Case presentation: 5 minutes
- Individual group discussions: 15 minutes
- Case resolution: 20 minutes
- Discussion: 10 minutes
- Each case session will take 70 minutes.
**Thursday**  
December 3, 2020

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<th>15 minutes</th>
<th>Welcome and introduction</th>
<th>Chairpersons</th>
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**Small group discussion 1**  
Case presenter: R Akram | Moderator: A Uz-Zaman  
**Interlaminar endoscopic lumbar discectomy (IELD)**

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<th>60 minutes</th>
<th>Group 1</th>
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<td>V Hagel</td>
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<td>Group 6</td>
<td>M Assous</td>
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| 5 minutes | Break |

**Small group discussion 2**  
Case presenter: M Assous | Moderator: A Uz-Zaman  
**Transforaminal endoscopic lumbar discectomy (TELD)**

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<td>Group 5</td>
<td>R Akram</td>
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<td>Group 6</td>
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| 5 minutes | Break |

**Small group discussion 3**  
Case presenter: J Kim | Moderator: A Uz-Zaman  
**Interlaminar endoscopic lateral recess decompression (IE-LRD)**

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<td>Group 3</td>
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<td>Group 4</td>
<td>R Akram</td>
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<td>Group 5</td>
<td>M Assous</td>
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<td>Group 6</td>
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Small group discussion 4  
**Case presenter: V Hagel | Moderator: A Uz-Zaman**  
**Lumbar endoscopic unilateral laminotomy for bilateral decompression (LE-ULBD)**

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<th>J Bae</th>
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<td>Group 3</td>
<td>R Akram</td>
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<td>Group 6</td>
<td>M Wang</td>
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5 minutes Break

Small group discussion 5  
**Case presenter: J Bae | Moderator: A Uz-Zaman**  
**Transforaminal endoscopic lumbar foraminotomy (TELF)**

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<td>Group 6</td>
<td>R Akram</td>
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5 minutes Break

Small group discussion 6  
**Case presenter: J Bae | Moderator: A Uz-Zaman**  
**Transforaminal endoscopic lateral recess decompression (TE-LRD)**

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Small group discussion 7
Case presenter: J Kim | Moderator: A Uz-Zaman
Complications management in endoscopic spine surgery

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5 minutes Break

Session 8
Moderator: M Wang
IELD versus TELD

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<tr>
<th>60 minutes</th>
<th>Debate</th>
<th>IELD vs TELD</th>
<th>R Akram</th>
<th>M Assous</th>
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5 minutes Break

Session 9
Case presenter: M Assous
What else can be done endoscopically?

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<thead>
<tr>
<th>60 minutes</th>
<th>• Endoscopic lumbar fusion (15 minutes)</th>
<th>M Wang</th>
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<td>• Endoscopic procedures on the cervical and thoracic spine (15 minutes)</td>
<td>J Bae</td>
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This session is followed by a 30-minute discussion and wrap-up.
### Event organization

**AO Spine International**  
Brian Amster  
Clavadelerstrasse 8  
7270 Davos  
Switzerland  
Phone  +41 76 526 17 32  
E-mail  bamster@aospine.org

### Participant management

**AO Spine International**  
Mohamed Said  
Clavadellerstrasse 8  
7270 Davos  
Switzerland  
Phone  +41 79 715 49 90  
E-mail  msaid@aospine.org

### AO funding sources

Unrestricted educational grants from different sources are collected and pooled together centrally by the AO. All events are planned and scheduled by local and regional AO surgeon groups based on local needs assessments. We rely on industrial commercial partners for in-kind support to run simulations and/or skills training if educationally necessary.
Event information and logistics

Event organization compliance
In certain countries where the AO has no office but offers educational events, the AO cooperates with third-party companies to conduct local organization and logistics, as well as to communicate with participants in the local language. In these cases, the AO has put rules and guidelines in place to ensure that this cooperation has no impact on the curricula, scientific program, or faculty selection.
General information

Event fee
AO Spine nonmember: CHF 1,110
AO Spine member: CHF 965.70

European CME Accreditation
An application has been made to the UEMS-EACCME® in Brussels for CME accreditation of this event.

Disclosures and conflicts of interest
Disclosure information and potential conflicts of interest (COI) can be viewed at the event webpage.

Evaluation guidelines
All AO Spine events apply the same evaluation process, which includes pre- and post-event online evaluation and on-site written questionnaires. These evaluation tools help ensure that AO Spine continues to meet your training needs.

Intellectual property
Event materials, presentations, and case studies are the intellectual property of the event faculty.
All rights are reserved. For more information, please see: www.aofoundation.org/legal.

Recording, photographing, or copying lectures, practical exercises, case discussions, or any event materials is strictly forbidden. Participants violating intellectual property will be dismissed.

The AO reserves the right to film, photograph, and audio record during its events. Participants must understand that in this context they may appear in these recorded materials. The AO assumes participants agree that these recorded materials may be used for the AO’s marketing and other purposes, and that they may be made available to the public.

Event language
English
Sponsors

We thank our major industry partners, DePuy Synthes and Siemens, for contributing key in-kind support (materials and logistics), without which this event would not be possible, as well as an unrestricted educational grants for this event.
Principles of AO educational events

1. Academic independence
Development of all curricula, design of scientific event programs, and selection of faculty are the sole responsibilities of volunteer AO network surgeons. All education is planned based on needs assessment data, designed and evaluated using concepts and evidence from the most current medical education research, and reflects the expertise of the AO Education Institute (www.aofoundation.org). Industry participation is not allowed during the entire curriculum development and planning process to ensure academic independence and to keep content free from bias.

2. Compliance to accreditation and industry codes
All planning, organization, and execution of educational activities follow existing codes for accreditation of high-quality education:
- Accreditation Criteria of the Accreditation Council for Continuing Medical Education, US (www.accme.org)
- ACCME Standards for Commercial Support: Standards to Ensure Independence in CME Activities (www.accme.org)
- Criteria for Accreditation of Live Educational Events of the European Accreditation Council for Continuing Medical Education (www.uems.eu)

Events that receive direct or indirect unrestricted educational grants or in-kind support from industry also follow the ethical codes of the medical industry, such as:
- Eucomed Guidelines on Interactions with Healthcare Professionals (www.medtecheurope.org)
- AdvaMed Code of Ethics on Interactions with Health Care Professionals (www.advamed.org)
- Mecomed Guidelines on Interactions with Healthcare Professionals (www.mecomed.com)

3. Branding and advertising
No industry logos or advertising (apart from the AO Foundation and its clinical divisions) are permitted in the area where educational activities take place.

Sponsors providing financial or in-kind support are allowed to have a promotional booth or run activities outside the educational area with approval from the event chairperson.

4. Use of technologies and products in practical sessions
In case practical sessions are chosen as an educational method to educate skills, the technologies and products used have been approved or reviewed by the AO Technical Commission—a large independent group of volunteer surgeons developing and peer-reviewing new technology on behalf of the AO Foundation. Any technology and/or products used in the practical sessions of this event have been found suitable to serve the defined educational purposes. This does not imply any statement about its use and performance in actual clinical scenarios. More information on the AO Technical Commission can be found on the AO’s website: www.aofoundation.org/tc.

5. Personnel
Industry staff members are not permitted to interfere with the educational content or engage in educational activities during the event.
AO Research Institute Davos (ARI)

Mission
The AO mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

AO Research Institute Davos (ARI)
In its work to further the AO mission, ARI's purpose is to advance patient care through innovative orthopaedic research and development. Orthopaedics concerns musculoskeletal, spine and craniomaxillofacial trauma, degenerative musculoskeletal diseases, infections, and congenital disorders.

Goals
• Contribute high-quality, applied preclinical research and development focused toward clinical applications/solutions.
• Investigate and improve the performance of surgical procedures, devices and substances.
• Foster a close relationship with the AO medical community, academic societies, and universities.
• Provide research environment/support/training for AO clinicians.

Meet with our team including our ARI Medical Research Fellows, establish contacts, freely discuss your clinical problems and ideas, and learn about the latest results from ARI.

Collaborative research programs
• Annulus fibrosus rupture
• Acute cartilage injury
• Osteochondral defect

Craniomaxillofacial
• Imaging and planning of surgery, computer-aided preoperative planning
• Medication-related osteonecrosis of the jaw
• Bone regeneration and 3D printing

Spine
• Degeneration and regeneration of the intervertebral disc
• Biomarkers and patient outcomes

Trauma
• Bone infection, including the development and testing of active anti-infective interventions
• Sensing implants for objective monitoring of fracture healing
• Development of smart surgical tools
• New implant concepts for optimized bone healing
• Prediction of subject-specific risk of proximal humeral fixation failure via computational tools
• Development of generic Asian pelvic bone model
• Patient outcomes and biomarkers

Veterinary medicine
• Improving osteosynthesis for small and large animals

Multidisciplinary
• 3R principles: refinement of preclinical studies
• Bioreactor culture systems and mechanobiology
• Development, standardization, optimization, and improvement of preclinical models and methods
• Ex vivo testing using advanced biomechanical models
• Gene transfer: non-viral and viral
• Implant design using the finite element methods
• Implant positioning assistance, C-arm guided implant placement
• In-vivo and in-vitro quantification of bone turnover and scaffold degradation
• Medical additive manufacturing and biofabrication
• Medical computed tomography (CT) image processing and analysis
• Polymers to deliver cells and biological factors, create potential space for tissue development, and guide the process of tissue regeneration
• Prototype development and production
• Stem cell therapies for the treatment of bone, intervertebral disc, and cartilage defects

For the AO Research Institute Davos Activity Report 2019 and recent publications, go to www.aofoundation.org/ari/publications.
AO Spine membership
Join our global spine care community

Gain access to numerous privileges, including the most advanced educational programs, a worldwide network of professionals, and the highest quality of research carried out by experts and key opinion leaders in spine care.

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www.aospine.org