Course program

AOR recon Course—Principles of Total Hip and Knee Arthroplasty

December 7–8, 2015  Davos, Switzerland
Chaired by Carsten Perka and Michael Huo

Lecture hall: Schiahorn 1+2
The first AO Course was held in Davos in 1960—these early courses pioneered psychomotor techniques by teaching practical skills of AO Techniques. Since those early days over 455,000 surgeons and 155,000 ORP from over 110 countries have attended AO Courses.
The AOREcon Initiative

AOREcon is an initiative of the AO Foundation focusing on education and the exchange within a global community to improve patient care in joint preservation and replacement.

7 Principles of Education

7 Principles of Education

Dear participant

With great pleasure, we are welcoming you to one of the first AOREcon courses. AOREcon is an initiative of the AO Foundation focusing on education and the exchange within a global community to improve patient care in joint preservation and replacement. Having started at the beginning of 2014, we are looking to expand the existing AO network and to complement it with arthroplasty expertise in order to allow for a holistic fulfillment of our vision towards excellence in the surgical management of trauma and disorders of the musculoskeletal system.

We hope that you will enjoy this course, be able to take home many learnings that you can use in your daily practice and that you will continue to be part of this exciting new initiative. As we are interested in your experience with AOREcon, we are grateful for any feedback and comments sent to info@aorecon.org.

Yours sincerely,

Norbert P. Haas
AOREcon Steering Board

Suthorn Bavonratanavech
AO Foundation President
Goal of the course

The AORecon Course—Principles of Total Hip and Knee Arthroplasty teaches fundamental principles and current concepts in the treatment of patients with a need for primary or revision arthroplasty in the hip and knee. This course is the initial step along the path of lifelong learning in the area of joint replacement and revision arthroplasty. Based on a patient-centered approach this course focuses on the key principles of primary and revision arthroplasty.

Course description

The course is modular in structure and highly interactive. Short, evidence-based lectures will cover the key information required. In practical exercises participants will be trained in the planning of different techniques and approaches. Moderated case discussions in small groups will deepen each topic and help participants to acquire decision making and management skills. Participants will have the opportunity to share their experience with peers and high-profile international faculty throughout the whole course. All factors related to achieving the best possible outcome in primary and revision arthroplasty will be covered in the course and participants will learn about using self-assessment for continuing performance improvement.

Target participants

This event is targeted at advanced surgical trainees and orthopedic surgeons on the threshold of becoming independent surgeons and taking over decision-making responsibility.

Course objectives

At the end of this event, participants will be able to:

• Describe a systematic assessment including clinical evaluation
• Identify patient's reconstructive surgery needs
• Adopt a patient-centered approach
• Anticipate, recognize, and stratify potential complications
• Describe and discuss safe and effective procedures
• Recognize, stratify, and describe the management of early and late problems or complications
• Communicate and facilitate a multidisciplinary team-based approach
• Apply best practice to optimize and document patient outcomes

Chairperson

Carsten Perka
Charité
Berlin, Germany

Co-Chairperson

Michael Huo
UT Southwestern Medical Center
Dallas, USA

Faculty

Abdel
Matthew
Rochester, MN, USA

Dalury
David
Baltimore, MD, USA

Dodd
Chris
Oxford, UK

Füchtmeier
Bernd
Regensburg, Germany

Gorab
Robert
Los Angeles, CA, USA

Hube
Robert
Munich, Germany

Lobenhoffer
Philipp
Hannover, Germany

Macheras
George
Athens, Greece

Pfitzner
Tilman
Berlin, Germany

Course organization

AORecon
Cynthia Stampfli
Clavadelstrasse 8
7270 Davos, Switzerland
Tel +41 81 414 24 47
Email info@aorecon.org
### Sunday, December 6, 2015

<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:00</td>
<td>Opening of the Congress Center</td>
</tr>
<tr>
<td>16:00–17:00</td>
<td>Registration of participants</td>
</tr>
<tr>
<td>17:00–18:00</td>
<td>Opening ceremony</td>
</tr>
<tr>
<td>18:00–19:00</td>
<td>FOUNDERS’ RECEPTION</td>
</tr>
</tbody>
</table>

### Monday, December 7, 2015

<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
<th>WHO</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00–08:05</td>
<td>Welcome and introduction to the course</td>
<td>C. Perka, M. Huo</td>
</tr>
</tbody>
</table>

#### Module 1

**Perioperative Management of Total Hip and Knee Arthroplasty**

Moderator: T. Pfitzner

- At the end of this module, participants will be able to:
  - Perform a systematic assessment including clinical evaluation
  - Identify patient’s reconstructive surgery needs
  - Adopt a patient-centered approach
  - Anticipate, recognize, and stratify potential complications

<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
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<tbody>
<tr>
<td>08:05–08:13</td>
<td>Patient evaluation and diagnostics</td>
</tr>
<tr>
<td>08:13–08:21</td>
<td>Decision making and managing expectations</td>
</tr>
<tr>
<td>08:21–08:30</td>
<td>Questions &amp; answers</td>
</tr>
<tr>
<td>08:30–08:38</td>
<td>Optimizing the patient journey perioperatively</td>
</tr>
<tr>
<td>08:38–08:46</td>
<td>Optimizing the patient journey intraoperatively</td>
</tr>
<tr>
<td>08:46–08:55</td>
<td>Questions &amp; answers</td>
</tr>
<tr>
<td>08:55–09:30</td>
<td>Case discussions in small groups: Assessment and decision making</td>
</tr>
<tr>
<td>09:30–09:40</td>
<td>Closing of module 1—take home messages</td>
</tr>
<tr>
<td>09:40–10:00</td>
<td>COFFEE BREAK</td>
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</tbody>
</table>

#### Module 2A

**Performing Total Hip Arthroplasty**

Moderator: M. Huo

- At the end of this module, participants will be able to:
  - Describe and prepare safe and effective procedures
  - Recognize, stratify, and manage early and late problems or complications
  - Facilitate a multidisciplinary team-based approach
  - Apply best practice to optimize patient outcomes

<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
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<tbody>
<tr>
<td>10:00–10:10</td>
<td>Restoration of hip biomechanics and planning of a THA</td>
</tr>
<tr>
<td>10:10–10:18</td>
<td>Surgical approaches for THA: anterior, anterolateral, lateral, posterior, transtrochanteric</td>
</tr>
<tr>
<td>10:18–10:28</td>
<td>Questions &amp; answers</td>
</tr>
<tr>
<td>10:28–10:36</td>
<td>Stabilizing the hip</td>
</tr>
<tr>
<td>10:36–10:44</td>
<td>Fixation</td>
</tr>
<tr>
<td>10:44–10:50</td>
<td>Questions &amp; answers</td>
</tr>
<tr>
<td>10:50–11:30</td>
<td>Case discussions in small groups: Total hip arthroplasty—surgical approaches, stabilizing the hip, fixation</td>
</tr>
<tr>
<td>11:30–12:30</td>
<td>LUNCH BREAK</td>
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</table>
Monday, December 7, 2015

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<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
<th>WHO</th>
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</thead>
<tbody>
<tr>
<td>12:30–12:38</td>
<td>Bearing</td>
<td>L Zagra</td>
</tr>
<tr>
<td>12:38–12:46</td>
<td>Intraoperative challenges and complications</td>
<td>R Gorab</td>
</tr>
<tr>
<td>12:46–12:56</td>
<td>Questions &amp; answers</td>
<td></td>
</tr>
<tr>
<td>12:56–13:20</td>
<td>Templating exercise</td>
<td>M Abdel, R Gorab, G Macheras, T Pfitzner, L Zagra</td>
</tr>
<tr>
<td>13:20–13:50</td>
<td>Case discussions in small groups: Total hip arthroplasty— intraoperative challenges and complications</td>
<td>B Füchtmeier, R Gorab, R Hube, M Huo, G Macheras, L Zagra</td>
</tr>
<tr>
<td>13:50–14:00</td>
<td>Closing of module 2A—take home messages</td>
<td>M Huo</td>
</tr>
<tr>
<td>14:00–14:20</td>
<td>COFFEE BREAK</td>
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</table>

Module 2B  Performing Total Knee Arthroplasty  
Moderator: D Dalury

At the end of this module, participants will be able to:
• Describe and prepare safe and effective procedures
• Recognize, stratify, and manage early and late problems or complications
• Facilitate a multidisciplinary team-based approach
• Apply best practice to optimize patient outcomes

<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
<th>WHO</th>
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</thead>
<tbody>
<tr>
<td>14:20–14:28</td>
<td>Surgical approaches for TKA</td>
<td>R Gorab</td>
</tr>
<tr>
<td>14:28–14:38</td>
<td>Limb alignment</td>
<td>Ph Lobenhoffer</td>
</tr>
<tr>
<td>14:38–14:45</td>
<td>Questions &amp; answers</td>
<td>Ch Dodd</td>
</tr>
<tr>
<td>14:45–15:00</td>
<td>Balancing the varus knee</td>
<td>B Füchtmeier</td>
</tr>
<tr>
<td>15:00–15:15</td>
<td>Balancing the valgus knee</td>
<td></td>
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<tr>
<td>15:15–15:25</td>
<td>Questions &amp; answers</td>
<td></td>
</tr>
<tr>
<td>15:25–15:40</td>
<td>COFFEE BREAK</td>
<td></td>
</tr>
<tr>
<td>15:40–15:50</td>
<td>Fixed flexion contracture</td>
<td>D Dalury</td>
</tr>
<tr>
<td>15:50–16:00</td>
<td>Extra-articular deformity</td>
<td>T Pfitzner</td>
</tr>
<tr>
<td>16:00–16:10</td>
<td>The previously operated knee</td>
<td>M Abdel</td>
</tr>
<tr>
<td>16:10–16:20</td>
<td>Questions &amp; answers</td>
<td></td>
</tr>
<tr>
<td>16:20–17:00</td>
<td>Case discussions in small groups: Total knee arthroplasty– surgical approaches, limb alignment, varus/valgus, challenges</td>
<td>D Dalury, Ch Dodd, B Füchtmeier, R Hube, Ph Lobenhoffer, T Pfitzner</td>
</tr>
<tr>
<td>17:00–17:08</td>
<td>Patellofemoral tracking</td>
<td>C Perka</td>
</tr>
<tr>
<td>17:08–17:16</td>
<td>Constraint</td>
<td>R Hube</td>
</tr>
<tr>
<td>17:16–17:24</td>
<td>Pain management and rehabilitation</td>
<td>Ph Lobenhoffer</td>
</tr>
<tr>
<td>17:24–17:35</td>
<td>Questions &amp; answers</td>
<td></td>
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<tr>
<td>17:35–17:50</td>
<td>Templating exercise</td>
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<tr>
<td>17:50–18:00</td>
<td>Closing of module 2B—take home messages</td>
<td>D Dalury</td>
</tr>
<tr>
<td>18:00</td>
<td>End of course day 1</td>
<td></td>
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## Tuesday, December 8, 2015

<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
<th>WHO</th>
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<tbody>
<tr>
<td></td>
<td><strong>Module 3 Governance and outcomes</strong></td>
<td><strong>Moderator: L Zagra</strong></td>
</tr>
<tr>
<td></td>
<td>At the end of this module, participants will be able to:</td>
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<td></td>
<td>• Communicate and facilitate a multidisciplinary team-based approach</td>
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<td></td>
<td>• Apply best practice to optimize and document patient outcomes</td>
<td></td>
</tr>
<tr>
<td>08:00–08:08</td>
<td>Optimizing patient recovery and satisfaction</td>
<td>G Macheras</td>
</tr>
<tr>
<td>08:08–08:16</td>
<td>Evaluation and interpretation of outcomes</td>
<td>R Hube</td>
</tr>
<tr>
<td>08:16–08:24</td>
<td>Decision-making in your practice</td>
<td>Ch Dodd</td>
</tr>
<tr>
<td>08:24–08:40</td>
<td>Discussion and closing of module 3—take home messages</td>
<td>L Zagra</td>
</tr>
<tr>
<td></td>
<td><strong>Module 4 Revision Arthroplasty of the hip</strong></td>
<td><strong>Moderator: M Abdel</strong></td>
</tr>
<tr>
<td></td>
<td>At the end of this module, participants will be able to:</td>
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<td></td>
<td>• Describe and prepare safe and effective procedures</td>
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<td></td>
<td>• Recognize, stratify, and discuss management of early and late problems or complications</td>
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<td></td>
<td>• Facilitate a multidisciplinary team-based approach</td>
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<td></td>
<td>• Discuss best practice to optimize patient outcomes</td>
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</tr>
<tr>
<td>08:40–08:55</td>
<td>Mechanism of failure and indications for revision</td>
<td>L Zagra</td>
</tr>
<tr>
<td>08:55–09:05</td>
<td>Investigation and classification</td>
<td>B Füchtmeier</td>
</tr>
<tr>
<td>09:05–09:15</td>
<td>Patient preparation</td>
<td>T Pfitzner</td>
</tr>
<tr>
<td>09:15–09:25</td>
<td>Questions &amp; answers</td>
<td></td>
</tr>
<tr>
<td>09:25–09:55</td>
<td>Case discussions in small groups: Revision hip arthroplasty—Indications, investigation and preparation</td>
<td>M Abdel, B Füchtmeier, M Huo, G Macheras, T Pfitzner, L Zagra</td>
</tr>
<tr>
<td>09:55–10:15</td>
<td>COFFEE BREAK</td>
<td></td>
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<tr>
<td>10:15–10:25</td>
<td>Extended surgical approaches and planning</td>
<td>C Perka</td>
</tr>
<tr>
<td>10:25–10:40</td>
<td>Implant removal</td>
<td>G Macheras</td>
</tr>
<tr>
<td>10:40–10:50</td>
<td>Acetabular bone loss</td>
<td>M Huo</td>
</tr>
<tr>
<td>10:50–11:00</td>
<td>Femoral bone loss</td>
<td>L Zagra</td>
</tr>
<tr>
<td>11:00–12:00</td>
<td>Case-based panel discussion with participation of the audience</td>
<td>D Dalury, B Füchtmeier, C Perka, L Zagra</td>
</tr>
<tr>
<td>12:00–12:10</td>
<td>Discussion and closing of module 4—take home messages</td>
<td>M Abdel</td>
</tr>
<tr>
<td>12:10–13:10</td>
<td>LUNCH BREAK</td>
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</table>
**Course information**

**Course fee**  
The course fee is CHF 800 and includes conference bag with documentation, coffee breaks, lunches, AORecon Dinner.

**CME accreditation**  
An application has been made to the UEMS-EACCME for CME accreditation of this event.

**Course certificate**  
The course certificates will be available at the end of the course at the welcome desk.

**Evaluation guidelines**  
All AOTrauma courses apply the same evaluation process with paper and pencil questionnaires. This will help AOTrauma to ensure that we continue to meet our training needs. In some regions, CME accreditation is dependent on the participant’s evaluation results.

**Intellectual property**  
Course materials, presentations, and case studies are the intellectual property of the course faculty. All rights are reserved. Check hazards and legal restrictions on www.aofoundation.org/legal.

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

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

**Security**  
Security checks will be conducted at the entrance of the building. Wearing of a name tag is compulsory during lectures, workshops, and group discussions.

**No insurance**  
The course organization does not take out insurance to cover any individual against accidents, thefts or other risks.

**Use of mobile phones**  
Use of mobile phones is not allowed in the lecture halls and in other rooms during educational activities. Please be considerate of others by turning off your mobile phone.

**Picture Gallery**  
Check out aodavocsourses.org for a daily selection of pictures from the Davos Courses 2015, the best from last year’s courses, and a selection of photographs from the first ever AO Davos Courses.

**Dress code**  
Davos: warm clothes and suitable shoes are advisable.

**Hotels**  
Participants who have not booked a package including hotel should settle their hotel bill directly when checking out.

**Business center**  
There are business centers facilities in the Congress Center which are accessible to everybody.

**Services**  
- Internet and e-mail access
- Printer access
- www.aotrauma.org

AO Course website offering course-related information

**Opening hours**  
30 minutes before the first course of the day starts until 30 minutes after the last course ends

**Disclaimer**  
The use of your own computer in the business center network is inherently not secure. We strongly recommend that you take appropriate actions to protect your computer against unauthorized use or theft (eg, Firewall, VPN-Connection, VirusScanner). AO cannot be held responsible for any data loss or theft.

For further information or support please contact:

- AO Foundation  
  Phone: +41 81 414 28 70  
  E-mail: it.support@aofoundation.org

**Wireless network**

**How to connect to the AO Wireless LAN**

- Open the wireless network connection window
- Choose the AO Business Network as shown in the printscreen below and click on the Connect Button

- Our "AO Business" Wireless Network requires a WPA network key:  
  Network key: aowireless

- Then click on the OK Button

**Course logistics**

**Industrial Partner**  
DePuy Synthes  
Luzerstrasse 21  
4528 Zuchwil, Switzerland  
Phone: +41 32 720 40 60  
Fax: +41 32 730 46 89  
Website: www.depuy syntheses.com

**Course venue**

**Congress Center Davos**  
Talstrasse 49A  
7270 Davos, Switzerland  
Phone: +41 81 414 62 00  
Fax: +41 81 414 62 29

**General information**  
- Sunday: 12:00–19:00  
- Monday to Thursday: 07:30–19:00  
- Friday: 07:30–18:00

**AO World**  
- Sunday: 15:00–17:00  
- Monday to Friday: 09:00–17:00 (Thursday –20:30)

**Industry exhibition**  
- Sunday: 15:00–19:00  
- Monday to Friday: 09:00–17:00
AO World
Visit the AO World in the main foyer, home to the AO Clinical Divisions, AO Institutes and the AO Foundation Initiatives. Here you can explore membership opportunities, browse our print and electronic publications and learn about groundbreaking activities within the AO. Discover research, development, fellowships, and other opportunities available to you by visiting all the booths in the AO World.

Industry exhibitions
Visit our industry partner DePuy Synthes and other exhibitors: Audi, Invibio, HECTEC, OPED, Siemens, SYNBONE, and ZEISS in the lower foyer. Lehmans Media can be found at the entrance to the Congress Center.

AO Research Institute Davos (ARI)

Mission
Excellence in applied Preclinical Research and Development within trauma and disorders of the musculoskeletal system and translation of this knowledge to achieve more effective patient care worldwide.

Goals
• Contribute high quality applied Preclinical Research and Development focused towards 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

At the AO World booths, meet with our team including our ARI Medical Research Fellows, establish contacts, freely discuss your clinical problems, ideas, and learn about the latest results from the AO Research Institute Davos (ARI). Insight into the AO Center will show our infrastructure under one roof and enable you to meet some of our research team.

Areas:

Collaborative Research Programs
• Annulus Fibrosus Rupture
• Acute Cartilage Injury

Cranio-maxillo-facial
• Imaging and planning of surgery, computer aided preoperative planning
• Bisphosphonate-Related Osteonecrosis of the Jaw

Spine
• Degeneration and regeneration of the intervertebral disc
• Fracture fixation in osteoporotic bone

Trauma
• Bone infection, including the development and testing of active anti-infective interventions
• Fracture fixation in osteoporotic bone including intra-operative assessment of bone quality, augmentation techniques and prophylaxis
• Evaluation of the cortical and trabecular bone remodeling (with special regards to the porosity) in the proximal humerus and its impact on the fracture zones

Veterinary Medicine
• Improving osteosynthesis for small animals

Multidisciplinary
• Analysis of implant-specific functional anchorage with CT-technology
• Ex-vivo testing using advanced biomechanical models
• In-vivo studies using established or newly developed preclinical models
• Gene transfer–non viral and viral
• Implant design using the Finite Element Methods
• Implant positioning assistance, C-arm guided implant placement
• Telemetric monitoring of bone healing
• In vivo and in vitro quantification of bone turnover and scaffold degradation
• Longitudinal analysis within in-vivo studies using CT-technology
• Medical 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
• Bioreactor culture systems and mechanobiology
• Surface modification of PEEK to improve tissue integration
• Thermoresponsive gel for delivery of antibiotics, stem cells, growth factors, transfected cells etc.
• 3R – refinement of preclinical studies

For the 2014 AO Research Institute Davos activity report and recent publications go to: http://www.aofoundation.org/ari/publications
Sponsors

We would like to thank our partner DePuy Synthes for their support without which this event would not be possible.

A special thanks to our main sponsors:
- Audi
- Siemens

We also extend our thanks to the following co-sponsors:
- Credit Suisse
- Synbone

In order to perform confidently, surgeons need high-end imaging technology, especially in advanced, complex cases such as spine or pelvic surgeries with obese patients. With Cios Alpha, you can foster innovative concepts of care by linking a large field of view with intelligent power management. This results in outstandingly detailed image quality at very low dose regardless of clinical application, patient size, and length of surgery. Cios Alpha. See the power with Full View FD.
Upcoming AO Courses—Davos 2016

AO Courses—December 4–9, 2016
- AO Trauma Course—Basic Principles of Fracture Management
- AO Trauma Course—Advanced Principles of Fracture Management
- AO Trauma Course—Advanced Principles of Fracture Management for Swiss Residents
- AO Trauma Masters Course—Current Concepts
- AO Trauma Course—Foot and Ankle
- AO Trauma Course—Pediatrics
- AO Trauma Masters Kurs
- AORecon Course

AO Courses—December 11–16, 2016
- AO Trauma Course—Basic Principles of Fracture Management for Swiss Surgeons
- AO Spine Courses
- AO CMF Courses
- AO Neuro Course
- AO VET Courses

List subject to changes.