AO Trauma Course—
Advanced Principles of Fracture Management

December 1–6, 2019
Davos, Switzerland

Lecture room: Davos 1

Precourse online activities: November 1–30, 2019
Postcourse online activities: December 7–20, 2019
The AO's flagship educational event, the AO Davos Courses offer surgeons at all stages of their career outstanding educational and networking opportunities. Experience this pioneering spirit of peer-to-peer collaboration and learn skills that will help advance your career.
Mission
The AO’s mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

Purpose statement
AO Trauma is committed to improve patient care outcomes through the highest quality education. We strive to combine the right knowledge and surgical skills that empower the orthopedic and trauma surgeons to put theory into practice and to improve fracture management for the benefit of the patient.

The AO principles of fracture management

1. Fracture reduction and fixation to restore anatomical relationships.
2. Fracture fixation providing absolute or relative stability, as required by the “personality” of the fracture, the patient, and the injury.
3. Preservation of the blood supply to soft-tissues and bone by gentle reduction techniques and careful handling.
4. Early and safe mobilization and rehabilitation of the injured part and the patient as a whole.
Welcome
Dear AO Trauma course participant,

Welcome to AO Trauma’s first-class schedule of activities at the AO Davos Courses 2019. We provide a wide range of relevant courses designed to meet your specific professional needs—and we are confident that you will find your course and the networking experiences professionally rewarding.

With a global reputation for innovation, leadership, and excellence in continuing medical education (CME), AO Trauma and the AO Education Institute are transforming education by expanding the educational activities available to you. CME is not just about face-to-face courses. Our educational opportunities address the specific clinical problems that you encounter daily. Visit our website (www.aotrauma.org) to discover the latest educational activities.

At the AO Davos Courses 2019, AO Trauma offers you a chance to actively engage in your course as well as opportunities to:
- Interact with over 300 international faculty
- Expand your professional network by establishing contacts and new relationships with colleagues, including faculty and participants from over 80 countries
- Meet with staff and surgeons from the AO’s clinical divisions, institutes, and initiatives.
- Visit the AO experience or take a tour of our headquarters, the AO center, to gain insight into the AO’s ongoing activities and resources available to support you in your clinical work
- Experience the AO spirit of collegiality and camaraderie that is felt by participants and faculty alike

Your current level of knowledge, attitudes, and skills will be challenged throughout the week. At the same time, our best-in-class curriculum and faculty will provide you with a memorable learning experience that will remain with you for a lifetime.

Your experiences with us over the next few days will result in the realization of new and meaningful knowledge, skills, and understanding that we hope will translate into improved patient care.

If you enjoy your experience this week and want to stay in touch, we invite you to become a member of AO Trauma. Doctors of medicine and osteopathy who have completed AO Trauma basic principles course are eligible for membership; contact us to learn more.

Yours sincerely,

Wa’el Taha  
Chairperson AO Trauma Education Commission

Kodi Kojima  
Chairperson AO Trauma International Board
Course description

This AO Trauma Course—Advanced principles of fracture management is one of the several competency-based curriculum events in 2019 which are built around a specific framework of competencies and learning objectives. They feature a balanced mix of educational methods with a strong focus on interactive sessions.

Online precourse self-assessment prepares participants for the course and allows the faculty to tailor the course to the needs of the participants. Before attending the course participants are expected to complete an online module on reduction techniques.

The course will be taught in a modular format. Each module consists of several evidence-based lectures which will cover the key information required. Discussing cases in small groups will help participants understand decision-making processes and further develop management skills. Debates and interactive sessions will promote interactivity between faculty and course participants. In practical exercises, participants will be trained in the application of various techniques.

Participants may also bring their own cases for discussion with the faculty.

After the course an online postcourse self-assessment will provide participants with important feedback on how much they have learned.

Goal of the course

The AO Trauma Course—Advanced Principles of Fracture Management is part of a newly developed educational program teaching current concepts and fundamental principles in the treatment of complex injuries, incorporating the latest techniques in operative fracture management. The AO Trauma Advanced Principles course builds upon the AO principles and techniques learned in the AO Trauma Basic Principles course and focuses on more complex injuries.

Target participants

The AO Trauma Course—Advanced Principles of Fracture Management is targeted at certified orthopedic and trauma surgeons who are at the threshold of becoming independent surgeons and taking over decision-making responsibility for the treatment of complex injuries. Participants must have completed the AO Trauma Course—Basic Principles of Fracture Management and must be actively involved in trauma management.

Learning objectives

Upon completion of this course, participants will be able to:

- Apply reduction techniques in fracture management with attention to soft tissue
- Assess and treat complex diaphyseal and (peri)articular fractures
- Demonstrate strategies for assessing and treating open fractures and soft-tissue injuries
- Initiate appropriate management for patients with pelvic injuries and polytrauma
- Recognize complications and manage these accordingly
Chair-person

Martin Richardson
University of Melbourne,
Epworth Hospital,
Melbourne, Australia

Vincenzo Giordano
Serviço de Ortopedia e
Traumatologia Prof. Nova Monteiro –
Hospital Municipal Miguel Couto,
Rio de Janeiro, Brazil

Co-chair-person

International faculty

Matheus Azi
Manoel Victorino Hospital
Salvador, Brazil

Sushrut Babhulkar
Sushrut Institute of Medical Sciences
Nagpur, India

Henry Broekhuysen
University of British Columbia
Vancouver, Canada

Ying-Chao Chou
Chang Gung Memorial Hospital Linkou Branch
Taoyuan, Taiwan

David Chua
Changi General Hospital
Singapore, Singapore

Juan Concha Sandoval
Universidad del Cauca
Popayan, Colombia

Gregory Della Rocca
University of Missouri
Columbia, USA

Adel Ebrahimpour
Taleghani Hospital
Tehran, Iran

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Marcos Leonhardt
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Sao Paulo, Brazil

Ting Li
Beijing Jishuitan Hospital
Beijing, China

Eric Moghadamian
University of Kentucky
Lexington, USA

Achdlat Mustapa
Tropicana Medical Centre
Petaling Jaya, Malaysia

Fadi Nassereddine
Dar Al Hikme Hospital
Baalbeck, Lebanon

Andrew Oppy
Royal Melbourne Hospital and Epworth Hospital
Melbourne, Australia

Marinis Pirpiris
Epworth Hospital
Richmond, Australia

Jorge Ponce de Leon Dominguez
Instituto Nacional de Rehabilitacion
Mexico City, Mexico

Kongkhet Riansuwan
Faculty of Medicine Siriraj Hospital, Mahidol University
Bangkok, Thailand

John Scolaro
University of California, Irvine
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Michael Sirkin
New Jersey Medical School
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Regional faculty

Igor Belenkiy
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Alkmaar, The Netherlands

Matej Cimerman
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Ljubljana, Slovenia

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Kolding, Denmark

Anna Ekman
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Mark Hatton
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Shaun O’Brien
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Sunderland, United Kingdom

Dan Putineanu
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Hospital of Traumatology and Orthopaedics,
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Riga, Latvia

An Sermon
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Leuven, Belgium

Alexandre Sitnik
Belarus Scientific and Practical Center for
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Jayne Ward
University Hospital Coventry and Warwickshire
Coventry, United Kingdom

National faculty

Paul-Martin Sutter
Spitalzentrum Biel AG
Biel, Switzerland
Precourse online activities

November 1–30, 2019

Task 1: Online precourse self-assessment (30 minutes)

The online precourse self-assessment consists of questions on your profile and expertise as well as a set of multiple-choice questions with direct feedback. Your participation will help us to focus on your needs at the upcoming event.

Please complete the eLearning module "Fracture reduction" after the precourse self-assessment and before attending the course, because faculty will build on your newly acquired knowledge.

Task 2: eLearning module Fracture reduction (20 minutes)


Sunday

December 1, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:00</td>
<td>Opening of the congress center</td>
</tr>
<tr>
<td>15:00–17:00</td>
<td>Registration of participants</td>
</tr>
<tr>
<td>17:00–19:00</td>
<td>Opening Ceremony and Founders’ Reception</td>
</tr>
</tbody>
</table>
### Module 1

**Moderator:** M Pirpiris  
**Review of the principles and new techniques**

Upon completion of this module, participants will be able to:
- Review concepts of relative and absolute stability
- Demonstrate appropriate techniques of direct and indirect reduction with attention to the soft tissue
- Identify clinical indications for locked plating
- Describe the role of soft tissue in fracture healing
- Describe the role of preoperative planning

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:15–08:30</td>
<td>Review of the principles of fracture management</td>
<td>M Pirpiris</td>
</tr>
<tr>
<td>08:30–08:45</td>
<td>Clinical applications for locked plating</td>
<td>M Hatton</td>
</tr>
<tr>
<td>08:45–09:00</td>
<td>Minimally invasive osteosynthesis (MIO)—minimizing surgical footprints</td>
<td>K Riansuwan</td>
</tr>
<tr>
<td>09:00–09:10</td>
<td>Preoperative planning—key to success</td>
<td>A Oppy</td>
</tr>
<tr>
<td>09:10–09:30</td>
<td>Module 1—discussion and summary</td>
<td>M Pirpiris</td>
</tr>
<tr>
<td>09:30–10:00</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>10:00–12:35</td>
<td><strong>Practical exercise 1 (including discussion group 1)</strong> Reduction techniques</td>
<td>A Oppy, A Sermon</td>
</tr>
<tr>
<td>12:35–13:35</td>
<td>Lunch break</td>
<td></td>
</tr>
</tbody>
</table>

### Module 2

**Moderator:** PM Sutter  
**Advanced principles in complex diaphyseal fractures**

Upon completion of this module, participants will be able to:
- Describe the decision-making process for the management of complex diaphyseal fractures
- Explain the technical aspects of diaphyseal fracture fixation
- Discuss the nuances of region-specific issues in diaphyseal fracture management

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<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter(s)</th>
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</thead>
<tbody>
<tr>
<td>13:35–13:50</td>
<td>Complex humeral shaft fractures</td>
<td>A Ebrahimpour</td>
</tr>
<tr>
<td>13:50–14:05</td>
<td>Complex forearm injuries</td>
<td>PM Sutter</td>
</tr>
<tr>
<td>14:05–15:05</td>
<td><strong>Case-based panel discussion</strong></td>
<td>G Della Rocca, S O'Brien, M Sirkin, J Ponce de Leon Dominguez, A Ekman</td>
</tr>
<tr>
<td>15:05–15:35</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>15:35–15:50</td>
<td>Current treatment options of subtrochanteric fractures</td>
<td>T Bijlsma</td>
</tr>
<tr>
<td>15:50–16:05</td>
<td>Proximal, distal, and segmental tibial shaft fractures</td>
<td>E Moghadamian</td>
</tr>
<tr>
<td>16:05–17:05</td>
<td><strong>Case-based panel discussion</strong></td>
<td>A Oppy, D Putineanu, J Ward</td>
</tr>
<tr>
<td>17:05–17:20</td>
<td>Module 2—discussion and summary</td>
<td>PM Sutter</td>
</tr>
</tbody>
</table>
### Module 3
**Moderator:** M Radzins

#### Articular shoulder fractures

Upon completion of this module, participants will be able to:

- Identify the indications for surgical treatment of proximal humeral fractures including prosthetic replacement
- Identify the expected outcomes and appropriate treatment options for clavicular fractures
- Evaluate the indications for and techniques of fixation of scapular fractures

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00–08:15</td>
<td>Proximal humeral fractures—to fix, to replace, or to treat nonoperatively? YC Chou</td>
</tr>
<tr>
<td>08:15–08:30</td>
<td>Fractures of the scapula—indications for surgery and methods of fixation M Radzins</td>
</tr>
<tr>
<td>08:30–08:45</td>
<td>Module 3—discussion and summary M Radzins</td>
</tr>
<tr>
<td>08:45–08:50</td>
<td>Location change to discussion groups</td>
</tr>
</tbody>
</table>
| 08:50–10:05   | **Discussion group 2**
|               | **Upper extremity fractures—decision-making and methods of stabilization**
|               | Group 1 – Landwasser 1                                                                            |
|               | Group 2 – Landwasser 3                                                                            |
|               | Group 3 – Landwasser 5                                                                            |
|               | Group 4 – Landwasser 7                                                                            |
|               | Group 5 – Landwasser 9                                                                            |
|               | Group 6 – Landwasser 11                                                                           |
|               | Group 7 – Landwasser 13                                                                           |
|               |                                                   |
|               | Group 8 – Landwasser 15                                                                           |
|               | Group 9 – Landwasser 17                                                                           |
|               | Group 10 – Landwasser 19                                                                          |
|               | Group 11 – Landwasser 21                                                                          |
|               | Group 12 – Landwasser 23                                                                          |
|               | A Mustapa, M Sirkin                                                                               |
|               | F Nassereddine, A Sitnik                                                                          |
|               | F Damborg, PM Sutter                                                                              |
|               | S O'Brien, J Ward                                                                                 |
|               | A Oppy, M Azi                                                                                    |
|               | M Pirpiris, S Babhulkar                                                                           |
|               | J Ponce de Leon Dominguez, I Belenkiy                                                            |
|               | D Putineanu, T Bijsma                                                                             |
|               | M Radzins, M Cimerman                                                                             |
|               | K Riansuwan, YC Chou                                                                             |
|               | J Scolaro, D Chua                                                                                 |
|               | A Sermon, J Concha Sandoval                                                                        |

| 10:05–10:25   | Coffee break                                                                                      |
| 10:25–11:45   | **Practical exercise 2** Fixation of a four-part proximal humeral fracture D Putineanu, T Li      |
| 11:45–12:45   | Lunch break                                                                                      |
### Module 4
**Moderator: G Della Rocca**

**Articular elbow and wrist fractures**

Upon completion of this module, participants will be able to:
- Plan fixation and describe the different surgical approaches to the distal humerus
- Recognize the key concepts for managing elbow fracture dislocations
- Explain the key issues in the treatment of distal radial fractures

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:45–13:00</td>
<td>Distal humerus— intraarticular fractures and complications</td>
<td>F Damborg</td>
</tr>
<tr>
<td>13:00–13:15</td>
<td>Fracture dislocations of the elbow</td>
<td>G Della Rocca</td>
</tr>
<tr>
<td>13:15–13:30</td>
<td>Distal radial fractures</td>
<td>J Concha Sandoval</td>
</tr>
<tr>
<td>13:30–13:40</td>
<td>Module 4—discussion and summary</td>
<td>G Della Rocca</td>
</tr>
<tr>
<td>13:40–13:45</td>
<td>Location change to practical exercise room</td>
<td></td>
</tr>
<tr>
<td>13:45–13:50</td>
<td><strong>Practical exercise 3</strong></td>
<td>A Mustapa</td>
</tr>
<tr>
<td>13:50–13:55</td>
<td>Fixation of a type 13C1 fracture in the distal humerus using a locking plate</td>
<td></td>
</tr>
<tr>
<td>14:00–14:15</td>
<td>Coffee break</td>
<td></td>
</tr>
</tbody>
</table>

### Module 5
**Moderator: I Belenkiy**

**Articular knee fractures**

Upon completion of this module, participants will be able to:
- Recognize open reduction and internal fixation (ORIF) principles and techniques for distal femoral fractures
- Evaluate surgical principles and techniques for ORIF of the tibial plateau

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:40–15:55</td>
<td>Distal femoral fractures— treatment options and outcomes</td>
<td>I Belenkiy</td>
</tr>
<tr>
<td>15:55–16:10</td>
<td>Complex tibial plateau fractures</td>
<td>T Li</td>
</tr>
<tr>
<td>16:10–16:20</td>
<td>Module 5—discussion and summary</td>
<td>I Belenkiy</td>
</tr>
<tr>
<td>16:20–16:25</td>
<td>Location change to practical exercise room</td>
<td></td>
</tr>
<tr>
<td>16:25–17:35</td>
<td><strong>Practical exercise 4</strong></td>
<td>A Ekman, V Giordano</td>
</tr>
<tr>
<td>17:35–17:45</td>
<td>Fixation of an intraarticular type 33C2.1 fracture using a distal femoral locking plate</td>
<td></td>
</tr>
</tbody>
</table>

| 17:45–20:30 | **AO Davos Courses night**                                             |                     |
Wednesday
December 4, 2019

Self-directed learning modules (morning option)
Participants will choose their own program by selecting one of the following three morning modules:

Chairpersons

Christian Candrian
Ospedale Civico Lugano,
Lugano, Switzerland

Nir Cohen
Rabin Medical Center - Bellinson Campus,
Petah Tikva, Israel

Vincenzo Giordano
Serviço de Ortopedia e Traumatologia Prof. Nova
Monteiro - Hospital Municipal Miguel Couto,
Rio de Janeiro, Brazil

Faculty

Approaches—upper extremity

Ying-Chao Chou
Chang Gung Memorial Hospital Linkou Branch,
Taoyuan, Taiwan

Nir Cohen
Rabin Medical Center - Bellinson Campus,
Petah Tikva, Israel

Marcis Radzins
Hospital of Traumatology and Orthopaedics, Clinic Ortomed,
Riga, Latvia

Martin Richardson
University of Melbourne, Epworth Hospital,
Melbourne, Australia

Johan Scheer
University Hospital Linköping,
Linköping, Sweden

Frédéric Vauclair
Centre hospitalier universitaire vaudois,
Lausanne, Switzerland

Intramedullary nailing—principles made easy

Sushrut Babhulkar
Sushrut Institute of Medical Sciences,
Nagpur, India

Paulo Barbosa
Hospital Quinta D’Or,
Rio de Janeiro, Brazil

Gregory Della Rocca
University of Missouri,
Columbia, USA

Sergei Fischer
Universidade Federal do Paraná - Hospital do Trabalhador,
Curitiba, Brazil

Vincenzo Giordano
Serviço de Ortopedia e Traumatologia Prof. Nova Monteiro,
Rio de Janeiro, Brazil

Näder Helmy
Bürgerspital Solothurn,
Solothurn, Switzerland

Mark Lee
University of California, Davis,
Sacramento, USA

Jong-Keon Oh
Korea University Guro Hospital,
Seoul, South Korea

An Sermon
University Hospitals Gasthuisberg,
Leuven, Belgium

Philipp Stillhard
Kantonsspital Graubünden,
Chur, Switzerland

Associated shaft and articular fractures

Christian Candrian
Ospedale Civico Lugano,
Lugano, Switzerland

Juan Concha Sandoval
Universidad del Cauca,
Popayan, Colombia

Marcos Leonhardt
Instituto de Ortopedia e Traumatologia do HCFMUSP,
Sao Paulo, Brazil

Eric Moghadamian
University of Kentucky,
Lexington, USA

Jochen Müller
Ospedale Regionale Lugano,
Lugano, Switzerland

Chang-Wug Oh
Kyungpook National University Hospital,
Daegu, South Korea

Dan Putineanu
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Brussels, Belgium

Paul-Martin Sutter
Spitalzentrum Biel,
Fribourg, Switzerland

Moritz Tannast
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Fribourg, Switzerland
**Self-directed learning modules (afternoon option)**

Participants will choose their own program by selecting one of the following three afternoon modules:

### Faculty

#### Approaches—lower extremity

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution/University</th>
<th>City</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mazen Abdalla</td>
<td>An-Najah University Hospital</td>
<td>Nablus</td>
<td>Palestinian Territory</td>
</tr>
<tr>
<td>Christian Candrian</td>
<td>Ospedale Civico Lugano</td>
<td>Lugano</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Jochen Müller</td>
<td>Ospedale Regionale Lugano</td>
<td>Lugano</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Danilo Taype Zamboni</td>
<td>Hospital Italiano de Buenos Aires</td>
<td>Buenos Aires</td>
<td>Argentina</td>
</tr>
<tr>
<td>Jayne Ward</td>
<td>University Hospital Coventry and Warwickshire</td>
<td>Coventry</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Christian Willy</td>
<td>Bundeswehr Krankenhaus Berlin</td>
<td>Berlin</td>
<td>Germany</td>
</tr>
</tbody>
</table>

#### Avoiding and treating complications

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution/University</th>
<th>City</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Juan Concha Sandoval</td>
<td>Universidad del Cauca</td>
<td>Popayan</td>
<td>Colombia</td>
</tr>
<tr>
<td>Vincenzo Giordano</td>
<td>Serviço de Ortopedia e Traumatologia Prof. Nova Monteiro</td>
<td>Rio de Janeiro</td>
<td>Brazil</td>
</tr>
<tr>
<td>Kodi Kojima</td>
<td>University of Sao Paulo</td>
<td>Sao Paulo</td>
<td>Brazil</td>
</tr>
<tr>
<td>John McMaster</td>
<td>John Radcliffe Hospital</td>
<td>Oxford</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Marinis Pirpiris</td>
<td>Epworth Hospital</td>
<td>Richmond</td>
<td>Australia</td>
</tr>
<tr>
<td>Spence Reid</td>
<td>Pennsylvania State University College of Medicine, Milton S.</td>
<td>Hershey</td>
<td>USA</td>
</tr>
<tr>
<td></td>
<td>Hershey Medical Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tito Rocha</td>
<td>Instituto Nacional de Ortopedia e Traumatologia</td>
<td>Rio de Janeiro</td>
<td>Brazil</td>
</tr>
<tr>
<td>Michael Sirkin</td>
<td>New Jersey Medical School</td>
<td>Newark</td>
<td>USA</td>
</tr>
<tr>
<td>Leonid Solomin</td>
<td>Vreden Russian Research Institute of Traumatiligy</td>
<td>St.Petersburg</td>
<td>Russian Federation</td>
</tr>
<tr>
<td>Andrey Volna</td>
<td>Ilyinsky Hospital</td>
<td>Ilyinskoe</td>
<td>Russian Federation</td>
</tr>
</tbody>
</table>

#### Management of bone disease and fracture

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution/University</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Matheus Azi</td>
<td>Hospital Manoel Victorino</td>
<td>Salvador</td>
<td>Brazil</td>
</tr>
<tr>
<td>Igor Belenkiy</td>
<td>Alexandrovskiy City Hospital</td>
<td>St Petersburg</td>
<td>Russian Federation</td>
</tr>
<tr>
<td>Lorin Benneker</td>
<td>Inselspital, University of Bern</td>
<td>Bern</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Nir Cohen</td>
<td>Rabin Medical Center - Beilinson Campus</td>
<td>Petah Tikva</td>
<td>Israel</td>
</tr>
<tr>
<td>Mark Hatton</td>
<td>Nottingham University Hospitals</td>
<td>Nottingham</td>
<td>United Kingdom</td>
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<td>Lexington</td>
<td>USA</td>
</tr>
<tr>
<td>Mauro Núñez</td>
<td>Hospital del Trauma</td>
<td>San José</td>
<td>Costa Rica</td>
</tr>
<tr>
<td>Chang-Wug Oh</td>
<td>Kyungpook National University Hospital</td>
<td>Daegu</td>
<td>South Korea</td>
</tr>
<tr>
<td>John Scolaro</td>
<td>University of California, Irvine</td>
<td>Orange</td>
<td>USA</td>
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<tr>
<td>An Sermon</td>
<td>University Hospitals Gasthuisberg</td>
<td>Leuven</td>
<td>Belgium</td>
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<tr>
<td>Yoram Weil</td>
<td>Hadassah Hebrew University Medical Center</td>
<td>Jerusalem</td>
<td>Israel</td>
</tr>
</tbody>
</table>
## Approaches—upper extremity

**Location:** Davos 1

### Module

**Moderator:** N Cohen

**Approaches and positioning of upper extremity trauma made easy**

Upon completion of this module, participants will be able to:

- Describe the different ways to position patients for surgery of the upper extremity
- Apply the different surgical approaches used for the upper extremity based on their indications
- Identify structures at risk for the different surgical exposures
- Explain how to obtain intraoperative imaging

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00–08:05</td>
<td>Introduction</td>
<td>N Cohen</td>
</tr>
<tr>
<td>08:05–08:15</td>
<td>Soft tissue in upper extremity trauma</td>
<td>YC Chou</td>
</tr>
<tr>
<td>08:15–08:40</td>
<td>Approaches to the shoulder:</td>
<td>M Richardson</td>
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<tr>
<td></td>
<td>- Deltoidal</td>
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<td></td>
<td>- Deltopectoral</td>
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<tr>
<td>08:40–09:05</td>
<td>Approaches to the humerus:</td>
<td>N Cohen</td>
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<tr>
<td></td>
<td>- Anterolateral</td>
<td></td>
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<tr>
<td></td>
<td>- Poster</td>
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<tr>
<td>09:05–09:30</td>
<td>Approaches to the elbow:</td>
<td>F Vauclair</td>
</tr>
<tr>
<td></td>
<td>- Lateral</td>
<td></td>
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<tr>
<td></td>
<td>- Medial</td>
<td></td>
</tr>
<tr>
<td>09:30–09:50</td>
<td>Approaches to the forearm:</td>
<td>J Scheer</td>
</tr>
<tr>
<td></td>
<td>- Volar/Henry</td>
<td></td>
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<tr>
<td></td>
<td>- Dorsal/Thompson</td>
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</tr>
<tr>
<td>09:50–10:10</td>
<td>Approaches to the distal radius:</td>
<td>M Radzins</td>
</tr>
<tr>
<td></td>
<td>- Flexor carpi radialis (FCR)</td>
<td></td>
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<tr>
<td></td>
<td>- Dorsal (volar lateral)</td>
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<tr>
<td>10:10–10:40</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>10:40–11:40</td>
<td>Practical exercise—demonstration of supine,</td>
<td>N Cohen, M Radzins,</td>
</tr>
<tr>
<td></td>
<td>prone, beach chair, and lateral positions</td>
<td>M Richardson</td>
</tr>
<tr>
<td></td>
<td>for upper extremity surgery with intraoperative imaging</td>
<td></td>
</tr>
<tr>
<td>11:40–12:00</td>
<td>Questions and closing remarks</td>
<td>N Cohen</td>
</tr>
<tr>
<td>12:00–13:30</td>
<td>Lunch break</td>
<td></td>
</tr>
</tbody>
</table>

### Session Breaks

- Coffee break
- Lunch break

### Additional Sessions

- **Questions and closing remarks:** N Cohen

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## Intramedullary nailing—principles made easy

**Location:** Aspen 2

### Module

**Moderator:** V Giordano

**Intramedullary (IM) nailing—principles made easy**

Upon completion of this module, participants will be able to:

- Treat fractures and other musculoskeletal problems with IM nailing when indicated
- Select the IM nailing procedure based on the fracture, the patient, and the best available evidence
- Prepare the patient for the IM nailing procedure and plan and provide postoperative care
- Recognize IM canal anatomy and the correct entry point for common situations
- Achieve reduction for diaphyseal fractures and maintain reduction during IM fixation

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00–08:05</td>
<td>Welcome and introduction</td>
<td>V Giordano</td>
</tr>
<tr>
<td>08:05–08:20</td>
<td>Biomechanical principles and nail design—how does it work?</td>
<td>A Sermon</td>
</tr>
<tr>
<td>08:20–08:35</td>
<td>Patient positioning and reduction for nailing</td>
<td>P Stillhard</td>
</tr>
<tr>
<td>08:35–08:50</td>
<td>Entry points selection—how to avoid complications?</td>
<td>S Babhulkar</td>
</tr>
<tr>
<td>08:50–09:05</td>
<td>Case-based lecture—reduction techniques for diaphyseal fractures—nailing</td>
<td>P Barbosa</td>
</tr>
<tr>
<td>09:05–10:05</td>
<td>Plenary case discussions</td>
<td>N Helmy</td>
</tr>
<tr>
<td>10:05–10:25</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>10:25–10:40</td>
<td>Fractures of the proximal 1/3 of the femur—tips to improve implant positioning and results</td>
<td>JK Oh</td>
</tr>
<tr>
<td>10:40–10:55</td>
<td>Segmentary fracture of the femoral shaft—how to ream the intercalary fragment</td>
<td>S Fischer</td>
</tr>
<tr>
<td>10:55–11:10</td>
<td>Fracture around a fixed femoral stem—&quot;extreme nailing&quot; fixation—when and how</td>
<td>M Lee</td>
</tr>
<tr>
<td>11:10–11:25</td>
<td>Nailing under plate—a good option for periplate fracture in the femur</td>
<td>V Giordano</td>
</tr>
<tr>
<td>11:25–11:40</td>
<td>Questions from the participants</td>
<td>V Giordano</td>
</tr>
<tr>
<td>11:40–11:55</td>
<td>Limits of indications for tibial fractures and &quot;Poller screw&quot; technique</td>
<td>G Della Rocca</td>
</tr>
<tr>
<td>11:55–12:00</td>
<td>Evaluation and summary</td>
<td>V Giordano</td>
</tr>
<tr>
<td>12:00–13:30</td>
<td>Lunch break</td>
<td></td>
</tr>
</tbody>
</table>
### Associated shaft and articular fractures

**Location:** Schwarzhorn

**Module**

**Moderator:** C Candrian

**Associated shaft and articular fractures—rationale for the management**

Upon completion of this module, participants will be able to:

- Identify the injury pattern and its associated musculoskeletal problems
- Apply correct principles for fracture approach and reduction
- Discuss the management options and the adequate strategy of fracture fixation
- Avoid pitfalls and complications related to the injury itself

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00–08:05</td>
<td>Welcome and introduction</td>
<td>C Candrian</td>
</tr>
<tr>
<td>08:05–08:20</td>
<td>Associated distal clavicle and glenoid neck fracture</td>
<td>PM Sutter</td>
</tr>
<tr>
<td>08:20–08:35</td>
<td>Associated proximal and shaft humeral fracture</td>
<td>J Concha Sandoval</td>
</tr>
<tr>
<td>08:35–08:50</td>
<td>Associated distal humeral and forearm shaft fracture</td>
<td>M Leonhardt</td>
</tr>
<tr>
<td>08:50–09:40</td>
<td><strong>Case-based discussion—complex distal and shaft humeral fracture</strong></td>
<td>D Putineanu</td>
</tr>
<tr>
<td>09:40–10:00</td>
<td>Coffee break</td>
<td></td>
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<tr>
<td>10:00–10:15</td>
<td>Associated acetabular and femoral shaft fracture</td>
<td>M Tannast</td>
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<tr>
<td>10:15–10:30</td>
<td>Associated femoral neck and shaft fracture</td>
<td>CW Oh</td>
</tr>
<tr>
<td>10:30–10:45</td>
<td>Associated distal femoral and tibial shaft fracture</td>
<td>C Candrian</td>
</tr>
<tr>
<td>10:45–11:00</td>
<td>Associated tibial shaft and posterior malleolar fracture</td>
<td>J Müller</td>
</tr>
<tr>
<td>11:00–11:55</td>
<td><strong>Case-based discussion—complex femoral shaft and tibial plateau fracture</strong></td>
<td>E Moghadamian</td>
</tr>
<tr>
<td>11:55–12:00</td>
<td>Evaluation and summary</td>
<td>C Candrian</td>
</tr>
<tr>
<td>12:00–13:30</td>
<td>Lunch break</td>
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</tbody>
</table>

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**Wednesday morning**

December 4, 2019
# Approaches—lower extremity

**Location:** Davos 1

**Module**  
Moderator: C Candrian  
Approaches and positioning of lower extremity trauma made easy

Upon completion of this module, participants will be able to:  
- Describe the different ways to position patients for surgery of the lower extremity  
- Explain how to obtain imaging for intraoperative use  
- List the different surgical approaches used in trauma surgery for the lower extremity and their indications  
- Explain the limitations of exposures for the different approaches of the lower extremity

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:30–13:35</td>
<td>Introduction</td>
<td>C Candrian</td>
</tr>
<tr>
<td>13:35–13:50</td>
<td>Soft tissue in lower limb trauma</td>
<td>J Ward</td>
</tr>
<tr>
<td>13:50–14:10</td>
<td>Approaches to the hip:</td>
<td>D Taype Zamboni</td>
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<tr>
<td></td>
<td>• Kocher</td>
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<td></td>
<td>• Anterior-Smith-Peterson</td>
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<td></td>
<td>• Lateral—Watson-Jones</td>
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<tr>
<td>14:10–14:20</td>
<td>Approaches to the femoral shaft:</td>
<td>M Abdalla</td>
</tr>
<tr>
<td></td>
<td>• Lateral extensile</td>
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<tr>
<td>14:20–14:30</td>
<td>Supine approaches to the knee:</td>
<td>C Candrian</td>
</tr>
<tr>
<td></td>
<td>• Anterolateral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Medial</td>
<td></td>
</tr>
<tr>
<td>14:30–14:50</td>
<td>Prone approaches to the knee:</td>
<td>C Willy</td>
</tr>
<tr>
<td></td>
<td>• Posteromedial</td>
<td></td>
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<td></td>
<td>• Direct posterior</td>
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<tr>
<td>14:50–15:10</td>
<td>Approaches to the ankle:</td>
<td>J Müller</td>
</tr>
<tr>
<td></td>
<td>• Anterolateral</td>
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<tr>
<td></td>
<td>• Posteromedial</td>
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<tr>
<td>15:10–15:40</td>
<td>Coffee break</td>
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<tr>
<td>15:40–16:40</td>
<td>Practical exercise—</td>
<td>C Candrian, J Müller, M Abdalla</td>
</tr>
<tr>
<td></td>
<td>demonstration of supine, prone, and lateral</td>
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<td>positions for lower extremity surgery with</td>
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<td></td>
<td>intraoperative imaging</td>
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<tr>
<td>16:40–17:10</td>
<td>Questions and closing remarks</td>
<td>C Candrian</td>
</tr>
</tbody>
</table>

# Avoiding and treating complications

**Location:** Aspen 2

**Module**  
Moderator: V Giordano  
Avoiding and treating complications of fracture management

Upon completion of this module, participants will be able to:  
- Identify and discuss the methods of staged fracture care  
- Apply operative care according to the location and soft-tissue condition of the fracture  
- Recognize the indications and contraindications of osteotomy in the management of malunion  
- Identify and discuss the indications for amputation

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:55–14:15</td>
<td>Do you need to stage all periarticular fractures?</td>
<td>M Sirkin</td>
</tr>
<tr>
<td>14:15–14:35</td>
<td>What to do when periarticular wounds break down and fractures become infected?</td>
<td>J Concha Sandoval</td>
</tr>
<tr>
<td>14:35–14:55</td>
<td>The management of open bony deficits—the place of shortening—Masquelet and transport</td>
<td>K Kojima</td>
</tr>
<tr>
<td>14:55–15:15</td>
<td>The place of external fixation in definitive management of delayed presentation of open limb injuries</td>
<td>A Volna</td>
</tr>
<tr>
<td>15:15–15:35</td>
<td>Osteotomies in the correction of diaphyseal injuries</td>
<td>S Reid</td>
</tr>
<tr>
<td>15:35–15:55</td>
<td>Questions and answers</td>
<td>V Giordano</td>
</tr>
<tr>
<td>15:55–16:15</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>16:15–16:35</td>
<td>Amputations or salvage—how to decide?</td>
<td>J McMaster</td>
</tr>
<tr>
<td>16:35–16:55</td>
<td>Osteotomies in the correction of articular fractures</td>
<td>L Solomin</td>
</tr>
<tr>
<td>16:55–17:15</td>
<td>Repair or replace?—options for cartilage resurfacing</td>
<td>M Pirpiris</td>
</tr>
<tr>
<td>17:15–17:45</td>
<td>Questions and closing remarks</td>
<td>V Giordano</td>
</tr>
</tbody>
</table>
### Management of bone disease and fracture

**Location:** Schwarzhorn

**Module**
**Moderator:** N Cohen

**Management of bone disease and fracture**

Upon completion of this module, participants will be able to:
- Define the normal physiology of bone modeling and remodeling
- Explain the differences between normal bone turnover and some common bone diseases
- Discuss the current protocols for those bone diseases
- Identify the problems of fracture-related infection
- List the existing options for the management of fracture-related infection

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
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</thead>
<tbody>
<tr>
<td>13:55–14:10</td>
<td>Bone turnover—an overview</td>
<td>M Azi</td>
</tr>
<tr>
<td>14:10–14:25</td>
<td>The diamond concept—is it affected by bone remodeling disorders?</td>
<td>E Moghadamian</td>
</tr>
<tr>
<td>14:25–14:40</td>
<td>Assessing the risk of bone disease and fracture—is there a rationale for that?</td>
<td>M Núñez</td>
</tr>
<tr>
<td>14:40–14:55</td>
<td>Metastatic fractures—do I need to do anything special?</td>
<td>N Cohen</td>
</tr>
<tr>
<td>14:55–15:10</td>
<td>Osteoporotic fractures—what’s hot, what’s not?</td>
<td>L Benneker</td>
</tr>
<tr>
<td>15:10–15:25</td>
<td>Atypical femoral fractures—pearls and pitfalls</td>
<td>CW Oh</td>
</tr>
<tr>
<td>15:25–15:40</td>
<td>Medical management of bone remodeling disorders—what really works?</td>
<td>C Kammerlander</td>
</tr>
<tr>
<td>15:40–16:00</td>
<td>Coffee break</td>
<td></td>
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<tr>
<td>16:00–16:20</td>
<td>Case-based discussion—Fracture related infection—introduction and diagnosis</td>
<td>I Belenky</td>
</tr>
<tr>
<td>16:20–16:35</td>
<td>Hardware considerations: keep, remove, exchange</td>
<td>Y Weil</td>
</tr>
<tr>
<td>16:35–16:50</td>
<td>Antibiotic treatment and clinical strategies for post-osteosynthesis osteomyelitis</td>
<td>A Sermon</td>
</tr>
<tr>
<td>16:50–17:05</td>
<td>The role of cement beads and cement spacers in the treatment of bone defects associated with post-osteosynthesis osteomyelitis</td>
<td>M Azi</td>
</tr>
<tr>
<td>17:05–17:15</td>
<td>Case-based discussion</td>
<td>M Hatton</td>
</tr>
<tr>
<td>17:15–17:30</td>
<td>Questions and closing remarks</td>
<td>N Cohen</td>
</tr>
</tbody>
</table>
## Thursday December 5, 2019

### Location: Davos 1 (lectures) Davos 2 (practicals)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 08:00–09:25| Discussion group 3  
**Lower extremity—femoral fractures**  
Group 1 – Landwasser 1  
Group 2 – Landwasser 3  
Group 3 – Landwasser 5  
Group 4 – Landwasser 7  
Group 5 – Landwasser 9  
Group 6 – Landwasser 11  
Group 7 – Landwasser 13  
Group 8 – Landwasser 15  
Group 9 – Landwasser 17  
Group 10 – Landwasser 19  
Group 11 – Landwasser 21  
Group 12 – Landwasser 23  
F Nassereddine, PM Sutter  
A Ebrahimpour, J Ward  
S O'Brien, M Azi  
M Pirpiris, S Babhulkar  
J Ponce de Leon Dominguez, I Belenkiy  
D Putineanu, T Bijlsma  
M Radzins, M Cimerman  
K Riansuwan, YC Chou  
J Scolaro, D Chua  
A Sermon, J Concha Sandoval  
M Sirkin, F Damborg  
A Sitnik, G Della Rocca |
| 09:25–09:30| Location change to practical exercise room |
| 09:30–10:45| Practical exercise 5  
**Management of a type 41C3 bicondylar tibial plateau fracture using a locking plate**  
M Leonhardt, S O'Brien |
| 10:45–11:05| Coffee break |

### Module 6
**Moderator: G Della Rocca**

**Injuries of the distal tibia, ankle, and foot**

Upon completion of this module, participants will be able to:
- Assess complex malleolar fractures and plan appropriate treatment
- Prepare a preoperative plan including rationale for imaging, choice of approach, and surgical tactics for tibial pilon fractures
- Explain the risk of complications following injuries to the talus
- Identify patterns of calcaneal injuries
- Discuss the indications for surgical management of midfoot injuries and surgical principles

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 11:05–11:20| Complex malleolar fractures  
H Broekhuyse |
| 11:20–11:35| Early and definitive treatment of pilon fractures  
M Sirkin |
| 11:35–11:50| Talar neck fractures and complications  
A Sitnik |
| 11:50–12:05| Navicular and Lisfranc injuries and complications  
G Della Rocca |
| 12:05–12:15| Module 6—discussion and summary  
G Della Rocca |
| 12:15–13:15| Lunch break |

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AO Trauma Course—Advanced Principles of Fracture Management
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Instructor(s)</th>
</tr>
</thead>
</table>
| 13:15–14:45  | **Practical exercise 6**  
Management of a type 43C2.3 tibial pilon fracture using a distal tibial locking plate | F Nassereddine, J Scolaro                        |
| 14:45–15:05  | Coffee break                                                             |                                                  |
| 15:05–15:50  | **Discussion group 4**  
Lower extremity—fractures of the tibia, ankle, and foot                   | K Riansuwan, YC Chou, J Solaro, D Chua, E Moghadamian, J Concha Sandoval, M Sirkin, F Damborg, A Sitnik, G Della Rocca, PM Sutter, A Ebrahimpour, J Ward, A Ekman, M Azi, T Harris, S Babhulkar, M Hatton, I Belenky, T Li, T Bijlsma, H Broekhuyse, M Cimerman, M Leonhardt |
| 15:50–15:55  | Location change to lecture room                                           |                                                  |
|              | **Module 7**  
**Moderator:** T Harris  
**Articular hip and pelvic fractures** |                                                  |
|              | Upon completion of this module, participants will be able to:             |                                                  |
|              | • Evaluate and plan appropriate fixation techniques for femoral neck fractures  
• Compare treatment options and define principles of fixation for intertrochanteric fractures  
• Assess pelvic ring damage in patients with pelvic injuries  
• Classify acetabular fractures and describe principles of management |                                                  |
| 15:55–16:10  | Femoral neck fractures—different patients, different problems           | J Ponce de Leon Dominguez                        |
| 16:10–16:25  | Intertrochanteric fractures—treatment options and outcomes               | S Babhulkar                                      |
| 16:25–16:40  | Evaluation and emergency management of pelvic ring injuries               | T Harris                                         |
| 16:40–16:55  | Principles of acetabular fracture management                              | D Chua                                          |
Friday

December 6, 2019

Location: Davos 1 (lectures) Davos 2 (practicals)

08:00–09:00  Practical exercise 7  
Fixation of an intraarticular distal radial fracture using the 2.4 mm VA-LCP two-column distal radial plate  
M Radzins, YC Chou

09:00–09:05  Location change to lecture room

Module 8
Moderator: J Scolaro
Potential life-threatening problems

Upon completion of this module, participants will be able to:
• Set priorities for the management of the polytrauma patient
• Describe the systemic impact of injury
• Evaluate the decision for early total care versus damage control
• List the key principles for mangled extremity decision-making

09:05–09:20  Management of multiple-injured patients  
A Mustapa

09:20–09:35  Mangled extremity management  
J Scolaro

09:35–09:50  Module 8—discussion and summary  
J Scolaro

09:50–10:40  Discussion groups 5  
Decision-making in difficult fracture cases and polytrauma patients

Group 1 – Landwasser 1
Group 2 – Landwasser 3
Group 3 – Landwasser 5
Group 4 – Landwasser 7
Group 5 – Landwasser 9
Group 6 – Landwasser 11
Group 7 – Landwasser 13
Group 8 – Landwasser 15
Group 9 – Landwasser 17
Group 10 – Landwasser 19
Group 11 – Landwasser 21
Group 12 – Landwasser 23

S O’Brien, S Babhulkar
M Pirpiris, J Belenkiy
J Ponce de Leon Dominguez,
T Bijlsma
D Putineanu, M Cimerman
M Radzins, YC Chou
K Riansuwan, D Chua
J Scolaro, J Concha Sandoval
A Sermon, F Damborg
A Sitnik, G Della Rocca
PM Sutter, A Ebrahimpour

10:40–11:00  Coffee break

11:00–12:40  Practical exercise 8  
Multifragmentary fractures of the calcaneus  
A Ebrahimpour, H Broekhuysen

12:40–13:10  Sandwich break
Module 9
Moderator: J Ward
Complications and special problems

Upon completion of this module, participants will be able to:
- Recognize the reasons why fractures do not heal
- List the treatment principles for nonunions
- Identify the treatment principles for infected fractures after ORIF
- Integrate the management principles for geriatric fractures
- List the key treatment principles for periprosthetic fractures
- Recognize the key ways to stay out of trouble

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:10–13:25</td>
<td>Treatment of metaphyseal and diaphyseal nonunion</td>
<td>M Azi</td>
</tr>
<tr>
<td>13:25–13:40</td>
<td>Infection after osteosynthesis</td>
<td>J Ward</td>
</tr>
<tr>
<td>13:55–14:10</td>
<td>Periprosthetic fractures</td>
<td>M Hatton</td>
</tr>
<tr>
<td>14:10–14:30</td>
<td>Latest innovative research from AO Research Institute to advance patient care</td>
<td>G Richards</td>
</tr>
<tr>
<td>14:30–14:45</td>
<td>Violation of AO principles—staying out of trouble</td>
<td>S O’Brien</td>
</tr>
<tr>
<td>14:45–15:00</td>
<td>Module 9—discussion and summary</td>
<td>J Ward</td>
</tr>
<tr>
<td>15:00–15:10</td>
<td>Closing remarks and end of course</td>
<td>M Richardson, V Giordano</td>
</tr>
</tbody>
</table>

Postcourse online activities

December 7–20, 2019

Online postcourse self-assessment (10 minutes)

Upon completion of this course, you will receive an e-mail link to the postcourse self-assessment. Please take the opportunity to complete the self-assessment. This will help you to reflect on what you have learned during the event and also help us to improve future events.
Event organization

AO Trauma Education
Maria Anisimova Berni
Clavadelerstrasse 8
7270 Davos Platz
Switzerland
Phone +41 81 414 27 12
Fax +41 81 414 22 84
E-mail mberni@aotrauma.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 venue and opening times

Congress Centre 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 through Thursday 07:30–19:00
Friday 07:30–16:00

The AO experience
Sunday 14:00–17:00
Monday through Thursday 09:00–18:30 (Tuesday–20:30)
Friday 09:00–16:00

Industry exhibition
Sunday 14:00–17:00
Monday through Thursday 09:00–18:30
Friday 09:00–18:00
Exhibitions

The AO experience
The AO experience offers you the chance to view the latest publications in the AO library, see what benefits you are eligible for in the community and membership area and take a selfie with your new colleagues. Explore AO teaching and learning resources and find out about our new digital gateway myAO at the digital zone's interactive stations. Visit the innovation in research and development zone, to take part in hands on demos featuring some of our newest innovations, and join the AO Technical Commission’s popular Meet the Experts sessions. Don’t forget to purchase any mementos at our store in the main entrance. Experience the AO spirit, walk the timeline of AO history, and mingle with other participants. AO staff will be on-hand to help you get the most out of this experience.

Exhibition partners
Visit the exhibitions of our trusted partner DePuy Synthes, Siemens, and other exhibitors: SPI, Invibio, Precision OS, Synoste, Rimasy, AO Alliance.

Media exhibitors
Lehmanns Media is in the welcome area.

Sponsors

We thank our trusted partner DePuy Synthes, and Siemens, for contributing in-kind support (materials and logistics) without which this event would not be possible. A special thanks to DePuy Synthes and Siemens for providing an unrestricted educational grant for this event.

We also extend our thanks to the following co-sponsors (educational grants, in-kind support):

DePuy Synthes
Credit Suisse
Synbone
Siemens Healthineers
Business center

The business center facilities in the Congress Centre Davos are accessible to everyone.

Services
- Internet and e-mail access
- Printer access
- www.aodavoscourses.org
  AO Davos Courses website offering course-related information

Opening hours
The business center is open 30 minutes before the first course of the day starts until 30 minutes after the end of the last course of the day.

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 (e.g., firewall, virtual private network [VPN] connection, virus scanner). AO cannot be held responsible for any data loss or theft.

For further information or support, please contact:
Phone +41 81 414 28 70
E-mail it.helpdesk@aofoundation.org

Wireless network

How to connect to the AO wireless local area network (LAN)

1. Open the Wireless Network Connection window
2. Choose the AO Business network as shown in the image below and click on the Connect button
3. Our AO Business wireless network requires a wireless protected access (WPA) network key:
   Network key: aowireless
4. Then click on the OK button
Event information

Event fee
AO Trauma Course—Advanced Principles of Fracture Management: CHF 2,800
The event fee covers the conference bag, documentation, coffee breaks, lunches, participation in AO Davos Courses night, and the course certificate.

European CME Accreditation
For this course the UEMS-EACCME® in Brussels have granted 34 European CME credits (ECMEC).

Swiss CME Accreditation
Additionally, an application has been made to the following Swiss societies:
Schweizerische Gesellschaft für Chirurgie (SGC/SSC)
Schweizerische Gesellschaft für Orthopädie und Traumatologie (SGO/SSO).

Conflicts of Interest (COI)
All disclosure information can be viewed at the event webpage: http://AOTRAUMA10009579.aotrauma.org

Course certificate
Course certificates will be available at the end of the event at the general information desk.

Evaluation guidelines
All AO Trauma 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 Trauma continues to meet your training needs.

Use of social media
During the AO Davos Courses 2019, you can post about your experience using the #AODavosCourses2019 hashtag. While we encourage you to share your AO Davos Courses 2019 experience with your online network, it is expressly forbidden to share any images or recordings from inside the course.

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 Foundation 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 Foundation 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.

Security
Security checks will be conducted at the building entrance. Wearing a name tag is compulsory at all times in the congress center and hospital.

Insurance
The event organization does not take out insurance to cover any individual against accident, theft, or other risks.

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

Picture gallery
Check out aodavoscourses.org for a daily selection of pictures from the AO Davos Courses 2019, the best from last year’s courses, and a selection of photographs from the first-ever AO Davos Courses.

Dress code
Warm clothes and suitable shoes are recommended.
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 (advamed.org)
- Mecomed Guidelines on Interactions with Healthcare Professionals (www.mecomed.org)

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 simulations
In case simulations are chosen as an educational method to educate skills, we only use technology approved by the AO Technical Commission—a large independent group of volunteer surgeons developing and peer reviewing new technology.

More information about the AO Technical Commission and its development and approval processes can be found on the AO’s website: www.aofoundation.org.

5. Personnel
Industry staff members are not permitted to interfere with the educational content or engage in educational activities during the event.
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 orthopedic research and development.

Orthopedics 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 2018 and recent publications, go to www.aofoundation.org/ari/publications.
Save the date: Madrid, April 2020
Sharing a world of knowledge

AO Trauma provides an outstanding selection of AO Trauma courses designed to meet your specific professional needs. We are confident that you will find the course offerings as well as the networking opportunity professionally rewarding. Your current level of knowledge, attitudes, and skills will be challenged throughout the week. The best-in-class curriculum and faculty will provide you with a memorable learning experience that will remain with you for a lifetime.

All courses include one day of anatomical specimen lab.

AO Trauma Masters Course—Shoulder Trauma
Chairpersons:
Stefaan Nijs (BE), Ashraf Moharram (EG)
AO TRAUMA10010974@aotrauma.org

AO Trauma Masters Course—Fractures around the Elbow
Chairpersons:
Gregory Della Rocca (US), Pedro Labronici (BR)
AO TRAUMA10010997@aotrauma.org

AO Trauma Masters Course—Hip Fractures
Chairpersons:
Michael Baumgaertner (US), Rodrigo Pesantez-Hoyos (CO)
AO TRAUMA10010971@aotrauma.org

AO Trauma Masters Course—Knee Injuries and Deformities
Chairpersons:
Hans Philipp Lobenhoffer (DE), Steffen Schröter (DE)
AO TRAUMA10010972@aotrauma.org

AO Trauma Masters Course—Foot and Ankle
Chairpersons:
Mandeep Dhillon (IN), Stefan Rammelt (DE)
AO TRAUMA10010973@aotrauma.org

For more information visit: www.aotrauma.org
Upcoming AO Davos Courses 2020

AO Davos Courses—November 29–December 4, 2020

- AO Trauma Course—Basic Principles of Fracture Management
- AO Trauma Course—Advances Principles of Fracture Management
- AO Trauma Course—Advanced Principles of Fracture Management for Swiss residents
- AO Trauma Masters Course—Current Concepts
- AO Trauma Course—Pelvic and Acetabular Fracture Management
- AO Trauma Masters Kurs (German speaking)
- AO Trauma Course—Managing Pediatric Musculoskeletal Injuries
- AO Trauma and AO Recon Course—Comprehensive Periprosthetic Fracture Management of the Hip and Knee

AO Davos Courses—December 6–9, 2020

- AO Trauma Course—Basic Principles of Fracture Management for Swiss Surgeons
- AO Spine Courses
- AO CMF Courses
- AO VET Masters Course—Small Animal
- AO VET Masters Course—Large Animal
- AO Recon Course—Principles in Shoulder Arthroplasty
- AO Recon Course—Complex Total Hip and Knee Arthroplasty
- AO PEER Course—Level 1 Principles of Clinical Research
- AO PEER Course—Level 2 Grant writing
- AO PEER Course—Level 2 GCP and study management
- AO PEER Course—Level 2 Publication writing course

This course list is subject to further change.
The final list of AO Davos Courses and worldwide courses will be available on www.aotrauma.org in January 2020.
Expanding precision medicine in image-guided surgery

siemens-healthineers.com/surgery

Expanding precision medicine through a complete imaging portfolio for orthopedic trauma, spine and CMF surgery ranging from mobile C-arms and robotic angiography systems to computed tomography and magnetic resonance imaging, as well as multi-modality suites.

Engineered to be truly patient-oriented, ARTIS pheno® is a unique floor-mounted robotic C-arm system for individualized preprocedural planning, intraoperative guidance, and immediate checkup in 2D and 3D directly in the hybrid operating room – regardless of patient condition or procedure complexity.

To provide 3D capabilities that can be seamlessly integrated into clinical routine, we developed Cios Spin®: a mobile 2D and 3D C-arm for intraoperative quality assurance. Delivering new insights and perspectives, Cios Spin gives you more certainty in surgical routine – and full control over your procedures.

ARTIS pheno
As individual as your patients

Cios Spin
New perspectives. Full control.
AO Trauma membership
Driving excellence and empowering the next generation

Discover the advantages of joining the leading global trauma and orthopedic community, providing its members with education, research, and networking opportunities worldwide. Join us and share your passion.

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www.aotrauma.org