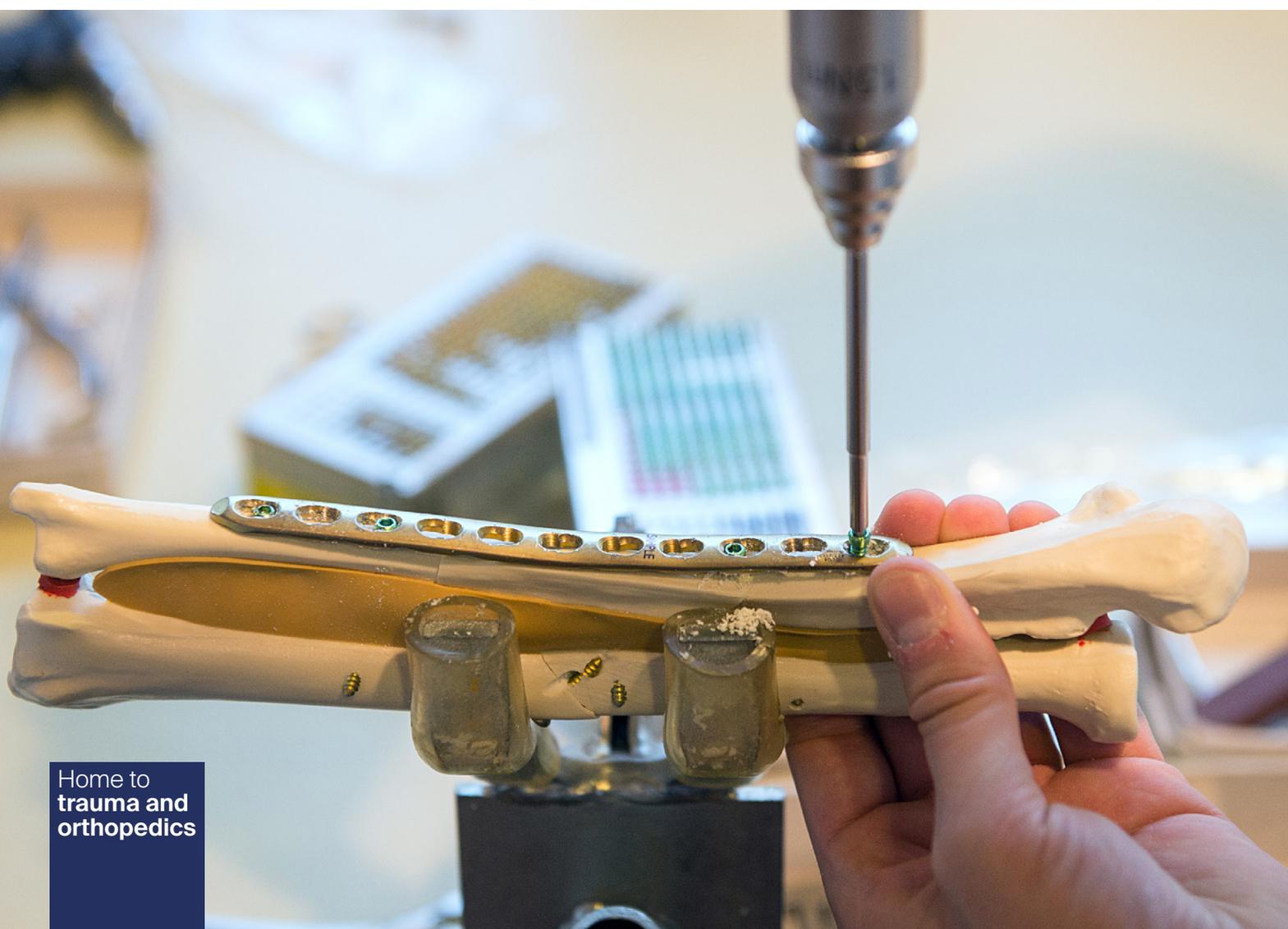


AO Trauma Course— **Basic Principles of Fracture Management**

October 6–8,
2021

Ružomberok,
Slovakia

PROGRAM



Mission

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

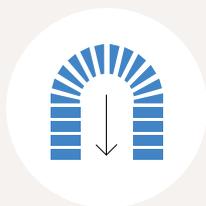
The AO principles of fracture management

1



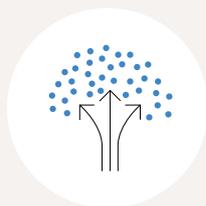
Fracture reduction and fixation to restore anatomical relationships.

2



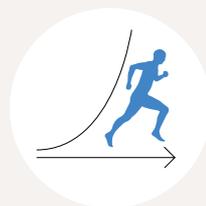
Fracture fixation providing absolute or relative stability, as required by the “personality” of the fracture, the patient, and the injury.

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.

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Welcome

Dear AO Trauma course participant,

Welcome to the AO Trauma Course—Basic Principles of Fracture Management, which is planned and delivered to meet your needs using a competency-based curriculum approach and the AO's seven principles for high-quality education.

AO Trauma's innovative approach to education has been further strengthened as a result of the successful collaboration with the AO Education Institute in the application of state-of-the-art educational concepts in curriculum planning and all faculty development programs.

This course is one of our many educational activities for providing lifelong learning, from the Residents Education Program through to specialized Continuing Professional Development (CPD) for practicing surgeons and clinicians.

We believe that your active engagement in this course will result in improved care for your patients. Your current level of knowledge and skills will be challenged by the activities and throughout the entire event. We are confident that the combination of education principles and relevant content from our curriculum, as well as your interaction with colleagues and expert faculty will provide an effective learning experience that meets your needs.

This course is part of an overall competency-based educational program that includes many other activities and resources for self-directed learning. The educational activities in each program are developed by an international taskforce of clinical experts and educationalists and made available to you through the Education section of www.aotrauma.org.

We hope you enjoy the course and benefit from the networking opportunities it provides for you to share experiences with your colleagues.

Yours sincerely,



Mark Reilly
Chairperson AO Trauma
Education Commission



Mike Baumgaertner
Chairperson AO Trauma
International Board

If you enjoy the experience during your course and would like to stay in touch with the organization and its international network of surgeons, we invite you to become a member of AO Trauma. The benefits of membership, including options to get involved in new opportunities that advance trauma care are described at www.aotrauma.org.

Course description

This AO Trauma Basic Principles of Fracture Management course is part of AO Trauma's educational program for residents and based on 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 online modules on bone healing and classification. The course will consist of several evidence-based lectures which will cover the key information required. In practical exercises participants will be trained in the application of various techniques.

The AO Skills Lab consists of ten stations where participants will learn about the principles of fractures and test fracture management options. Discussing cases in small groups will help participants to understand decision-making processes and further develop management skills.

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—Basic Principles of Fracture Management is part of a newly developed educational program teaching fundamental principles and current concepts in the treatment of injuries, incorporating the latest techniques in operative fracture management. The AO Trauma Basic Principles course is the initial step along the path of lifelong learning in the area of operative fracture management, and the main focus of this course is on teaching the basic principles of fracture management.

Target participants

The AO Trauma Course—Basic Principles of Fracture Management is targeted at surgical trainees and is also open to certified orthopedic and trauma surgeons who are interested in furthering their knowledge and skills in operative fracture management.

Learning objectives

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

- Discuss the concepts of stability, their influence on bone healing, and how to apply implants to achieve appropriate stability
- Plan a treatment based on assessment, imaging, classification, and decision-making
- Apply reduction techniques in fracture management with attention to the importance of the soft-tissue
- Use appropriate fixation techniques to treat diaphyseal and simple (peri)articular fractures
- Identify and discuss the special problems related to:
 - Fractures in the immature skeleton
 - Pelvic injuries
 - Osteoporotic fractures
 - Postoperative infection
 - Delayed union and/or nonunion
- Plan the initial treatment of the polytrauma patient



Chairperson



Alan Dostal
Slovenská Zdravotní
Universita Bratislava,
Slovakia

National faculty

Peter Simko, Bratislava, Slovakia

Pavel Drac, Czech Republic

Yousef Naser, Kosice, Slovakia

Istvan Mitro, Kosice, Slovakia

Peter Cibur, Kosice, Slovakia

Martin Tutka, Banska Bystrica, Slovakia

Michal Bozik, Bratislava, Slovakia

Štefan Eperješi, Kosice, Slovakia

Martin Kloub, Ceske Budejovice, Czech Republic

Peter Kloc, Presov, Slovakia

Martin Holas, Banska Bystrica, Slovakia

Rastislav Burda, Kosice, Slovakia

Vojtěch Valkó, Trnava, Slovakia

Petr Obruba, Usti nad Labem, Czech Republic

Miroslav Lisý, Bratislava, Czech Republic

Stefan Murarik, Bratislava, Slovakia

Radomír Gajdoš, Banska Bystrica, Slovakia

Wednesday

October 6, 2021

08:00–08:10	Welcome and introduction	A Dostal, M Lisý
08:10–08:20	The AO world—from history to lifelong learning	P Simko
08:20–08:40	Bone healing and the effect of patient factors and injury mechanism on fracture management consideration	P Drac
08:40–08:55	The (soft-tissue) injury—a high priority consideration	P Simko
08:55–09:10	Absolute stability: biomechanics, techniques, and fracture healing	P Obruba
09:10–09:25	Relative stability: biomechanics, techniques, and fracture healing	P Cibur
09:25–08:40	Summary and Q&A	
09:35–09:40	Location change to practical exercises	
09:40–10:45	Practical exercise 1 Internal fixation with screws and plates—absolute stability	A Dostal
10:45–11:05	Coffee break	
11:05–11:20	The use of plates in fracture fixation	Y Naser
11:20–11:35	The 2018 AO/OTA Fracture and Dislocation Classification Compendium	M Lisý
11:35–12:35	Small group discussion 1 Discussion on general principles, classification, concepts of stability, their influence on bone Group 1 Group 2 Group 3 Group 4 Group 5	
12:35–13:35	Lunch break	
13:35–13:55	Principles of diaphyseal fracture management—what is important in treating these fractures?	P Kloc
13:55–14:00	Location change to group discussions	
14:00–15:10	Small group discussion 2 Management principles for the treatment of diaphyseal fractures Group 1 Group 2 Group 3 Group 4 Group 5	
15:10–15:25	Coffee break	
15:25–16:35	Practical exercise 2 Principle of the internal fixator using the locking compression plate (LCP)	R Burda
16:35–16:40	Location change to lectures	
16:40–17:00	Principles of articular fracture management—how do they differ from diaphyseal fractures?	P Simko
17:00–17:10	Intramedullary nailing—to ream or not to ream?	M Tutka
17:10–17:15	Location change to Skills Lab	
17:15–18:35	Updated AO Skills Lab A. Torque measurement of bone screws (10) B. Soft-tissue penetration during drilling (10) C. Heat generation during drilling (10) D. Mechanics of bone fractures (10) E. Techniques of reduction, part 1 (10) F. Techniques of reduction, part 2 (10) G. Mechanics of intramedullary fixation (10) H. Mechanics of plate fixation (10) J. Fracture healing and plate fixation (10) K. Damaged implant removal (10)	P Drac

Thursday

October 7, 2021

08:00–09:00	Practical exercise 3 Intramedullary nailing <ul style="list-style-type: none">Tibial shaft fractures—intramedullary nailing with the expert tibial nail (ETN) (with reaming)	R Gajdoš
09:00–09:20	Coffee break	
09:20–09:35	Distal radial fractures—which to fix? How to fix?	P Drac
09:35–09:50	The tension band principle	I Mitro
09:50–10:05	Forearm fractures—understanding the principles of diaphyseal and articular fractures	M Tutka
10:05–10:20	Preoperative planning—rationale and how to do it	M Kloub
10:20–10:30	Summary and Q&A	
10:30–11:30	Preoperative planning—“plan your forearm operation” (Templating exercise)	M Kloub
11:30–12:30	Lunch break	
12:30–13:40	Practical exercise 4: Operate your plan—fixation of a 22C1 forearm fracture using the LCP 3.5 (8 and 11 holes)	M Kloub
13:40–13:55	Ankle fractures—a systematic approach to their fixation	P Obruba
13:55–14:10	Femoral neck fractures	R Gajdoš
14:10–14:25	Trochanteric fractures	Y Naser
14:25–14:40	Distal femoral fractures—management principles	A Dostal
14:40–14:55	Introduction to tibial plateau fractures	V Valkó
14:55–15:05	Summary and Q&A	
15:05–15:25	Coffee break	
15:25–16:35	Small group discussion 3 Management principles for the treatment of articular fractures Group 1 Group 2 Group 3 Group 4 Group 5	
16:35–16:40	Location change to lecture hall	
16:40–16:50	Minimally invasive osteosynthesis (MIO)—when to use it?	R Burda
16:50–17:00	Radiation in the operating room—appropriate use and hazards	M Bozik
17:00–17:15	Fixation principles in osteoporotic bone—the geriatric patient	M Lisý
17:15–17:20	Location change to practicals	
17:20–18:30	Practical exercise 5: Fixation of a trochanteric fracture <ul style="list-style-type: none">Intramedullary nailing of a proximal femur using a proximal femoral nail antirotation (PFNA)	A Dostal

Friday

October 8, 2021

08:00–08:30	Practical exercise 6: Tension band wiring of the olecranon	M Tutka
08:30–09:30	Practical exercise 7: Management of a type 44C malleolar fracture	Y Naser
09:30–09:50	Coffee break	
09:50–10:05	Management of open fractures	V Valkó
10:05–10:20	Principles of external fixation	P Kloc
10:20–10:35	Treatment algorithms for the polytrauma patient	P Obruba
10:35–10:50	Emergency management of pelvic fractures— a critical skill can save lives	M Bozik
10:50–11:05	Perioperative infection—prevention, evaluation and management	R Burda
11:05–11:20	Delayed healing—causes and treatment principles	P Cibur
11:20–11:30	Summary and Q&A	
11:30–11:35	Location change to practicals	
11:35–12:45	Practical exercise 8: Stabilization of the pelvic ring using a large external fixator	M Bozik
12:45–13:45	Lunch break	
13:45–14:45	Practical exercise 9: Application of a modular large external fixator	P Cibur
14:45–14:50	Location change to lecture hall	
14:50–15:05	Violation of principles	R Burda
15:05–15:15	Implant removal—Why, when, and how?	Š Eperješi
15:15–15:25	Closing remarks	A Dostal, M Lisý

Event information

Organization

AO Foundation

Jaroslava Horáková
Clavadelerstrasse 8
Davos Platz,
Switzerland

E-mail jaroslava.horakova@aofoundation.org

Participants' contact:

Phone +41 79 719 31 32

E-mail aoges.emea@aofoundation.org

Registration fee

EUR 550

Included in the course fee are conference bag with documentation, coffee breaks, course certificate.

Online registration

<https://sforce.co/3r1ZOCF>

Language

English, Slovak

Local accreditation

Slovak Medical Chamber will be provided.

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/skills training if educationally needed.

Event organization compliance

In certain countries where 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.

Disclosures and conflicts of interest

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

Venue

Hotel Kultúra

A. Bernoláka 1
Ružomberok,
Slovakia

Phone +421 44 431 3111

E-mail repcia@hotelkultura.sk

General information

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.

Disclosures and conflicts of interest

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

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

There will be a security check at the entrance of the building. Wearing of a name tag is compulsory during lectures, workshops, and group discussions.

No insurance

The event organization does not take out insurance to cover any individual against accidents, 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.

Dress code

Casual

Hygiene guidelines for AO educational events

General protective measures must be observed throughout the event

- Routine cleaning and disinfection of frequently touched surfaces
- Face masks must be worn through the entire duration of the event
- Frequent hand hygiene (when entering and exiting rooms)
- Hand disinfectants must be provided at each door
- Physical distancing of min. 1.5 m between persons at AO events
- Respiratory etiquette (use masks, proper coughing etiquette, etc.)
- Visual reminders of proper measures and etiquette must be placed at doors

At practical-exercise stations

- Personal Protective Equipment (PPE) surgical face masks and non-sterile, latex-free examination gloves must be worn by all participants and faculty
- Surgical face masks and gloves must be stocked in sufficient numbers, and made available at the entrance of practical-exercise rooms
- All PPE must be disposed of after the end of the practical-exercise session in a dedicated place. New PPE must be used for subsequent sessions
- All instruments must be disinfected (sprayed) after the practical exercise is completed
- Participants re-use the same station for the full duration of the event
- If necessary, adapt the quantity of workstations per table to meet space requirements

Sponsor

We thank our major industry partner DePuy Synthes for providing an unrestricted educational grant 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.

Notes

Apply
for membership
www.aotrauma.org

Share your passion and join the **AO Trauma community**

Belong to a
unique orthopedic
trauma network



Get involved
and shape the
future of AO Trauma



**Global
network**



Discover the
exclusive AO Trauma
content



Develop
your personal and
professional career



Share and exchange
your knowledge

AO Trauma is the **leading global orthopedic trauma network** with a unique culture of surgeon leadership, camaraderie, volunteerism, and mutual respect.



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