

**EduWeek** 2025

**4**

**Trauma**

## General Information

**EUROSPINE, the Spine Society of Europe**  
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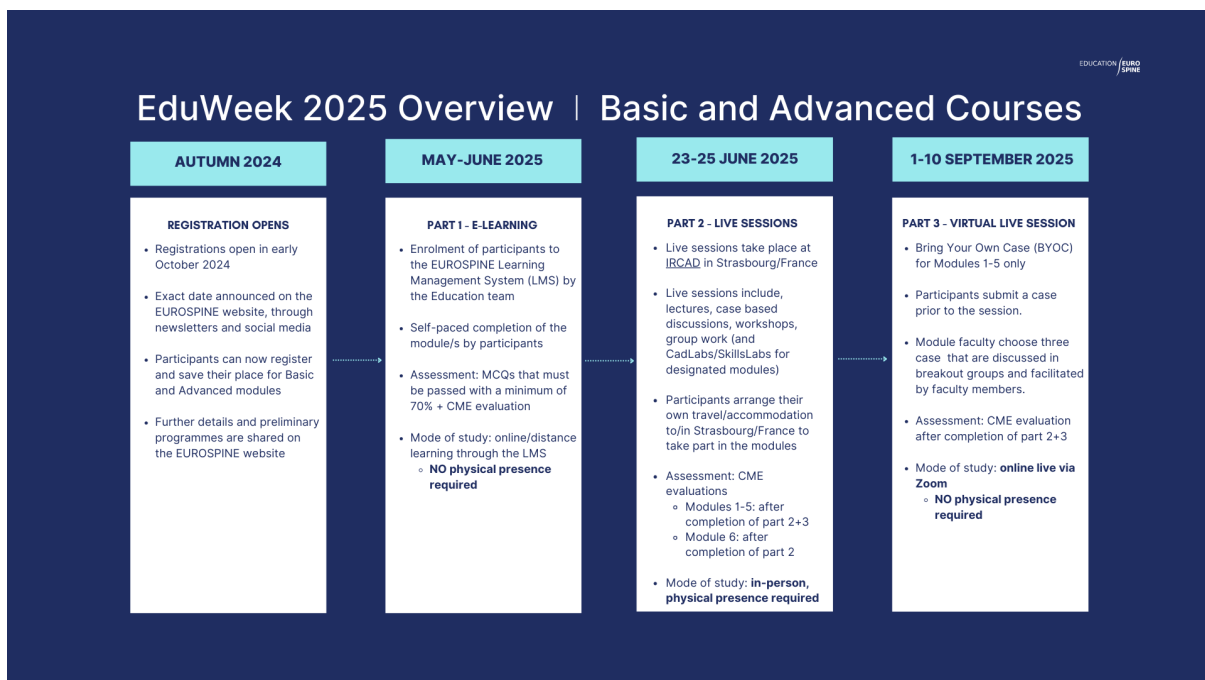
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 Yu-Mi Ryang, Germany  
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## Quick Facts

<b>DATES &amp; TIMES</b>	<p><b>Live session</b> Group 1: 24 June 2025 (13:50-18:30 CEST) Group 2: 25 June 2025 (13:50-18:30 CEST)</p> <p><b>Virtual live session</b> Group 1 and 2: 04 September 2025 (18:00-19:30 CEST)</p>
<b>LIVE SESSION VENUE</b>	IRCAD, 1 Place de l'Hôpital, 67000 Strasbourg, FRANCE
<b>MAX. ATTENDEES</b>	40 delegates (per group)
<b>REGISTRATON FEES</b>	EUROSPINE Member: €800 Non-member: €1,000
<b>CME CREDITS</b>	Accreditation by the European Board for Accreditation of Continuing Education for Health Professionals (EBAC) is pending.
<b>LANGUAGE</b>	English
<b>DRESS CODE</b>	Smart casual
<b>E-LEARNING</b>	<p>A computer (Mac/PC) or tablet (Android/Mac) and stable internet connection are required to access the e-learning content.</p> <p>In preparation for the live session, the mandatory self-paced e-learning component will be available from May 2024 on the EUROSPINE Learning Management System (LMS). <u>This component must be completed before the live session.</u></p>
<b>MODULE COMPLETION</b>	<p>A module is only deemed as complete when participants have met <b>ALL</b> of the following conditions:</p> <ul style="list-style-type: none"> <li>• Passed the e-learning with at least 70% <b>AND</b></li> <li>• Attended the live session <b>AND</b></li> <li>• Attended the virtual BYOC live session <b>AND</b></li> <li>• Submitted the course evaluations for the e-learning and the (virtual) live session component</li> </ul>
<b>TARGET AUDIENCE</b>	Senior trainees and trained surgeons, who are planning a career in spine surgery.
<b>IMPORTANT (!)</b>	<ul style="list-style-type: none"> <li>• Completion of e-learning module is mandatory</li> <li>• Attendance of the live session and virtual live session is mandatory</li> <li>• Group 1 and 2 contain the same content. Participants are registered for ONE of the groups only!</li> <li>• Changing groups once registered is NOT possible!</li> </ul>

## PART 1 - E-learning Programme

(available from May 2025)

Time/ Duration	Topic
<b>Trauma of C-spine, TL-spine &amp; Sacrum</b>	
00:19	Imaging of cervical trauma
00:29	Trauma of CO-C2: Classification and management
00:10	Lower cervical spine injuries
00:19	Imaging of thoracic/thoracolumbar trauma
00:14	Classification and management of TL trauma
00:13	Sacral fractures: classification and management
00:20	Knowledge check questions
<b>Post-Traumatic Kyphosis, Metabolic Spine Diseases, Paediatric Trauma &amp; Spinal Cord Injury</b>	
00:38	Trauma of spine with ankylosing spondylitis: features & management
00:16	Osteoporotic fractures: diagnosis and management
00:14	Paediatric spinal fractures
00:13	Prevention and management of post-traumatic kyphosis
00:13	Spinal shock and incomplete spinal cord injury syndromes
00:20	Knowledge check questions

## PART 2 - Live Session Programme

<b>Group 1 24 June 2025</b>	
13:50-16:00	Cases
16:00-16:15	Coffee break
16:15-18:30	Cases
<b>18:30</b>	<b>End Group 1</b>

<b>Group 2 25 June 2025</b>	
13:50-16:00	Cases
16:00-16:15	Coffee break
16:15-18:30	Cases
<b>18:30</b>	<b>End Group 2</b>

<b>Case Based Discussions</b>		
Introduction	Yu-Mi Ryang & Zdenek Klezl	
<b>Topic List Group 1 and 2</b>	<b>Presenter</b>	<b>Expert opinion</b>
Subaxial C-Spine Fracture		
Ankylosing spondylitis Fracture		
Multilevel T-L Fractures		
Post Traumatic Kyphosis		
Osteoporotic Vertebral Compression Fracture (OVCF)		
Lumbopelvic instability		
<b>END OF LIVE SESSION</b>		

## PART 3 - Virtual Live Session

### Bring Your Own Case (BYOC)

<b>04 September 2025 18:00 – 19:30 CEST</b>	
15:00-15:05	Introduction
15:05-15:25	Breakout session 1
15:25-15:30	Discussion 1
15:30-15:50	Breakout session 2
15:50-15:55	Discussion 2
15:55-16:00	Break
16:00-16:20	Breakout 3
16:20-16:25	Discussion 3
16:25-16:30	Wrap-up and conclusion
<b>END OF MODULE</b>	

## Learning Outcomes

- Select and interpret appropriate x-ray, computed tomography scan (CT) and magnetic resonance imaging (MRI) in spinal trauma
- Classify fractures of cervical vertebrae (C0-C2), subaxial cervical spine (C-spine), thoracolumbar spine (TL-spine) and sacrum
- Compare surgical and conservative treatment methods at different levels, including C0-C2, subaxial C-spine, TL-spine, and sacrum
- Define special features of conditions including ankylosing spondylitis (AS), osteoporosis and trauma of the immature spine
- Plan how to prevent complications in spinal trauma
- Describe characteristics of spinal shock and spinal cord injury syndromes

### Trauma Of C-Spine, Tl-Spine & Sacrum

#### Imaging of Cervical Trauma

- Select appropriate imaging for suspected cervical spinal injury
- Evaluate options for x-ray views
- Select CT and/or MRI as appropriate
- Differentiate between requirements following major and minor cervical spine trauma

#### Trauma of C0-C2: Classification & Management

- Define the role of ligaments in cervical spine stability
- Classify and relate to treatment
  - Occipital condyle fractures
  - Occipito-cervical dislocation
  - Occipito-atlantal dislocation
  - Axial atlanto-axial instability
  - Atlas (C1) fracture
  - Axis (C2) fracture
  - Traumatic spondylolisthesis C2

#### Imaging of Thoracic/Thoracolumbar Trauma

- Use the AO classification
- Select appropriate imaging for major and minor trauma
- Assess x-ray images
- Define the indications of CT and MRI as appropriate
- Identify specific conditions with compromised spinal function

#### Classification and Management of TL Trauma

- Recognise the signs and symptoms of TL spine trauma
- Differentiate Denis, AO and Thoraco-Lumbar Injury Classification and Severity Score (TLICS) classifications
- Explain the role of Posterior Ligamentous Complex (PLC) injuries for burst fractures
- Evaluate surgical techniques in:
  - Anterior surgery including MIS techniques
  - Posterior surgery including MIS techniques

#### Sacral Fractures: Classification & Management

- Describe the relevant anatomy
- Differentiate sacral fracture types
- Use the AO classification
- Recognize signs and symptoms of sacral fractures
- Compare surgical vs conservative treatment
- Evaluate surgical options

## Post-Traumatic Kyphosis, Metabolic Spine Diseases, Paediatric Trauma & Spinal Cord Injury

### Trauma of Spine with Ankylosing Spondylitis (AS): Features & Management

- Explain the aetiology of AS
- Define the role of the spine surgeon in AS
- Formulate a surgical management plan for AS fractures
- Anticipate difficulties in this patient population
- Explain what kind of imaging is mandatory and why

### Osteoporotic Fractures: Diagnosis & Management

- Define osteoporosis
- Describe medical management of osteoporosis
- Summarize the diagnosis of osteoporotic fractures
- Use the AOSpine osteoporotic fracture classification
- Evaluate surgical options
- Outline the indications for vertebral augmentation procedures
- Outline indications for spinal instrumentation±Vertebral Body Replacement (VBR)

### Paediatric Spinal Trauma: Features & Management

- Outline features of the immature cervical and thoracolumbar spine
- Define Spinal cord injury without radiographic abnormality (SCIWORA)/ Cervicothoracic Spinal Cord Injury Without Radiographic Evidence of Trauma (SCIWORET)
- Explain mechanism of:
  - C-spine injury
  - Lumbar apophyseal injuries
- Plan appropriate investigations and management of injuries

### Prevention and Management of Post-traumatic Kyphosis

- Discuss the reasons of post traumatic kyphosis
- Formulate therapeutic goals
- Explain how to restore sagittal balance
- Evaluate surgical options
- Justify a multidisciplinary team approach

### Spinal Shock and Incomplete SCI Syndromes

- Explain spinal shock and its pathomechanism
- Define the different types of incomplete spinal cord injury
- Classify SCI by using the ASIA impairment scale and explain its clinical and surgical relevance
- Describe the clinical symptoms and pathomechanism of Central Cord Syndrome
- Discuss the importance of timing of surgery
- Explain why there is no role for methylprednisolone in SCI (NASCIS I-III)

## Learning Outcomes – Bring Your Own Case (BYOC)

The module concludes with the Bring Your Own Case (BYOC) virtual live session. The BYOC is a case-based learning session based on the participants own practice or experience. Participants will be asked to submit a case on the module topic before the virtual live session.

The cases are ideally the participant's own case and should preferably present questions with no single right answer or dilemmas. The cases could also be from their own departments and ideally, the participant should have had some personal connection or have at least seen the case.

The cases will be shared with assigned faculty preceptors who will process the cases and determine the line-up and order of discussion. Some cases may be grouped with that of other colleagues in discussion.

At the end of the session participants will be able to:

- Synthesise background knowledge and principles on the topic (module name) and apply to their own case and other cases presented
- Identify dilemmas and issues with their own case and other cases presented
- Raise points and questions on their own case and other cases presented
- Defend their positions regarding their own case and cases presented during the discussion
- Recognise and understand diverse perspectives from other participants and faculty
- Assimilate new ideas, new techniques and information, and adopt them appropriately in practice
- Formulate clinical decisions, strategies and generate possible solutions on their own case and other cases presented

## Recommended Reading

Part IV Basic Module 4: Spinal Fractures. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach. Switzerland: Springer.

- M. Scholz and F. Kandziora. (2019). Epidemiology & Classification. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 223-232). Switzerland: Springer.
- P. Schleichler and F. Kandziora. (2019). Pre-Hospital Management, Physical Examination & Polytrauma Management. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 233-242). Switzerland: Springer.
- S. Krieg. (2019). Spinal Cord Injury. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 243-253). Switzerland: Springer.
- Y. Ryang. (2019). Upper Cervical Spine Trauma. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 253-268). Switzerland: Springer.
- R. Maduri and J. Duff. (2019). Subaxial Cervical Trauma. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 269-274). Switzerland: Springer.
- E. Kiter and N. Ok. (2019). Management Criteria for Thoracic, Thoracolumbar and Lumbar Fractures. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 275-280). Switzerland: Springer.



- Y-P. Charles. (2019). Posterior Surgical Management of Thoracic and Lumbar Fractures. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 281-288). Switzerland: Springer.
- J. Castein and F. Kandziora. (2019). Anterior Surgical Management of Thoracic and Lumbar Fractures. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 289-298). Switzerland: Springer.
- U. Yildiz and F. Kandziora. (2019). Sacral Fractures. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 299-308). Switzerland: Springer.
- M. Wostrack and B. Meyer (2019). Spine Injuries in the Elderly. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 309-318). Switzerland: Springer.
- D. Rothenfluh and D. Kieser. (2019). Spinal Trauma in Patients with Ankylosing Spinal Conditions. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 319-325). Switzerland: Springer