EDUCATION EUROSPINE

EduWeek 2025 3

Spinal Deformities

General Information

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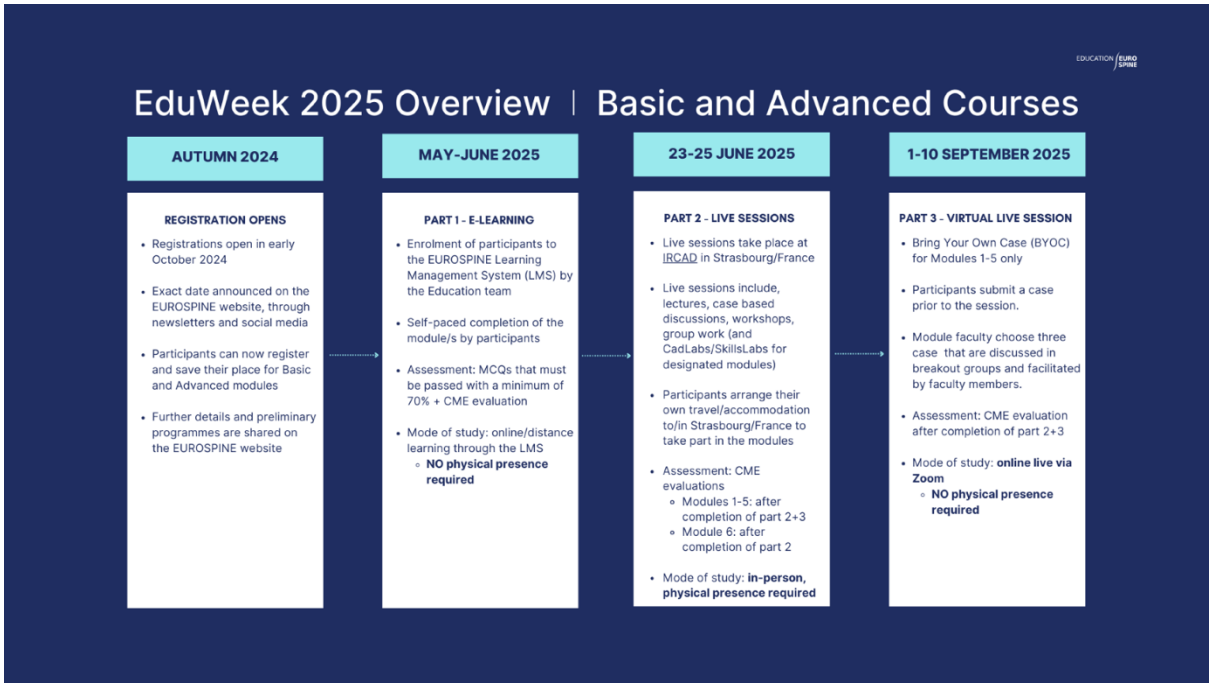

Quick Facts

DATES & TIMES	**Live session** Group 1: 23 June 2025 (13:00-17:15 CEST) Group 2: 24 June 2025 (08:00-12:15 CEST) **Virtual live session** Group 1 and 2: 03 September 2025 (18:00-19:30 CEST)
LIVE SESSION VENUE	IRCAD, 1 Place de l'Hôpital, 67000 Strasbourg, FRANCE
MAX. ATTENDEES	40 delegates (per group)
REGISTRATON FEES	EUROSPINE Member: €800 Non-member: €1,000
CME CREDITS	The EUROSPINE Basic and Advanced Spine Surgery eLearning platform made available on https://eurospine.matrixlms.eu and organized by EUROSPINE, the Spine Society of Europe is accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) to provide the following CME activity for medical specialists. The e-learning activity for this module is accredited with 8 CME credits. Only those e-learning materials that are displayed on the UEMS-EACCME® website have formally been accredited. Through an agreement between the Union Européenne des Médecins Spécialistes and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of AMA PRA Category 1 CreditsTM. Information on the process to convert EACCME® credit to AMA credit can be found at https://edhub.ama-assn.org/pages/applications. "The EduWeek 2025: Module 3: Spinal Deformities - Cohort 1, Strasbourg, France 23/06/2025 - 03/09/2025, has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with 5.0 European CME credits (ECMEC®s). Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity." "The EduWeek 2025: Module 3: Spinal Deformities - Cohort 2, Strasbourg, France 24/06/2025 - 03/09/2025, has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with 5.0 European CME credits (ECMEC®s). Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity." "Through an agreement between the Union Européenne des Médecins Spécialistes and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of AMA PRA Category 1 CreditsTM. Information on the process to convert EACCME® credit to AMA credit can be found at https://edhub.ama-assn.org/pages/applications . "Live educational activities, occurring outside of Canada, recognised by the UEMS-EACCME® for ECMEC®s are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada."

LANGUAGE	English
DRESS CODE	Smart casual
E-LEARNING	A computer (Mac/PC) or tablet (Android/Mac) and stable internet connection are required to access the e-learning content. 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). This component must be completed before the live session.
MODULE COMPLETION	A module is only deemed as complete when participants have met **ALL** of the following conditions: • Passed the e-learning with at least 70% **AND** • Attended the live session **AND** • Attended the virtual BYOC live session **AND** • Submitted the course evaluations for the e-learning and the (virtual) live session component
TARGET AUDIENCE	Senior trainees and trained surgeons, who are planning a career in spine surgery.
IMPORTANT (!)	• Completion of e-learning module is mandatory • Attendance of the live session and virtual live session is mandatory • Group 1 and 2 contain the same content. Participants are registered for ONE of the groups only! • Changing groups once registered is NOT possible!

PART 1 - E-learning Programme

(available from May 2025)

Time/ Duration	Topic	Faculty
Principles of Spinal Deformity & Surgical Treatment		
00:14	Spinal alignment and balance	Yann Philippe Charles
00:12	Casting, bracing and role of rehabilitation	René Castelein
00:13	Preoperative assessment and positioning	Frank Kleinstück
00:17	Intraoperative monitoring	Susana Nunez-Pereira
00:23	Blood saving in spinal deformity surgery	Cedric Barrey
00:20	Knowledge check questions	
Adolescent Idiopathic Scoliosis		
00:23	Pathogenesis and natural history of Adolescent Idiopathic Scoliosis (AIS)	René Castelein

00:07	AIS: Classification and surgical indications	Martin Gehrchen
00:18	Selection of AIS fusion levels	Ahmed Shawky
00:26	Surgical strategy: Posterior approach	Ahmet Alanay
00:13	Surgical strategy: Anterior approach	Dominique Rothenfluh
00:20	Knowledge check questions	
Scoliosis & Kyphosis		
00:19	Neuromuscular scoliosis	Susana Nunez-Pereira
00:19	Congenital spinal deformities	Ahmed Shawky
00:19	Hyperkyphosis (congenital, Scheuermann, ankylosing spondylitis)	Susana Nunez-Pereira
00:25	Surgical strategy for correcting hyperkyphosis	Ahmed Shawky
00:20	Knowledge check questions	
Spondylolisthesis		
00:18	Spondylolisthesis: Pathogenesis and classification	Yann Philippe Charles
00:28	Spondylolysis and low-grade olisthesis	Cedric Barrey
00:08	High-grade spondylolisthesis	Ilkka Helenius
00:20	Knowledge check questions	
Adult Spinal Deformity		
00:12	From degenerative to adult deformity	Dominique Rothenfluh
00:18	Assessment of Adult Deformity Patients	Frank Kleinstück
00:16	Adult deformity planning of surgical correction	Yann Philippe Charles
00:23	Spinal osteotomies	Ahmet Alanay
00:28	Anterior-posterior techniques to treat sagittal balance disorders	Cedric Barrey
00:20	Knowledge check questions	

PART 2 - Live Session Programme

Group 1 – IRCAD Lindbergh 23 June 2025	
13:00–15:10	Cases
15:10–15:25	Coffee break
15:25–17:15	Cases
17:15	**End Group 1**

Group 2 - IRCAD Lindbergh 24 June 2025	
08:00–10:10	Cases
10:10–10:25	Coffee break
10:25–12:15	Cases
12:15	**End Group 2**

Topic List Group 1 and 2	**Presenter**
Introduction	Alanay

Adolescent idiopathic scoliosis	Alanay
Early onset scoliosis	Nuñez-Pereira
High-grade spondylolisthesis	Shawky
Scheuermann's kyphosis	Charles
Adult degenerative deformity	Kleinstück
END OF LIVE SESSION	

PART 3 - Virtual Live Session

Bring Your Own Case (BYOC)

03 September 2025 18:00 – 19:30 CEST	
18:00-18:05	Introduction
18:05-18:25	Breakout session 1
18:25-18:30	Discussion 1
18:30-18:50	Breakout session 2
18:50-18:55	Discussion 2
18:55-19:00	Break
19:00-19:20	Breakout 3
19:20-19:25	Discussion 3
19:25-19:30	Wrap-up and conclusion
END OF MODULE	

Learning Outcomes

Principles of Spinal Deformity & Surgical Treatment

Spinal Alignment and Balance

- Goals of surgery in the spinal deformity continuum
- Understand the concepts of alignment versus balance
- Know key spino-pelvic parameters and their limitations
- Understand the concept of spinal harmony
- Know compensation mechanisms

Casting, Bracing and the Role of Rehabilitation

- Justify the role of casting today
- Explain the pros and cons of different types of brace treatment
- Formulate principles of rehabilitation for patients with spine deformity, both paediatric and adult
- Define the role of halo traction as definitive or interim treatment

Preoperative Assessment and Positioning

- Record a comprehensive preoperative assessment.
- Consider special issues including pulmonary, cardiac, haematological, nutritional, and metabolic.
- Position patients safely
- Explain the rationale to other team members
- Compare the purpose of prone, lateral, and supine positions

Intraoperative Monitoring

- Select appropriate types of monitoring
- Differentiate between SEP and MEP
- Perform a safe and reliable wake-up test
- Recognise when a wake-up test is required
- Respond appropriately when monitoring indicates intervention required

Blood Saving

- Anticipate the factors affecting blood loss
- Recognise trigger points for transfusion
- Minimise the risks of homologous transfusion
- Outline the role of erythropoietin
- Compare the pros and cons of autologous transfusion, haemodilution, hypotensive anaesthesia, anti-fibrinolytic agents, and intraoperative blood salvage.

Adolescent Idiopathic Scoliosis (AIS)

Pathogenesis and Natural History Of AIS

- Know concepts of the development of AIS and subsequent implications for surgical treatment.
- Describe the natural history of AIS.

Classification and Surgical Indications

- Know the pertinent classification systems and their limitations
- Understand and formulate surgical indications
- Goals of surgery for AIS

Selection of Fusion Levels

- Use classification to determine the end limits of fusion (Lenke)
- Understand factors which may determine fusion levels, such as curve flexibility, adding on, etc.
- Define the lower and upper limits of instrumentation.

Surgical Strategy: Posterior Approach

- Formulate principles of surgical correction of AIS
- Understand the role of the sagittal plane in AIS and for surgical correction
- Evaluate strategic surgical options
- Recognise indications for a posterior or combined approach

Surgical Strategy: Anterior Approach

- Differentiate between anterior release, anterior fusion, and anterior instrumentation

- Select an appropriate approach for the procedure
- Recognise indications for the anterior approach
    - anterior instrumentation

Scoliosis and Kyphosis

Neuromuscular Scoliosis

- Describe the aetiology and prognostic factors associated with neuromuscular scoliosis.
- Identify factors indicating progression or risk to neurological structures.
- Evaluate management options
- Assess associated pulmonary and cardiac problems

Congenital Spinal Deformities (Including Growing Rods)

- Relate the stages of development to deformities of the spinal cord
- Select appropriate investigations
- Evaluate treatment options

Hyperkyphosis (Congenital, Scheuermann, Ankylosing Spondylitis…)

- Differentiate between the aetiology and prognostic factors associated with regular and angular kyphosis.
- Evaluate management options

Correcting Hyperkyphosis

- Review the spinal osteotomy options
- Explain how to correct Scheuermann kyphosis versus congenital kyphosis

Spondylolisthesis

Spondylolisthesis: Pathogenesis and Classification

- Describe the pathogenesis and causes of developmental spondylolisthesis
- Differentiate between high- and low-grade spondylolisthesis
- Know current classification systems

Spondylolysis, Low-Grade Olisthesis

- Understand patho-anatomic features
- Know surgical indications
- Select the appropriate surgical technique

High-Grade Spondylolisthesis

- Describe the patho-anatomy of high-grade spondylolisthesis
- Differentiate between balanced and unbalanced olisthesis
- Know different surgical techniques
- Understand the pros and cons of reduction versus in situ fusion

Adult Spinal Deformity

From the Degenerative Spine Deformity

- Evaluate the lumbar spine in the context of spinal deformity
- Classify the continuum from the degenerative spine to deformity

Adult Idiopathic and Degenerative Deformities

- Identify common problems associated with adult deformity
- Differentiate between idiopathic and degenerative (de novo) deformity
- Use spino-pelvic parameters to assess degenerative deformities
- Evaluate operative and non-operative options for different age groups
- Consider comorbidities associated with age
- Define surgical indications
- Assess patient expectations

Adult Deformity Planning of Surgical Correction

- Formulate principles of surgical correction
- Plan surgical correction of adult spinal deformity
- Know current software planning tools
- Evaluate the appropriate techniques

Spinal Osteotomies

- Justify the aim of osteotomy.
- Differentiate between the different types of osteotomies (focus on posterior column and pedicle subtraction osteotomies)
- Technique of spinal osteotomies
- Outcomes and complications of spinal osteotomies

Anterior-Posterior Techniques to Treat Sagittal Balance Disorders

- Recognise indications for an anterior/lateral or combined with posterior approach.
- Describe the amount of correction that can be achieved with each technique
- Know outcomes and complications of the different techniques/approaches

Learning Outcomes – Bring Your Own Case (BYOC)

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

The cases are ideally the participants' own and should preferably present questions with no single correct answer or dilemmas. The cases could also be from their departments, and ideally, the participant should have had some personal connection or 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 those 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 them to their case and other cases presented
- Identify dilemmas and issues with their case and other cases presented
- Raise points and questions on their case and other cases presented
- Defend their positions regarding their case and the 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 for their case and other cases presented

Recommended Reading

Part III Basic Module 3: Deformity. B. Meyer and M. Rauschmann (Eds.), Spine Surgery: A Case-Based Approach. Switzerland: Springer.

- M. Balsano and S. Negri. (2019). Natural Course and Classification of Idiopathic Scoliosis. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 141-148). Switzerland: Springer.
- M. Balsano and S. Negri. (2019). Diagnosis and Conservative Treatment of Adolescent Idiopathic Scoliosis: Case Presentation. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 149-152). Switzerland: Springer.
- U. Liljenqvist. (2019). Idiopathic Scoliosis: Operative Treatment. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 153-158). Switzerland: Springer.
- A. Senkoylu and E. Acaroglu. (2019). A Congenital Scoliosis Case Characterized with Contralateral Hemivertebrae. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 159-164). Switzerland: Springer.
- S. Nuñez-Pereira and F. Pellisé. (2019). Delayed Neurological Deficit and Surgical Site Infection After Pedicle Subtraction Osteotomy in a Revision Case. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 165-172). Switzerland: Springer.
- D. Jeszenszky and M. Loibl. (2019). Operative Treatment of High-Grade Spondylolisthesis. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 173-184). Switzerland: Springer.
- A. Toquart and C. Barrey. (2019). Parameters of Spino-Pelvic Balance, Aetiology and Pathogenesis of Disturbed Spino-Pelvic Balance. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 185-196). Switzerland: Springer.
- M. Arabmotlagh and M. Rauschmann. (2019). Diagnosis, Classification and General Treatment Options for Hyperkyphosis. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 197-202). Switzerland: Springer.
- M. Arabmotlagh and M. Rauschmann. (2019). Scheuermann Kyphosis and Ankylosing Spondylitis. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 2013-210). Switzerland: Springer.
- S. Haddad, A. Matamalas, and F. Pellisé. (2019). Surgical Correction and Special Features in Traumatic and Congenital Kyphotic Deformities. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 211-221). Switzerland: Springer.