EDUCATION EUROSPINE

EduWeek 2025

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Basic Comprehensive Course

General Information

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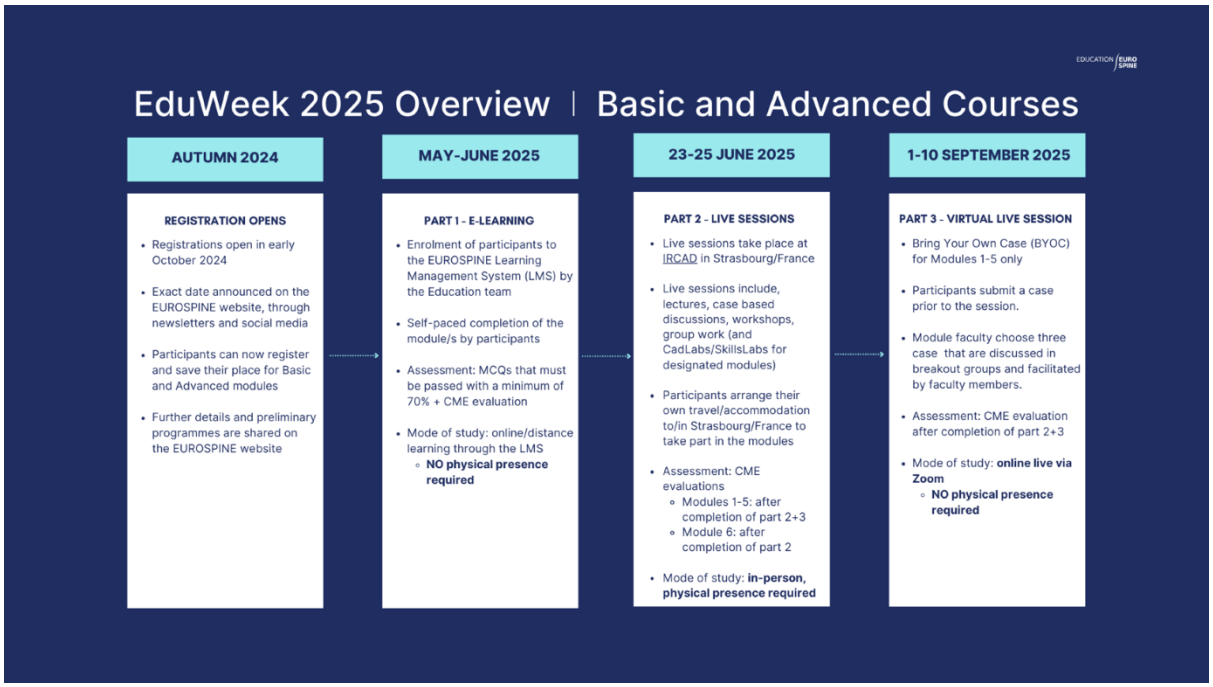
** e-learning faculty*



Quick Facts

DATES & TIMES	**Live session** Group 1: 23 June 2025 (08:00-12:30 CEST) Group 2: 23 June 2025 (13:30-18:00 CEST) **Virtual live session** Group 1 and 2: 01 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: €300 Non-member: €400
CME CREDITS	Accreditation by the European Accreditation Council for Continuing Medical Education (EACCME) is pending.
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 2025 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
Low Back Pain (LBP)		
00:13	Clinical examination	Laura Scaramuzzo
00:17	Imaging in low back pain	Laura Scaramuzzo
00:25	Different perspectives on low back pain	Stéphane Genevay*
00:19	Low back pain: Rehabilitation and manual therapy	Cristina Pereira
00:20	Knowledge check questions	
Fundamentals & clinical research		
00:12	Biomechanics - In vitro models	Fabio Galbusera
00:13	Finite element models	Fabio Galbusera
00:22	Biology of the lumbar intervertebral disc	Sybille Grad*
00:22	Cellular and molecular research	Sybille Grad*
00:22	Epidemiology and economics	Cristina Pereira
00:19	Principles of clinical research	Fabio Galbusera
00:20	Knowledge check questions	

PART 2 - Live Session Programme

Group 1 – IRCAD CLEM Room 23 June 2025	
08:00-10:00	Case
10:00–10:15	Coffee Break
10:15–12:30	Workshop
12:30	**End Group 1**

Group 2 – IRCAD CLEM Room 23 June 2025	
13:30–15:30	Case
15:30–15:45	Coffee Break
15:45–18:00	Workshop
18:00	**End Group 2**

TOPIC	**FACULTY**
Introduction	L. Scaramuzzo & F. Galbusera
Case Based Discussion – Diagnostic algorithms and non-surgical approach to low back pain	C. Pereira & L. Scaramuzzo
Workshop - Biomechanics and Artificial Intelligence	F. Galbusera
Workshop - Biomaterials in spinal fusion, modes of action and levels of evidence	C. Arts
END OF LIVE SESSION	

PART 3 - Virtual Live Session

Bring Your Own Case (BYOC)

01 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
18:00-19:20	Breakout 3
18:20-19:25	Discussion 3
18:25-19:30	Wrap-up and conclusion
END OF MODULE	

Learning Outcomes – Course

1. Evaluate a patient with low back pain (LBP) using a multidisciplinary approach.
2. Discuss appropriate clinical and radiologic tests.
3. Evaluate systemic causes of back pain as differential diagnosis (muscle pain, inflammatory diseases)
4. Discuss the role of psychosocial models and rehabilitation
5. Explain the impact of spinal disorders on the individual and society
6. Discuss the application and limitations of biomechanical lumbar spine in vitro and finite element models
7. Explain the principles of intervertebral disc biology and degeneration
8. Be aware of current molecular research on intervertebral disc degeneration

Learning Outcomes – E-Learning

Participants in Module 1 will be asked to build foundation knowledge for the module through online pre-module work. Learning outcomes have been defined, so participants and faculty know the expected standards. Module 1 will target multidisciplinary approaches in LBP, principles of spinal biomechanics and intervertebral disc biology. These topics may provide complementary knowledge around spine care, which might differ from clinical surgical practice.

Upon completion of the e-learning component, participants should be able to:

1. Clinical Examination

- Select appropriate clinical tests for a clinical situation
- Perform a safe and effective clinical examination

- Select appropriate communication skills with patients and their families

2. Imaging in low back pain
- Select appropriate radiologic exams for a clinical situation
- Discuss the advantages and disadvantages of radiologic examination methods
- Be aware of radiation exposure when selecting an exam

3. Different perspectives on low back pain
- Discuss the differential diagnosis of inflammatory spinal disorders
- Evaluate the role of muscle pain
- Discuss the role of non-surgical approaches (e.g., infiltration)

4. Low back pain: Rehabilitation and manual therapy
- Be aware of the principle of the bio-psycho-social model
- Discuss the principles of a rehabilitation program
- Select appropriate patients for manual therapy

5. Biomechanics in vitro models
- Outline loading in different positions of the spine
- Explain how loading changes with age and pathology
- Describe the basic principles of an in vitro experiment
- Discuss the interpretation and limitations of the evaluation of biomaterials

6. Finite element (FE) models
- Discuss applications for FE models
- Explain the setup, boundary conditions and validation of FE models
- Interpretation and value of FE studies

7. Biology of the lumbar intervertebral disc
- Outline the principles of cellular and molecular biology of the nucleus
- Explain the role of nutrition and changes with age
- Discuss the role of genetics in disc degeneration
- Mechanical alteration of microstructures in the annulus

8. Cellular and molecular research
- Describe pre-clinical models for the intervertebral disc
- Outline the principles of stem cell therapy for disc regeneration
- Explain the role of molecular research for disc regeneration

9. Epidemiology and economics
- Be aware of the impact of LBP on society
- Explain outcome measures for quality of life and economy (QUALY)
- Discuss the impact of direct and indirect medical costs in LBP

10. Principles of clinical research
- How to design an appropriate clinical study and select classification criteria
- Discuss the use of study results for one’s clinical practice
- Define the role of registries

Learning Outcomes – Live Session

Case Discussion: Low back pain

- Use clinical information to formulate a diagnosis and treatment plan
- Recognising severe spine disorders: Rule out red flags
- Select appropriate clinical tests
- Perform a safe and effective clinical examination
- Select appropriate communication skills with patients and their families
- Discuss differential diagnosis, clinical, biologic, and imaging studies for inflammatory diseases of the spine
- Discussion of pain, a muscular component in LBP
- Discuss the principles of the psycho-biosocial model and conservative treatment options in pain management and rehabilitation.

Biomechanics: Interactive Workshops

Biomechanics in vitro

- Outline loading in different positions of the spine
- Explain how loading changes with age and pathology
- Describe the basic principles of an in vitro experiment
- Discuss the interpretation and limitations of the evaluation of biomaterials

Finite element (FE) models

- Discuss applications for FE models
- Explain setup, boundary conditions and validation of FE models
- Interpretation and value of FE studies

Disc Biology: Interactive Workshops

Biology of the lumbar intervertebral disc

- Outline principles of cellular and molecular biology of the nucleus
- Explain the role of nutrition and changes with age
- Discuss the role of genetics in disc degeneration
- Mechanical alteration of microstructures in the annulus

Cellular and molecular research

- Describe pre-clinical models for the intervertebral disc
- Outline principles of stem cell therapy for disc regeneration
- Explain the role of molecular for disc regeneration

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' own 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 right answer or dilemmas. The cases could also be from their own 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 I Basic Module 1: Conservative Therapy. B. Meyer and M. Rauschmann (Eds.), Spine Surgery: A Case-Based Approach. Switzerland: Springer.

- E. Shiban and B. Meyer. (2019). Treatment for Acute, Subacute and Chronic Low Back Pain. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 3-8). Switzerland: Springer.
- M. Jägersberg and E. Tessitore. (2019). Indications for Emergency Surgical Treatment. B. Meyer and M. Rauschmann (Eds.), Spine Surgery A Case-Based Approach (pp. 9-15). Switzerland: Springer.