

Madrid, Spain  
12 November 2019

GEER  
Spanish Spine Society



SPPCV  
SOCIEDADE  
PORTUGUESA  
DE PATOLOGIA  
DA COLUNA  
VERTEBRAL

# Spanish & Portuguese Spine Societies Course Diploma

## Module 1

## Basic Comprehensive Course

PROGRAMME

Endorsed by

EURO  
SPINE

The logo for Euro Spine consists of a stylized red and white graphic element resembling a spine or a curved line, followed by the text "EURO SPINE" in a bold, sans-serif font.



The Module 1 Basic Comprehensive Course Diploma, Madrid, Spain, 12/11/2019 has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with 7 European CME credits (ECMEC®s).

Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

# Programme

## QUICK FACTS

### WHEN:

12 November 2019

### WHERE:

**Madrid. Spain**

#### Course Venue:

Hotel AC La Finca  
Pº del Club Deportivo, 1. Ed. 17  
Parque empresarial La Finca  
Pozuelo de Alarcón, 28223 Madrid

#### Cad-Lab Workshops:

Universidad Francisco de Vitoria  
Carretera Pozuelo a Majadahonda, Km 1.800  
Pozuelo de Alarcón, 28223 Madrid

### REGISTRATION FEE:

**300 € for Members**

**400 € for Non Members**

Discounts for GEER and SPPCV members are available. *Modules with a discount structure of 10% for 2 modules and 15% for 3 modules*

### MAXIMUM ATTENDEES:

30 delegates

### CME CREDITS:

Has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with 7 European CME credits (ECMEC®s)

### LANGUAGE:

English, Spanish and Portuguese (*The speaking is in Spanish or Portuguese, but the slides are in English, live discussions are also in Spanish-Portuguese without translation available*)

### DRESS:

Casual

### IMPORTANT NOTE:

- Attendance at every session is mandatory
- A wireless Internet device (mobile phone/ Ipad/Computer) will be required to access on-line resources during the programme, please bring one with you

## COURSE CHAIRMEN



**Máximo Alberto Díez Ulloa. Spain**



**Antonio Martín Benlloch. Spain**

## COURSE FACULTY

Andrés Barriga Martín  
Máximo Alberto Díez Ulloa  
Julio Domenech Fernández  
Alberto Hernández Fernández  
Raquel Lax Pérez  
Antonio Martín Benlloch  
Ana Morales Codina  
M<sup>a</sup> Lourdes Peñalver Barrios

## TARGET AUDIENCE

Senior trainees and trained surgeons, who are planning a career in spinal surgery



### COURSE LEARNING OUTCOMES MODULE 1

1. Evaluate a patient with low back pain (LBP) in a multidisciplinary approach
2. Discuss appropriate clinical and radiologic tests
3. Evaluate systemic causes of back pain as differential diagnosis
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 limitation 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
9. Explain the role of EBM, clinical trials and registries
10. Discuss the use of clinical outcome scores
11. Recognise serious and urgent spinal disorders
12. Demonstrate sound clinical judgment in planning patient management around selected cases

### PRE-LEARNING

Participants of Module 1 will be asked to build foundation knowledge for the module with online pre-module work. Learning outcomes have been defined, so participants and faculty are clear about the standards expected. **Module 1 will target multidisciplinary approaches in LBP, principles of spinal biomechanics and intervertebral disc biology. These subjects are aimed to provide complementary knowledge around spine care, which might differ from clinical surgical practice. Preparation is therefore required which will serve as a basis for an interactive discussion during the course.**

By the end of the pre-course learning, 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. BIOMECHANIC 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 limitation for evaluation of biomaterials

**3. FINITE ELEMENT MODELS**

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

**4. 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

**5. CELULAR 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

**6. EVIDENCE BASED MEDICINE**

- Rank levels of evidence
- Define the needs of individual patients in the context of EBM
- Explain the risk of bias and justify the role of EBM and guidelines

**7. CLINICAL RESEARCH**

- How to design an appropriate clinical study and select classification criteria
- Discuss the use of study results for own clinical practice
- Define the role of registries

**8. OUTCOME MEASURES**

- Explain the content of common scores used for LBP
- Discuss the selection of appropriate questionnaires in a study or registry
- Implement outcome measures in own clinical applications

**FACE-TO-FACE MODULE**

**LEARNING OUTCOMES  
SESSION 1  
LOW BACK PAIN (LBP)**

**CASE DISCUSSION: LOW BACK PAIN**

- Use clinical information to formulate a diagnosis and treatment plan
- Recognising Serious Spine Disorders: Rule out red flags

**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

**RADIOLOGY**

- Explain risks of exposure to radiation and minimize risks for patients
- Select the most appropriate investigations in spinal disorders
- Discuss role, costs, advantages and limits of imaging in LBP
- Select appropriate image guided infiltration tests and discuss clinical significance

**NEW PERSPECTIVES IN LBP**

- Discuss differential diagnosis in patients with LBP
- Recognise non-surgical systemic causes of LBP
- Provide basic knowledge on spondyloarthritis
- Nociception in non-specific LBP
- Central sensitization in non-specific LBP

**REHABILITATION AND MANUAL THERAPY**

- Outline principles of physical therapy
- Discuss the possibilities of rehabilitation programs for patients with LBP
- Select appropriate patients and explain principles of manual therapy

## LEARNING OUTCOMES SESSION 2 FUNDAMENTAL RESEARCH

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### BIOMECHANIC 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 limitation for evaluation of biomaterials

### FINITE ELEMENT MODELS

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

### 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

- 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 SESSION 3

### EPIDEMIOLOGY AND CLINICAL RESEARCH

#### EPIDEMIOLOGY & ECONOMICS

- Quantify the problem of back in the society
- Propose a strategy to reduce the problem
- Explain research definitions, quality of life, economic utility values (QUALY)

#### EVIDENCE BASED MEDICINE

- Rank levels of evidence
- Define the needs of individual patients in the context of EBM
- Explain the risk of bias and justify the role of EBM and guidelines

#### CLINICAL RESEARCH

- How to design an appropriate clinical study and select classification criteria
- Discuss the use of study results for own clinical practice
- Define the role of registries

#### OUTCOME MEASURES

- Explain the content of common scores used for LBP
- Discuss the selection of appropriate questionnaires in a study or registry
- Implement outcome measures in own clinical applications

## LEARNING OUTCOMES SESSION 4

### RED FLAGS: CASE DISCUSSION

#### TRAUMATIC SPINAL CORD INJURY

- Recognise, plan transport, investigation and treatment of a patient with SCI
- Anticipate potential complications and how to avoid them

#### SPONDYLODISCITIS

- Discuss diagnostic pathways, potential complications, treatment options

#### PRIMARY TUMOR OF THE SPINE

- Interpret clinical information and imaging studies
- Formulate a diagnosis and treatment plan

#### INFLAMMATORY DISEASES OF THE SPINE

- Discuss differential diagnosis, clinical, biologic, imaging studies and treatment



# Module 1: Basic Comprehensive Course Scientific Programme

Chairmen: **Máximo Alberto Díez Ulloa & Antonio Martín Benlloch**

Course attendance is mandatory

**TUESDAY, 12 NOVEMBER**

TIME	TOPIC	FACULTY
07:30-08:00	Course Registration	
<b>SESSION 1: LOW BACK PAIN (LPB)</b>		
08:00-08:10	Introduction	Antonio Martín Benlloch
08:10-08:30	Case Discussion: Low Back Pain	Antonio Martín Benlloch
08:30-09:00	Clinical Examination	Máximo Alberto Díez Ulloa
09:00-09:30	Radiology	Raquel Lax Pérez
09:30-10:00	New Perspectives in LBP	Raquel Lax Pérez
10:00-10:30	Rehabilitation and Manual Therapy	M <sup>a</sup> Lourdes Peñalver Barrios
10:30-11:00	<b>Coffee Break</b>	
<b>SESSION 2: FUNDAMENTAL RESEARCH</b>		
11:00-11:20	Biomechanic in Vitro Models	Ana Morales Codina
11:20-11:40	Finite Element Models	Ana Morales Codina
11:40-12:00	Biology of the Intervertebral Disc	Máximo Alberto Díez Ulloa
12:00-12:20	Celular and Molecular Therapy	Máximo Alberto Díez Ulloa
12:20-13:20	<b>Lunch</b>	
<b>SESSION 3: EPIDEMIOLOGY AND CLINICAL RESEARCH</b>		
13:20-13:40	Epidemiology & Economics	Alberto Hernández Fernández
13:40-14:00	Evidence Based Medicine and Study Designs	Ana Morales Codina
14:00-14:20	Clinical Outcome Measures	Julio Domenech Fernández
14:20-14:50	<b>Coffee Break</b>	
<b>SESSION 4: RED FLAGS: CASE DISCUSSION</b> <b>Case: 5' – Small groups: 10' – Discussion: 15'</b>		
14:50-15:20	Traumatic Spinal Chord Injury	Andrés Barriga Martín
15:20-16:10	Spondylodiscitis	Ana Morales Codina
16:10-16:40	Primary Tumour of the Spine	Antonio Martín Benlloch
16:40-17:10	Inflammatory Diseases of the Spine	Andrés Barriga Martín
17:10-17:25	Course Evaluation (Mandatory for all Participants)	
<b>END OF MODULE</b>		



# Notes

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# Sponsors



## Course Organisation

### **Sociedad Española de Columna Vertebral**

Av. García Lorca s/n. Edf. Club Municipal de Hielo  
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### **Sociedade Portuguesa de Patologia da Coluna Vertebral**

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