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# Spanish & Portuguese Spine Societies

## COURSE DIPLOMA

### 2024

## Module 2

# DEGENERATIVE DISEASES OF THE SPINE

**Module 2:**

—

Degenerative Diseases  
of the Spine

**When:**

—

1-2 // July // 2024

**Where :**

—

Lisbon - Portugal

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### Scientific Content

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Dr. Pedro Varanda

# Quick Facts

<b>When</b>	1-2 // July // 2024
<b>Where</b>	<p>Lisbon/Portugal</p> <p><b>Course Venue:</b>            Hotel 3 K Europa            Av. da República, 93            1050-190 Lisboa</p> <p><b>Cad Lab Workshops Venue:</b>            Nova Medical School            Lisbon Nova University            Campo dos Mártires da Pátria, 130            1169-056 Lisbon</p>
<b>Maximum Attendees</b>	30 delegates
<b>Registration Fee</b>	SPPCV/ GEER Members : 800€ Non Members: 1.000€
<b>CME Credits</b>	Application for accreditation of continuing medical education
<b>Language</b>	English
<b>Dress</b>	Casual
<b>Important Note</b>	<ul style="list-style-type: none"> <li>• Completion of eLearning modules and attendance to the live session is mandatory.</li> <li>• A computer (Mac/PC) or tablet (Android/Mac) and stable internet connection are required to access the eLearning content</li> </ul>

## Target Audience

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

**Learning Outcomes:**

## **Module 2**

# **Degenerative Diseases of the Spine**

- 1. Cervical & Lumbar: Herniated Discs, Diagnosis & Treatment of Radicular Pain**
- 2. Cervical & Thoracic Myelopathy**
- 3. Lumbar Spinal Stenosis & Degenerative Spondylolisthesis**
- 4. Spondylolysis & Low-Grade Isthmic Spondylolisthesis, Axial Back Pain, Degenerative Deformity**
- 5. Skills Workshop**

**Learning Outcomes:**

# **Cervical & Lumbar: Herniated Discs, Diagnosis & Treatment of Radicular Pain**

- 1. Epidemiology, Natural History and Imaging of Radicular Pain**
  - 2. Effective Non-Surgical Interventions for Radicular Pain**
  - 3. Surgery for Radicular Pain in the Lumbar Spine**
  - 4. Surgery for Radicular Pain in the Cervical Spine**
- 10. Principles of clinical research**

## 1. Epidemiology, Natural History and Imaging of Radicular Pain

- Use common epidemiological terms to define and outline prevalence of radicular pain
- Understand the natural history of radicular pain
- Identify the contributory factors
- Diagnose causes of radicular pain
- Explain how disc herniation occurs
- Differentiate between the roles of MRI and CT in radicular pain imaging
- Interpret images using correct nomenclature

## 2. Effective Non-Surgical Interventions for Radicular Pain

- Evaluate non-surgical options for radicular pain
- Explain these options to patients
- Identify suitable patients for non-operative management
- Differentiate between the 3 types of analgesics
- Summarise the roles of physiotherapy and injection therapy.

## 3. Surgery for Radicular Pain in the Lumbar Spine

- Differentiate between absolute and relative indications for surgery
- Identify appropriate timing for surgery
- Evaluate common surgical techniques with supporting evidence
- Compare surgical and non-surgical options
- Formulate a surgical plan
- Anticipate complications and plans for return to work and activity

## 4. Surgery for Radicular Pain in the Cervical Spine

- Outline the causes and incidence of radicular pain in the cervical spine
- Justify indications for surgery
- Identify factors influencing regression of symptoms from cervical disc herniation
- Select appropriate surgical approach
- Evaluate surgical options
- Anticipate complications and plans for return to work and activity
- Formulate a plan when an adjacent level problem emerges

**Learning Outcomes:**

# **Cervical & Thoracic Myelopathy**

- 1. Presentation, Causes, and Natural History of Myelopathy**
- 2. Imaging Myelopathy: Techniques & Prognostic Indicators**
- 3. Clinical & Surgical Decision Making in Cervical Myelopathy**
- 4. Clinical & Surgical Decision Making in Thoracic Myelopathy**

## 1. Presentation, Causes, and Natural History of Myelopathy

- Compare functional and clinical presentation of cervical spondylotic myelopathic syndromes
- Grade the disease using validated instruments
- Anticipate clinical traps in diagnosis and consider differentials
- Describe the natural history
- Identify the distinctive clinical presentation of craniocervical and thoracic myelopathy

## 2. Imaging Myelopathy: Techniques & Prognostic Indicators

- Interpret MRI and CT findings in spondylotic myelopathy
- Recognize signal changes in different MRI sequences and their significance
- Consider differential diagnoses in spinal cord non tumoral pathology
- Understand the current place of myelography and CT myelography in imaging myelopathy

## 3. Clinical & Surgical Decision Making in Cervical Myelopathy

- Define a treatment plan for patients with cervical myelopathy
- Identify absolute and relative indications for surgery in cervical spondylotic myelopathy
- Compare different surgical approaches to cervical myelopathy and define a rationale for the surgical plan
- Discuss the place of intraoperative neuromonitoring in cervical myelopathy

## 4. Clinical & Surgical Decision Making in Thoracic Myelopathy

- Assess the risk-benefit balance for surgery in patients with thoracic myelopathy
- Compare different surgical approaches to thoracic myelopathy



**Learning Outcomes:**

# **Lumbar Spinal Stenosis & Degenerative Spondylolisthesis**

- 1. Presentation, Natural History and Non-Surgical Treatment of Spinal Stenosis**
- 2. Imaging of Spinal Stenosis and Degenerative Spondylolisthesis**
- 3. Surgical Treatment of Lumbar Stenosis**
- 4. Surgical Treatment of Degenerative Spondylolisthesis**

## **1. Presentation, Natural History and Non-Surgical Treatment of Spinal Stenosis**

- Outline the signs & symptoms of lumbar spine stenosis (LSS)
- Understand the clinical features and natural history of neurogenic claudication
- Classify LSS
- Evaluate surgical and non-surgical options
- Appraise rehabilitation alternatives

## **2. Imaging of Spinal Stenosis and Degenerative Spondylolisthesis**

- Describe the different imaging techniques to identify lumbar stenosis and degenerative spondylolisthesis
- Classify and grade lumbar stenosis
- Appraise the role of full spine and functional X-rays in the assessment of patients with lumbar spinal stenosis and degenerative spondylolisthesis

## **3. Surgical Treatment of Lumbar Stenosis**

- Formulate principles for stenosis surgery
- Tailor the surgical technique to the individual patient
- Recognize indications for fusion in patients with lumbar stenosis

## **4. Surgical Treatment of Degenerative Spondylolisthesis**

- Evaluate surgical and non-surgical options for degenerative spondylolisthesis
- Summarise controversies in the choice of treatment for degenerative spondylolisthesis

**Learning Outcomes:**

# **Spondylolysis & Low-Grade Isthmic Spondylolisthesis, Axial Back Pain, Degenerative Deformity**

- 1. Spondylolysis & Low-Grade Spondylolisthesis**
- 2. Natural history, Obstacles to Recovery and Non-Surgical Treatment of Axial pain**
- 3. How to investigate a Patient with Axial Pain**
- 4. Surgery for Axial Back Pain**
- 5. Degenerative Lumbar Deformity**

## 1. Spondylolysis & Low-Grade Spondylolisthesis

- Outline the epidemiology and natural history
- Describe the signs & symptoms of spondylolysis & low-grade spondylolisthesis
- Formulate principles of management
- Evaluate surgical options
- Anticipate complications of instrumentation and repositioning
- Appraise rehabilitation alternatives

## 2. Natural history, Obstacles to Recovery and Non-Surgical Treatment of Axial pain

- Anticipate potential obstacles to recovery
- Explain how flagging can be used
- Plan strategies for managing catastrophizing
- Differentiate between acute and chronic back pain
- Evaluate options for non-surgical management of back pain
- Summarise current evidence pertaining to operative and non-operative management

## 3. How to investigate a Patient with Axial Pain

- Understand the role of clinical history and physical examination in the assessment of patients with axial pain
- Decide the need for imaging studies
- Select patients with axial pain who need advanced diagnostic techniques
- Review the place of diagnostic blocks and discography in patients with axial pain

## 4. Surgery for Axial Back Pain

- Provide a rationale for fusion surgery
- Evaluate alternative options
- Select appropriate approach
- Link to current evidence

## 5. Degenerative Lumbar Deformity

- Describe the pathogenesis and natural history of degenerative lumbar deformity
- Explain the concept of spinal balance and the spinopelvic parameters
- Evaluate the risk-benefit balance for surgery and potential for complications
- Formulate a surgical plan for lumbar degenerative kyphoscoliosis

**Learning Outcomes:**

# **Skills Workshop**

- 1. Anterior Cervical Fixation Systems: Cages & Plates**
- 2. Antero-Lateral Approaches: Lateral Lumbar Interbody Fusion (LLIF) Anterior-to-psoas Interbody Fusion (ATP)**
- 3. Lumbar Pedicle Screws & Transforaminal Lumbar Interbody Fusion (TLIF) / Posterior Lumbar Interbody Fusion (PLIF)**

## 1. Anterior Cervical Fixation Systems: Cages & Plates

- Describe the surgical steps of the procedure
- Identify surgical differences between cage fusion and disc arthroplasty
- Identify tricks and pitfalls in decompression of the spinal canal and foramen
- Identify tricks and pitfalls in anterior plating

## 2. Antero-Lateral Approaches: Lateral Lumbar Interbody Fusion (LLIF) Anterior-to-psoas Interbody Fusion (ATP)

- Identify the fluoroscopic targets for lateral approach to the lumbar spine
- Perform minimally invasive lateral approach to the discs L2-L3, L3-L4, L4-L5
- Identify key structures and discuss risks related to local vascular neuro anatomy
- Approach the disc either through the psoas muscle (LLIF) or anterior to psoas (ATP) system
- Perform a discectomy and prepare endplates
- Insert a LLIF/ATP cage

## 3. Lumbar Pedicle Screws & Transforaminal Lumbar Interbody Fusion (TLIF) / Posterior Lumbar Interbody Fusion (PLIF)

- Identify entry points for lumbar pedicle screws insertion
- Prepare lumbar pedicles and insert lumbar pedicle screws
- Learn/revise neural anatomy of the lumbar spine
- Perform facetectomy, prepare the disc space and insert a TLIF/PLIF cage

# Course Chairman:

**Pedro Varanda** PORTUGAL

**Félix Tomé Bermejo** SPAIN

# Course Faculty:

**Amal Abdul Sayed** SPAIN

**Andrés Barriga Martín** (Spain)

**André Pinho** PORTUGAL

**Ángel Piñera Parrilla** SPAIN

**Bruno Santos** PORTUGAL

**Carla Reizinho** PORTUGAL

**Carles Morera Domínguez** SPAIN

**Félix Tomé Bermejo** SPAIN

**Jesús Pino Minguez** SPAIN

**Luís Barroso** PORTUGAL

**Luís Marques** PORTUGAL

**Luís Teixeira** PORTUGAL

**Miguel Casimiro** PORTUGAL

**Pedro Varanda** PORTUGAL

**Pedro Vilela** PORTUGAL

**Rui Duarte** PORTUGAL

## Scientific Programme

### Module 2 - Degenerative Diseases of the Spine

Time	Topic	Faculty
-	-	-
<b>ELEARNING PROGRAMME</b>		
-	-	-
	<b>Cervical &amp; Lumbar</b>	
00:20	Epidemiology, natural history and imaging of radicular pain	Carla Reizinho
00:15	Effective non-surgical interventions for radicular pain	Abdul Sayed
00:15	Surgery for radicular pain in the lumbar spine	Luís Marques
00:15	Surgery for radicular pain in the cervical spine	Carles Morera Domínguez
00:20	Knowledge check questions	
-	-	-
	<b>Cervical &amp; Thoracic Myelopathy</b>	
00:15	Presentation, causes and natural history of myelopathy	Miguel Casimiro
00:15	Imaging myelopathy: techniques and prognostic indicators	Pedro Vilela
00:20	Clinical and surgical decision making in cervical myelopathy	Rui Duarte
00:20	Clinical and surgical decision making in thoracic myelopathy	Luís Marques
00:20	Knowledge check questions	
-	-	-
	<b>Lumbar Spinal Stenosis &amp; Degenerative Spondylolisthesis</b>	
00:15	Presentation, natural history and non-surgical treatment of spinal stenosis	Ángel Piñera Parrilla
00:15	Imaging of spinal stenosis and degenerative spondylolisthesis	Pedro Vilela
00:15	Surgical treatment of lumbar stenosis	Miguel Casimiro
00:15	Surgical treatment of degenerative spondylolisthesis	Luís Barroso
00:20	Knowledge check questions	
-	-	-
	<b>Spondylolysis &amp; Low-grade Isthmic Spondylolisthesis, Axial Back Pain, Degenerative Deformity</b>	
00:15	Spondylolysis and low-grade isthmic spondylolisthesis	Luís Teixeira
00:15	Natural history, obstacles to recovery and non-surgical treatment of axial pain	Pedro Varanda
00:15	How to investigate a patient with axial pain	Rui Duarte
00:15	Surgical treatment for axial back pain	Luís Teixeira
00:20	Degenerative deformity of the lumbar spine	Jesús Pino Minguez
00:20	Knowledge check questions	

**Course Attendance is Mandatory**



# Scientific Programme

## Module 2 - Degenerative Diseases of the Spine

### Day 1 - Monday, 1 July 2024

Time	Topic	Faculty
-	-	-
<b>PRESENENTIAL</b>		
-	-	-
14:00 - 14:30	Course Registration and Welcome Coffee <b>Case Based Discussion</b>	
14:30 - 14:40	Introduction	Pedro Varanda
14:40 - 15:10	Cervical myelopathy with multilevel pathology	Félix Tomé Bermejo
15:10 - 15:40	2-level cervical radicular pain	Luís Marques
15:40 - 16:10	Low back pain	Rui Duarte
16:10 - 16:40	Recurrent lumbar disc herniation with radicular pain	Bruno Santos
-	-	-
<b>Coffee Break 20 mins</b>		
-	-	-
17:00 - 17:30	3 Level Lumbar spinal stenosis with minor slip	Carla Reizinho
17:30 - 18:00	Spondylolysis and low-grade isthmic spondylolisthesis	André Pinho
18:00 - 18:30	Degenerative deformity and root pain	Andrés Barriga Martin
-	<b>End of Day 1</b>	-

### Day 2 - Tuesday, 2 July 2024

Time	Topic	Faculty
-	-	-
<b>PRESENENTIAL</b>		
-	-	-
<b>Cadaver Lab Workshops</b>		
08:30 - 09:00	Preparation for CadLab workshop	
09:00 - 10:00	Groups A, B, C: A Lombosacroiliac fixation; TLIF; Lateral approach: LLIF	All Faculty
10:00 - 11:00	Groups D, E, F: Cervical Instrumentation including cervical pedicle fixation; Thoacic pedicle screw fixation and hybrid solutions	All Faculty
-	-	-
<b>Coffee Break 30 mins</b>		
-	-	-
11:30 - 12:30	Groups A, B, C: Cervical Instrumentation including cervical pedicle fixation; Thoacic pedicle screw fixation and hybrid solutions	All Faculty
12:30 - 13:30	Groups D, E, F: Lombosacroiliac fixation; TLIF; Lateral approach: LLIF	All Faculty
-	<b>End of Module 2</b>	-

**Course Attendance is Mandatory**

# Recommended Reading

## Part II Basic Module 2:

- **Surgical Treatment of Degenerative Cervical, Thoracic and Lumbar Spinal Pathologies.**  
B. Meyer and M. Rauschmann (Eds.)
- **Spine Surgery A Case-Based Approach.**  
Switzerland: Springer.

- F. Ringel and S. Kantelhardt. (2019).  
Anterior Cervical Subaxial Treatment (Fusion).  
B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 19-24).  
Switzerland: Springer.
- F. Ringel and E. Archavlis. (2019).  
Cervical Motion Preserving Procedures (TDR). B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 25-32). Switzerland: Springer.
- F. Ringel and A. Gutenberg. (2019).  
Cervical Motion Preserving Procedures (Frykholm). B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 33-38). Switzerland: Springer.
- M. Czabanka and P. Vajkoczy. (2019).  
Cervical Myelopathy: Indication and Operative Procedure. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 39-50). Switzerland: Springer.
- L. Bobinski. (2019).  
Cervical Posterior Long Construct Stabilization. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 51-58). Switzerland: Springer.

## Recommended Reading (cont.)

- **B. Meyer and S. Krieg. (2019).**  
Thoracic Disc Herniation and Myelopathy. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 59-64). Switzerland: Springer.
- **N.A. van der Gaag and W. Moojen. (2019).**  
Lumbar Disc Herniation, Nucleo- and Sequesterectomy. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case- Based Approach* (pp. 65-70). Switzerland: Springer.
- **I. Magras, A. Athanasiou and V. Magra. (2019).**  
Lumbar Spinal Stenosis Requiring Decompression and Fusion. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 71-76). Switzerland: Springer.
- **I. Magras, A. Athanasiou and V. Magra. (2019).**  
Lumbar Spinal Stenosis. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp.77-80). Switzerland: Springer.
- **J. Patino and J. Lafuente. (2019).**  
Degenerative Spondylolisthesis. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 81-86). Switzerland: Springer.
- **S. Hartmann, A. Tschugg and C. Thomé. (2019).**  
Basic Degenerative Lumbar Scoliosis. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 87-94). Switzerland: Springer.
- **S.K, Tschoeke. (2019).**  
Thoracolumbar Instrumentation and Fusion for Degenerative Disc Disease. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 95-108). Switzerland: Springer.
- **M. Stoffel. (2019).**  
Lumbar Non-Fusion Techniques. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 109-116). Switzerland: Springer.
- **E. Shibhan and B. Meyer. (2019).**  
Management of Failed Back Surgery Syndrome. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 117-122). Switzerland: Springer.
- **H. Meyer and Y. Ryang. (2019).**  
Navigation of the Cervical, Thoracic and Lumbar Spine. B. Meyer and M. Rauschmann (Eds.), *Spine Surgery A Case-Based Approach* (pp. 129-137). Switzerland: Springer.

# Contacts

## Course Organisation

### **SPPCV Sociedade Portuguesa de Patologia da Coluna Vertebral**

Portuguese Spine Society

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Portuguese Spine Society

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

Spanish Spine Society

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### **Scientific Content**

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Dr. Pedro Varanda

# Thank you for your participation.

**Spanish & Portuguese Spine Societies**

**COURSE DIPLOMA**

**Module 2: Degenerative Diseases of the Spine**

**2024**

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