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# Spanish & Portuguese Spine Societies

## COURSE DIPLOMA

2024

Module 4

TRAUMA

**Module 4:**

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Trauma

**When:**

—

2-3 // July // 2024

**Where :**

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Lisbon - Portugal

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### Scientific Content

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Prof. Dr. Ricardo Rodrigues-Pinto

# Quick Facts

<b>When</b>	2-3 // 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>	<p>SPPCV/ GEER Members : 800€</p> <p>Non Members: 1.000€</p>
<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 4**

# **Trauma**

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

**Learning Outcomes:**

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

- 1. Imaging of Cervical Trauma**
- 2. Trauma of C0-C2: Classification & Management**
- 3. Imaging of Thoracic/Thoracolumbar Trauma**
- 4. Classification and Management of TL Trauma**
- 5. Sacral Fractures: Classification & Management**

## 1. 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

## 2. 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

## 3. 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

## 4. 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

## 5. 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

**Learning Outcomes:**

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

- 1. Trauma of Spine with Ankylosing Spondylitis (AS): Features & Management**
- 2. Osteoporotic Fractures: Diagnosis & Management**
- 3. Paediatric Spinal Trauma: Features & Management**
- 4. Prevention and Management of Post-traumatic Kyphosis**
- 5. Spinal Shock and Incomplete SCI Syndromes**

## 1. 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

## 2. 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)

## 3. 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

## 4. 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

## 5. 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)



# Course Chairman:

**Ricardo Rodrigues-Pinto** PORTUGAL

**Andrés Barriga Martín** SPAIN

# Course Faculty:

**Andrés Barriga Martín** SPAIN

**Bruno Santiago** PORTUGAL

**Carla Reizinho** PORTUGAL

**Félix Tomé Bermejo** SPAIN

**Joan Escala Arnau** SPAIN

**Jorge Alves** PORTUGAL

**Juan F. Blanco Blanco** SPAIN

**Maia Gonçalves** PORTUGAL

**Nicolas Plais** SPAIN

**Pedro Varanda** PORTUGAL

**Ricardo Rodrigues-Pinto** PORTUGAL

**Rosa Maria Egea** SPAIN

**Rui Duarte** PORTUGAL

**Tavares Matos** PORTUGAL

**Vítor Castro** PORTUGAL

# Scientific Programme

## Module 4 - Trauma

Time	Topic	Faculty
-	-	-
<b>E-LEARNING PROGRAMME</b>		
-	-	-
	<b>Trauma of C-spine, TL-spine &amp; Sacrum</b>	
00:20	Imaging of cervical trauma Felix	Tomé Bermejo
00:30	Trauma of CO-C2: Classification and management	Bruno Santiago
00:10	Lower cervical spine injuries	Joan S. Escala Arnau
00:20	Imaging of thoracic/thoracolumbar trauma	Nicolas Plais
00:15	Classification and management of TL trauma	Pedro Varanda
00:15	Sacral fractures: classification and management	Jorge Alves
00:20	Knowledge check questions	
-	-	-
	<b>Post-Traumatic Kyphosis, Metabolic Spine Diseases, Paediatric Trauma &amp; Spinal Cord Injury</b>	
00:30	Trauma of spine with ankylosing spondylitis: features & management	Juan F. Blanco Blanco
00:15	Osteoporotic fractures: diagnosis and management	João Pedro Maia Gonçalves
00:15	Paediatric spinal fractures	Rosa M <sup>a</sup> Egea Gámez
00:15	Prevention and management of post- traumatic kyphosis	Manuel Tavares de Matos
00:15	Spinal shock and incomplete spinal cord injury syndromes	Carla Reizinho
00:15	Traumatic incomplete tetraplegia without instability	Ricardo Rodrigues-Pinto
00:20	Knowledge check questions	
-	-	-

**Course Attendance is Mandatory**

# Scientific Programme

## Module 4 - Trauma

### Day 1 - Tuesday, 2 July 2024

Time	Topic	Faculty
-	-	-
<b>PRESENENTIAL</b>		
-	-	-
<b>CADAVER LAB WORKSHOPS</b>		
14:00 - 14:30	Preparation for CadLab workshop	
14:30 - 16.30	Group 1: Thoracolumbar lateral corpectomy + lateral percutaneous instrumentation (single position surgery) Group 2: Thoracic corpectomy (posterior approach) with instrumentation	All Faculty All Faculty
-	-	-
Coffee Break 30 mins.		
-	-	-
17:00 - 19:00	Group 1: Thoracic corpectomy (posterior approach) with instrumentation Group 2: Thoracolumbar lateral corpectomy + lateral percutaneous instrumentation (single position surgery)	All Faculty All Faculty
<b>End of Day 1</b>		

### Day 2 - Wednesday, 3 July 2024

Time	Topic	Faculty
-	-	-
<b>PRESENENTIAL</b>		
-	-	-
08:00 - 08:30	Course Registration and Welcome Coffee	
-	-	-
<b>Case Based Discussion</b>		
08:30 - 08:40	Introduction	Ricardo Rodrigues-Pinto
08:40 - 09:00	Subaxial C-Spine Fracture - Case 1	Vitor Castro
09:00 - 09:20	Subaxial C-Spine Fracture - Case 2	Félix Tomé Bermejo
09:20 - 09:40	Upper C-Spine injury - Case 1	Ricardo Rodrigues-Pinto
09:40 - 10:00	Upper C-Spine injury - Case 2	Félix Tomé Bermejo
10:00 - 10:20	Sacral fracture with Spino-pelvic dissociation - Case	Rui Duarte
-	-	-
Coffee Break 30 mins.		
-	-	-
10:50 - 11:10	Fratures in the spondylitic spine	Andrés Barriga Martín
11:10 - 11:30	Osteoporotic Vertebral Compression Fracture (OVCF)	Tavares de Matos
11:30 - 11:50	Post-traumatic kyphosis	Andrés Barriga Martín
11:50 - 12:10	Traumatic incomplete tetraplegia without instability	Ricardo Rodrigues-Pinto
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<b>End of Module 4</b>		<b>Course Attendance is Mandatory</b>

# 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.

- 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.

# Recommended Reading (cont.)

- **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.**

# Contacts

## Course Organisation

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

Portuguese Spine Society

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**Cristiana Mota**

sppcv\_secretariado@yahoo.com

T: +351 96 253 9452

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

Spanish Spine Society

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**Mari Cruz Berruezo**

Silvia Núñez

secretaria@secolumnavertebral.org

T. +34 95 244 5586

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

Portuguese Spine Society

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Escritório nº E03 Estrada de São Bartolomeu, 169

1750-276 Lisboa

Portugal

[www.sppcv.org](http://www.sppcv.org)

### **GEER Sociedad Española de Columna Vertebral** Spanish Spine Society

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Avda García Lorca s/n

Edificio Club Municipal del Hielo Benalmádena

29630 MÁLAGA

España

[www.secolumnavertebral.org](http://www.secolumnavertebral.org)

### **Scientific Content**

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Prof. Dr. Ricardo Rodrigues-Pinto

# Thank you for your participation.

**Spanish & Portuguese Spine Societies**

**COURSE DIPLOMA**

**Module 4: Trauma**

**2024**

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