Hellenic Spine Society

Diploma of the Hellenic Spine Society

(equivalent to the Eurospine Diploma)

Module 3: Spinal Deformities

29 MAY 2026

Athens Medical Group Amphitheater
Kefalari Square, Athens, Greece

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Πάντα ένα βήμα μπροστά!

The Panhellenic Medical Association will grant credit points of Continuing Medical Education (ECMECs)

Course Manager

Ioannis Magras
Professor of Neurosurgery

Scientific Programme

www.dhss.gr

Secretariat
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Associate Professor of Neurosurgery

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COURSE MANAGER Ioannis Magras
COURSE CHAIRS Athanasios Tsirikos, Stavros Stavridis

FACULTY

Karantanas Apostolos
Karavidas Nikolaos
Mazarakis Nektarios
Paidakakos Nikolaos
Palavos Ioannis
Papadopoulos Konstantinos
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Stavridis Stavros
Tsirikos Athanasios
Tsitsopoulos Parmenion

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LEARNING OUTCOMES - MODULE 3

1. Understand the aetiology and natural history of spinal deformities
2. Examine and assess the needs of a patient with spinal deformity
3. Select & interpret appropriate x-ray, CT and MRI in spinal deformity
4. Compare surgical and conservative treatment methods and evaluate their indications and limits.
5. Plan treatment of a patient with spinal deformity

DETAILED LEARNING OUTCOMES:

Session 1: Principles of spinal deformity

Aetiology & prognostic factors

- Describe the aetiology and prognostic factors associated with
  - o idiopathic scoliosis
  - o infantile idiopathic scoliosis
  - o secondary scoliosis

Clinical examination in children/adolescents with spinal deformity

- Differentiate between functional and structural deformities
- Take a structured approach to clinical evaluation
- Asses skeletal maturity
- Identify prognostic factors of progression
- Identify rotational deformity
- Perform a neurological assessment
- Explain treatment strategy to patients and their families

Imaging of Deformities

- Define the role of standard coronal and sagittal x-ray to evaluate deformity
- Define the role of bending and traction x-rays
- Differentiate between imaging in children and adults
- Minimise radiation dose to patients
- Recognise red flags, including tumours, neural tube abnormalities, connective tissue and muscular disease and their association with spinal deformity

Session 2: Conservative treatment

The role of casting and bracing

- Justify the role of casting today
- Explain the pros and cons of different types of brace treatment

The role of rehabilitation

- Formulate principles of rehabilitation in patients with spine deformity

Session 3: Principles of Surgical treatment

Coronal & Sagittal Balance

- Describe the concept of sagittal balance
- Differentiate between various parameters
- Evaluate its importance in deformity treatment planning

The role of 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
- Triggered EMG pedicle screw stimulation

Bone Fusion in Spinal Deformity

- Identify factors influencing spinal fusions
- Define the roles of osteoconduction and osteoinduction factors
- Explain the physiology of bone grafting
- Outline the risk factors associated with non-union
- Categorise bone fusion and diagnose non union

The natural history of adult degenerative spinal deformity and patient selection for surgical treatment

- Describe the natural course of adult degenerative spinal deformity
- Recognize the different patient characteristics
- Understand the importance of patient selection
- Evaluate the indications of operative treatment

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Session 4: Special conditions

Congenital Spinal Cord Anomalies

- Differentiate between types of congenital spine deformity
- Link prognostic factors with appropriate type and timing of intervention
- Evaluate non operative, early and late operative treatment options

Congenital Spinal Deformities

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

Spondylolysis/spondylolisthesis in children and adolescents

- Describe the aetiology and natural history of spondylolysis and spondylolisthesis
- Indicate the role of conservative treatment
- Select the appropriate operative treatment option

Degenerative Deformities

- Use spino-pelvic parameters to assess degenerative deformities
- Differentiate between idiopathic and degenerative (de novo) deformity
- Perform clinical evaluation of sagittal balance and stenosis
- Select appropriate investigations
- Evaluate operative and non operative options
- Consider comorbidities associated with age
- Assess patient expectation

Session 5: Techniques and strategy

Indications and limits of selective fusion in the treatment of adolescent idiopathic scoliosis

- Use classification to determine the end limits of fusion
- Define the lower and upper limit of instrumentation Coronal & Sagittal Balance
- Plan preoperative spine assessment of coronal and sagittal balance
- Explain primary factors and compensatory mechanisms
- Evaluate surgical options
- Formulate an appropriate preoperative and surgical plan

Role & Technique of Spinal Osteotomies in Deformity Treatment

- Justify the aim of osteotomy
- Differentiate between the different types of osteotomy
- Relate osteopomy type to appropriate degree of correction
- Select appropriate level

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SCIENTIFIC PROGRAMME

Module 3: Spinal Deformities

Friday, 29 May 2026

08:30 - 09:00	Course Registration & Welcome Coffee
09:00 - 10:00	**Session 1: Principles of spinal deformity**
09:00 - 09:20	Aetiology & prognostic factors **S. Stavridis**
09:20 - 09:40	Clinical examination in children/adolescents with spinal deformity **A. Tsirikos**
09:40 - 10:00	Imaging of Deformities **A. Karantanas**
10:00 - 10:30	**Session 2: Conservative treatment**
10:00 - 10:15	The role of casting and bracing **N. Sekouris**
10:15 - 10:30	The role of rehabilitation **N. Karavidas**
10:30 - 11:00	Coffee Break
11:10 - 12:50	**Session 3: Principles of Surgical treatment**
11:00 - 11:20	Coronal & Sagittal Balance **I. Palavos**
11:20 - 11:40	The role of Intraoperative monitoring **K. Papadopoulos**
11:40 - 12:00	Bone Fusion in Spinal Deformity **N. Mazarakis**
12:00 - 12:20	The natural history of adult degenerative spinal deformity and patient selection for surgical treatment **A. Tsirikos**
12:20 - 12:50	Case Discussion **Faculty**
12:50 - 13:30	Lunch Break

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13:30 - 15:10	**Session 4: Special conditions**
13:30 - 13:50	Congenital Spinal Cord Anomalies **P. Tsitsopoulos**
13:50 - 14:10	Congenital Spinal Deformities **N. Sekouris**
14:10 - 14:30	Spondylolysis/spondylolisthesis in children and adolescents **A. Tsirikos**
14:30 - 14:50	Degenerative Deformities **N. Paidakakos**
14:50 - 15:10	Case Discussion **Faculty**
15:10 - 15:40	Coffee Break
15:40 - 17:00	**Session 5: Techniques and strategy**
15:40 - 16:00	Indications and limits of selective fusion in the treatment of adolescent idiopathic scoliosis **A. Tsirikos**
16:00 - 16:20	Role & Technique of Spinal Osteotomies in Deformity Treatment **N. Paidakakos**
16:20 - 16:50	Case Discussion: **Faculty**
16:50 - 17:00	Closing remarks **A. Tsirikos, S. Stavridis**
17:00	End of course

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MODULE 3: SPINAL DEFORMITIES

29 May 2026

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GENERAL INFORMATION

Module
Module 3: Spinal Deformities

Registration Fee
Module 3: 400 euros
Module 3 and 4: 700 euros

Course Date
Friday, 29 May 2026

Course Language
English

Accreditation
The Panhellenic Medical Association grants credit points of Continuing Medical Education (ECMECs)

Course venue
Athens Medical Group Amphitheater
Kefalari Square, Athens, Greece

Organization
Hellenic Spine Society

Course Secretariat
M.K PREMIUM LTD
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COURSE MANAGER	Ioannis Magras
COURSE CHAIR	Parmenion Tsitsopoulos
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	Mazarakis Nektarios
	Nikolopoulos Fotios
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LEARNING OUTCOMES
MODULE 4

1. Select & interpret appropriate x-ray, CT and MRI in spinal trauma
2. Classify fractures of C0-2, subaxial C-spine, TL-spine and sacrum
3. Compare surgical and conservative treatment methods at different levels, including C0-2, subaxial C,TL and sacrum
4. Define special features of conditions including 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

DETAILED LEARNING OUTCOMES:
SESSION 1 - TRAUMA CERVICAL SPINE

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

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

Trauma of Subaxial C- Spine: Classification & Management

- Estimate the incidence of and classify using the AO classification
- Use other classifications to determine treatment and prognosis
- Anticipate diagnostic pitfalls
- Evaluate non-surgical management options and when appropriate
- Recognise indications for surgical management
- Emergency
- Urgent
- Elective
- Justify different surgical approaches (anterior vs posterior, combined ant-post or post - ant)

SESSION 2 - TRAUMA THORACOLUMBAR SPINE

Imaging of Thoracic/Thoracolumbar Trauma

- Use the AO classification system
- Select appropriate imaging for major and minor trauma
- Identify specific conditions with compromised spinal function
- Assess radiological images
- Define the indications of CT and MRI as appropriate

Trauma of TL spine: classification & management

- Recognise the signs and symptoms of TL spine trauma
- Differentiate Denis, AO and TLICS classifications
- Explain the role of PLC for burst fractures, hematological, nutritional and metabolic
- Evaluate surgical techniques

Sacral and spinopelvic Fractures: classification & management

- Describe the relevant anatomy
- Differentiate sacral fracture types
- Use the AO classification
- Recognize signs and symptoms of sacral and spinopelvic fractures
- Compare surgical vs conservative treatment
- Evaluate surgical options

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Trauma of Spine with Ankylosing Spondylitis and DISH: features & management

- Explain the aetiology of ankylosing spondylitis and DISH
- Define the role of the spine surgeon in AS and DISH
- Formulate a surgical management plan for AS and DISH fractures
- Anticipate particular difficulties in this patient population
- Explain what kind of imaging is mandatory and why

Osteoporotic Fractures: Classification & Management

- Define osteoporosis
- Describe medical management of osteoporosis
- Summarize the diagnosis of osteoporotic fractures
- Use the AO Spine osteoporotic fracture classification systems
- Evaluate surgical options
- Outline the indications for vertebral augmentation procedures
- Outline indications for spinal instrumentation ± VBR

SESSION 3 – PAEDIATRIC TRAUMA AND SCI TOPICS

Paediatric Spinal Trauma: features & management

- Outline features of the immature cervical and thoracolumbar spine
- Define SCIWORA/SCIWORET
- Explain mechanism of:
  - o C-spine injury
  - o Lumbar apophyseal injuries
  - o Plan appropriate investigations and management of injuries

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 for surgery
- Explain the possible role of methylprednisolone in SCI

Biomaterials in Spine Surgery

- Evaluate different biomaterial options in spine surgery
- Evaluate the options for cement stabilisation
- Explain the mechanical behaviour of calcium phosphate and BMP

SESSION 4 – POST-TRAUMATIC KYPHOSIS

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

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SCIENTIFIC PROGRAMME

Module 4: Trauma

Saturday, 30 May 2026

08:30 - 09:00	Course Registration & Welcome Coffee
09:00 - 10:30	Session 1: Trauma in the Cervical Spine
09:00 - 09:10	Introduction **J. Magras, P. Tsitsopoulos**
09:10 - 09:30	Imaging of Cervical Trauma **A. Karantanas**
09:30 - 09:50	Trauma of CO-C2: Classification & Management **D. Bouramas**
09:50 - 10:10	Trauma of Subaxial C-Spine: Classification & Management **A. Athanasiou**
10:10 - 10:30	Case Discussion **Faculty**
10:30 - 11:00	Coffee Break
11:00 - 13:00	Session 2: Trauma in the Thoracolumbar Spine and Spinopelvic Area
11:00 - 11:20	Imaging of Thoracic/Thoracolumbar Trauma **A. Karantanas**
11:20 - 11:40	Trauma of TL Spine: Classification and management **N. Mazarakis**
11:40 - 12:00	Sacropelvic Fractures: Classification & Management **F. Nikolopoulos**
12:00 - 12:15	Trauma of Spine with Ankylosing Spondylitis & DISH: Features & Management **P. Tsitsopoulos**
12:15 - 12:30	Osteoporotic Fractures: Diagnosis & Management **S. Stavridis**
12:30 - 13:00	Case Discussion **Faculty**
13:00 - 13:30	Hands-on Session
13:30 - 14:30	Lunch Break (continued hands-on)

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14:30 - 15:50	**Session 3: Paediatric Trauma and SCI Topics**
14:30 - 14:45	Pediatric Spinal Trauma: Features & Management **N. Mazarakis**
14:45 - 15:00	Spinal Shock & Incomplete Spinal Cord Injury Syndromes **P. Tsitsopoulos**
15:00 - 15:20	Biomaterials in Spine Surgery **A. Brotis**
15:20 - 15:50	Case Discussion **Faculty**
15:50 - 16:20	Coffee Break
16:20 - 17:10	**Session 4: Post-Traumatic Kyphosis**
16:20 - 16:40	Management of Post-Traumatic Kyphosis **N. Paidakakos**
16:40 - 17:00	Case Discussion **Faculty**
17:00 - 17:10	Closing remarks **J. Magras, P. Tsitsopoulos**
17:10	End of course

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Module
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Module 3 and 4: 700 euros

Date
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Official Language
English

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