



Hellenic
Spine
Society

Diploma of the Hellenic Spine Society

(equivalent to the Eurospine Diploma)

MODULE 3 : SPINAL DEFORMITIES

MONDAY 12 NOVEMBER 2018

CENTRE FOR DISSEMINATION OF
RESEARCH RESULTS OF
ARISTOTLE UNIVERSITY OF THESSALONIKI
(KE.D.E.A) A.U.TH.
Thessaloniki, Greece

www.dhss.gr

Course Manager

Ioannis Magras
Associate Professor of Neurosurgery

SCIENTIFIC
PROGRAMME

LEARNING OUTCOMES: SESSION 1 PRINCIPLES OF SPINAL DEFORMITY

Scoliosis: Aetiology & Prognostic Factors

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

Kyphosis

- Differentiate between the aetiology and prognostic factors associated with regular and angular kyphosis
- Evaluate management options for
 - o kyphosis
 - o kyphus

Clinical Assessment

- Differentiate between functional and structural deformities
- Take a structured approach to clinical evaluation
- Assess 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

LEARNING OUTCOMES: SESSION 2 - CONSERVATIVE TREATMENT

Casting, Bracing & Role of Rehabilitation

- Justify the role of casting today
- Explain the pros and cons of different types of brace treatment
- Formulate principles of rehabilitation for patients with spine deformity

- Define the role of halo traction as definitive or interim treatment

LEARNING OUTCOMES: SESSION 3 - PRINCIPLES OF SURGICAL TREATMENT

Pre-Operative Assessment: how to prepare for a complex case

- Formulate a surgical plan
- Record a comprehensive preoperative assessment
- Consider special issues including pulmonary, cardiac, hematological, nutritional and metabolic

Positioning the Patient

- Position patients safely
- Explain the rationale to other team members
- Compare the purpose of prone, lateral and supine positions

Blood Saving

- Anticipate the factors affecting blood loss
- Recognize trigger points for transfusion
- Minimise the risks of homologous transfusion
- Outline the role of erythropoietin
- Compare the pros and cons of autologous transfusion, haemodilution, hypotensive anaesthesia, anti-fibrinolytic agents, intraoperative blood salvage

Intra-Op 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.

Pedicle Screw Guidance in Deformity

- Assess appropriate placement
- Minimise the risk of misplacement
- Balance the pros and cons of spinal navigation
- Assess the advantages and disadvantages of freehand probing

Bone Fusion

- 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

LEARNING OUTCOMES: SESSION 4 - PRINCIPLES OF SURGICAL TREATMENT

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

Neuromuscular Scoliosis

- Describe the aetiology and prognostic factors associated with neuromuscular scoliosis
- Identify factors indicating progression or risk to neurological structures
- Evaluate management options
- Assess associated pulmonary and cardiac problems

Idiopathic Adult Deformities

- Identify common problems associated with adult deformity
- Outline the progress of scoliosis through life
- Relate appropriate monitoring strategies
- Evaluate operative and non operative options for different age groups
- Relate changes to sagittal /coronal imbalance

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

LEARNING OUTCOMES: SESSION 5 - TECHNIQUES & STRATEGY

End Limits of Fusion in Idiopathic Scoliosis

- Use classification to determine the end limits of fusion (Lenke)
- 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

Technique & Strategy: posterior approach

- Formulate principles of surgical correction
- Evaluate strategic surgical options
- Recognise indications for a posterior or combined approach

Technique & Strategy: anterior approach

- Differentiate between anterior release, anterior fusion and anterior instrumentation
- Select appropriate approach for procedure
- Recognise indications for
 - o anterior approach
 - o anterior instrumentation

LEARNING OUTCOMES: SESSION 6 - OSTEOTOMIES

Role & Technique of Spinal Osteotomies

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

SCIENTIFIC PROGRAMME
MODULE 3: SPINAL DEFORMITIES
MONDAY, 12 NOVEMBER 2018
COURSE ATTENDANCE IS MANDATORY

CHAIRMAN APOSTOLOU THOMAS

8.30-9.00 Course Registration & Welcome Coffee

9.00-10.30 / SESSION 1: PRINCIPLES OF SPINAL DEFORMITY

9.00-9.15 Scoliosis: Aetiology & Prognostic factors

N. Valanos

9.15-9.30 Kyphosis

I. Gelalis

9.30-9.45 Clinical Assessment

A. Kapinas

09.45-10.00 Imaging of Deformities

K. Kouskouras

10.00-10.30 Case Discussion

10.30-11.00 Coffee Break

11.00-11.15 / SESSION 2: CONSERVATIVE TREATMENT

11.00-11.15 Casting, Bracing & Role of Rehabilitation

N. Valanos

11.15-13.15 / SESSION 3: PRINCIPLES OF SURGICAL TREATMENT

11.15-11.30 Pre-Operative Assessment; how to prepare for a complex case

A. Brodis

11.30-11.45 Positioning the Patient

S. Papadopoulos

11.45-12.00 Blood Saving

S. Polyzoidis

12.00-12.15 Intra-Op Monitoring

A. Karagiannidis

12.15-12.30 Pedicle Screw Guidance in Deformity

V. Likomitros

12.30-12.45 Bone Fusion

S. Polyzoidis

12:45-13:15 Case Discussion

13.15-13.45 Lunch Break

13.45-15.30 / SESSION 4: PRINCIPLES OF SURGICAL TREATMENT

13.45-14.00 Congenital Spinal Cord Anomalies

I. Magras

14.00-14.15 Congenital Spinal Deformities

N. Laliotis

14.15-14.30 Neuromuscular Scoliosis

N. Laliotis

14.30-14.45 Idiopathic Adult Deformities

V. Likomitros

14.45-15.00 Degenerative Deformities

K. Paterakis

15.00-15.30 Case Discussion

15.30-16.00 Coffee Break

16.00-17.30 / SESSION 5: TECHNIQUE AND STRATEGY

16.00-16.15 End Limits of Fusion in Idiopathic Scoliosis

E.Samoladas

16.15-16.30 Coronal & Sagittal Balance

A.Ploumis

16.30-16.45 Technique & Strategy: posterior approach

A.Kapinas

16.45-17.00 Technique & Strategy: anterior approach

E.Samoladas

17.00 - 17.30 Discussion: Posterior/ Anterior

17.30-18.15 / SESSION 6: OSTEOTOMIES

17.30-17.45 Role & Technique of Spinal Osteotomies

Th. Apostolou

17.45-18.15 Case Discussion: Adult & Degenerative

Th. Apostolou



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NOTES

A series of horizontal dotted lines for taking notes.