MODULE 3
SPINAL DEFORMITIES
14 & 15 June 2016

PRELIMINARY PROGRAMME

QUICK FACTS
WHEN: 14 & 15 June 2016
WHERE: Strasbourg, France
IRCAD/EITS
1 Place de l’Hôpital
67091 Strasbourg, France
MAXIMUM ATTENDEES: 40 delegates
REGISTRATION FEE: 800 € for Members, 1000 € for Non Members
CME CREDITS: application pending
LANGUAGE: English
DRESS: Casual

IMPORTANT NOTES: 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.

TARGET AUDIENCE
Senior trainees and trained surgeons, who are planning a career in spinal surgery.
LEARNING OUTCOMES: SESSION 1/ PRINCIPLES OF SPINAL DEFORMITY

Scoliosis: Aetiology & Prognostic Factors
- Describe the aetiology and prognostic factors associated with
  - idiopathic scoliosis
  - infantile idiopathic scoliosis
  - secondary scoliosis

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

Idopathic 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
  - anterior approach
  - 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
LEARNING OUTCOMES: SESSION 7/ CADAVER LABS

Cad Lab 1: Illio-sacral Fixation: illio-sacral screw placement

- Identify key structures of the lumbo-sacral anatomy
- Identify the S1 screw entry points
- Relate anterior vascular structures and screw placement
- Prepare iliac screw holes
- Integrate safety measures and assess risks
- Place iliac instrumentation and connect to the lumbo-sacral construct

Cad Lab 2: Thoracic Pedicle Screw Fixation & Hybrid Solutions

- Approach the posterior thoracic spine
- Identify anatomical screw entry points
- Anticipate the risks and pitfalls
- Perform free hand technique to prepare a screw hole
- Check integrity of screw hole by pedicle probe
- Place pedicle screw
- Prepare facet joint and place pedicle hook
- Place transverse process and lamina hooks
COURSE CHAIRMAN:

| DANIEL CHOPIN | FRANCE |

CAD LAB CHAIRMEN:

| HALUK BERK    | TURKEY |
| PHILIPPE CHARLES | FRANCE |

COURSE FACULTY:

<p>| KARIMAN ABELIN-GENEVOIS | FRANCE |
| ANTONIO FAUNDEZ          | SWITZERLAND |
| RUNE HEDLUND             | SWEDEN |
| JEAN-CHARLES LE HUEC     | FRANCE |
| ANDREA LUCA              | ITALY |
| JORGE MINEIRO            | PORTUGAL |
| DOMINIQUE ROTHENFLUH     | UNITED KINGDOM |
| NORBERT PASSUTI          | FRANCE |
| ALBERTO ZERBI            | ITALY |</p>
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<thead>
<tr>
<th>TIME</th>
<th>TOPIC</th>
<th>FACULTY</th>
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<tbody>
<tr>
<td>08:30-09:00</td>
<td>Course Registration &amp; Welcome Coffee</td>
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<tr>
<td>09:00-09:10</td>
<td>Introduction</td>
<td>Daniel Chopin</td>
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**SESSION 1: Principles of Spinal Deformity**

- **09:10-09:25** Scoliosis: aetiology & prognostic factors  
  Antonio Faundez
- **09:25-09:45** Kyphosis                                    
  Rune Hedlund
- **09:45-10:05** Clinical Assessment                        
  Jorge Mineiro
- **10:05-10:25** Imaging of Deformities                    
  Alberto Zerbi
- **10:25-11:00** Discussion                                
  All Faculty

Coffee Break 20 mins.

**SESSION 2: Conservative Treatment**

- **11:20-11:50** Casting, Bracing & Role of Rehabilitation 
  Kariman Abelin-Genevois

**SESSION 3: Principles of Surgical Treatment**

- **11:50-12:10** Pre-Op Assessment; how to prepare for a complex case 
  Jorge Mineiro
- **12:10-12:20** Positioning the Patient                   
  Andrea Luca
- **12:20-12:30** Blood Saving                             
  Dominique Rothenfluh
- **12:30-12:45** Intra-Op Monitoring                      
  Jean-Charles Le Huec
- **12:45-13:05** Pedicle Screw Guidance in Deformity       
  Andrea Luca
- **13:05-13:15** Bone Fusion                              
  Nobert Passuti
- **13:05-13:25** Discussion                               
  All Faculty

Lunch 35 min

**SESSION 4: Principles of Surgical Treatment**

- **14:00-14:50** Case Discussion                           
  Daniel Chopin & All Faculty
- **14:50-15:05** Congenital Spinal Cord Anomalies          
  Kariman Abelin-Genevois
- **15:05-15:20** Congenital Spinal Deformities             
  Antonio Faundez
- **15:20-15:40** Neuromuscular Scoliosis                   
  Kariman Abelin-Genevois
- **15:40-16:00** Idiopathic Adult Deformities              
  Norbert Passuti
- **16:00-16:20** Degenerative Deformities                 
  Jean Charles Le Huec
- **16:20-16:40** Discussion                               
  All Faculty

Coffee Break 30 min

**SESSION 5: Technique & Strategy**

- **17:10-17:30** End Limits of Fusion in Idiopathic Scoliosis 
  Jorge Miniero
- **17:30-17:50** Coronal & Sagittal Balance                
  Daniel Chopin
- **17:50** End of Day 1
### SCIENTIFIC PROGRAMME, MODULE 3

#### CHAIRMAN: DANIEL CHOPIN

#### DAY 2 WEDNESDAY, 15 JUNE

**COURSE ATTENDANCE IS MANDATORY**

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**SESSION 5: Technique & Strategy**

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<tbody>
<tr>
<td>08:30-08:50</td>
<td>Techniques &amp; Strategies: Posterior Approach</td>
<td>Dominique Rothenfluh</td>
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<tr>
<td>08:50-09:10</td>
<td>Techniques &amp; Strategies: Anterior Approach</td>
<td>Norbert Passuti</td>
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<tr>
<td>09:10-10:10</td>
<td>Discussion: Posterior/Anterior</td>
<td>All Faculty</td>
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**SESSION 6: Osteotomies**

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<tbody>
<tr>
<td>10:10-10:35</td>
<td>Role &amp; Technique of Spinal Osteotomies</td>
<td>Daniel Chopin</td>
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Coffee Break 30 min

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>11:05-11:45</td>
<td>Case Discussion: Adult &amp; Degenerative</td>
<td>All Faculty</td>
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<tr>
<td>11:45-11:55</td>
<td>Evaluation</td>
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<td>11:55-12:15</td>
<td>Closing Remarks &amp; Diploma</td>
<td>Daniel Chopin</td>
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<td>12:15-12:45</td>
<td>Cad Lab Discussion</td>
<td>All Faculty</td>
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Lunch 1 hour

**SESSION 7: Cadaver Labs**

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<tr>
<td>13:45-14:00</td>
<td>Go to the Lab</td>
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<tr>
<td>14:00-15:45</td>
<td>Group A: Illo-sacral Fixation</td>
<td>All Faculty</td>
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<tr>
<td>14:00-15:45</td>
<td>Group B: Thoracic Pedicle Screw Fixation &amp; Hybrid Solutions</td>
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Coffee Break 30 min

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<tbody>
<tr>
<td>16:15-18:00</td>
<td>Group B: Illo-sacral Fixation</td>
<td>All Faculty</td>
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<tr>
<td>16:15-18:00</td>
<td>Group A: Thoracic Pedicle Screw Fixation &amp; Hybrid Solutions</td>
<td>All Faculty</td>
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<td>18:00</td>
<td>End of Module</td>
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CONTACTS

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www.eurospinemeeting.com

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SCIENTIFIC CONTENT
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