MODULE 4
TRAUMA
30 June – 1 July 2020
PRELIMINARY PROGRAMME
QUICK FACTS

WHEN: 29 June – 1 July 2020
WHERE: IRCAD
Hôpitaux Universitaires
1, place de l’Hôpital
67091 Strasbourg, France
www.ircad.fr
+ 33 (0)3 88 11 90 00
MAXIMUM ATTENDEES: 40 delegates
REGISTRATION FEE: EUROSPINE Member: €800
Non-member: €1000
CME CREDITS: Accreditation by EACCME® (European Accreditation Council for Continuing Medical Education) pending
LANGUAGE: English
DRESS: Casual
IMPORTANT NOTE: Attendance at every session is mandatory.
This will be a paperless course and not printed programme will be provided.
A wireless Internet device (mobile phone/ipad/computer) will be necessary to access on-line resources during the course and for completing the course evaluation. Please bring one with you.
The course evaluation is mandatory to obtain the CME certificate.

TARGET AUDIENCE

Senior trainees and trained surgeons, who are planning a career in spinal surgery.
LEARNING OUTCOMES: MODULE 4 TRAUMA

- Select & interpret appropriate x-ray, CT and MRI in spinal trauma
- Classify fractures of C0-2, subaxial C-spine, TL-spine and sacrum
- Compare surgical and conservative treatment methods at different levels, including C0-2, subaxial C, TL and sacrum
- Define special features of conditions including AS, osteoporosis and trauma of the immature spine
- Plan how to prevent complications in spinal trauma
- Describe characteristics of spinal shock and spinal cord injury syndromes

LEARNING OUTCOMES: PRE-LEARNING

Participants on Module 4 will be asked to prepare for the module by reviewing the AOSpine Injury Classification System to establish a strong working knowledge of spine fracture classification. It is really important to be able to classify spine fractures before joining the face-to-face component of the module, so that we can use this knowledge to work on cases in small groups, with faculty. If you are not fully conversant with fracture classification, you will struggle to join in. Review of the papers and the self-assessment should take no more than 1 hour.

LEARNING OUTCOMES: SESSION 1 - CADAVER LAB

MIS Vertebral Body Augmentation

- Explain the important steps of vertebral body augmentation including
  - Correct patient positioning
  - Use of C-arm fluoroscopy
  - Placement of Jamshidi needle
  - Changing of Jamshidi to working cannula
  - Injecting the cement into the vertebral body

MIS Pedicle Screw Fixation

- Explain the important steps of MIS pedicle screw fixation and augmentation
  - Correct patient positioning
  - Use of C-arm
  - Placement of Jamshidi needle and guidewire
  - Drilling and screw placement
  - Cement Injection
  - Accommodation of rod percutaneously

LEARNING OUTCOMES: SESSION 2 - METABOLIC SPINE DISEASES & PEDIATRIC SPINE TRAUMA

Trauma of Spine with Ankylosing Spondylitis: features & management

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

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±VBR

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

LEARNING OUTCOMES: SESSION 3 – POST-TRAUMATIC KYPHOSIS & SPINAL CORD INJURY

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

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)
LEARNING OUTCOMES: SESSION 4 - TRAUMA OF THE UPPER C-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

LEARNING OUTCOMES: SESSION 5 - TRAUMA OF THE SUBAXIAL C-SPINE

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)

LEARNING OUTCOMES: SESSION 6 - TRAUMA OF THE THORACOLUMBAR SPINE & SACRUM

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

**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
• Evaluate surgical techniques in:
  o Anterior surgery including MIS techniques
  o Posterior surgery including MIS techniques

**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
COURSE CHAIR:

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>YU-MI RYANG</td>
<td>BERLIN, GERMANY</td>
</tr>
<tr>
<td>ALP SENKÖYLÜ</td>
<td>ANKARA, TURKEY</td>
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</tbody>
</table>

COURSE FACULTY:

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
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<tbody>
<tr>
<td>THOMAS BLATTERT</td>
<td>SCHWARZACH, GERMANY</td>
</tr>
<tr>
<td>ESAT KITER</td>
<td>DENIZLI, TURKEY</td>
</tr>
<tr>
<td>ZDENEK KLEZL</td>
<td>DERBY, UNITED KINGDOM</td>
</tr>
<tr>
<td>SANDRO KRIEG</td>
<td>MUNICH, GERMANY</td>
</tr>
<tr>
<td>CUMHUR ONER</td>
<td>UTRECHT, NETHERLANDS</td>
</tr>
</tbody>
</table>
# SCIENTIFIC PROGRAMME, MODULE 4
## DAY 1 – TUESDAY, 20 JUNE 2020
Venue: IRCAD, Strasbourg, France

**COURSE ATTENDANCE IS MANDATORY**

<table>
<thead>
<tr>
<th>TIME</th>
<th>TOPIC</th>
<th>FACULTY</th>
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<tbody>
<tr>
<td>07:00-07:15</td>
<td>Participants’ check-in and welcome</td>
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<tr>
<td>07:15-07:30</td>
<td>Change in scrubs and go to the Lab</td>
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<tr>
<td>07:30-08:00</td>
<td>Course introduction and Cad Lab discussion (operating theatre)</td>
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**SESSION 1: Cadaver Lab**

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<thead>
<tr>
<th>TIME</th>
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<tbody>
<tr>
<td>08:00-09:45</td>
<td>Group A: MIS Vertebral Body Augmentation</td>
<td>All</td>
</tr>
<tr>
<td>08:00-09:45</td>
<td>Group B: MIS Percutaneous Pedicle Screw Placement &amp; Augmentation</td>
<td>All</td>
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<tr>
<td></td>
<td>Coffee Break 30 min</td>
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<tr>
<td>10:15-12:00</td>
<td>Group B: MIS Vertebral Body Augmentation</td>
<td>All</td>
</tr>
<tr>
<td>10:15-12:00</td>
<td>Group A: MIS Percutaneous Pedicle Screw Placement &amp; Augmentation</td>
<td>All</td>
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<td></td>
<td>Lunch 60 min</td>
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**SESSION 2: Metabolic Spine Diseases & Pediatric Spine Trauma (Zdenek Klezl)**

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<tr>
<th>TIME</th>
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<tbody>
<tr>
<td>13:00-13:30</td>
<td>Pre-course Assessment</td>
<td>All participants</td>
</tr>
<tr>
<td>13:30-13:50</td>
<td>Trauma of Spine with Ankylosing Spondylitis: features &amp; management</td>
<td>Yu-Mi Ryang</td>
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<tr>
<td>13:50-14:10</td>
<td>Osteoporotic Fractures: diagnosis &amp; management</td>
<td>Thomas Blattert</td>
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<tr>
<td>14:10-14:30</td>
<td>Paediatric Spinal Trauma: features &amp; management</td>
<td>Esat Kiter</td>
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<tr>
<td>14:30-14:40</td>
<td>Discussion</td>
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<tr>
<td>14:40-15:10</td>
<td>Case Discussion (Osteoporotic Fractures)</td>
<td>Thomas Blattert</td>
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<td></td>
<td>Coffee Break 30 min</td>
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</table>

**SESSION 3: Posttraumatic Kyphosis & Spinal Cord Injury (Esat Kiter)**

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<thead>
<tr>
<th>TIME</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>15:40-16:00</td>
<td>Prevention and Management of Post-Traumatic Kyphosis</td>
<td>Alp Senköylü</td>
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<tr>
<td>16:00-16:30</td>
<td>Case Discussion</td>
<td>Zdenek Klezl</td>
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<tr>
<td>16:30-16:50</td>
<td>Spinal Shock &amp; Incomplete Spinal Cord Injury Syndromes</td>
<td>Sandro Krieg</td>
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<tr>
<td>16:50-17:00</td>
<td>Discussion</td>
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<tr>
<td>17:00-17:30</td>
<td>Case Discussion (Incomplete SCI Syndromes)</td>
<td>Sandro Krieg</td>
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<tr>
<td>17:30</td>
<td>End of the day</td>
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<td>TIME</td>
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<tr>
<td>08:45</td>
<td>Participants’ check-in and welcome</td>
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<tr>
<td>09:00-09:20</td>
<td>Imaging of Cervical Trauma</td>
<td>Cumhur Oner</td>
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<tr>
<td>09:20-09:40</td>
<td>Trauma of CO-C2: Classification &amp; Management</td>
<td>Yu-Mi Ryang</td>
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<td>09:40-09:50</td>
<td>Discussion</td>
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<tr>
<td>09:50-10:20</td>
<td>Case Discussion</td>
<td>Yu-Mi Ryang</td>
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<td></td>
<td>Coffee Break 30 min</td>
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<tr>
<td>10:50-11:10</td>
<td>Trauma of Subaxial C-Spine: classification &amp; management</td>
<td>Zdenek Klezl</td>
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<td>11:10-11:20</td>
<td>Discussion</td>
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<tr>
<td>11:20-11:50</td>
<td>Case Discussion</td>
<td>Sandro Kreig</td>
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<td></td>
<td>Lunch 60 min</td>
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<tr>
<td>12:50-13:10</td>
<td>Imaging of Thoracic/Thoracolumbar Trauma</td>
<td>Alp Senköylü</td>
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<tr>
<td>13:10-13:30</td>
<td>Trauma of TL Spine: classification &amp; management</td>
<td>Cumhur Oner</td>
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<tr>
<td>13:30-13:40</td>
<td>Discussion</td>
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<tr>
<td>13:40-14:10</td>
<td>Case Discussion (TL)</td>
<td>Zdenek Klezl</td>
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<tr>
<td>14:10-14:30</td>
<td>Sacral Fractures: classification &amp; management</td>
<td>Esat Kiter</td>
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<tr>
<td>14:30-15:00</td>
<td>Case (Sacral)</td>
<td>Esat Kiter</td>
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<td>Coffee Break 30 min</td>
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<tr>
<td>15:30-16:05</td>
<td>Classification of Subaxial C-Spine</td>
<td>Cumhur Oner</td>
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<tr>
<td>16:05-16:40</td>
<td>Classification of TL-Spine</td>
<td>Thomas Blattert</td>
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## SCIENTIFIC PROGRAMME, MODULE 4
### DAY 2 – WEDNESDAY 1 JULY 2020

**Venue:** IRCAD, Strasbourg, France  
**COURSE ATTENDANCE IS MANDATORY**

<table>
<thead>
<tr>
<th>TIME</th>
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<tbody>
<tr>
<td>16:40-17:00</td>
<td>Post Course Assessment</td>
<td>All</td>
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<tr>
<td>17:00-17:15</td>
<td>Course Evaluation</td>
<td>All participants</td>
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<td>(Mandatory for all participants)</td>
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<tr>
<td>17:15-17:30</td>
<td>Closing Remarks, Diplomas &amp; End of Module</td>
<td>All</td>
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CONTACTS

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8610 Uster
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www.eurospine.org

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COURSE ORGANISATION

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SCIENTIFIC CONTENT

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Chairman, Education Committee of EUROSPINE