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Welcome Message of the Local Hosts

Welcome to Helsinki! Tervetuloa Helsinkiin!

The EUROSPINE Annual Meeting in Helsinki will no doubt be the scientific highlight for 2019 for all professionals interested in the treatment and research of spine conditions. In addition to an exciting scientific programme, the meeting will provide us with ample opportunities to meet colleagues from around the world to share knowledge and experiences.

EUROSPINE 2019 will take place at Messukeskus Helsinki, the Expo and Convention Centre. Messukeskus will guarantee us a successful meeting experience with its modern, spacious facilities and up-to-date technology. Our venue is conveniently situated with just 5 minutes from the city centre by train, and the city’s hotels are within easy reach by the excellent public transportation system.

Helsinki is the capital of Finland with a population of 600 000 it is a human-sized city where most of the attractions are within walking distance. We hope that during your stay in Helsinki you will have an opportunity to explore our distinctive nature, culture, and architecture, and enjoy our local culinary specialties.

Teija Lund and Dietrich Schlenzka
Local hosts 2019
Dear members, dear colleagues, guests and friends,

I am delighted to invite you all to the EUROSPINE Annual Meeting 2019 in the city of Helsinki. Helsinki has excellent access from Asia and South America and represents our most northerly meeting. At this meeting we will be 21 years old!

As always we will have an excellent scientific meeting with participants from all over the globe to exchange ideas, research and new skills. I am already looking forward to this exciting event and venue.

Our local hosts, Teija Lund and Dietrich Schlenzka have already organised an excellent networking programme in this most exciting of cities. We all look forward to welcoming you and please put the date in your diaries: 16–18 October 2019.

Tim Pigott
EUROSPINE President 2019
Addresses & Important Dates/ Programme Highlights

**Important Dates**

**Keynote Lecture** (Juhan Antti Tuominen)
Wednesday, 16 October, 08:42
Plenary Hall (see page 16)

**EUROSPINE NEW Members’ Cocktail**
(by invitation only)
Wednesday, 16 October, 15:20–16:20
EUROSPINE Booth, #12

**Keynote Lecture** (Yan Wang)
Thursday, 17 October, 08:30
Plenary Hall (see page 31)

**Medal Lecture** (Emilia Lahti)
Thursday, 17 October, 11:10–11:40
Plenary Hall (see page 32 / 33)

**EUROSPINE Members’ Cocktail**
(members only)
Thursday, 17 October, 17:05–17:15
Meeting Room 101

**EUROSPINE General Assembly**
(members only)
Thursday, 17 October, 17:15
Meeting Room 101

**Official Congress Evening, Kellohalli**
(at own expense)
Thursday, 17 October, 19:30

**Keynote Lecture** (Andrew Brodbelt)
Friday, 18 October, 08:30
Plenary Hall (see page 39)

**EUROSPINE ‘Best of Show’ and Award Papers**
Friday, 18 September, 10:30–12:00
Plenary Hall (see page 40)
Core and Co-Reviewers (Abstracts and Programme Coordination)

Chair & coordination
Tamás Fekete, Zürich, Switzerland

Basic Science: Biology & biomechanics
Cornelia Neidlinger-Wilke, Ulm, Germany
Biology:
Gernot Lang, Freiburg, Germany
Karin Wuertz-Kozak, Zürich, Switzerland
Biomechanics:
Daniel Haschtmann, Zürich, Switzerland
Werner Schmoelz, Innsbruck, Austria

Craniocervical junction (all pathologies),
Intradural spinal pathologies,
Minimally invasive spine surgery (MISS),
Trauma (whole spine)
Christof Birkenmaier, Munich, Germany
Betrand Debono, Cornebarrieu, France
Paulo Pereira, Porto, Portugal

Degenerative (cervical),
Degenerative (thoraco-lumbar)
Haluk Berk, Izmir, Turkey
Baoge Liu, Beijing, China
Dominique A. Rothenfluh, Oxford, United Kingdom

Diagnostics and imaging,
Infection (whole spine),
Tumour (whole spine)
Kadir Kotil, Istanbul, Turkey
Áron Lazáry, Budapest, Hungary
Sait Naderi, Istanbul, Turkey

Adult deformity (whole spine),
Patient safety
Susana Nuñez Pereira, Donostia/ San Sebastián, Spain
Javier Pizones, Madrid, Spain
Caglar Yilgor, Istanbul, Turkey

Epidemiology and medical economics,
Growing spine,
Non-operative treatment
Sleiman Haddad, Barcelona, Spain
Ibrahim Obeid, Bordeaux, France
Nasir Quraishi, Nottingham, United Kingdom

Complications,
New techniques
Sebastiaan Schelfaut, Leuven, Belgium
Matti Scholz, Frankfurt am Main, Germany
Jan Stulik, Prague, Czech Republic

Pre-day and lunch symposia

Chair
Hossein Mehdian, London, United Kingdom

Members
Pedro Berjano Coquillat, Milan, Italy
José Maria Cavanilles Walker, Badalona, Spain
Stavros Stavridis, Thessaloniki, Greece
Scientific Programme
Overview
## Scientific Programme Overview

### Wednesday, 16 October

<table>
<thead>
<tr>
<th>Time</th>
<th>Meeting Room 101</th>
<th>Meeting Room 102</th>
<th>Meeting Room 103a</th>
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</thead>
<tbody>
<tr>
<td>8:30–8:38</td>
<td><strong>Opening</strong>&lt;br&gt;p. 16 L.</td>
<td><strong>Opening</strong>&lt;br&gt;p. 16 L.</td>
<td><strong>Opening</strong>&lt;br&gt;p. 16 L.</td>
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<tr>
<td>8:42–10:00</td>
<td><strong>Infection, Tumour, Epidemiology</strong>&lt;br&gt;p. 16&lt;sup&gt;1&lt;/sup&gt;  <strong>Keynote: Data and its Use in Health Care</strong>&lt;br&gt;p. 16</td>
<td><strong>Infection, Tumour, Epidemiology</strong>&lt;br&gt;p. 16&lt;sup&gt;1&lt;/sup&gt;</td>
<td><strong>Infection, Tumour, Epidemiology</strong>&lt;br&gt;p. 16&lt;sup&gt;1&lt;/sup&gt;</td>
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<tr>
<td>10:00–10:30</td>
<td><strong>Coffee Break in the Exhibition Hall</strong></td>
<td><strong>Coffee Break in the Exhibition Hall</strong></td>
<td><strong>Coffee Break in the Exhibition Hall</strong></td>
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<tr>
<td>10:30–11:15</td>
<td><strong>Debate 1: Robotics and smart systems will replace spinal surgeons by 2030</strong>&lt;br&gt;p. 17</td>
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<tr>
<td>11:15–12:00</td>
<td><strong>Debate 2: Surgical versus Regenerative Therapies - is Disc Regeneration the Future?</strong>&lt;br&gt;p. 18</td>
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<tr>
<td>12:00–13:50</td>
<td><strong>EUROSPINE Lunch Symposium 1</strong>&lt;br&gt;Learning from the Experts, Cervical Surgical Video Session in Cooperation with OOT&lt;br&gt;p. 18</td>
<td><strong>EUROSPINE Lunch Symposium 2</strong>&lt;br&gt;Current Concepts on Sagittal Balance in Adult Spinal Deformities&lt;br&gt;p. 19</td>
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<tr>
<td>14:00–15:20</td>
<td><strong>QuickFires</strong>&lt;br&gt;Degenerative (thoracolumbar)&lt;br&gt;p. 21</td>
<td><strong>QuickFires</strong>&lt;br&gt;Infection, Diagnostics, Imaging, Epidemiology&lt;br&gt;p. 23</td>
<td><strong>QuickFires</strong>&lt;br&gt;Basic Science&lt;br&gt;p. 19</td>
</tr>
<tr>
<td>15:20–16:20</td>
<td><strong>Coffee Break in the Exhibition Hall</strong></td>
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<tr>
<td>16:20–17:48</td>
<td><strong>Degenerative (thoracolumbar), Basic science</strong>&lt;br&gt;p. 27</td>
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</tbody>
</table>

<sup>1</sup> Keynote: Data and its Use in Health Care
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:30–10:00</td>
<td><strong>Plenary Hall</strong></td>
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<tr>
<td></td>
<td>Adult Deformity, Diagnostics and Imaging</td>
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<td></td>
<td><strong>Keynote: Hip-Spine Connection</strong></td>
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<tr>
<td>10:00–10:30</td>
<td>Coffee Break in the Exhibition Hall</td>
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<tr>
<td>10:30–12:00</td>
<td><strong>Meeting Room 101</strong></td>
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<tr>
<td></td>
<td>Medal Lecture and Presidential Address</td>
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<tr>
<td>12:00–13:50</td>
<td><strong>EUROSPINE</strong></td>
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<td></td>
<td>Lunch Symposium 3</td>
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<td></td>
<td>Non-Fusion Anterior Scoliosis Correction and Vertebral Body Tethering for AIS</td>
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<tr>
<td>14:00–15:20</td>
<td><strong>Meeting Room 102</strong></td>
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<tr>
<td></td>
<td>Degenerative (cervical), Craniocervical Junction</td>
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<tr>
<td>15:20–15:50</td>
<td>Coffee Break in the Exhibition Hall</td>
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<tr>
<td>15:50–17:02</td>
<td><strong>Meeting Room 101</strong></td>
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<tr>
<td></td>
<td>Minimal Invasive Spine Surgery (MISS), New Techniques</td>
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<tr>
<td>17:05–17:15</td>
<td><strong>EUROSPINE</strong></td>
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<td></td>
<td>Member Cocktail (members only)</td>
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<td>17:15–18:15</td>
<td><strong>EUROSPINE</strong></td>
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<td></td>
<td>General Assembly (members only)</td>
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<tr>
<td>19:30</td>
<td>OFFICIAL CONGRESS EVENING, Kellohalli – at own expense</td>
</tr>
</tbody>
</table>
# Friday, 18 October
## Programme Overview

### Plenary Hall

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:30–10:00</td>
<td>Adult Deformity, Growing Spine (p. 39) Keynote: Springomyelia</td>
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<tr>
<td>10:00–10:30</td>
<td>Coffee Break in the Exhibition Hall</td>
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<tr>
<td>10:30–12:00</td>
<td>Best of Show Session (p. 40)</td>
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### Meeting Rooms 101, 102, 203, 208

<table>
<thead>
<tr>
<th>Meeting Room 101</th>
<th>Meeting Room 102</th>
<th>Meeting Room 203</th>
<th>Meeting Room 208</th>
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<tbody>
<tr>
<td>12:00–13:50</td>
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<td>14:00–15:20</td>
<td>14:00–15:20</td>
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<tr>
<td><strong>EUROSPINE</strong></td>
<td><strong>EUROSPINE</strong></td>
<td>14:00–15:20</td>
<td>14:00–15:20</td>
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<tr>
<td>Lunch Symposium 5</td>
<td>Lunch Symposium 6</td>
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<tr>
<td>Cervical Spine Trauma. Beyond the Basics (p. 42)</td>
<td>Spine Tango (p. 42)</td>
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<tr>
<td>14:00–15:20</td>
<td>14:00–15:20</td>
<td>14:00–15:20</td>
<td>14:00–15:20</td>
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<tr>
<td><strong>QuickFires</strong></td>
<td><strong>QuickFires</strong></td>
<td><strong>QuickFires</strong></td>
<td><strong>QuickFires</strong></td>
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<tr>
<td>Degenerative (cervical), New Techniques, Complications (p. 45)</td>
<td>Trauma, Tumour (p. 43)</td>
<td>Growing Spine, Craniocervical Junction (all pathologies) (p. 47)</td>
<td>Adult Deformity (whole spine) (p. 49)</td>
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<td>15:20–15:50</td>
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<tr>
<td><strong>Coffee Break in front of the Meeting Room 101</strong></td>
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<td>15:50–16:45</td>
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<tr>
<td>Trauma, Complications (p. 52)</td>
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</table>
Scientific Programme
Tuesday, 15 October
13:00–17:30  |  **PRE-DAY COURSE I:**

Fusion Level Selection and Strategy in Adolescent Idiopathic Scoliosis

Location: Meeting Room 103a

Chairs: **Pedro Berjano, Milan, Italy**

**Hossein Mehdian, London, United Kingdom**

13:00  |  Presentation of the course: Selection of fusion levels in AIS: Clear rules or special art?  

**Pedro Berjano, Milan, Italy**

13:15  |  Selection of the upper instrumented vertebra in Lenke 1 pattern

**Teresa Bas Hermida, Valencia, Spain**

13:30  |  Selection of the lower instrumented vertebra in Lenke 1A, 1B, 2A, 2B patterns

**Ahmet Alanay, Istanbul, Turkey**

13:45  |  Selection of the upper instrumented vertebra in Lenke 2 pattern

**Dominique A. Rothenfluh, Oxford, United Kingdom**

14:00  |  The fate of postoperative shoulder imbalance. Does it correct spontaneously? When does it and when does it not?

**Henry Halm, Neustadt, Germany**

14:15  |  Discussion

14:30  |  Sagittal plane considerations in the choice of fusion levels and surgical maneuvers in thoracic and lumbar/thoracolumbar curves

**Heiko Koller, Munich, Germany**

14:45  |  Thoracoplasty: When to do and when to avoid, how to perform it, what are the functional consequences?

**Teresa Bas Hermida, Valencia, Spain**

15:00  |  Lenke I C pattern. Criteria for selective thoracic fusion and choice of distal level

**Ahmet Alanay, Istanbul, Turkey**

15:15  |  Selective fusion in Lenke IC pattern: In favor

**Per Trobisch, Simmerath, Germany**

15:25  |  Selective fusion in Lenke IC pattern: Against

**Heiko Koller, Munich, Germany**

15:35  |  Discussion

15:50–16:15  |  **COFFEE BREAK**

16:15  |  Distal Adding-on Phenomenon in AIS & Long Term Results and Consequences

**Hossein Mehdian, London, United Kingdom**
16:30  ■  Selection of fusion levels in Lenke 5 pattern
   Luigi Aurelio Nasto, Genoa, Italy

16:45  ■  Anterior surgery in Lenke 1 and 5: Are there advantages? Can we reduce the number of fused levels? In what cases?
   Henry Halm, Neustadt, Germany

17:00  ■  Selection of fusion levels in Lenke 6 pattern. Is there a chance for selective fusion?
   Ahmet Alanay, Istanbul, Turkey

17:15  ■  Discussion

17:30–17:50  ■  Special lecture: Deformity correction for AIS in 2020
   Pierre Roussouly, Lyon, France

17:50  ■  Closing remarks
   Pedro Berjano, Milan, Italy

13:00–17:30  ■  PRE-DAY COURSE II:
   The Intervertebral Disc: From Basic Science to High-end Surgery and other Novel Treatments across European Borders
   Location: Meeting Room 102
   Chairs: Johan van Lerbeirghe, Gent, Belgium
          Teija Lund, Helsinki, Finland

13:00  ■  Introduction of the history, the role, the goals of EuSSAB and its achievements since the Start Up in Lyon.
   Johan van Lerbeirghe, Gent, Belgium

13:10  ■  Inflammatory mediators in disc degeneration are they of clinical importance?
   Karin Wuertz-Kozak, Zürich, Switzerland

13:25  ■  MRI changes in vertebral endplate, do the findings change treatment for patient with spine pain?
   Helena Brisby, Gothenburg, Sweden

13:40  ■  The importance of the Clinical evaluation of radiculopathy and cervicobrachialgy.
   Johan van Lerbeirghe, Gent, Belgium

13:55  ■  Discussion
   Teija Lund, Helsinki, Finland
   Margareta Nordin, Romorantin, France

14:10  ■  Before any treatment starts: The Belgian Lumbar and Radicular Pain Interactive Pathway.
   Bart Depreitere, Leuven, Belgium

   Samuel Morris, Halifax, United Kingdom
14:40  Spine Tango: Part 2 – the evidence on disc. 
Emin Aghayev, Zürich, Switzerland

14:55  From Spine Tango to a National Registry. Possible problems encountered during the pilot study. 
Everard Munting, Ottignies, Belgium

15:10  Discussion

15:25–15:40  COFFEE BREAK

15:40  Physiotherapy and alternative non-invasive treatment options. 
Olavi Airaksinen, Kuopio, Finland

15:55  Injection therapy: Bridging the gap between conservative and surgical treatment. 
Stavros Stavridis, Thessaloniki, Greece

16:10  Gold standard discectomy? 
Jarkko Halme, Kuopio, Finland

16:25  The MIS full-endoscopic approach for the treatment of spinal pathologies, cervical and lumbar. 
Christoph Siepe, Munich, Germany

16:45  To fuse or not to fuse? 
Jean-Charles Le Huec, Bordeaux, France

17:00  Closing remarks 
Johan van Lerbeirghe, Gent, Belgium
Scientific Programme
Wednesday, 16 October
### 08:30–08:38 Opening
Location: Plenary Hall
Chairs: Patrick Strube, Jena-Eisenberg, Germany
       Everard Munting, Ottignies, Belgium
       Bernhard Meyer, Munich, Germany

#### 08:30
**Welcome Address by EUROSPINE President**
Tim Pigott, Liverpool, United Kingdom

#### 08:34
**Welcome Address by the Local Hosts**
Teija Lund, Helsinki, Finland
Dietrich Schlenzka, Helsinki, Finland

#### 08:38
**Information on Scientific Programme and Peer Review Evaluation by the Programme Committee Chair**
Tamás Fekete, Zürich, Switzerland

### 08:42–10:00 Infection, Tumour, Epidemiology
Location: Plenary Hall
Chairs: Patrick Strube, Jena-Eisenberg, Germany
       Everard Munting, Ottignies, Belgium
       Bernhard Meyer, Munich, Germany

#### 1
**FOSTERING PHYSICAL ACTIVITY AFTER COMPLEX LUMBAR SPINE SURGERY: A RANDOMIZED TRIAL**
Carol A. Mancuso, New York, United States
Carol A. Mancuso, Manuela C. Rigaud, Roland Duculan, Frank P. Cammisa, Andrew A. Sama, Alexander P. Hughes, Darren R. Lebl, Russel C. Huang, Harvinder S. Sandhu, Federico P. Girardi
Department of Orthopedic Surgery, Hospital for Special Surgery, New York, NY, United States

#### 2
**EXPRESSION OF TRPV4 IN HUMAN IVDS AND ITS RELEVANCE IN STRETCH-INDUCED INFLAMMATION**
Karin Wuertz-Kozak, Zürich, Switzerland
Elena Cambria, Aleksandra Sadowska, Lisbet Haglund, Olga Krupkova, Fabian Passini, Wolfgang Hitzl, Jess Snedeker, Oliver Hausmann, Karin Wuertz-Kozak
Institute for Biomechanics, ETH Zürich, Zürich, Switzerland; McGill Scoliosis and Spine Research Center, Montreal, Canada; Research Office (Biostatistics), PMU Salzburg, Salzburg, Austria; Klinik Sankt-Anna Hirslanden, Lucerne, Switzerland

#### 3
**INTRAOPERATIVE SALVAGED AUTOLOGOUS BLOOD TRANSFUSION IS SAFE IN METASTATIC SPINE TUMOUR SURGERY: EARLY OUTCOMES OF PROSPECTIVE CLINICAL STUDY**
Naresh Kumar, Singapore, Singapore
Naresh Kumar, Nivetha Ravidumar, Joel Yong Hao Tan, Zhaojin Chen, Helena Milavec, Jion Hao Tan
Department of Orthopaedic Surgery, National University Health System (NUHS), Singapore

#### 4
**CURRENT TRENDS AND PERIOPERATIVE COMPLICATIONS OF SURGERIES FOR SPINAL INFECTIONS IN THE SUPER-AGEING SOCIETY: A MULTI CENTER STUDY**
Yuichiro Ukon, Suita, Japan

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**KEYNOTE:** DATA AND ITS USE IN HEALTH CARE
Juha Antti Tuominen, Hus, Finland
CEO, HUS Helsinki University hospital

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★ Study was supported by a EUROSPINE TFR Grant
5 PENETRATION INTO THE INTERVERTEBRAL DISC OF ANTIBIOTICS USED FOR PERIOPERATIVE PROPHYLAXIS IN SPINE SURGERY: IMPLICATIONS FOR THE CURRENT STANDARD AND FOR THE TREATMENT OF DISC INFECTIONS
Christof Birkenmaier, Munich, Germany
Christof Birkenmaier, Manu Capoor, Jan Lochman, Andrew McDowell, Jonathan E. Schmitz, Martina Zapletalova, Todd F. Alamin, Michael F. Coscia, Steven A. Garfin, Jancalek Radim, Filip Ruzicka, Martin Smrcka, A. Nick Shamie, Jeffrey C. Wang, Ondrej Slaby
Dept. of Orthopedics, Physical Medicine & Rehabilitation, University of Munich (LMU), Germany

6 IMPACT OF RADIOLOGIC VARIABLES ON ITEM RESPONSES OF ODI AND SRS22 IN ADULT SPINAL DEFORMITY PATIENTS: DIFFERENTIAL ITEM FUNCTIONING (DIF) ANALYSIS RESULTS FROM A MULTI-CENTER DATABASE
Louis Boissière, Bordeaux, France
Louis Boissiere, Selcen Yuksel, Ibrahim Obeid, Kazunori Hayashi, Caglar Yilgor, Frank Kleinstueck, Ahmet Alanay, Ferran Pellissé, Francisco Javier Sanchez Perez-Grueso, Emre Acaroglu, ESSG – European Spine Study Group

7 THERAPEUTIC RADIATION THERAPY IMPROVES SURVIVAL FOR CHORDOMA PATIENTS
Sergio Mendoza-Lattes, Durham, United States
Brian Dial, David Kerr, Alexander Lazarides, William Eward, David Kirsch, Rory Goodwin, Sergio Mendoza

10:00–10:30 ☐ COFFEE BREAK in the Exhibition Area

10:30–11:15 ☐ Debate 1: Robotics and Smart Systems Will Replace Spinal Surgeons by 2030
Location: Plenary Hall
Chair: Jörg Franke, Magdeburg, Germany

10:30 Opening remarks, statement of the problem
Jörg Franke, Magdeburg, Germany

10:33 Statement ‘for’
Lutz Nolte, Bern, Switzerland

10:43 Statement ‘against’
Ibrahim Obeid, Bordeaux, France

10:53 Reconsiderations for ‘for’
Lutz Nolte, Bern, Switzerland

10:56 Reconsiderations for ‘against’
Ibrahim Obeid, Bordeaux, France

10:59 Summary
Jörg Franke, Magdeburg, Germany

11:01 Panel and floor discussion
Jörg Franke, Magdeburg, Germany

11:13 Summary
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:15–12:00</td>
<td><strong>Debate 2: Surgical versus Regenerative Therapies - is Disc Regeneration the Future?</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Location:</strong> Plenary Hall <strong>Chair:</strong> Claudius Thomé, Innsbruck, Austria</td>
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<tr>
<td>11:15</td>
<td>Opening remarks, statement of the problem</td>
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<tr>
<td></td>
<td><em>Claudius Thomé, Innsbruck, Austria</em></td>
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<tr>
<td>11:18</td>
<td>Statement 'for'</td>
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<td><em>Marianna Tryfonidou, Utrecht, Netherlands</em></td>
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<tr>
<td>11:28</td>
<td>Statement 'against'</td>
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<td><em>Jeremy Fairbank, Oxford, United Kingdom</em></td>
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<tr>
<td>11:38</td>
<td>Reconsiderations for 'for'</td>
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<td><em>Marianna Tryfonidou, Utrecht, Netherlands</em></td>
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<tr>
<td>11:41</td>
<td>Reconsiderations for 'against'</td>
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<td><em>Jeremy Fairbank, Oxford, United Kingdom</em></td>
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<tr>
<td>11:46</td>
<td>Summary</td>
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<td></td>
<td><em>Claudius Thomé, Innsbruck, Austria</em></td>
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<tr>
<td>11:48</td>
<td>Panel and floor discussion</td>
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<td></td>
<td><em>Claudius Thomé, Innsbruck, Austria</em></td>
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<tr>
<td>11:58</td>
<td>Summary</td>
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<td>12:00–13:50</td>
<td><strong>EUROSPINE LUNCH SYMPOSIA</strong></td>
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<td>Atlanto Axial Fixation: Indications &amp; Surgical Technique</td>
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<td><em>Klaus John Schnake, Fuerth, Germany</em></td>
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<td>Total spondylectomy of C2 and circumferential reconstruction for axis tumor surgery:</td>
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<td><em>Petr Suchomel, Liberec, Czech Republic</em></td>
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<td>Double Door Cervical Laminoplasty: Indications &amp; Surgical Technique</td>
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<td><em>Hossein Mehdian, London, United Kingdom</em></td>
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<td>Discussion &amp; Closing remarks</td>
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<td>12:00–13:50</td>
<td><strong>EUROSPINE LUNCH SYMPOSIUM 1</strong></td>
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<td><strong>Learning from the Experts. Cervical Surgical Video Session in Cooperation with OOT</strong></td>
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<td><strong>Location:</strong> Meeting Room 101 <strong>Chairs:</strong> Hossein Mehdian, London, United Kingdom</td>
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**EUROSPINE 2019**
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<th>Time</th>
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<tr>
<td>12:00</td>
<td><strong>EUROSPINE LUNCH SYMPOSIUM 2</strong></td>
<td>Current Concepts on Sagittal Balance in Adult Spinal Deformities</td>
<td>Martin Gehrchen, Copenhagen, Denmark</td>
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<td>Chairs: Dominique A. Rothenfluh, Oxford, United Kingdom</td>
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<td>José Maria Cavanilles Walker, Badalona, Spain</td>
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<td>Current concepts of sagittal balance and alignment in adult spinal</td>
<td>Martin Gehrchen, Copenhagen, Denmark</td>
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<td>Anterior column realignment versus spinal osteotomy – when and what’s</td>
<td>Pedro Berjano, Milan, Italy</td>
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<td>the evidence for either approach?</td>
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<td>PJK: risk factors and how to avoid it?</td>
<td>José Maria Cavanilles Walker, Badalona,</td>
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<td>Health-Related Quality of Life and Effectiveness of Treatment in adult</td>
<td>Dominique A. Rothenfluh, Oxford, United</td>
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<td>Discussion</td>
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<td>What effect do comorbidities and frailty have on the decision-making,</td>
<td>Ferran Pellisé, Barcelona, Spain</td>
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<td>complications and outcomes in adult spinal deformity surgery?</td>
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<td>Chairs: Cornelia Neidlinger-Wilke, Ulm, Germany</td>
<td>Werner Schmoelz, Innsbruck, Austria</td>
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<td>QF1</td>
<td>ENDPLATE AND INTERVERTEBRAL DISC CHANGES IN</td>
<td>ENDPLATE AND INTERVERTEBRAL DISC CHANGES IN RAT LUMBAR SPINE INDUCED</td>
<td>Yueli Sun, New York, United States</td>
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<td>RAT LUMBAR SPINE INDUCED BY PROLONGED</td>
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<td>HINDLIMB TAIL SUSPENSION</td>
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<td>Department of Biomedical Engineering, Stony Brook University, New</td>
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<td>York, United States</td>
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<td>QF2</td>
<td>FACET JOINT CAPSULAR LAXITY IN DEGENERATIVE</td>
<td>FACET JOINT CAPSULAR LAXITY IN DEGENERATIVE LUMBAR SPONDYLOLISTHESIS</td>
<td>Hyun-Woo Lee, Incheon, Korea (ROK / South</td>
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<td>LUMBAR SPONDYLOLISTHESIS WITH THE INCREASED</td>
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<td>Dept of Orthopedic surgery, Incheon, Korea</td>
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<td>QF3</td>
<td>COMPARISON OF ANNULUS FIBROSUS CELL COLLAGEN</td>
<td>COMPARISON OF ANNULUS FIBROSUS CELL COLLAGEN REMODELING RATES IN A</td>
<td>René Castelein, Utrecht, The Netherlands</td>
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<td>REMODELING RATES IN A MICRO-TISSUE SYSTEM</td>
<td>MICRO-TISSUE SYSTEM</td>
<td>Isabel Tramp, Jasper Foolen, Ying Zhang,</td>
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*Study was supported by a EUROSPINE TFR Grant*
QF4 AN INVESTIGATIONAL STUDY OF A DUAL-LAYER, CHORION-FREE AMNION PATCH AS A PROTECTIVE BARRIER FOLLOWING LUMBAR LAMINECTOMY IN A SHEEP MODEL
Bryan W. Cunningham, Baltimore, Maryland, United States
Bryan Cunningham, Breanna Seiber, Jessica Riggelman, Margaret Van Horn, Archana Bhat
Musculoskeletal Education and Research Center, Globus Medical Inc., Audubon, United States

QF5 THE MECHANISM OF DURAL ADHESION IN THE EXCESSIVE FIBROSIS CAUSING PAIN AFTER SPINE SURGERY; THE AFFINITY TO COLLAGEN THROUGH INTEGRIN AND MATRIX METALLOPROTEINASE
Joo Han Kim, Seoul, Korea (ROK / South Korea)
Joo Han Kim, Kyuha Chong, Woo Keun Kwon, Hong Joo Moon
Department of Neurosurgery, Guro Hospital, College of Medicine, Korea University, Korea, Seoul

QF6 SEQUENTIAL CHANGES IN LUMBAR LORDOSIS AND SEGMENTAL STABILITY FOLLOWING LATERAL INTERBODY CAGE PLACEMENT, SMITH-PETERSON OSTEOTOMY, AND ANTERIOR ONGITUDINAL LIGAMENT RELEASE
Zachary Child, Westminster, United States
Zachary Child, Richard Hurley, Jr, Amy Claeson, Vijay Permeswaran, Jason Inzana, Anup Gandhi
Spine Surgery and Musculoskeletal Oncology; Tahoe Center for Orthopedics; South Lake Tahoe, CA, United States; Zimmer Biomet, Westminster, CO, United States

QF7 INFLUENCES OF CERVICAL STRUCTURES ON THE KINEMATIC BEHAVIOR OF THE CERVICAL SPINE
Christian Liebsch, Ulm, Germany
René Jonas, Robert Demmelmaier, Hans-Joachim Wilke
Institute of Orthopaedic Research and Biomechanics, Ulm, Germany

QF8 GENDER SPECIFIC BIOMECHANICAL EVALUATION OF FORTY-FOUR HUMAN CADAVERIC LUMBOPELVIC SPINES - EMPHASIS ON THE KINEMATIC DIFFERENCES IN SACROILIAC JOINT RANGE OF MOTION
Bryan W. Cunningham, Daina M. Brooks, David A. Weiner, Jessica B. Hawken, P. Justin Tortolani
Medstar Union Memorial Hospital, Department of Orthopaedic Surgery, Baltimore, Maryland, United States

QF9 RADIOGRAPHIC SPINOPELVIC PARAMETERS IN ASD: A DYNAMIC EVALUATION
Thomas Overbergh, Pieter Severijns, Ilse Jonkers, Lennart Scheys
Institute for Orthopaedic Research and Training (IORT), KU Leuven, Belgium

QF10 DIFFERENCES IN VERTEBRAL MOTION BETWEEN AN ADULT SPINAL DEFORMITY PATIENT AND A HEALTHY SUBJECT: A CASE STUDY
Thomas Overbergh, Pieter Severijns, Ilse Jonkers, Lennart Scheys
Institute for Orthopaedic Research and Training (IORT); KU Leuven, Leuven, Belgium

QF11 POC5 VARIANT LEADS TO CELLULAR ALTERATIONS AND RETINAL ANOMALIES IN ADOLESCENT IDIOPATHIC SCOLIOSIS
Florina Moldovan, Montreal, Canada
Florina Moldovan, Amani Hassan, Stefan Parent, Shunmoogum A. Patten
CHU Sainte Justine and Université de Montréal, Faculty of dentistry, Montreal, Canada
QF12 MACROPHAGES CONTRIBUTE TO AGGRAVATE INTERVERTEBRAL DISC DEGENERATION UNDER A PRO-INFLAMMATORY/DEGENERATIVE MICROENVIRONMENT
Joana Rita Ferreira, Porto, Portugal
Ana João Silva, João Vasco Corte-Real, Joana Rita Ferreira, Carla Cunha, Mafalda Bessa-Gonçalves, Mário A. Barbosa, Susana G. Santos, Raquel M. Gonçalves
1i3S – Instituto de Investigação e Inovação em Saúde, Porto, Portugal; 2INEB – Instituto de Engenharia Biomédica, Porto, Portugal; 3FCUP – Faculdade de Ciências da Universidade do Porto, Porto, Portugal; 4ICBAS – Instituto de Ciências Biomédicas Abel Salazar, Universidade do Porto, Porto, Portugal

QF13 A ROLE FOR MSCS SECRETOME TO MODULATE THE INFLAMMATORY RESPONSE IN DISC DEGENERATION
Joana Rita Ferreira, Porto, Portugal
Joana Rita Ferreira, Gracia Quelhas Teixeira, Cláudia Ribeiro-Machado, Catarina Leite Pereira, Mário Adolfo Barbosa, Raquel Madeira Gonçalves
ICBAS – Instituto de Ciências Biomédicas Abel Salazar, Universidade do Porto, Porto, Portugal; INEB - Instituto Nacional de Engenharia Biomédica, Porto, Portugal; 1i3S - Instituto de Investigação e Inovação em Saúde, Porto, Portugal

QF14 FROM STATIC TO DYNAMIC: SAGITTAL ALIGNMENT AND COMPENSATION STRATEGIES DURING WALKING IN ADULT SPINAL DEFORMITY
Pieter Severijns, Leuven, Belgium
Pieter Severijns, Thomas Overbergh, Kaat Desloovere, Lennart Scheys, Lieven Moke
Institute for Orthopaedic Research and Training; KU Leuven, Belgium

QF15 BIOMECHANICAL EFFECTS OF LATERAL BENDING POSITION ON PERFORMING CERVICAL SPINAL MANIPULATION FOR CERVICAL DISC HERNIATION: A THREE-DIMENSIONAL FINITE ELEMENT ANALYSIS
He Jiahui, Guangzhou, China
Xuecheng Huang, Linqiang Ye, Wenhua Huang, Xiaobing Jiang
Department of Human Anatomy, Guangzhou, China

14:00–15:20 Degenerative (thoracolumbar)
Location: Plenary Hall
Chairs: Marc Dreimann, Hamburg, Germany
Derek Cawley, Dublin, Ireland

QF16 WHERE DOES THE PAIN COME FROM? EXPLORING THE PATHOPHYSIOLOGY OF NEUROGENIC CLAUDICATION
Constantin Schizas, Lausanne, Switzerland
Constantin Schizas, Stéphane Genevay
Neuro-orthopaedic Spine Unit, Clinique Cecil, Lausanne, and Division of Rheumatology, University Hospitals of Geneva, Switzerland

QF17 IS THE SIZE OF LUMBAR DISC HERNIATION, A BIOMECHANICAL FOOTPRINT OF ABNORMAL BODY MASS INDEX? RESULTS FROM AN AGE AND GENDER MATCHED CASE-CONTROL STUDY
Constantin Schizas, Lausanne, Switzerland
Sang Soo Eun, Seoul, Korea (ROK / South Korea)
Sourabh Chachan, Sang Soo Eun, Sang-Ho Lee
Dept. of Spine Surgery, Wooridul Spine Hospital, Cheongdam, Seoul, South Korea

QF18 THE POTENTIAL ROLE OF BLADDER SCAN POST VOID RESIDUAL VOLUME MEASUREMENT IN IMPROVING DIAGNOSTIC ACCURACY OF CAUDA EQUINA SYNDROME
Galateia Katzouraki, Nottingham, United Kingdom
QF19 INDIRECT DECOMPRESSION WITH LATERAL INTERBODY FUSION FOR SEVERE DEGENERATIVE LUMBAR SPINAL STENOSIS: MINIMUM 1-YEAR MRI FOLLOW-UP
Takayoshi Shimizu, Kyoto, Japan
Takayoshi Shimizu, Shunsuke Fujibayashi, Bungo Otsuki, Shuichi Matsuda
Dept of Orthopaedic Surgery, Kyoto, Japan

QF20 5-YEAR RESULTS OF A DOUBLE-BLIND RCT ON COMPARING INTERSPINOUS IMPLANT WITHOUT BONY DECOMPRESSION TO CONVENTIONAL DECOMPRESSION FOR LUMBAR SPINAL STENOSIS
Catharina Schenck, Leiden, The Netherlands
Catharina Schenck, Sietse Terpstra, Wouter Moojen, Erik van Zwet, Wilco Peul, Mark Arts, Carmen Vleggeert-Lankamp
Department of Neurosurgery, Department of Biostatistics, Leiden University Medical Center (LUMC), Leiden; Department of Neurosurgery, Haaglanden Medisch Centrum (HMC), The Hague, The Netherlands; Department of Neurosurgery, HAGA Teaching Hospital, The Hague, The Netherlands

QF21 DEVELOPMENT AND VALIDATION OF A PREDICTION MODEL FOR SUCCESS IN ADULT PATIENTS UNDERGOING ELECTIVE LUMBAR SPINAL FUSION: A DOUBLE COHORT STUDY
Esther Janssen, Maastricht, The Netherlands
Esther Janssen, Ilona Punt, Sander van Kuijk, Eric Hoebink, Nico van Meeteren, Paul Willems
Department of Orthopaedics and Research School Caphri, Maastricht University Medical Centre+, Maastricht, The Netherlands

QF22 A COMPARATIVE STUDY OF EARLY FUSION STATUS AFTER PLIF WITH CORTICAL BONE TRAJECTORY SCREW FIXATION USING CARBON PEEK CAGES OR TITANIUM-COATED PEEK CAGES
Hironobu Sakaura, Osaka, Japan
Hironobu Sakaura, Atsunori Ohtsuki, Akira Yamagishi, Tetsuo Ohwada
Dept of Orthopaedic Surgery, JCHO Osaka Hospital, Osaka, Japan

QF23 LONG TERM OUTCOME AFTER LUMBAR MICRODISCECTOMY IN YOUNG ADULTS
Anniina Koski-Palken, Helsinki, Finland
Miika Roiha, Johan Marjamaa, Jari Siironen, Anniina Koski-Palken
Department of Neurosurgery, Helsinki University Hospital, Finland

QF24 PREOPERATIVE ESTIMATION OF DISC HERNIATION RECURRENT AFTER MICRODISCECTOMY: PREDICTIVE VALUE OF A MULTIVARIATE MODEL BASED ON RADIOGRAPHIC PARAMETERS
Evgenii Baikov, Novosibirsk, Russia
Evgenii Baikov, Alexander Krutko, Evgenii Belykh, Morgan Giers, Vadim Byvaltsev, Aleksey Peleganchuk, Andrey Vasilyev, Abdugafur Sanginov
Research Institute of Traumatology and Orthopaedics n.a. Ya. L. Tsivyan, Russia

QF25 PREDICTING INPATIENT FUNCTIONAL RECOVERY IN PATIENTS UNDERGOING LUMBAR SPINAL FUSION: THE IMPORTANCE OF OBJECTIVE PHYSICAL PERFORMANCE MEASURES
Esther Janssen, Maastricht, The Netherlands
Esther Janssen, Biche Osong, Johan van Soest, Andre Dekker, Nico van Meeteren, Paul Willems, Ilona Punt
Department of Orthopaedics and Research School Caphri, Maastricht University Medical Centre+, Maastricht, The Netherlands
QF26 DISC INFLAMMATION AND MODIC CHANGES SHOW AN INTERACTION EFFECT ON RECOVERY AFTER SURGERY FOR LUMBAR DISC HERNIATION.
Niek Djuric, Leiden, The Netherlands
Niek Djuric, Xiaoyu Yang, Raymond Ostelo, Sjoerd van Duinen, Geert Lycklama a Neijeholt, Bas van der Kallen, Wilco Peul, Carmen Vleggeert-Lankamp
Dept of Neurosurgery, Leiden, The Netherlands

QF27 EVALUATION OF GLOBAL ALIGNMENT AND PROPORTION SCORE IN AN INDEPENDENT ADULT SPINAL DEFORMITY DATABASE
Munish Gupta, St. Louis, United States
Munish Gupta, Caglar Yilgor, Hong Moon, Thamrong Lertodomphonwani, Ahmet Alanay, Michael Kelly, Lawrence Lenke, Keith Bridwell
Washington University School of Medicine, St. Louis, United States

QF28 RISKS OF PULMONARY CEMENT EMBOLISM RELATED TO CEMENT AUGMENTED PEDICLE SCREW FIXATION OF THE OSTEOPOROTIC SPINES
Ying Zhang, Kunming, China
Ying Zhang, Jingming Xie, Yingsong Wang, Ni Bi, Tao Li, Zhi Zhao, Zhiyue Shi, Qian Lu, Quan Li
Department of Orthopedics, The 2nd Affiliated Hospital of Kunming Medical University, Yunnan Province, P.R. China

QF29 ELECTIVE LUMBAR SPINE SURGERY IN DEPRESSED PATIENTS. DOES IT WORTH IT?
Gemma Vila-Canet, Barcelona, Spain
Gemma Vila-Canet, Augusto Covaro, Ana Garcia de Frutos, Sergi Rodriguez-Alabau, Anna Isart Torruella, Francesco Ciccolo, David Cancer, Maite Ubierna, Enric Cáceres
ICATME, Hospital Quirón-Dexeus, Barcelona, Spain

QF30 DO PSYCHOLOGICAL FACTORS IMPACT THE OUTCOME OF SURGERY DIFFERENTLY IN NECK VERSUS BACK PATIENTS?
Anne F. Mannion, Zürich, Switzerland
Anne F. Mannion, Francine Mariaux, Tamas F. Fekete, Daniel Haschtmann, Markus Loibl, Frank S. Kleinstueck, Francois Parchet, Dezsoe Jeszenszky, Achim Elfering
Schulthess Klinik, Zürich, Switzerland; University of Berne, Berne, Switzerland

14:00–15:20 Infection, Diagnostics, Imaging, Epidemiology
Location: Meeting Room 101
Chairs: Kadir Kotil, Istanbul, Turkey
Bart Depreitere, Leuven, Belgium

QF31 ROLE OF LOCAL STREPTOMYCIN IN PREVENTION OF SURGICAL SITE INFECTION IN TB SPINE
Kaustubh Ahuja, Sonepat, India
Kaustubh Ahuja, Gagandeep Yadav, Sudhakar Sharma, Pankaj Kandwal
Dept of orthopaedics, AIIMS, Rishikesh, Sonepat, India

QF32 THE EPIDEMIOLOGY OF VERTEBRAL OSTEOMYELITIS REQUIRING SURGICAL INTERVENTION IN THE UNITED STATES FROM 1998 TO 2013
Michael Faloon, Paterson NJ, United States
Michael Faloon, Kimona Issa, Stuart Changoor, Jennifer Kurowicki, Bassel Diebo, Kumar Sinha, Ki Soo Hwang, Arash Emami
St. Joseph’s University Medical Center, Department of Orthopaedics, Paterson, NJ, United States

QF33 INSTRUMENTED VS NON INSTRUMENTED ANTERIOR DECOMPRESSION IN TB SPINE: LONG TERM OUTCOME ANALYSIS
Saurabh Singh, Varanasi, India
QF34 DEVELOPMENT OF AN EPIGENETIC IVD TEST FOR THE DIAGNOSIS AND PROGNOSIS OF ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS)
Ester Berenguer-Pascual, Valencia, Spain
Center for Biomedical Research-Instituto de Salud Carlos III, Facultad de Medicina i Odontologia, University of Valencia; Hospital Universitari i Politécnic La Fe, EpiDisease SL, Valencia, Spain

QF35 CORRELATIONS OF PELVIC INCIDENCE-BASED RELATIVE RADIOGRAPHIC PARAMETERS TO LOWER EXTREMITY COMPENSATIONS
Altug Yucekul, Istanbul, Turkey
Altug Yucekul, Barkin Erdogan, Duhan Kilickan, Caglar Yilgor, Tais Zulemyan, Yasemin Yavuz, Javier Pizones, Ibrahim Obeid, Frank Kleinstueck, Francisco Javier Sanchez Perez-Gresou, Emre Acaroglu, Ferran Pellisé, Ahmet Alanay, ESSG
Comprehensive Spine Center, Acibadem Maslak Hospital, Istanbul, Turkey; Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Department of Orthopedics and Traumatology, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Department of Biostatistics, Ankara University Faculty of Medicine, Ankara, Turkey; Spine Surgery Unit, Hospital Universitario La Paz, Madrid, Spain; Spine Surgery Unit, Bordeaux University Hospital, Bordeaux, France; Spine Center Division, Department of Orthopedics and Neurosurgery, Schulthess Klinik, Zürich, Switzerland; Ankara ARTES Spine Center, Ankara, Turkey; Spine Surgery Unit, Hospital Vall d’Hebron, Barcelona, Spain; Vall D’Hebron Institute of Research, Barcelona, Spain

QF36 RELIABILITY AND VALIDITY OF SELF-REPORTED DISABILITY QUESTIONNAIRES IN LOW BACK PAIN POPULATION: A SYSTEMATIC REVIEW
Nadège Lemeunier, Toulouse, France
Riaz Mohammed, Hainan Yu, Sarah Batley, Pierre Côté, Anne Taylor-Vaisey, Nadège Lemeunier
IFEC, UOIT-CMCC Centre for Disability Prevention and Rehabilitation, Toulouse, France

QF37 GREATER DISABILITY ASSOCIATED WITH PATIENTS’ UNREALISTIC EXPECTATIONS OF LUMBAR SURGERY COMPARED TO SURGEONS’ EXPECTATIONS
Carol A. Mancuso, New York, United States
Carol A. Mancuso, Roland Duculan, Frank P. Cammisa, Andrew A. Sama, Alexander P. Hughes, Darren R. Lebl, Federico P. Girardi
Department of Orthopedic Surgery, Hospital for Special Surgery, New York, NY, United States

QF38 DISSATISFACTION AFTER LUMBAR SURGERY ASSOCIATED WITH CLINICAL VARIABLES AND NOT PATIENTS’ AND SURGEONS’ EXPECTATIONS
Carol A. Mancuso, New York, United States
Carol A. Mancuso, Roland Duculan, Frank P. Cammisa, Andrew A. Sama, Alexander P. Hughes, Darren R. Lebl, Federico P. Girardi
Department of Orthopedics, Hospital for Special Surgery, New York, NY, United States

QF39 DIFFERENCES BETWEEN POSTOPERATIVE NARCOTIC PRESCRIPTIONS IN OUTPATIENT LUMBAR SPINE SURGERY BETWEEN THE UNITED STATES AND FRANCE
Soufiane Ghailane, 33000 Bordeaux, France
Houssam Boulosca, Soufiane Ghailane, Mohammad Alsofyani, Ruwan Ratnayake, Calvin Kuo, Kamran Majid, Jean-Marc Vital, Olivier Gille, Ravi Bains
Department of Spine Surgery, Kaiser Oakland Medical Center, Oakland, CA, United States

★ Study was supported by a EUROSPINE TFR Grant
CERVICAL BONE MINERAL DENSITY MEASURED BY QCT IN PATIENTS UNDERGOING ANTERIOR CERVICAL SPINE SURGERY
Ichiro Okano, New York, United States
Stephan Salzmann, Courtney Ortiz Miller, Ichiro Okano, Fabian Winter, Jennifer Shue, John Carrino, Andrew Sama, Frank Cammisa, Federico Girardi, Alexander Hughes
Spine Service, Hospital for Special Surgery, Weill Cornell Medicine, New York, NY, United States

USE OF HOUNSFIELD UNITS OF S1 BODY TO DIAGNOSE OSTEOPOROSIS IN PATIENTS WITH LUMBAR DEGENERATIVE DISEASES
Weishi Li, Beijing, China
Weishi Li, Da Zou
Peking University Third Hospital, Beijing, China

EOS, O-ARM AND STANDARD SPINE RADIOGRAPHS; WHAT IS THE CUMULATIVE RADIATION EXPOSURE DURING CURRENT SCOLIOSIS MANAGEMENT?
Ari Demirel, Aalborg, Denmark
Ari Demirel, Peter Heide Pedersen, Soren Peter Eiskjaer
Dept of Orthopaedics, Aalborg, Denmark

A NOVEL AND REPRODUCIBLE CLASSIFICATION OF THE VERTEBRAL ARTERY IN THE SUBAXIAL CERVICAL SPINE
Ichiro Okano, New York, United States
Fabian Winter, Ichiro Okano, Stephan Salzmann, Colleen Rentenberger, Jennifer Shue, Andrew Sama, Federico Girardi, Frank Cammisa, Alexander Hughes
Department of Orthopaedic Surgery, Hospital for Special Surgery, New York City, NY, United States

A NOVEL PREOPERATIVE TRAJECTORY EVALUATION METHOD FOR L5-S1 TRANSFORAMINAL PERCUTANEOUS ENDOSCOPIC LUMBAR DISCECTOMY BY MRI OR CT
Sang Soo Eun, Seoul, Korea (ROK / South Korea)
Sang Soo Eun, Sang Ho Lee
Wooridul Spine Hospital, Seoul, Korea

EXAMINING HOW SELF-PERCEIVED PARTICIPATION TO SOCIETY AND AUTONOMY DIFFERS AMONG ADULTS WITH SPINAL DEFORMITY RECEIVING SURGICAL OR NON-SURGICAL MANAGEMENT
Kristel Van de loock, Leuven, Belgium
Kristel Van de loock, Lore Hermans, Sebastiaan Schelfaut, Lennart Scheys, Lieven Moke
Orthopaedic Department University Hospital of Leuven, Belgium
QF48 COMBINED ONE STEP LATERAL INTERBODY FUSION AND POSTERIOR MIS TRANSPEDICULAR SCREWIN USING 3D IMAGING AND NAVIGATION
Marc Prod’Homme, Lausanne, Switzerland
Duccio Boscherini, Marc Prod’homme, Serge Rovenne
Centre Neuro Orthopédique, Lausanne, Switzerland

QF49 ACCURACY OF SCREW PLACEMENT IN MINIMALLY INVASIVE, ROBOT-ASSISTED ILIOSACRAL SCREW INSERTION IN CHILDREN WITH NEUROMUSCULAR SCOLIOSIS
François Deroussen, Amiens, France
François Deroussen, Michel Lefranc, Céline Klein, Richard Gouron
Dept of Paediatric Orthopaedic Surgery, Amiens, France

QF50 SURGICAL WOUND INFILTRATION OF MULTIMODAL COCKTAIL ANALGESIA COMPARED WITH LOCAL ANESTHETIC FOR REDUCE POST-OPERATIVE PAIN IN MIS-TLIF: A RANDOMIZED CONTROLLED TRIAL.
Weerasak Singhatanadgige, Bangkok, Thailand
Weerasak Singhatanadgige, Worawat limthongkul, Wicharn Yingsakmongkol, Todsapon Chancharaencharo
Chulalongkorn University and King Chulalongkorn Memorial Hospital, Bangkok, Thailand

QF51 CLINICAL AND RADIOLOGICAL RESULTS OF TREATMENT OF LUMBAR SPONDYLOSIS USING CORTICAL BONE TRAJECTORY SCREWS (CBT)
Mateusz Bielecki, Warsaw, Poland
Mateusz Bielecki, Przemyslaw Kunert, Artur Balasa, Tomasz Dziedzic, Andrzej Marchel
Dept of Neurosurgery, Medical University of Warsaw, Poland

QF52 EVALUATION OF BONE ONGROWTH ON THE SURFACES OF A NEWLY-DEVELOPED 3D-PRINTED POROUS TITANIUM ALLOY CAGE: IN VIVO ANALYSIS USING CT COLOR MAPPING
Takahiro Makino, Suita, Japan
Takahiro Makino, Yusuke Sakai, Shota Takenaka, Hideki Toshikawa, Takashi Kaito
Dept of Orthopaedic Surgery, Osaka University Graduate School of Medicine, Suita, Japan

QF53 REDUCED RADIATION PROTOCOL FOR O-ARM NAVIGATION IN PAEDIATRIC DEFORMITY PATIENTS: A FEASIBILITY STUDY
Saurabh Kapoor, Nottingham, United Kingdom
Saurabh Kapoor, Kenneth ODowd, Aaron Hillis, Nasir Quraishi
Spinal department, Queen’s Medical Center, Nottingham, United Kingdom

QF54 PARTIAL HEMI-VERTEBRA RESECTION (SRS-SCHWAB GRADE 4 OSTEOTOMY) FOR CONGENITAL SCOLIOSIS: A COMPARISON WITH RADICAL HEMI-VERTEBRA RESECTION
Jun Jiang, Nanjing, China
Zezhang Zhu, Dun Liu, Yang Li, Benlong Shi, Zhen Liu, Xu Sun, Yong Qiu
Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

QF55 ACCURACY OF SCREW PLACEMENT OF ANTERIOR PEDICLE SCREW IN CERVICAL SPINE-RADIOLUCENT GUIDE-WIRE SYSTEM CAN IMPROVE THE ACCURACY OF SCREW PLACEMENT?
Yasutsugu Yukawa, Wakayama, Japan
Yasutsugu Yukawa, Hiroshi Hashizume, Akihito Minamide, Hiroshi Iwasaki, Shunji Tsutsui, Masanari Takami, Motohiro Okada, Hiroshi Yamada
Dept of Orthop Surg, Wakayama Medical University, Wakayama, Japan
QF56 AUGMENTED REALITY SURGICAL NAVIGATION RESULTS IN HIGHER PEDICLE SCREW ACCURACY AND IMPLANT DENSITY COMPARED TO FREE-HAND TECHNIQUE, A MATCHED-CONTROL STUDY.
Gustav Burstrom, Best, The Netherlands
Gustav Burstrom, Adrian Elmi-Terander, Rami Nachabe, Michael Fagerlund, Fredrik Stahl, Anastasios Charalampidis, Erik Edstrom, Paul Gerdhem
Dept of Neurosurgery, Karolinska, Stockholm, Sweden

QF57 FIRST EXPERIENCE WITH PLATELET RICH FIBRIN AUGMENTATION OF DEEP SURGICAL SITE INFECTIONS AFTER INSTRUMENTED SPINAL SURGERY
Ioannis Vasilikos, Freiburg, Germany
Ioannis Vasilikos, Roland Roelz, Christoph Scholz, Ulrich Hubbe
Medical Center – University of Freiburg, Faculty of Medicine, University of Freiburg, Germany

QF58 DOES OBESITY AFFECT LONG-TERM OUTCOMES OF LATERAL LUMBAR INTERBODY FUSION (LLIF)?
Michael Faloon, Paterson NJ, United States
Michael Faloon, Stuart Changoor, Nikhil Sahai, Conor Dunn, Kumar Sinha, Ki Soo Hwang, Arash Emami
St. Joseph’s University Medical Center, Department of Orthopaedics, Paterson, NJ, United States

QF59 FUSION PERFORMANCE OF ATTRAX® PUTTY VS. AUTOGRIFT IN INSTRUMENTED POSTEROLATERAL SPINAL FUSION; A RANDOMIZED INTRA-PATIENT CONTROLLED NON-INFERIORITY TRIAL
Mechteld Lehr, Utrecht, The Netherlands
Mechteld Lehr, Cumhur Öner, René Castelein, Moyo Kruyt, Dutch Clinical Spine Research Group
Dept. of Orthopaedic Surgery, University Medical Center Utrecht, Utrecht, The Netherlands;
Dept. of Orthopaedic Surgery, Amphia Hospital, Breda, The Netherlands; Dept. of Orthopaedic Surgery, OLVG, Amsterdam, The Netherlands; Dept. of Orthopaedic Surgery, Rijnstate Hospital, Arnhem, The Netherlands

QF60 THORACOSCOPIC VERTEBRAL BODY TETHERING FOR ADOLESCENT IDIOPATHIC SCOLIOSIS: MID-TERM RESULTS OF 24 PATIENTS
Tuna Pehlivanoglu, Istanbul, Turkey
Tuna Pehlivanoglu, Ender Ofluoglu, Ismail Oltulu, Ender Sariaglu, Guray Altun, Murat Korkmaz, Mehmet Aydogan
University of Health Sciences (SBU), Faculty of Medicine, Istanbul Training and Research Hospital, Department of Orthopaedic Surgery and Traumatology, Istanbul, Turkey

15:20–16:20 COFFEE BREAK in the Exhibition Area and New Members’ Cocktail at the EUROSPINE Booth

16:20–17:48 Degenerative (thoracolumbar), Basic science
Location: Plenary Hall
Chairs: Yu-Mi Ryang, Berlin, Germany
Zdenek Klezl, Derby, United Kingdom
Enrico Gallazzi, Milan, Italy

8 DISC DEGENERATION: MORE THAN AN AGING PROCESS
Jeremy Fairbank, Oxford, United Kingdom
Amir Jamaludin, Timor Kadir, Andrew Zisserman, Claudio Pereira, Frances Williams, Jill Urban, Jeremy Fairbank
Department of Engineering Science, University of Oxford, Oxford, United Kingdom; Plexalis Ltd, Oxford, United Kingdom; Botnar Institute of Musculoskeletal Sciences, Nuffield Department of
THE STABILIZING EFFECT OF THE RIB CAGE DEPENDS ON SPINAL LENGTH, SEGMENTAL LEVEL, AND ANTERIOR RIB CAGE INTEGRITY: AN IN VITRO STUDY
Christian Liebsch, Ulm, Germany
Christian Liebsch, Hans-Joachim Wilke
Institute of Orthopaedic Research and Biomechanics, Trauma Research Centre Ulm, Ulm University, Ulm, Germany

THE CYTOKINE PROFILE DIFFERENCES IN UPPER AND LOWER SEGMENT DEGENERATIVE SPONDYLOLISTHESIS AND THEIR INVOLVEMENT IN PAIN MEDIATION
Juraj Sutovsky, Martin, Slovakia
Juraj Sutovsky, Martin Benco, Ivana Kazimierova, Juraj Miklusica, Martina Sutovska
Clinic of Neurosurgery, Martin, Slovakia

A RANDOMIZED, PROSPECTIVE CLINICAL TRIAL TO EVALUATE THE EFFICACY AND SAFETY IN LUMBAR FUSION SURGERY OF IMPLANTATION OF AUTOLOGOUS BONE MARROW MESENCHYMAL CELLS EXPANDED EX VIVO AND COMBINED WITH ALLOGENEIC BONE TISSUE (XCEL-MT-OSTEO-ALPHA), AS COMPARED WITH THAT OF AUTOLOGOUS ILIAC CREST GRAFT. (EUDRACT NO. 2010-023999-12; NCT01552707)
Pilar González-Tartière, Barcelona, Spain
Pilar González-Tartière, Ana García de Frutos, Maite Ubierna Garcés, Alex del Arco Churruca, Guillem Sala Bru, Antonia Matamalas Adrover, Ruth Coll Bonet, Nuria Ribó, Juan Bago Granell, Enric Càceres Palou
Vall d’Hebron Institute of Research (VHIR), Barcelona, Spain; Hospital Vall D’Hebron, Barcelona, Spain; Hospital Germans Trias i Pujol, Barcelona, Spain; Hospital de Sant Pau, Barcelona, Spain; Parc de Salut Mar, Barcelona, Spain; Banc de Sang i Teixits, Barcelona, Spain; Hospital Universitari Quirón Dexeus, Barcleona, Spain

DOES 3 MONTHS TERIPARATIDE TREATMENT AFFECT THE CROSS-SECTIONAL AREA OF THE SPINAL CANAL: A POST HOC ANALYSIS OF PATIENTS PARTICIPATING IN THE RANDOMIZED PLACEBO-CONTROLLED PARADESE-STUDY
Annette B. Jespersen, Middelfart, Denmark
Annette B. Jespersen, Nilufar Firooznia, Camilla Egholm, Thomas Skjødt, Mikkel Andersen
Spine Unit, Department of Orthopaedic Surgery, Vejle Hospital, Denmark

A NEW METHOD FOR EVALUATION OF PARASPINAL MUSCLE MORPHOLOGY: SPINALobjective muscle morphology assessment (SOMMA)
Nuno Cruz Oliveira, Braga, Portugal
Nuno Cruz Oliveira, Alexandre Almeida, Elisabete Ribeiro, Ricardo Magalhães, Bruno Santos, Pedro Varanda, Rui Duarte
Orthopedic Surgery Department, Hospital de Braga, Portugal

RECOVERY AFTER SURGERY FOR LUMBAR DISK HERNIATION, A RANDOMIZED CLINICAL TRIAL COMPARING THE EFFECT OF SUPERVISED REHABILITATION VERSUS HOME EXERCISES
Mikkel Østerheden Andersen, Little Belt, Denmark
Rune Tendal Paulsen, Leah Y. Carreon, Mikkel Østerheden Andersen
15 LUMBAR DISCECTOMY PATIENTS WHO UNDERGO REOPERATION EXPERIENCE WORSE CLINICAL OUTCOMES AND GREATER SOCIOECONOMIC BURDEN 3 YEARS AFTER THE PRIMARY PROCEDURE
Adisa Kuršumović, Villingen-Schwenningen, Germany
Adisa Kuršumović, Peter Douglas Klassen, Wellington Hsu, Frederic Martens, Jason Inzana, Michael Groff, Claudius Thomé
Department of Neurosurgery; Schwarzwald-Baar Klinikum; Villingen-Schwenningen, Germany

16 DEGENERATIVE CHANGES ON ADJACENT LEVELS AFTER INSTRUMENTED POSTEROLATERAL FUSION WITH AND WITHOUT TLIF: 10 YEAR MRI FOLLOW UP ON A RANDOMIZED STUDY
Kristian Høy, Risskov, Denmark
Kristian Høj, Lin Ding, Thomas Andersen, Niels Egund
Department of Orthopedics, Spine Section & Department of Radiology, Aarhus University Hospital, Denmark

17 COMPARISON OF GENERIC VS SPINE-SPECIFIC PAIN SURVEYS ADMINISTERED BEFORE SURGERY AND FULFILLMENT OF EXPECTATIONS MEASURED AFTER SURGERY FOR LUMBAR DEGENERATIVE SPONDYLOLISTHESIS
Roland Duculan, New York, United States
Roland Duculan, Alex Fong, James C. Farmer, Frank P. Cammisa, Andrew A. Sama, Alexander P. Hughes, Darren R. Lebl, Russel C. Huang, Harvinder S. Sandhu, Carol A. Mancuso, Federico P. Girardi
Hospital for Special Surgery, New York, United States

18 UNEXPECTED RECURRENCE OF PELVIC INCIDENCE IN ADULT SPINAL DEFORMITY PATIENTS WHO UNDERWENT LONG INSTRUMENTATION WITH S2AI DURING THE FOLLOW UP: ANALYSIS OF POSSIBLE FACTOR WITH MINIMUM FOLLOW-UP OF TWO YEARS
Zhen Liu, Nanjing, China
Zhen Liu, ChangChun Tseng, Yong Qiu, ZeZhang Zhu
Dept of spine surgery, Nanjing, China
Scientific Programme
Thursday, 17 October
08:30–10:00  Adult Deformity, Diagnostics and Imaging  
Location: Plenary Hall  
Chairs: Martin Gehrchen, Copenhagen, Denmark  
Serdar Kahraman, Ankara, Turkey  
Marco Teli, Liverpool, United Kingdom

**KEYNOTE**: HIP-SPINE CONNECTION  
Yan Wang, Beijing, China

★ 19  DECISION ANALYSIS IN QUEST OF THE IDEAL TREATMENT IN ADULT SPINAL DEFORMITY REVISITED  
Emre Acaroglu, Ankara, Turkey  
1. Ankara Spine Center, Ankara, Turkey; 2. Department of Biostatistics, Ankara Yıldırım Beyazıt University, Ankara, Turkey; 3. Department of Biostatistics, Van Yuzuncu Yıl University, Van, Turkey; 4. Vocational School of Health Sciences, Acıbadem Mehmet Ali Aydinlar University, Istanbul, Turkey; 5. ARTES Spine Center at Acıbadem Ankara Hospital, Ankara, Turkey; 6. Department of Neurosurgery, Amasya University, Amasya, Turkey; 7. Hospital Universitari Vall d’Hebron, Barcelona, Spain; 8. Hospital Universitari Vall d’Hebron, Barcelona, Spain; 9. Hospital Universitari La Paz, Madrid, Spain; 10. Bordeaux University Hospital, Bordeaux, France; 11. Schulthess Klinik, Zurich, Switzerland; 12. Acıbadem Mehmet Ali Aydinlar University, Department of Orthopaedics and Traumatology, Istanbul, Turkey; 13. Hospital Universitari Vall d’Hebron, Barcelona, Spain

20  FORCED DECISION TREE CLASSIFIER FOR DETERMINING WIDESPREAD ACTING FEATURES AFFECTING MECHANICAL COMPLICATIONS  
Caglar Yilgor, Istanbul, Turkey  
Caglar Yilgor, Nogayhan Seymen, Omer Orhun, Berk Baris Ozmen, Altug Yucekul, Anne Mannion, Uğur Sezerman, İbrahim Obeid, Frank Kleinstueck, Francisco Javier Sanchez P. erez-Grueso, Emre Acaroglu, Ferran Pellisé, Ahmet Alanay, ESSG  
Department of Orthopedics and Traumatology, Acıbadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Department of Biostatistics and Medical Informatics, Acıbadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Acıbadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acıbadem Maslak Hospital, Istanbul, Turkey; Spine Center Division, Department of Orthopedics and Neurosurgery, Schulthess Klinik, Zürich, Switzerland; Spine Surgery Unit, Bordeaux University Hospital, Bordeaux, France; Spine Surgery Unit, Hospital Universitario La Paz, Madrid, Spain; Ankara ARTES Spine Center, Ankara, Turkey; Spine Surgery Unit, Hospital Vall d’Hebron, Barcelona, Spain; Vall D’Hebron Institute of Research, Barcelona, Spain

21  COMBINED ANTERIOR-POSTERIOR VS ALL-POSTERIOR APPROACHES FOR ADULT SPINAL DEFORMITY CORRECTION: A MATCHED CONTROL STUDY  
Sleiman Haddad, Barcelona, Spain  
Sleiman Haddad, Alba Vila-Casademunt, Oscar Enrique Ramirez Ramirez, Antonia Matamalas Adrover, Joan Baqó, Çağlar Yilgor, Frank S. Kleinstueck, Francisco Javier Sanchez Perez-Grueso, İbrahim Obeid, Emre R Acaroglu, Ahmet Alanay, Ferran Pellisé, ESSG European Spine Study Group  
Vall d’Hebron University Hospital - Barcelona, Spain

22  NEW CLASSIFICATION OF CORONAL MALALIGNMENT FOR ADULT SPINAL DEFORMITY: A VALIDATION STUDY  
İbrahim Obeid, Bordeaux, France

★ Study was supported by a EUROSPINE TFR Grant
RESTORING THE IDEAL ROUSSOULY SAGITTAL PROFILE IN ADULT SCOLIOSIS SURGERY DECREASES THE RISK OF MECHANICAL COMPLICATIONS
Javier Pizones, Madrid, Spain
Javier Pizones, Lucía Moreno-Manzanaro, Francisco Javier Pérez-Grueso, Caglar Yilgor, Nicomedes Fernández-Baillo, Ibrahim Obeid, Ahmet Alanay, Frank Kleinstueck, Emre Acaroglu, Ferran Pellisse
Spine Unit, Hospital Universitario La Paz, Madrid, Spain

DOES INTERBODY FUSION PROTECT AGAINST ROD FAILURE IN THE LOWER LUMBAR SPINE AFTER LONG FUSIONS TO THE SACRUM: A COMPARATIVE ANALYSIS OF ADULT SPINAL DEFORMITY PATIENTS
Mostafa El Dafrawy, Saint Louis, MO, United States
Mostafa El Dafrawy, Keith Bridwell, Owoicho Adogwa, Maksim Shlykov, Thamrong Lertudomphonwanit, Michael Kelly, Munish Gupta
Dept of Orthopaedics, Washington University in Saint Louis, United States

THE IMPACT OF LORDOSIS DISTRIBUTION AND SAGITTAL HARMONY ON POSTOPERATIVE MECHANICAL COMPLICATIONS AFTER A LUMBAR PSO
Javier Pizones, Madrid, Spain
Javier Pizones, Francisco Javier Pérez-Grueso, Lucía Moreno-Manzanaro, Louis Boissiere, Caglar Yilgor, Frank Kleinstueck, Emre Acaroglu, Ahmet Alanay, Ferran Pellisse, Ibrahim Obeid
Spine Unit, Hospital Universitario La Paz, Madrid, Spain

DIFFERENCES IN STANDING AND SITTING SPINOPELVIC SAGITTAL ALIGNMENT FOR PATIENTS WITH POSTERIOR LUMBAR FUSION IMPORTANT CONSIDERATIONS FOR THE CHANGES OF UNFUSED ADJACENT SEGMENTS LORDOSIS
Zhuo Ran Sun, Beijing, China
Zhuo Ran Sun, Si Yu Zhou, Wei Shi Li
Dept of Orthopedics, Beijing, China

THE LONG-TERM PSYCHOLOGICAL AND FUNCTIONAL STATUS OF FEMALE PATIENTS AFTER SURGICAL OR NON-SURGICAL TREATMENT FOR IDIOPATHIC SCOLIOSIS (IS): A QUALITATIVE AND QUANTITATIVE ANALYSIS
Alba Vila-Casademunt, Barcelona, Spain
Alba Vila-Casademunt, Anne F. Mannion, Clara Figueras-Sanroman, Oriol Alonso, Eva Gea, Xavier Vidal, Joan Bagó, Judith Sánchez-Raya, Xurxo Segura, Lluisa Montesinos
Spine Research Unit, Vall d’Hebron Institute of Research (VHIR), Barcelona, Spain

10:00–10:30 ☕️ COFFEE BREAK in the Exhibition Area

10:30–12:00 ⬅️ Medal Lecture and Presidential Address
Location: Plenary Hall
Chairs: Frank Kandziora, Frankfurt, Germany
Margareta Nordin, Romorantin, France
Teija Lund, Helsinki, Finland

10:30 Team Working for Success
Presidential Address
Tim Pigott, Liverpool, United Kingdom

★ Study was supported by a EUROSPINE TFR Grant
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<th>Time</th>
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<tr>
<td>11:00</td>
<td>Laudatio for Kim Burton</td>
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<td><em>Lisa Roberts, Southampton, United Kingdom</em></td>
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<td>11:07</td>
<td>Presentation of Honorary Membership Certificate and Words from Honorary Member</td>
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<td><em>Lisa Roberts, Southampton, United Kingdom</em></td>
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<td><em>Kim Burton, Southport, United Kingdom</em></td>
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<td>11:10</td>
<td>Medal Lecture. Back to basics: How the ancient Finnish wisdom of sisu can elevate you to the next level</td>
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<td><em>Emilia Lahti, Helsinki, Finland</em></td>
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<td>11:40</td>
<td>Announcement of ES Grants</td>
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<td><em>Bart Depreitere, Leuven, Belgium</em></td>
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<td>11:44</td>
<td>News from across Europe. EUROSPINE’s EuSSAB activities</td>
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<td>Benefitting spine specialists across Europe - a success story</td>
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<td><em>Frank Kandziora, Frankfurt, Germany</em></td>
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<td>11:55</td>
<td>EuSSAB Medal to 2020 EuSSAB Representative</td>
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<td><em>Christoph Siepe, Munich, Germany</em></td>
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<td>12:00–13:50</td>
<td><strong>EUROSPINE LUNCH SYMPOSIA</strong></td>
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| 12:00–13:50 | **EUROSPINE LUNCH SYMPOSIA 3**  
**Non-Fusion Anterior Scoliosis Correction and Vertebral Body Tethering for AIS**  
Location: Meeting Room 101  
Chairs: *Pedro Berjano, Milan, Italy*  
*Ilkka Helenius, Turku, Finland*  
| 12:10  | Anterior scoliosis surgery and growth modelling in the last two decades |
|        | *Per Trobisch, Simmerath, Germany*                                   |
| 12:25  | Discussion                                                            |
| 12:30  | Vertebral body tethering growth modelling for immature AIS patients  |
|        | *Ahmet Alanay, Istanbul, Turkey*                                     |
| 12:45  | Discussion                                                            |
| 12:50  | Non-fusion Anterior Scoliosis Correction for mature AIS patients     |
|        | *M. Darryl Antonacci, Lawrenceville, NJ, United States*              |
| 13:05  | Discussion                                                            |
| 13:10–13:30 | Debate: Non Fusion Anterior Correction for AIS  
*Henry Halm, Neustadt, Germany*  
| 13:10  | Why I would not consider it                                           |
|        | *Henry Halm, Neustadt, Germany*                                      |
| 13:20  | Why I would consider it                                               |
|        | *Claudio Lamartina, Milan, Italy*                                    |
| 13:30  | Discussion                                                            |
| 12:00–13:50 | EUROSPINE LUNCH SYMPOSIUM 4  
Management of Common Complications in Adult Spine Surgery  
Location: Meeting Room 102  
Chairs: Hossein Mehdian, London, United Kingdom  
Radek Kaiser, Prague, Czech Republic |
| 12:10 | What is perfect timing of surgery for disc prolapse  
Serdar Kahraman, Ankara, Turkey |
| 12:25 | Discussion |
| 12:30 | The management of dural tear during and after surgery  
Luca Papavero, Hamburg, Germany |
| 12:45 | Discussion |
| 12:50 | The pathophysiology of CES and timing of surgery  
Martin Wilby, Liverpool, United Kingdom |
| 13:05 | Correlation between timing, disc herniation size and surgical outcome in Cauda Equina Syndrome  
Radek Kaiser, Prague, Czech Republic |
| 13:10 | Discussion |
| 13:15 | Osteoporosis and the Management of Spinal Degenerative Disease  
Azmi Hamzaoglu, Istanbul, Turkey |
| 13:30 | Discussion |
| 13:35 | Minimally invasive approach for the treatment of Discitis in Elderly  
Hossein Mehdian, London, United Kingdom |
| 13:45 | Discussion & Closing remarks |
| 14:00–15:20 | Degenerative (cervical), Craniocervical Junction  
Location: Plenary Hall  
Chairs: Baoge Liu, Beijing, China  
Matti Scholz, Frankfurt, Germany  
Lukas Panzenboeck, Vienna, Austria |
| 28 | ASSOCIATION BETWEEN CERVICAL DEGENERATION AND SELF-PERCEIVED NON-RECOVERY AFTER WHIPLASH INJURY  
Eric Rydman, Stockholm, Sweden  
Eric Rydman, Piotr Kasina, Sari Ponzer, Hans Järnbert-Pettersson  
Department of Clinical Science and Education, Södersjukhuset, Karolinska Institutet, Stockholm, Sweden |
| 29 | IMPORTANCE OF THE PREOPERATIVE CROSS-SECTIONAL AREA OF THE SEMISPINALIS CERVICIS AS A RISK FACTOR FOR LOSS OF LORDOSIS AFTER LAMINOPLASTY IN PATIENTS WITH CERVICAL SPONDYLOTIC MYELOPATHY  
Byung-Jou Lee, Goyang, Korea (ROK / South Korea)  
Byung-Jou Lee1, Jin Hoon Park1, Sang-Ryong Jeon2, Sung Woo Roh3, Seung-Chul Rhim3  
1) Department of neurosurgery, Inje University Ilsan Paik Hospital, Neuroscience & Radiosurgery Hybrid Research Center, Gyeonggi 10380, Republic of Korea; 2) Asan Medical center, Seoul, Republic of Korea |
TYPE II ODONTOID FRACTURE IN ELDERLY PATIENTS TREATED CONSERVATIVELY: IS FRACTURE HEALING THE GOAL?
Giorgio Lofrese, Cesena, Italy
Giorgio Lofrese, Antonio Musio, Federico De Iure, Francesco Cultrera, Roberto Donati, Corrado Iaccarino, Pasquale De Bonis
Neurosurgery Division, Cesena, Italy

NECK PAIN RESPONSE TO OPERATIVE INTERVENTION IN PATIENTS WITH DEGENERATIVE CERVICAL MYELOPATHY: RESULTS FROM THE MULTICENTER INTERNATIONAL PROSPECTIVE AOSPINE STUDIES
Michel Schneider, Toronto, Canada
Michel Schneider, Jetan Badhiwala, Lindsay Tetrault, Mary Zhu, Keegan Idler, Michael G. Fehlings
Toronto Western Hospital, Department of Neurosurgery, Canada; University College Cork, Cork, Ireland; St. Michael’s Hospital, Department of Neurosurgery, Canada; University of Toronto, Canada

TEN-YEAR OUTCOMES OF ONE- AND TWO-LEVEL CERVICAL DISC ARTHROPLASTY: RESULTS FROM A U.S. MULTI-CENTER STUDY
Kee D. Kim, Sacramento, United States
Kee D. Kim, Greg Hoffman, Hyun W. Bae, Andy Redmond, Pierce Nunley, David Tahernia, Robert Jackson, Ali Araghi
UC Davis, Department of Neurological Surgery, Sacramento, CA, United States

CERVICAL SPINE ANOMALIES WITHIN THE 22Q11.2 DELETION SYNDROME: RISK AND SCREENING
Bern-Jan Hogendoorn, Utrecht, The Netherlands
Jelle Homans, Bern-Jan Hogendoorn, Moyo Kruyt, Terrence Crowley, Donn McDonald-McGinn, Frederik Beek, René Castelein
Department of Orthopaedic Surgery, University Medical Center Utrecht, The Netherlands

COMPARISON OF DURAL GRAFTS IN CHIARI MALFORMATION TYPE I DECOMPRESSION SURGERY
Artur Balasa, Warsaw, Poland
Artur Balasa, Tomasz Dziedzic, Przemyslaw Kunert, Andrzej Marchel
Department of Neurosurgery, Medical University of Warsaw, Warsaw, Poland

PLASTICITY OF THE BRAIN AND PROGNOSTIC PREDICTION IN EVALUATING SPONTANEOUS BRAIN ACTIVITY FOR CERVICAL MYELOPATHY: A RESTING-STATE FMRI STUDY
Shota Takenaka, Suita, Osaka, Japan
Shota Takenaka, Takashi Kaito, Takahiro Makino, Yusuke Sakai, Junichi Kushioka, Hisashi Tanaka, Yoshiyuki Watanabe, Shigeyuki Kan, Masahiko Shibata
Dept of Orthopaedic Surgery, Osaka University, Osaka, Japan

A CLINICAL PREDICTION MODEL FOR THE RECOVERY OF WHIPLASH-ASSOCIATED DISORDERS
Pierre Côté, Oshawa, Canada
Pierre Côté, Maja Stupar, Heather Shearer, Linda Carroll, Eleanor Boyle, J. David Cassidy
Faculty of Health Sciences, University of Ontario Institute of Technology and UOIT-CMCC Centre for Disability Prevention and Rehabilitation, Ontario, Canada

RESULTS OF THE SURGICAL TREATMENT OF ATLANTOAXIAL METASTATIC TUMOURS; A SINGLE CENTRE CASE SERIES OF 35 CONSECUTIVE PATIENTS.
Mohamed Alhashash, Bad Bekra, Germany
15:20–15:50  ■  COFFEE BREAK in the Exhibition Area

15:50–17:02  ■  Minimal Invasive Spine Surgery (MISS), New Techniques
Location: Plenary Hall
Chairs: Paulo Pereira, Porto, Portugal
Peter Försth, Uppsala, Sweden
Daniel Haschtmann, Zürich, Switzerland

38  DOES PERCUTANEOUS LUMBOSACRAL PEDICLE SCREW INSTRUMENTATION PREVENT LONG TERM ADJACENT SEGMENT DISEASE?
Michael Faloon, Paterson NJ, United States
Michael Faloon, Conor Dunn, Kimona Issa, Stuart Changoor, Kumar Sinha, Ki Soo Hwang, Arash Emami
St. Joseph’s University Medical Center, Department of Orthopaedics, Paterson, NJ, United States

39  PERCUTANEOUS CORRECTION USING LATERAL INTERBODY FUSION AND COMPLETELY PERCUTANEOUS PEDICLE SCREW FIXATION FOR ADULT SPINAL DEFORMITY WITH DUAL ROD ROTATION TECHNIQUE AND REVERSE CANTILEVER TECHNIQUE. TECHNICAL NOTES
Tomohisa Harada, Kyoto, Japan
Tomohisa Harada
Dept of Orthopaedics, Spine Center, Rakuwakai Marutamachi Hospital, Kyoto, Japan

40  VERTEBRAL AXIAL ROTATION IN PATIENTS WITH LUMBAR DEGENERATIVE SCOLIOSIS: SURGICAL IMPLICATIONS FOR OBLIQUE LUMBAR INTERBODY FUSION
Myung-Hoon Shin, Incheon, Korea (ROK / South Korea)
Myung-Hoon Shin, Jong-Tae Kim
Dept of Neurosurgery, Incheon St Mary’s hospital, The catholic university of Korea

41  CEMENT DISCOPLASTY FOR THE MANAGEMENT OF LUMBAR SPINE PSEUDO-ARTHROSIS IN ELDERLY PATIENTS; A LESS INVASIVE ALTERNATIVE APPROACH
Mohamed Alhashash, Bad Bekra, Germany
Mohamed Alhashash, Mootaz Shousha, Heinrich Boehm
Dept. of Spine Surgery, Bad Berka, Germany

42  THORACOSCOPIC VERTEBRAL BODY TETHERING FOR ADOLESCENT IDIOPATHIC SCOLIOSIS: MINIMUM 2 YEARS RESULTS OF PATIENTS REACHING SKELETAL MATURITY
Ahmet Alanay, Istanbul, Turkey
Ahmet Alanay, Altug Yucekul, Peri Kindan, Hattice Hatun Tanriover, Tais Zulemyan, Gokhan Ergene, Sahin Senay, Binnaz Ay, Yasemin Yavuz, Caglar Yilgor
Department of Orthopedics and Traumatology, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem Maslak Hospital, Istanbul, Turkey; Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Department of Operating Room Services, Acibadem Mehmet Ali Aydinlar University Vocational School of Health Sciences, Istanbul, Turkey; Department of Cardiovascular Surgery, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Department of Anesthesiology, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Department of Biostatistics, Ankara University Faculty of Medicine, Ankara, Turkey

43  SURGICAL COMPLICATIONS OF ANTERIOR VERTEBRAL BODY GROWTH MODULATION FOR SKELETALLY IMMATURE PATIENTS WITH IDIOPATHIC SCOLIOSIS
Stefan Parent, Montreal, Canada
Stefan Parent, Abdulmajeed Alzakri, Marjolaine Roy-Beaudry, Isabelle Turgeon, Marie Beauséjour, Olivier Turcot
CHU Sainte-Justine, Montreal, Canada

44 PROSPECTIVE MULTICENTER STUDY OF A MULTISTEP SCREW INSERTION TECHNIQUE USING PATIENT-SPECIFIC SCREW GUIDE TEMPLATES FOR THE CERVICAL AND THORACIC SPINE
Taku Sugawara, Akita, Japan
Taku Sugawara, Naoki Higashiyama, Takuro Endo, Shinya Tamura, Hayato Suzuki
Dept of Spinal Surgery, Cerebrospinal and Cardiovascular Center, Akita City, Japan

45 THE ULTRASONIC BONE SCALPEL (UBS): HOW SAFE IS IT IN SPINAL SURGERY?
Roozbeh Shafafy, Nottingham, United Kingdom
Roozbeh Shafafy, Olakunle Badmus, Saurabh Kapoor, Daniel D’Aquina, Masood Shafafy
Nottingham University Hospitals, Nottingham, United Kingdom

46 CHARACTERISTIC SIGNS OF CAUDA EQUINA IN THE PATIENTS WITH SPINAL ARTERIOVENOUS FISTULA: CAUDA EQUINA OCCUPATION RATIO AS A NEW MARKER FOR THE CLINICAL EVALUATION
Hitoshi Yamahata, Kagoshima, Japan
Hitoshi Yamahata, Masanori Yonenaga, Koji Yoshimoto
Department of Neurosurgery, Kagoshima, Japan

17:05–17:15 EUROSPINE MEMBERS’ COCKTAIL
Location: Meeting Room 101

17:15–18:15 EUROSPINE GENERAL ASSEMBLY (members only)
Location: Meeting Room 101

19:30 OFFICIAL CONGRESS EVENING
Kellohalli
(At own expense)
Attire: smart casual
Scientific Programme
Friday, 18 October
KEYNOTE: SYRINGOMYELIA
Andrew Brodbelt, Liverpool, United Kingdom

47 HOW TO PREDICT RADIOGRAPHIC COBB ANGLE FROM CLINICAL MEASURES IN IDIOPATHIC SCOLIOSIS: RESULTS FROM A GEOMETRICAL STUDY?
Fabio Zaina, Milan, Italy
Francesca Di Felice, Francesco Negrini, Sabrina Donzelli, Giulia Rebagliati, Fabio Zaina, Stefano Negrini
ISICO (Italian Scientific Spine Institute), Milan, Italy. Department of Clinical and Experimental Sciences, University of Brescia, Brescia, Italy. Don Gnocchi Foundation, Milan, Italy. I.R.C.C.S. Istituto Ortopedico Galeazzi, Milan, Italy

48 CONCOMITANT LOW-GRADE ISTHMIC SPONDYLOLISTHESIS DOES NOT AFFECT THE COURSE OF AIS
Dietrich Schlenzka, Helsinki, Finland
Dietrich Schlenzka, Mauno Ylikoski, Timo Yrjönen, Leena Ristolainen
ORTON Research Institute, Helsinki, Finland

49 HEALTH-RELATED QUALITY OF LIFE OF IDIOPATHIC SCOLIOSIS; COMPARISON OF UNTREATED PATIENTS, SURGICALLY TREATED PATIENTS AND NORMAL CONTROLS
Meric Enercan, Istanbul, Turkey
Duygu Kuzu, Tunay Sanlı, Huseyin Ozturk, Okan Aslanturk, Yunus Emre Akman, Sinan Kahraman, Selhan Karadereler, Meric Enercan, Azmi Hamzaoglu
Department of Orthopedics and Traumatology, Istanbul Spine Center, Istanbul, Turkey

50 BACK PAIN AND QUALITY OF LIFE AFTER SURGICAL TREATMENT USING PEDICLE SCREW INSTRUMENTATION FOR ADOLESCENT IDIOPATHIC SCOLIOSIS AT 5-YEAR FOLLOW-UP. COMPARISON WITH HEALTHY CONTROLS AND PATIENTS WITH UNTREATED IDIOPATHIC SCOLIOSIS
Linda Helenius, Turku, Finland
Linda Helenius, Elias Diarbakerli, Hanna Oksanen, Markus Lastikka, Paul Gerdhem, Ilkka Helenius
Depts. of Anesthesia and Critical Care and Pediatric Orthopedic Surgery, Turku University Hospital, Turku, Finland; Karolinska Institute, Stockholm, Sweden

51 DOES A LEVELED LOWEST INSTRUMENTED VERTEBRA (LIV) LEAD TO BETTER OUTCOMES AT 5 YEARS FOLLOWING PSF WHEN ENDING AT L3 VS. L4?
Stefan Parent, Montreal, Canada
Stefan Parent, Burt Yaszay, John Flynn, Michael Kelly, Michael Glotzbecker, Peter Newton
CHU Sainte-Justine, Montreal, Canada

52 STRUCTURAL PROXIMAL THORACIC CURVE INFLUENCES BOTH STATIC AND DYNAMIC PULMONARY FUNCTION IN AIS PATIENTS
Youxi Lin, Beijing, China
Youxi Lin, Tianhua Rong, Haining Tan, Yang Jiao, Jianxiong Shen, Wangshu Yuan, Hui Cong
Peking Union Medical College Hospital, Beijing China
53 THE SURGICAL OUTCOME OF HEMIVERTEBRA EXCISION AND SHORT SEGMENT FUSION TREAT FOR UNDER 5 YEARS OLD CONGENITAL SCOLIOSIS: TEN YEARS FOLLOW UP
Ying Zhang, Kunming, China
Zhiyue Shi, Jingming Xie, Yingsong Wang, Ying Zhang, Tao Li, Zhi Zhao, Ni Bi, Quan Li, Qian Lu
Department of Orthopedics, The 2nd Affiliated Hospital of Kunming Medical University, Yunnan Province, P.R.China

54 MORPHOLOGICAL ANALYSIS OF 112 RESECTED HEMIVERTEBRAE FROM A DEVELOPMENTAL PERSPECTIVE
Tianhua Rong, Beijing, China
Tianhua Rong, Jianxiong Shen, Chong Chen, Youxi Lin, Haining Tan, Yang Jiao
Department of Orthopedics, Peking Union Medical College Hospital, Chinese Academy of Medical Science and Peking Union Medical College, Beijing, China

55 SEVERE PEDIATRIC DEFORMITY SURGERY HAD FREQUENT INTRA-OPERATIVE MONITORING ALERTS BUT A LOW RATE OF PERMANENT DEFICITS AT 2 YEARS
Munish Gupta, St. Louis, United States
Munish Gupta, Lawrence Lenke, Oheneba Boachie-Adjei, Mark Erickson, Sumeet Garg, Joshua Pahys, Amer Samdani, Paul Sponseller, Daniel Sucato, Michael Kelly
Washington University School of Medicine, St. Louis, United States

10:00–10:30 ☕ COFFEE BREAK in the Exhibition Area

10:30–12:00 ✨ Best of Show Session
Location: Plenary Hall
The audience is asked to vote via the EUROSPINE app.
Chairs: Tim Pigott, Liverpool, United Kingdom
Thomas Blattert, Schwarzach, Germany
Tamás Fekete, Zürich, Switzerland

56 TERMINAL COMPLEMENT COMPLEX (TCC): A POSSIBLE TARGET FOR INTERVERTEBRAL DISC DEGENERATION THERAPEUTICS
Graciosa Q. Teixeira, Ulm, Germany
Graciosa Q. Teixeira, Zhiyao Yong, Raquel M. Goncalves, Amelie Kuhn, Michael Ruf, Andreas Nerlich, Thomas Barth, Uwe M. Mauer, Anita Ignatius, Rolf Brenner, Cornelia Neidlinger-Wilke
Institute of Orthopaedic Research and Biomechanics, Trauma Research Centre, Ulm University, Ulm, Germany; Instituto de Investigación e Inovação em Saúde (I3S), Universidade do Porto, Porto, Portugal; Instituto de Engenharia Biomédica (INEB), Universidade do Porto, Porto, Portugal; Instituto de Ciências Biomédicas Abel Salazar (ICBAS), Universidade do Porto, Porto, Portugal; Division for Biochemistry of Joint and Connective Tissue Diseases, Department of Orthopedics, Ulm University, Ulm, Germany; Spine Center, Karlsbad-Langensteinbach, Germany; Institute of Pathology, Academic Hospital Munich-Bogenhausen, Munich, Germany; Institute of Pathology, Ulm University, Ulm, Germany; Department of Neurosurgery, German Armed Forces Hospital, Ulm, Germany

57 ARTIFICIAL INTELLIGENCE-BASED ADULT SPINAL DEFORMITY RISK-BENEFIT CLASSIFICATION: HIERARCHICAL CLUSTERING OF 1245 PATIENTS AND SURGERIES WITH MACHINE-BASED LEARNING AND SIMPLIFIED DECISION TREES
Ferran Pellisé, Barcelona, Spain
Vall d’Hebron Institute of Research, Barcelona, Spain
SPINO-PELVIC ALIGNMENT AFTER SHORT SEGMENT TRANSFORAMINAL LUMBAR INTERBODY FUSION (TLIF) - IS CORRECTION POSSIBLE AND WORTHWHILE?
Markus Loibl, Zürich, Switzerland
Markus Loibl, Felix Massen, Tamas Fekete, Daniel Haschtmann, Frank Kleinstück, Dezso Jeszenszky, Francois Pochet, Anne Mannion
Department of Spine Surgery, Schulthess Klinik, Zürich, Switzerland

RISK FACTORS FOR IMMEDIATE ENDPJATE INJURY AFTER MINIMALLY-INVASIVE LATERAL LUMBAR INTERBODY FUSION
Ji Hyun Ryu, Seoul, Korea (ROK / South Korea)
Kee-Yong Ha, Sang-Il Kim, Young-Hoon Kim, Hyung-Youl Park, Woong-Ki Jeon, Joon-Hyung Cho, In-Soo Oh
Dept of Orthopedic surgery, Seoul St. Mary's Hospital, The Catholic University of Korea, Seoul, Korea

THE SCIATICA-GILL TRIAL: ISTMIC SPONDYLOLISTHESIS: DECOMPRESSION WITH VS. WITHOUT INSTRUMENTED FUSION: A RANDOMIZED CONTROLLED TRIAL
Kayoumars Azizpour, The Hague, The Netherlands
Kayoumars Azizpour, Pieter Schutte, Mark Arts, Willem Pondaag, Gerrit Bouma, Maarten Coppes, Erik van Zwet, Wilco Peul, Carmen Vleggeert-Lankamp
Dept. of Neurosurgery, Leiden, The Netherlands

LONG-TERM PROGNOSIS AFTER ANTERIOR DECOMPRESSION AND FUSION IN YOUNG ADULTS
Anniina Koski-Palkén, Helsinki, Finland
Tuomas Hirvonen, Johan Marjamaa, Jari Siironen, Anniina Koski-Palkén
Department of Neurosurgery, Helsinki University Hospital, Helsinki, Finland

RISK FACTORS FOR REOPERATION FOR SURGICAL SITE INFECTIONS IN INSTRUMENTED SPINE TRAUMA PATIENTS
Richard Bransford, Seattle, United States
Richard Bransford, Brett Walker, Celeste Tavolaro, Haitao Zhou, Carlo Bellabarba
Department of Orthopaedics and Sports Medicine, University of Washington - Harborview Medical Center, Seattle, WA, United States

MACROPHAGE POLARIZATION CONTRIBUTES TO LOCAL INFLAMMATION AND STRUCTURAL CHANGE IN THE MULTIFIDUS MUSCLE AFTER INTERVERTEBRAL DISC INJURY. GRAMMER/EUROPEAN SPINE JOURNAL AWARD 2018/2019
Paul W. Hodges, Brisbane, Australia
Gregory James, Kathleen A. Sluka, Linda Blomster, Leanne Hall, Annina B. Schmid, Cindy C. Shu, Christopher B. Little, James Melrose, Paul W. Hodges
Eur Spine J (2018) 27:1744-1756

THE IMPACT AND VALUE OF UNI AND MULTIMODAL INTRAOPERATIVE NEUROPHYSIOLOGICAL MONITORING (IONM) ON NEUROLOGICAL COMPLICATIONS DURING SPINE SURGERY: A PROSPECTIVE STUDY OF 2728 PATIENTS. EUROPEAN SPINE JOURNAL FOR THE MAX AEIB AWARD FOR CLINICAL SCIENCES 2018/2019
Martin Sutter, Zürich, Switzerland
Martin Sutter, Andreas Eggspuehler, Dezsoe Jeszenszky, Frank Kleinstueck, TamáS Fekete, Daniel Haschtmann, François Pochet, Jiri Dvorak
Eur Spine J (2019) 28: 599-610

BEST-OF-SHOW PAPER NOMINATION
12:00–13:50  EUROSPINE LUNCH SYMPOSIUM 5
Cervical Spine Trauma. Beyond the Basics
Location: Meeting Room 101
Chairs: Stavros Stavridis, Thessaloniki, Greece
Klaus John Schnake, Fuerth, Germany

12:05  Welcome and Introduction
Stavros Stavridis, Thessaloniki, Greece

12:10  Optimising treatment of C2 odontoid fractures in the elderly
Klaus John Schnake, Fuerth, Germany

12:25  Discussion

12:30  Vertebal artery injury. Tipps and tricks
Ciaran Bolger, Dublin, Ireland

12:45  Discussion

12:50  Bilateral facet dislocation. From diagnosis to treatment
Matti Scholz, Frankfurt, Germany

13:05  Discussion

13:10  Cervical trauma in pre-existing spondylotic myelopathy. What next?
Paulo Pereira, Porto, Portugal

13:25  Discussion

13:30  Subaxial fractures in ankylosed spine. Meet the challenge
Hossein Mehdian, London, United Kingdom

13:45  Discussion & Closing remarks

12:00–13:50  EUROSPINE LUNCH SYMPOSIUM 6
Spine Tango
Location: Meeting Room 102
Chair: Everard Munting, Ottignies, Belgium

12:00  Journey to a national register in Belgium: Experiences with the Spine Tango model
Everard Munting, Ottignies, Belgium

12:10  Can spine registries improved patient outcomes?
Miranda van Hooff, Nijmegen, The Netherlands

12:25  Producing reliable research and clinical benefits from the NORspine registry
Tore Solberg, Oslo, Norway

12:40  Communicating surgical outcomes with patients - SweSpine's novel use of high quality registry data
Peter Fritzell, Stockholm, Sweden

12:55  Predictive modelling on the Spine Tango registry
Pascal Zehnder, Zürich, Switzerland
13:10 The new Spine Tango platform and EU medical device regulations  
Richard Armstrong, Milton Keynes, United Kingdom

13:25 Redeveloping the Spine Tango platform for patients and clinicians 
Tim Pigott, Liverpool, United Kingdom

13:35 Discussion: Horizons for spinal registries - What more can registries do to improve patient safety, experiences and outcomes? 
Tim Pigott, Liverpool, United Kingdom  
Everard Munting, Ottignies, Belgium  
Richard Armstrong, Milton Keynes, United Kingdom  
Miranda van Hooff, Nijmegen, The Netherlands  
Tore Solberg, Oslo, Norway  
Peter Fritzell, Stockholm, Sweden  
Pascal Zehnder, Zürich, Switzerland

13:45 Closing  
Emin Aghayev, Zürich, Switzerland  
Samuel Morris, Halifax, United Kingdom

14:00–15:20 Trauma, Tumour  
Location: Meeting Room 102  
Chairs: Christof Birkenmaier, Munich, Germany  
Bertrand Debono, Cornebarrieu, France

QF61 ASSOCIATION OF CRANIAL AND UPPER CERVICAL BONY AVULSION FRACTURES WITH TRAUMATIC CRANIOCERVICAL DISSOCIATION  
Richard Bransford, Seattle, United States  
Richard Bransford, Celeste Tavolaro, Haitao Zhou, Carlo Bellabarba  
Department of Orthopaedics and Sports Medicine, University of Washington - Harborview Medical Center, Seattle, WA, United States

QF62 LENGTH OF SURVIVAL, PAIN, DISABILITY AND QUALITY OF LIFE FOLLOWING CONSERVATIVE MANAGEMENT OF TYPE II ODONTOID FRACTURES IN OLDER PEOPLE: A RETROSPECTIVE OBSERVATIONAL STUDY  
Suzanne McIlroy, London, United Kingdom  
Suzanne McIlroy, Gordan Grahovac, Jordan Lam, Asfand Mirza, M Faheem Khan, Jerry Ajayi Philip, David Bell  
Department of Neurosurgery, King’s College Hospital, London, United Kingdom

QF63 MORTALITY FROM COMBINED FRACTURES OF ATLAS (C1) AND AXIS (C2) IN ADULTS  
Andraay Hon-Chi Leung, Glasgow, United Kingdom  
Fraser Riddoch, Anna Leerssen, Rashid Abu-Rajab, Andraay Hon-Chi Leung  
Queen Elizabeth University Hospital, Glasgow, United Kingdom

QF64 AIRBAG DEPLOYMENT AND CERVICAL SPINE INJURY IN RESTRAINED DRIVERS FOLLOWING MOTOR VEHICLE COLLISIONS  
Masahiro Kato, Utsunomiya, Japan  
Masahiro Kato  
Saiseikai Utsunomiya Hospital, Utsunomiya, Japan

QF65 DO WE NEED AN MRI IN PATIENTS WITH ANKYLOSING SPINAL DISORDERS AND ACUTE TRAUMA OR IS A CT SCAN SUFFICIENT?  
Richard Bransford, Seattle, United States
Richard Bransford, Samia Ghaffar, Celeste Tavolaro, Carlo Bellabarba, Haitao Zhou
Department of Orthopaedics and Sports Medicine, University of Washington - Harborview Medical Center, Seattle, United States

QF66 ACUTE PHASE MEAN ARTERIAL BLOOD PRESSURE CORRELATES TO LONG-TERM TRAUMATIC SPINAL CORD INJURY SEVERITY
Mette Haldrup, Aarhus, Denmark
Mette Haldrup, Stig Dyrskog, Helge Kasch, Hans Kirkegaard, Mikkel Myelius Rasmussen
Aarhus University Hospital, Aarhus, Denmark

QF67 EPIDURAL ELECTRICAL STIMULATION IN PATIENTS IN CHRONIC SPINAL CORD INJURY
Oxana Prudnikova, Kurgan, Russia
Oxana Prudnikova, Anastasia Kachesova, Irina Nesterova, Maxim Khomchenkov
Russian Ilizarov Scientific Center Department of Spinal surgery, Kurgan, Russia

QF68 THE EFFECT OF SAGITTAL MALALIGNMENT ON THE CLINICAL OUTCOME FOLLOWING CONSERVATIVE TREATMENT OF THE AO A3 AND A4 THORACOLUMBAR SPINE FRACTURE IN COMPARISON TO A1 FRACTURES. A RETROSPECTIVE STUDY
Mahmoud Elshamly, Vienna, Austria
Mahmoud Elshamly, Stefan Toegel, Josef Georg Grohs
Department of Orthopedics and Trauma Surgery, Medical University of Vienna, Vienna, Austria

QF69 PERCUTANEOUS CT GUIDED CANNULATED SCREWS IN THE TREATMENT OF TRAUMATIC SACROILIAC UNSTABLE JOINT: OUTCOMES AT 5 YEARS OF FOLLOW UP
Valerio Pace, Perugia, Italy
Valerio Pace, Gabriele Falzarano, Giuseppe Rollo, Michele Bisaccia, Riccardo Maria Lanzetti, Luigi Meccariello
University of Perugia, Italy

QF70 EARLY VERSUS DELAYED KYPHOPLASTY FOR THORACOLUMBAR OSTEOPOROTIC VERTEBRAL FRACTURES: THE EFFECT OF TIMING ON CLINICAL AND RADIOGRAPHIC OUTCOMES AND SUBSEQUENT COMPRESSION FRACTURES
Akihito Minamide, Wakayama, Japan
Dept of Orthopaedic Surgery, Wakayama Medical University, Wakayama, Japan

QF71 DOES THE MANAGEMENT OF SPINAL METASTATIC DISEASE IMPACT OUTCOMES FOR “INDETERMINATE” SPINAL INSTABILITY (SINS 7-12)?
Brian Dial, Durham, United States
Brian Dial, Anthony Catanzano, Valentine Esposito, Jack Steele, Rory Goodwin, Sergio Mendoza
Duke University, Dept Orthopaedic Surgery, Durham, United States

QF72 METASTASIC SPINAL CORD COMPRESSION. ANALYSIS OF 52 CASES SURGICALLY TREATED ACCORDING TO RADES AND SINS SCORES
Oscar Godino Martinez, Barcelona, Spain
Oscar Godino Martinez, Luis Lopez Obarrio, Lluis Gonzalez Cañas, Iago Garreta Catala, Frederic Font Vila, Arturo Navarro Martin
Department of Neurosurgery, Hospital Bellvitge, Barcelona, Spain

QF73 MINIMAL ACCESS VS. OPEN SPINE SURGERY IN PATIENTS WITH METASTATIC SPINAL CORD COMPRESSION - A ONE-CENTER RANDOMIZED CONTROLLED TRIAL
Søren Schmidt Morgen, Copenhagen, Denmark
*Spine Unit, Department of Orthopedic Surgery, Rigshospitalet, Copenhagen University Hospital, Copenhagen, Denmark; ± Division of Orthopedic Surgery, Texas Children’s Hospital and Baylor College of Medicine, Houston, Texas

QF74 EPIDEMIOLOGIC AND SURVIVAL TRENDS IN PRIMARY BONE TUMORS OF THE MOBILE SPINE
Brian Dial, Durham, United States
Brian Dial, David Kerr, Alexander Lazarides, Anthony Catanzano, Sergio Mendoza
Duke University, Orthopaedic Surgery, Durham, United States

QF75 SURVIVAL OUTCOMES AND PROGNOSTIC FACTORS OF PATIENTS WITH INTRAMEDULLARY GRADE II EPENDYMOMAS AFTER SURGICAL TREATMENTS
Xiang-Yao Sun, Beijing, China
Xiang-Yao Sun
Department of Orthopedics, Xuanwu Hospital Capital Medical University, Beijing, China

14:00–15:20

 Degenerative (cervical), New Techniques, Complications
Location: Meeting Room 101
Chairs: Susana Nunez Pereira, San Sebastián, Spain
Markus Loibl, Zürich, Switzerland

QF76 INCIDENCE AND ASSOCIATED FACTORS OF NECK PAIN IN PATIENTS WITH DEGENERATIVE CERVICAL MYELOPATHY: RESULTS FROM THE MULTICENTER INTERNATIONAL PROSPECTIVE AOSPINE STUDIES
Michel Schneider, Toronto, Canada
Michel M. Schneider, Lindsay Tetreault, Jetan Badhiwala, Mary Zhu, Keegan Idler, Michael G. Fehlings
Toronto Western Hospital, Department of Neurosurgery, Canada; St. Michael’s Hospital, Department of Neurosurgery, Canada; University of Toronto, Canada

QF77 SURGICAL OUTCOMES OF DYSPHAGIA PROVOKED BY DIFFUSE IDIOPATHIC SKELETAL HYPEROSTOSIS IN CERVICAL SPINE
Ho Yeol Zhang, Goyang, Gyeonggi-do, Korea (ROK / South Korea)
Ho Yeol Zhang, Youngsoo Chung, Yoon Ha, Jeong Yoon Park
Dept of Neurosurgery, National Healthi Insurance Service Ilsan Hospital, Goyang, Republic of Korea

QF78 DEGENERATIVE CERVICAL MYELOPATHY: A SEVEN-LETTER CODING SYSTEM THAT SUPPORTS DECISION MAKING FOR THE SURGICAL APPROACH
Luca Papavero, Hamburg, Germany
Luca Papavero, Gregor Schmeiser, Ralph Kothe, Bronek Boszczyk, Oliver Heese, Yoshiharu Kawaguchi, Anna MacDowall, Claes Olerud, Nikolaos Paidakakos, Anastasios Panagiotou, Tobias Pitzen, Marcus Richter, Daniel Riew, Aaron Stevenson, Lee Tan, Keichiro Ueshima, YH Yau, Michael Mayer
Clinic for Spine Surgery, Hamburg, Germany; Spine Center, Tutzing, Germany; Spine Center, Munich, Germany; Orthopedic Surgery, Toyama, Japan; Orthopedic Dpt., Uppsala, Sweden; Spine Center, Nottingham, United Kingdom; Spine Center, Karlsruhe-Langensteinbach, Germany; Spine Center, Wiesbaden, Germany; Spine Division, New York, United States; Spinal Unit, Adelaide, Australia
THE SEVERITY OF CERVICAL DISC DEGENERATION DOES NOT IMPACT ON THE IMPROVEMENT AFTER LAMINOPLASTY FOR THE PATIENT WITH CERVICAL SPONDYLOTIC MYELOPATHY.
Hasibullah Habibi, Osaka, Japan
Hasibullah Habibi, Koji Tamai, Akinobu Suzuki, Hitodemi Terai, Masatoshi Hashino, Hiromitsu Toyoda, Shinji Takahashi, Shoichiro Ohyama, Yusuke Hori, Hiroaki Nakamura
Dept of Orthopedic Surgery, Osaka, Japan

ADJACENT SEGMENT MOTION FOLLOWING NON-SINGLE LEVEL ACDF: A KINEMATIC AND CLINICAL STUDY IN PATIENTS WITH ZERO-PROFILE ANCHORED SPACER OR PLATE.
Bingxuan Wu, Beijing, China
Bingxuan Wu, Wei Cui, Baoge Liu
Department of Orthopaedics, Beijing, China

HYBRID SURGERY (HS) FOR THE TREATMENT OF CERVICAL DEGENERATIVE DISC DISEASES
Matjaz Vorsic, Maribor, Slovenia
Matjaz Vorsic, Tomaz Smigoc, Janez Ravnik, Rok Koncnik, Marko Jevsek
Dept of Neurosurgery, University Hospital Maribor, Slovenia

INCIDENCE AND RISK FACTORS FOR ROD FRACTURE AFTER THREE-COLUMN OSTEOTOMY IN SEVERE SPINAL KYPHOSCOLIOSIS
Yong Qiu, Nanjing, China
Yong Qiu, Sanqiang Xia, Zezhang Zhu, Benlong Shi, Zhen Liu, Junyin Qiu, Zhenhua Feng, Hongbin Ni
Dept of Spine Surgery, Nanjing, China

MULTIPLE ROD CONSTRUCT AND PEDICLE SUBTRACTION OSTEOTOMY: A SURVIVAL ANALYSIS WITH MINIMUM 2 YEARS FOLLOW-UP
Munish Gupta, St. Louis, United States
Munish Gupta, Renaud LaFage, Mostafa El Dafrawy, Eric Klineberg, Justin Smith, Chris Shaffrey, Han Jo Kim, Christopher Ames, Frank Schwab, Virginie LaFage
Washington University School of Medicine; St. Louis, United States

COMPARISON OF CLINICAL OUTCOMES BETWEEN HEADS-UP 3D VIEWING SYSTEM AND CONVENTIONAL SURGERY IN ACDF: A PILOT STUDY
Honghui Sun, Xi’an, China
Honghui Sun, Wei Hu, Dingjun Hao
Department of Spine Surgery, Honghui HospitalXi’an Jiaotong University Health Science Center Xi’an, Shaanxi, China

COMPLICATION, MENTAL HEALTH STATUS, AND SAGITTAL SPINOPELVIC ALIGNMENT CORRELATES WITH SELF-IMAGE IN PATIENTS WITH ADULT SPINAL DEFORMITY AFTER CORRECTIVE SURGERY
Kazunori Hayashi, Bordeaux, France
Kazunori Hayashi, Louis Boissière, Fernando Guevara-Villazón, Daniel Larrieu, Anouar Bourghli, Olivier Gille, Jean-Marc Vital, Ferran Pellisé, Francisco Javier Sánchez Pérez-Grueso, Frank Kleinstück, Emre Acarolu, Ahmet Alanay, Ibrahim Obeid, ESSG Bordeaux University Pellegrin Hospital, Bordeaux, France

ASSESSMENT OF SAGITTAL SHAPE AND ALIGNMENT USING SHORT-CASSETTE RADIOGRAPHS AND INTRAOPERATIVE FLUOROSCOPIC IMAGES FOR PREDICTING MECHANICAL COMPLICATIONS
Caglar Yilgor, Istanbul, Turkey
Caglar Yilgor, Altug Yucekul, Ipek Ege Gurel, Umut Can Karaaslan, Tais Zulemyan, Yasemin
Yavuz, Louis Boissiere, Ibrahim Obeid, Frank Kleinstueck, Francisco Javier Sanchez Perez-Grueso, Emre Acaroglu, Ferran Pellisé, Ahmet Alanay, ESSG
Department of Orthopedics and Traumatology, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem Maslak Hospital, Istanbul, Turkey; Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Department of Biostatistics, Ankara University Faculty of Medicine, Ankara, Turkey; Spine Surgery Unit, Bordeaux University Hospital, Bordeaux, France; Spine Center Division, Department of Orthopedics and Neurosurgery, Schulthess Klinik, Zürich, Switzerland; Spine Surgery Unit, Hospital Universitario La Paz, Madrid, Spain; Ankara ARTES Spine Center, Ankara, Turkey; Spine Surgery Unit, Hospital Vall d’Hebron, Barcelona, Spain; Vall D’Hebron Institute of Research, Barcelona, Spain

QF87 RISK FACTORS FOR PSEUDARTHROSIS IN ADULT SPINAL DEFORMITY (ASD) SURGERY
Louis Boissière, Bordeaux, France
Spine Unit, Bordeaux University Hospital, Bordeaux, France

QF88 KNEE FLEXION CONTRACTION AFFECTS CERVICAL ALIGNMENT AND NECK TENSION
Bingxuan Wu, Beijing, China
Beaoge Liu, Ding Yi
Beijing Tiantan Hospital of Capital Medical University, Beijing, China

QF89 DOUBLE ROD TECHNIQUE IN PATIENTS WITH CERVICAL SPINAL STENOSIS. A NOVEL MODIFICATION OF POSTERIOR CERVICAL INSTRUMENTATION
Tuna Pehlivanoglu, Istanbul, Turkey
Tuna Pehlivanoglu, Ismail Oltulu, Ender Ofluoglu, Guray Altun, Ender Sarioglu, Murat Korkmaz, Mehmet Aydogan
University of Health Sciences (SBU), Faculty of Medicine, Istanbul Training and Research Hospital, Department of Orthopaedic Surgery and Traumatology, Istanbul, Turkey

QF90 A COMPARISON OF MORTALITY AND MORBIDITY BETWEEN COMPLEX AND DEGENERATIVE SPINE SURGERY IN PROSPECTIVELY COLLECTED DATA FROM 2280 PRODEURES
Stian Solumsmoen, Glostrup, Denmark
Stian Solumsmoen, Tanvir Bari, Martin Gehrchen, Benny Dahl, Rachid Bech-Azeddine
1) Copenhagen Spine Research Unit (CSRU), Rigshospitalet, Glostrup, Denmark; 2) Spine Unit, Department of Orthopaedic Surgery, Rigshospitalet, Copenhagen, Denmark; 3) Department of Orthopaedic Surgery & Scoliosis Texas Children’s Hospital & Baylor College of Medicine, Houston, United States

14:00–15:20
Growing Spine, Craniovertebral Junction (all pathologies)
Location: Meeting Room 203
Chairs: Sleiman Haddad, Barcelona, Spain
Ibrahim Obeid, Bordeaux, France

QF100 RISK ANALYSIS OF VARIOUS AGE GROUPS OF CONGENITAL HEMIVERTEBRA RESECTION BEFORE TEN YEARS OLD
Ying Zhang, Kunming, China
Yingsong Wang, Jingming Xie, Qiuquan Lu, Ying Zhang, Tao Li, Zhi Zhao, Ni Bi, Zhiyue Shi, Quan Li
Department of Orthopedics, The 2nd Affiliated Hospital of Kunming Medical University, Yunnan Province, P.R.China
QF91 CLINICAL, RADIOLOGICAL AND HRQOL OUTCOMES AFTER SELECTIVE THORACIC FUSION WITH MINIMUM 15 YEARS FOLLOW-UP
Meric Enercan, Istanbul, Turkey
Sinan Kahraman, Yunus Emre Akman, Ayhan Mutlu, Onur Levent Ulusoy, Tunay Sanli, Huseyin Ozturk, Okan Aslanturk, Selhan Karadereler, Meric Enercan, Azmi Hamzaoglu
Department of Orthopedics and Traumatology, Istanbul Spine Center, Istanbul, Turkey

QF92 DO PATIENTS WITH ANTERIOR VERTEBRAL BODY GROWTH MODULATION HAVE A BETTER QUALITY OF LIFE THAN PATIENTS WITH A POSTERIOR SPINAL FUSION?
Stefan Parent, Montreal, Canada
Stefan Parent, Marjolaine Roy-Beaudry, Julie Joncas, Isabelle Turgeon, Abdulmajeed Alzakri
CHU Sainte-Justine, Montreal, Canada

QF93 NON-FUSION ANTERIOR SCOLIOSIS CORRECTION (ASC): COMPARISON OF OUTCOMES IN SKELETALLY IMMATURE VS. SKELETALLY MATURE PATIENTS WITH ADOLESCENT IDIOPATHIC SCOLIOSIS
M. Darryl Antonacci, Lawrenceville, NJ, United States
Randal Betz, W. Paul Bassett, Laury Cuddihy, Janet Cerrone, Allison Haas, M. Darryl Antonacci
Institute for Spine and Scoliosis, Lawrenceville, NJ, United States

QF94 EFFECT OF CORRECTION OF THORACIC HYPOKYPHOSIS ON LUMBAR LORDOSIS AFTER SURGICAL TREATMENT OF THORACIC ADOLESCENT IDIOPATHIC SCOLIOSIS
Federico Solla, Nice, France
Federico Solla, Jean-Luc Clément, Yann Pelletier, Veronica Amorese, Virginie Rampal
Lenval University Children’s Hospital, Nice, France

QF95 PATHOLOGIC SAGITTAL ALIGNMENT IS ALREADY PRESENT IN EARLY STAGES OF ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS)
René Castelein, Utrecht, The Netherlands
Tom Schlösser, René Castelein, Pierre Grobost, Suken Shah, Kariman Abelin-Genevois
University Medical Center Utrecht, Utrecht, The Netherlands

QF96 PREEMPTIVE PREGABALIN DOES NOT REDUCE POSTOPERATIVE OPIOID CONSUMPTION OR PAIN IN CHILDREN AND ADOLESCENTS UNDERGOING POSTERIOR INSTRUMENTED SPINAL FUSION. A DOUBLE-BLIND, PLACEBO-CONTROLLED, RANDOMIZED CLINICAL TRIAL
Linda Helenius, Turku, Finland
Linda Helenius, Hanna Oksanen, Markus Lastikka, Olli Pajulo, Tuula Manner, Ilkka Helenius
Depts. of Anesthesia and Critical Care and Pediatric Orthopedic Surgery, Turku University Hospital, Turku, Finland

QF97 THE EFFECT OF DIFFERENT STRATEGIES AND CORRECTION MANEUVERS IN AIS SURGERY
René Castelein, Utrecht, The Netherlands
Tom Schlösser, Kariman Abelin-Genevois, Jelle Homans, Saba Pasha, Suken Shah, René Castelein
Dept of Orthopaedic Surgery, University Medical Center Utrecht, Utrecht, The Netherlands
QF98 REPRODUCIBILITY OF THE CLASSIFICATION OF EARLY-ONSET SCOLIOSIS (C-EOS)
Casper Dragsted, Copenhagen, Denmark
Casper Dragsted, Søren Ohrt-Nissen, Dennis Hallager, Niklas Tøndevold, Thomas Andersen, Benny Dahl, Martin Gehrchen
Spine Unit, Dept of Orthopaedic Surgery, Rigshospitalet, Copenhagen, Denmark

QF99 NEUROLOGIC DEFICIT IMPROVED WITH THE CORRECTION OF ROTATORY SUBLUXATION USING PRE-OPERATIVE HALO-GRAVITY TRACTION IN SEVERE NEUROFIBROMATOSIS TYPE 1 AND CONGENITAL SCOLIOSIS
Xiaodong Qin, Nanjing, China
Benlong Shi, Liang Xu, Yang Li, Zhen Liu, Xu Sun, Zezhang Zhu, Junyin Qiu, Yong Qiu
Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

QF102 ODI ONTOIDEUM IN CHILDREN: TREATMENT OUTCOMES AND NEUROLOGIC RISK FACTORS
Ilkka Helenius, Turku, Finland
Ilkka Helenius, Jennifer Bauer, Paul Sponseller, Daniel Hedequist, Mitchell Johnson, A. Noelle Larson, John Anderson, Jeffrey Martus, Burt Yaszay, Jonathan Phillips
Dept of Paediatric Orthopaedic Surgery, Turku, Finland; Dept of Orthopedics, Seattle, United States; Dept of Orthopaedic Surgery, Baltimore, United States; Dept of Orthopaedic Surgery, Boston, United States; Division of Orthopaedics, Philadelphia, United States; Dept of Orthopedic Surgery, Rochester, United States; Dept of Orthopaedic Surgery, Kansas City, United States; Dept of Orthopedic Surgery and Rehabilitation, Nashville, United States; Dept of Orthopaedic Surgery, San Diego, United States; Dept of Pediatric Orthopaedics, Orlando, United States

QF103 A STUDY OF ATLANTOAXIAL ROTATORY FIXATION TREATMENT
Yusuke Oshita, Yokohama, Japan
Yusuke Oshita, Kazuyuki Segami, Hiroshi Maruyama, Akira Matsuoka, Ichiro Okano, Yoshifumi Kudo, Toshiyuki Shirahata, Yushi Hoshino, Koji Kanzaki, Tomoaki Toyone
Dept. of Orthop. Surg., Showa-Univ. Northern Yokohama Hosp., Yokohama, Japan

QF104 EVALUATION OF CLINICAL OUTCOMES OF ONE-STAGE ANTERIOR AND POSTERIOR SURGICAL TREATMENT FOR ATLANTOAXIAL TUBERCULOSIS COMPLICATED WITH NEUROLOGICAL DAMAGE: TEN-YEAR CASE REVIEW WITH MINIMALLY FIVE-YEAR FOLLOW-UP
Biao Wang, Xi’an, China
Biao Wang, Lingbo Kong, Wenjie Gao, Dingjun Hao
Honghui Hospital Xi’an Jiaotong University College of Medicine, Xi’an, China

QF105 TWO ATTENDING SURGEONS IMPROVE OUTCOMES OF ANTERIOR CERVICAL DISCECTOMY AND FUSION (ACDF)
Michael Faloon, Paterson NJ, United States
Michael Faloon, Stuart Changoor, Nikhil Sahai, Conor Dunn, Kumar Sinha, Ki Soo Hwang, Arash Emami
St. Joseph’s University Medical Center, Department of Orthopaedics, Paterson, NJ, United States

14:00–15:20 Adult Deformity (whole spine)
Location: Meeting Room 208
Chairs: Caglar Yilgor, Istanbul, Turkey
Dominique A. Rothenfluh, Oxford, United Kingdom
QF114 EXAMINATION OF CHANGES OF LOWER EXTREMITY PARAMETERS RELATED TO PROGRESSION OF ADULT SPINAL DEFORMITY - LONGITUDINAL STUDY OF OVER 22 YEARS
Mutsuya Shimizu, Asahikawa, Japan
Mutsuya Shimizu, Tetsuya Kobayashi, Shizuo Jimbo, Issei Senoo, Shuhei, Shuhei Murata, Hisashi Chiba, Hiroshi Ito
Dept. of Orthopaedic Surgery Asahikawa Medical University, Asahikawa, Japan

QF116 BACKWARD ARM SWING WAS RELATED WITH ADVANCING SPINAL DEFORMITY: A COHORT STUDY OF COMMUNITY-DWELLING VOLUNTEERS 60 YEARS OR OLDER
Tetsuya Kobayashi, Asahikawa, Japan
Tetsuya Kobayashi
Dept. of Orthop. Surg., Asahikawa Med. University, Japan

QF106 THE EFFECT OF THE LUMBAR PEDICLE SUBTRACTION OSTEOTOMY LEVEL ON LORDOSIS DISTRIBUTION AND SHAPE
Javier Pizones, Madrid, Spain
Javier Pizones, Francisco Javier Pérez-Grueso, Lucia Moreno-Manzanaro, Nicomedes Fernández-Baillo, Jose Miguel Sánchez-Marquez, Ahmet Alanay, Frank Kleinstueck, Emre Acaroglu, Ferran Pellise, Ibrahim Obeid
Spine Unit, Hospital Universitario La Paz, Madrid, Spain

QF107 IMPORTANCE OF POSTOPERATIVE AND FOLLOW-UP INFORMATION ON PREDICTION OF MECHANICAL COMPLICATIONS
Caglar Yilgor, Istanbul, Turkey
Caglar Yilgor, Nagayhan Seymen, Suna Lahut, Kadir Abul, Alihan Durace, Barkin Ergogan, Atahan Durbas, Alrug Yucekul, Ugur Sezerman, Ibrahim Obeid, Frank Kleinstueck, Francisco J.S. Perez-Grueso, Emre Acaroglu, Ferran Pellise, Ahmet Alanay, ESSG Department of Orthopedics and Traumatology, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Department of Biostatistics and Medical Informatics, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem Maslak Hospital, Istanbul, Turkey; Clinic of Orthopedics and Traumatology, Health Sciences University Gaziosmanpasa Taksim Training and Research Hospital, Istanbul, Turkey; Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem Maslak Hospital, Istanbul, Turkey; Clinic of Orthopedics and Traumatology, Health Sciences University Gaziosmanpasa Taksim Training and Research Hospital, Istanbul, Turkey; Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Spine Center Division, Department of Orthopedics and Neurosurgery, Schulthess Klinik, Zürich, Switzerland; Spine Surgery Unit, Hospital Universitario La Paz, Madrid, Spain; Ankara ARTES Spine Center, Ankara, Turkey; Spine Surgery Unit, Hospital Vall d’Hebron, Barcelona, Spain; Vall D’Hebron Institute of Research, Barcelona, Spain

QF108 COMPARING AND CONTRASTING THE CLINICAL UTILITY OF SAGITTAL SPINE ALIGNMENT CLASSIFICATION FRAMEWORKS: ROUSSOULY VS. SRS-SCHWAB
Peter Passias, New York, United States
Peter Passias, Cole Bortz, Renaud Lafage, Virginie Lafage, Christopher Ames, Christopher Shaffrey, Shayan Bess, Justin Smith, Frank Schwab, International Spine Study Group Departments of Neurologic and Orthopaedic Surgery, NYU Langone Orthopaedic Hospital, New York, NY, United States

QF109 INSTRUMENTATION-RELATED COMPLICATION-FREE SURVIVAL IN ADULT SPINAL DEFORMITY SURGERY
Dmitrii Ptashnikov, Saint-Petersburg, Russia
Dmitrii Ptashnikov, Nikita Zaborovskii, Dmitrii Mikhaylov, Oleg Smekalenkov, Sergei Masevnin, Anton Denisov
R.R. Vreden Russian Research Institute of Traumatology and Orthopedics, Saint-Petersburg, Russia
QF110 SCHEUERMANN KYPHOSIS: A 39-YEAR FOLLOW-UP FROM DIAGNOSIS IN NON-OPERATED PATIENTS
Lærke Ragborg, Copenhagen East, Denmark
Lærke Ragborg, Casper Dragsted, Benny Dahl, Martin Gehrchen
Spine Unit, Rigshospitalet, Copenhagen, Denmark

QF111 MINIMUM CLINICALLY IMPORTANT DIFFERENCE OF HEALTH-RELATED QUALITY OF LIFE
SCALES IN ADULT SPINAL DEFORMITY VARY WITH AGE, GENDER, BASELINE DISABILITY
SCORES AND THE DIRECTION OF CHANGE PERCEIVED BY THE PATIENT
Emre Acaroglu, Ankara, Turkey
Ankara Spine Center, Ankara, Turkey; Department of Biostatistics, Ankara Yildirim Beyazit University, Ankara, Turkey; Department of Neurosurgery, Amasya University, Amasya, Turkey; Vocational School of Health Sciences, Acibadem Mehmet Ali Aydinlar University, Istanbul, Turkey; ARTES Spine Center at Acibadem Ankara Hospital, Ankara, Turkey; Hospital Universitari Vall d’Hebron, Barcelona, Spain; Hospital Universitari Vall d’Hebron, Barcelona, Spain; Hospital Universitari La Paz, Madrid, Spain; Bordeau University Hospital, Bordeaux, France; Schulthess Klinik, Zürich, Switzerland; Acibadem Mehmet Ali Aydinlar University, Department of Orthopaedics and Traumatology, Istanbul, Turkey; Hospital Universitari Vall d’Hebron, Barcelona, Spain

QF112 PSYCHOMETRIC PROPERTIES OF THE SRS-30 QUESTIONNAIRE AMONG DEGENERATIVE
ADULT SPINAL DISEASE PATIENTS: A RASCH ANALYTIC APPROACH
Kati Kyrölä, Jyväskylä, Finland
Kati Kyrölä, Jussi P. Repo, Jari Ylinen, Arja H. Häkkinen
Orthopaedics and Traumatology, Jyväskylä, Finland

QF113 HOW MUCH LORDOSIS CORRECTION IS AVAILABLE? - MINIMALLY INVASIVE MULTILEVEL
LATERAL LUMBAR INTERBODY FUSION COMBINED WITH POSTERIOR COLUMN
OSTEOTOMY USING STIFF ROD IN ADULT SPINAL DEFORMITY SURGERY AS COMPARED
WITH PEDICLE SUBTRACTION OSTEOTOMY
Sang Kyu Im, Seoul, Korea (ROK / South Korea)
Sang Kyu Im, Jung-Hee Lee, Ki Young Lee, Won Ju Shin, Seong Jin Cho
Department of Orthopedic Surgery, College of Medicine, Kyung Hee University, Seoul, Republic of Korea

QF115 EFFICACY OF MULTI-ROD CONSTRUCTS: COMPARISON OF TWO DIFFERENT 4-ROD AND
3-ROD CONFIGURATIONS IN ADULT SPINAL DEFORMITY PATIENTS WITH LONG FUSIONS
TO THE SACRUM
Mostafa El Dafrawy, Saint Louis, MO, United States
Mostafa El Dafrawy, Owoicho Adogwa, Maksim Shlykov, Michael Kelly, Keith Bridwell, Munish Gupta
Dept of Orthopaedics, Washington University in Saint Louis, United States

QF117 PRESENTING SYMPTOMS, LIMITATIONS AND EXPECTATIONS IN ADULT SPINAL
DEFORMITY: A PATIENT PERSPECTIVE TOWARDS A NOVEL OUTCOME SCORE
Dominique A. Rothenfluh, Oxford, United Kingdom
Dominique A. Rothenfluh, Han Jo Kim, Tom Ross, Frank J. Schwoeb, Virginie Lafage
University of Oxford, United Kingdom, Hospital for Special Surgery, NY, United States
QF118 RELATION OF THE GLOBAL ALIGNMENT AND PROPORTION (GAP) SCORE, SIMPLIFIED SRS-SCHWAB ADULT SPINAL DEFORMITY (ASD) CLASSIFICATION SCORE AND LONG-TERM COMPLICATIONS AFTER ASD SURGERY
Kati Kyrölä, Jyväskylä, Finland
Kati Kyrölä, Liisa Pekkanen, Pirkka Mäkelä, Jussi P. Repo
Dept of Orthopaedics and Traumatology, Jyväskylä, Finland

QF119 TOWARDS UNDERSTANDING THE HIP-SPINE SYNDROME IN ADULTS: A 3D APPROACH IN STANDING POSITION
Ayman Assi, Beirut, Lebanon
Ayman Assi, Rhea Nacouzi, Eddy Saad, Mario Mekhael, Nour Khalil, Ziad Bakouyn, Joeffroy toyek, Aren Joe Bizidikian, Fares Yared, Chris Labaki, Ismat Ghanem, Wafa Skalli
Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon

QF120 ARACHNOID WEBS - REPORT OF 54 CONSECUTIVE CASES
Viola Olesen, Copenhagen OE, Denmark
Viola Olesen, Anders Kruse
Spine Unit, Orthopedic Dept., Copenhagen University Hospital, Rigshospitalet, Denmark

15:20–15:50 COFFEE BREAK | Location: Foyer Meeting Room 101

15:50–16:45 Trauma, Complications
Location: Meeting Room 101
Chairs: Teija Lund, Helsinki, Finland
  Dietrich Schlenzka, Helsinki, Finland
  Florian Ringel, Mainz, Germany

63 TIME-DEPENDENT INTERPRETATION OF MECHANICAL COMPLICATIONS USING COX REGRESSION AND SURVIVAL ANALYSIS
Caglar Yilgor, Istanbul, Turkey
Department of Orthopedics and Traumatology, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem Maslak Hospital, Istanbul, Turkey; Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Department of Statistics, Hacettepe University, Ankara, Turkey; Department of Biostatistics, Ankara University Faculty of Medicine, Ankara, Turkey; Department of Traumatology, Orthopaedic Surgery and Emergency, Hospital Vall d’Hebron, Barcelona, Spain; Spine Surgery Unit, Bordeaux University Hospital, Bordeaux, France; Spine Center Division, Department of Orthopedics and Neurosurgery, Schulthess Klinik, Zürich, Switzerland; Spine Surgery Unit, Hospital Universitario La Paz, Madrid, Spain; Ankara ARTES Spine Center, Ankara, Turkey; Spine Surgery Unit, Hospital Vall d’Hebron, Barcelona, Spain; Vall D’Hebron Institute of Research, Barcelona, Spain

64 DOES MRI AID SURGICAL PLANNING IN PATIENTS WITH T10-L1 BURST FRACTURES AND INCOMPLETE SPINAL CORD INJURIES?
Richard Bransford, Seattle, United States
Richard Bransford, Jason Pittman, Quynh Nguyen, Carlo Bellabarba
Department of Orthopaedic Surgery, University of Alabama at Birmingham, United States

65 SUBSIDENCE RISK OF VERTEBRAL BODY REPLACEMENTS USING A NEW BIOMECHANICAL IN VITRO TEST METHOD
Laura Zengerle, Ulm, Germany
Laura Zengerle, Christoph Fleige, Theodor Di Pauli von Treuheim, Daniel Vogele, Michael
66 RISK FACTOR ANALYSIS FOR PREDICTING KYPHOSIS REOCCURRENCE AFTER POSTERIOR SHORT-SEGMENT FIXATION IN THORACOLUMBAR BURST FRACTURE
Xiang-Yao Sun, Beijing, China
Department of Orthopedics, Xuanwu Hospital Capital Medical University, Beijing, China

67 SUBAXIAL CERVICAL SPINE FRACTURES- A COMPARISON OF OUTCOME AFTER ANTERIOR OR POSTERIOR SURGERY IN 375 PATIENTS
Paul Gerdhem, Stockholm, Sweden
Paul Gerdhem, Andrea Norell, Anastasios Charalampidis, Peter Endler
Department of Reconstructive Orthopaedics, Karolinska University Hospital, CLINTEC, Karolinska Institutet, Stockholm, Sweden

68 SURGERY FOR SEVERE PEDIATRIC SPINAL DEFORMITY HAS A SIGNIFICANT RATE OF REVISION: A PROSPECTIVE MULTI-CENTER COHORT STUDY.
Munish Gupta, St. Louis, United States
Munish Gupta, Lawrence Lenke, Oheneba Boachie-Adjei, Mark Erickson, Sumeet Garg, Joshua Pahys, Amer Samdani, Paul Sponseller, Daniel Sucato, Michael Kelly
Washington University School of Medicine, St. Louis, United States

69 SURGICALLY IMPARTED CHANGES IN THE POSITION OF THE JUNCTIONAL VERTEBRAE AFTER POSTERIOR SPINAL FUSION RELATES TO THE DEVELOPMENT OF JUNCTIONAL KYPHOSIS IN ADOLESCENT IDIOPATHIC SCOLIOSIS
René Castelein, Utrecht, The Netherlands
Jelle Homans, Mayo Kruyt, Tom Schlosser, Dino Colo, Kenneth Rogers, Suken Shah, John Flynn, René Castelein, Saba Pasha
Dept. of Orthopaedic Surgery, University Medical Center Utrecht, The Netherlands
Non-commercial/NGO workshop

Friday, 18 October | 07:15–08:15

Meeting Room 207

AOSpine Breakfast Symposium:
Spino-Pelvic Injuries

07:15–08:15 Breakfast Symposium

AOSpine
Meeting Room 207

Spino-Pelvic Injuries

Chair: Lorin Benneker

New AOS classification for sacrum fractures
Klaus Schnake, Germany

Emergency management for jumpers fractures
Lorin Benneker, Switzerland

Insufficiency fractures of the sacrum
Cumhur Oner, Netherlands

ISJ syndrome after lumbar stabilization
Frank Kandziora, Germany
Onsite Information

Onsite Registration

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On Tuesday, 15 October from 17:00 to 19:00 drinks will be served in the registration area for all registered delegates.

Self-print stations
Delegates will print their name badges at several self-print stations onsite by scanning a barcode that will be sent via email a few days before the conference. Our staff members will be happy to assist you in case of any problems.

Registration service desks are in place for participants with outstanding payments or any questions regarding registration. If you would like to amend your registration, please proceed to the service desk.

Exhibitors can pick up their name badges at the exhibition service desk which is also located in the registration area. Self-print stations for exhibitors are located next to the exhibition service desk.

Tickets for the EUROSPINE 2019 Congress Evening at Kellohalli can be purchased and picked up at the networking events counter.

Please refer to the app helpdesk in case you have any questions concerning the EUROSPINE app.

Information and brochures about Helsinki are available at the Helsinki Information counter, located in the entrance area. Opening times:

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Exhibition opening hours

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Exhibitor Badges
Exhibitor badges are personnel and nominative. For security reasons, booth personnel must wear the official EUROSPINE 2019 name badges at all times, it also gives access to the exhibition area one hour before the opening times.

Lost badges for exhibitors will be charged at 60 €.

The exhibiting company will be responsible for the actions of anyone receiving a badge under the exhibiting company’s name, including their invited guests.
Congress material

Name Badges
Delegates will receive a personalised name badge when collecting their congress documents. During the congress, this badge must be clearly visible at all times and grants access to the scientific sessions, commercial exhibition and official networking events. Admission to the congress will not be allowed without badge identification. Exhibitors are not entitled to attend the scientific sessions with the exception of their own company’s workshop.

Please note: Participants who misplace their badge need to pay for a new one.

A coloured bar for different registration types will be printed on the badges:

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Transfer of your Data to Exhibitors and Sponsors
Please note: If you have your badge scanned by an exhibitor/sponsor at EUROSPINE 2019, you thereby agree that your personal data (consisting of name, contact data, address data & organisation/institute, professional specialisation), collected by Mondial Congress & Events, may be forwarded (via a contracted service provider) to the exhibitor/sponsor by whom you have your badge scanned, and the respective company may contact you directly for its own purposes.

Congress Bags
Same as in previous years, EUROSPINE has decided to take a greener approach in 2019 and not produce any congress bags in order to save resources.

Catering
Coffee, tea and snacks will be served in the exhibition hall during the official coffee breaks. During the exhibition opening times coffee, refreshments and snacks can be purchased at the cash catering station inside the exhibition hall. In addition the "Eat & Meet" restaurant will be open during the meeting.

Between 12:00–14:00, EUROSPINE Lunch Symposia and Industry Lunch Workshops take place, where food and drinks will be offered to the participants.

Please note that food and drinks are not allowed in the Plenary Hall.

Cloakroom
A cloakroom is available in the entrance area of the Messukeskus Helsinki and it is free of charge for all EUROSPINE 2019 delegates.

ATM
A cash machine is located in the Glass Gallery of Messukeskus Helsinki.
#HASHTAGPRINTER & Selfie Wall
Posting a photo on Instagram or Twitter is all good and well, but don’t you sometimes wish you could take your photos home with you as a good, old-fashioned Polaroid? At EUROSPINE 2019 you can have the best of both worlds! Tag your photo with the hashtags #EUROSPINE2019 and pick it up from our #hashtagprinter, located at the EUROSPINE Booth. All photos tagged with #EUROSPINE2019 on Twitter and public Instagram profiles will be printed automatically – no matter where you took them.

Patient Day on World Spine Day
Wednesday, 16 October, the first day of EUROSPINE’s Annual Meeting, coincides with World Spine Day this year. The aim is to raise awareness surrounding the prevention and effective management of spinal conditions and the promotion of spinal health. Show us how you #GETSPINEACTIVE on social media!

EUROSPINE contributes with a patient information event which will be held in Finnish on Wednesday, 16 October from 14:30–17:00 in room 208 at the congress venue. The entry is free of charge.

Additionally, on 16 October you will find information panels related to back pain in the registration area. The Patient Line Committee will be present and pleased to answer all inquiries you may have. Moreover, EUROSPINE will offer 15 min. of a back friendly mini workout with stretching exercises (between 15:35–16:00) carried out by a physiotherapists. Everybody is invited to join and #GETSPINEACTIVE. Be in for a little surprise - we have prepared great give-aways! To top it off, a healthy snack and refreshments will be served to ensure your well-being.

More details can be found in the online programme, on www.eurospine2019.eu and in the congress app.
Practical Information from A–Z

Audience Response System (ARS)
Due to its great success at past EUROSPINE congresses the Audience Response System will be used again during the main sessions to ensure an interactive learning experience for all participants.
To participate in an interactive session, please download the EUROSPINE smartphone app: eurospine.app or via your app store/google play store (search key: EUROSPINE).
Delegates are invited to participate in App-Votings. Sessions will be marked if the audience is able to vote on specific questions via the EUROSPINE App.

Certificate of Attendance & CME Credits
CME credits are assigned to participants per half-day. To collect your CME points for your certificate you need to scan the barcode on your name badge at the entrances to a session rooms each half-day, at the following times:
- morning between 08:00 and 12:00
- afternoon between 14:00 and 16:30.
Your certificate will be available for download via a personal link after completing the delegate questionnaire which the organisers will send to you via e-mail one week after the congress.

Cloakroom
A cloakroom is available in the entrance area of the Messukeskus Helsinki and it is free of charge for all EUROSPINE 2019 delegates.

Congress App
Have the most relevant and up-to-date congress information at hand! Not only does it provide easy access to scientific and logistical congress information (e.g. programme, speakers, sessions, congress venue, etc.), but you will also be able to participate in interactive voting, bookmark your favourite sessions and access the exclusive e-version of “The Spine Times”.
App-Voting: In marked presentations the audience is invited to vote on specific questions via the EUROSPINE App.
To download the EUROSPINE App please click here.

Congress Language
The official language of the congress is English. No simultaneous translation will be provided.

Currency
Payment of congress-related matters such as registration fees, tickets for networking programme will be handled in Euro (€) only.

E-posters
A list of all e-posters can be found on the EUROSPINE 2019 website.
Onsite, e-posters will be accessible during the official congress opening hours in the e-poster area inside the exhibition hall.

EUROSPINE Booth and Members’ Lounge
All members are invited to retreat and meet colleagues and friends in the EUROSPINE Members’ Lounge, located at the EUROSPINE booth. Just show your name badge with the member seal on it and step in. Opening Hours:
- Wednesday, 16 October, 08:00–18:00
- Thursday, 17 October, 08:00–17:00
- Friday, 18 October, 08:00–14:00
EUROSPINE Debates
There will be two debates on Wednesday with the intention to stimulate thinking and discussions in areas of controversy and to explore areas of consensus. The audience will be asked for their vote on the case management before and after the presentations to see if they could be persuaded to change their views as a result of the arguments presented.

First Aid
The fixed first aid room (nursery) is located in the Lower Gallery of Messukeskus Helsinki. The stairs next to door 5.2. of the exhibition hall lead people to the room directly.

Insurance
The congress organisers will not assume any responsibility for accidents, losses or damages, as well as for delays or modifications in the programme, caused by unforeseen circumstances. No claims for indemnification from the organisers shall arise for contractors or participants in case of cancellation, for any reason, of the entire Congress.
Delegates are advised to arrange a cancellation insurance for their congress costs (i.e. registration fee, travel or accommodation costs). A cancellation insurance offered by the “Europäische Reiseversicherung“ can be booked during the online registration process. The insurance sum also covers costs incurred for services which have not been booked via Mondial Congress & Events.

Passport and Visa
Please check passport and visa requirements in due time before your departure. Three month tourist visa are issued by Finnish embassies or consulates. They can take a while to be processed, so leave enough time before departure to apply. Fees vary depending on your nationality. There are no entry requirements or restrictions on EU nationals visiting Finland.
Visa information can be obtained from the website of the Ministry for Foreign Affairs of Finland:
um.fi/visa-to-visit-finland

Smoking
We have a strict non-smoking policy at EUROSPINE 2019. Smoking inside the congress venue is prohibited, this includes vaping and the use of e-cigarettes. Smoking areas are available outside the main entrance of the congress centre.
The Finnish law, in accordance with regulations in force in the majority of European countries, does not allow smoking in public areas like hotels, restaurants, bars, discos, shops, offices and in public transportation unless there is a designated smoking area.

Transfer of your Data to Exhibitors and Sponsors
Please note: If you have your badge scanned by an exhibitor/sponsor at EUROSPINE 2019, you thereby agree that your personal data (consisting of name, contact data, address data & organisation/institute, professional specialisation), collected by Mondial Congress & Events, may be forwarded (via a contracted service provider) to the exhibitor/sponsor by whom you have your badge scanned, and the respective company may contact you directly for its own purposes.

Travel Visa - Letter of Invitation
On request, the Official Congress Organiser will be pleased to send letters of invitation to individual participants. Invitations of this kind are intended to assist potential delegates to raise their travel funds or obtain visas. They do not imply any commitment or responsibility on behalf of the Congress to provide financial support. Please note that letters of invitation can only be sent after receipt of registration and payment of full registration fee.
Please note that Visa applications can take a while to be processed, so please send us your request for a letter of invitation in due time.

Webcasts
As EUROSPINE wants to offer participants as much educational value as possible several presentations will be recorded if the speakers have agreed to it. This enables you to watch presentations again to catch what you have missed. The webcasts will be available online after the congress via the EUROSPINE meetings website www.eurospinemeeting.org

WIFI
Free WIFI is accessible throughout the congress venue.
ESF Charity Run 2019

Team EUROSPINE

Running together for excellence in spine education and research
Due to the fact that the first EUROSPINE Foundation (ESF) Charity Run 2018 in Barcelona with more than 120 participants was very successful it has been decided to organise the event again this year in Helsinki.

Event Details

Date: Thursday, 17 October 2019
Time: 07:00 – 08:00
Distance: 5 kilometres
Start: Messukeskus Helsinki, Messuaukio 1, 00521 Helsinki, Finland
Meeting Point: 06:40 Southern entrance of Messukeskus
Registration fee: € 25 *

*100% of your net registration fee will be donated to ESF to support spinal education and research!

The ESF Charity Run is supported by

SPINE ART

Registration Details

How to register?
A congress registration is required to take part in the run. However, all delegates are welcome to register their friends and family who would like to join the run in Helsinki. If you are registered already and would like to participate please send an email to eurospine2019@mondial-congress.com

Walk or Run?
You're not much of a runner, but would like to participate? We are happy to organise 2 groups - a running and a walking team! Simply let us know your preferred pace during your registration. Motivate each other!
Be proud about joining Team EUROSPINE and motivate others to run with us.
Please let us know if your name and country may be displayed on the EUROSPINE website for others to see and hopefully get motivated to join you for the run.

Training together
Join Team EUROSPINE Achtung Link öffnet sich in einem neuen Fenster on the Runtastic trainings app, see the progress of others and share your achievements!
The Spine Village is located next to the Exhibition Area. (see page 70)

The following societies are represented at the Spine Village:

**EuSSAB Members**

- Turkish Spine Society
- United Kingdom Spine Societies Board (UKSSB)
- Hellenic Spine Society
- Neuroraquis – Spanish Society of Spine and Spinal Cord Surgery
- German Spine Society (DWG)
- Société Francaise de Chirurgie Rachidienne (SFCR)

**Others**

- European Spine Journal (ESJ) / Open Operating Theatre (OOT)
- AOSpine
- Spinal News International
- World Spine Care
- IGASS - International Group of Advancement in Spine Science
- NASS - North American Spine Society

On Friday morning (10:00–10:30) a **Gourmet Coffee Break** will be organised in the Spine Village. Societies will bring some specialities from their own countries for EUROSPINE delegates to taste. Don't miss this unique networking opportunity!
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Industry Workshops
# Overview Industry Workshops

**Wednesday, 16 October | 12:00–14:00**

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<td>Full-Endoscopic Spine Surgery: Comprehensive Techniques and Novelties</td>
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**Friday, 18 October | 12:00–14:00**

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Wednesday, 16 October

12:00–14:00 Lunch Workshops

Medtronic
Meeting Room 103

The journey to transform Spinal care: can we improve patient outcome and efficiency at the same time?

Chairman: Michael Winking, Germany

Combining simplicity and technology in the surgical procedure
Michael Winking, Germany

Robotics Revolution in Spine Surgery – Tomorrow’s Technology Addressing Challenges Today
Kornelius Poelstra, United States

Myth or Reality to improve outcomes outside surgery with Big Data and enhanced recovery?
Bertrand Debono, France

bonalive
Meeting Room 203

Smart Healing™ in spine – A symposium on new innovations for bone regeneration

The role of bioactive glass in bone regeneration and infection management in the spine
Nina Lindfors, Finland

Bioactive glass S53P4 as bone graft substitute in spondylodiscitis fusion surgery – a prospective study
Markus Pietrek, Germany

S53P4 bioactive glass putty in MIS spine surgery
Janek Frantzén, Finland

Retrospective analysis of 200 patients in PLF, PLIF and TLIF fusions - the Helsinki University Hospital experience
Tom Asklöf, Finland

Experience with S53P4 in TLIF procedures in comparison with other bone graft substitutes
Paul Licina, Australia

HansBiomed Corp.
Meeting Room 206

Biologics Expert Academic Meeting

Clinical Effectiveness of Demineralized Bone Matrix in Anterior Cervical Discectomy and Fusion
Jung-Kil Lee, South Korea

Role and effectiveness of DBM and allogeneic bone graft in Elderly spine deformity and trauma
Chung-Kee Chough, South Korea
Thursday, 17 October

12:00–14:00  Lunch Workshops

Globus Medical
Meeting Room 103

Advancing the Future of Spine Surgery with Expandable Technology and ExcelsiusGPS
Gerd Bordon, Spain
Vladimir Sinkov, United States

joimax
Meeting Room 203

Full-Endoscopic Spine Surgery: Comprehensive Techniques and Novelties

Full-endoscopic Transforaminal Access to spine pathologies and preservation of spine stability
Felix Dominguez, Mexico

Full-Endoscopic Interlaminar Lumbar Decompression Techniques
Soo Sang Eun, South Korea

Entire Spectrum of Full-Endoscopic Spine Surgery
Ralf Wagner, Germany

Introduction to Endoscopic Spinal Navigation with Intracs®
Erik Traupe, Germany

Clinical experience and application with Intracs® - Experience after the first 50 cases
Jiaochiao Yang, Taiwan

Full-Endoscopic Treatment of Facet Joint and SI-Joint Pain
Richard Ibrahim, Germany

RIWOspine
Meeting Room 207

The Concept of Full-endoscopic Spine Surgery

Full-endoscopic interlaminar and trans-/extraforaminal surgery of lumbar disk herniations – Technique and Indications
Sebastian Ruetten, Germany

Full-endoscopic decompression of lateral and central spinal stenosis
Christoph Siepe, Germany

Development and experiences in full-endoscopic spine surgery from Finland – Case presentations
Jari Siironen, Finland

Advanced techniques in full-endoscopic spine surgery at the cervical and thoracic spine
Sebastian Ruetten, Germany
Friday, 18 October

12:00–14:00  Lunch Workshop

NuVasive
Meeting Room 203

X360, A comprehensive approach to LSPS.

Case presentation that shows all aspects of X360
Navin Verghese, United Kingdom

IGA and Lateral single position surgery (XLIF and XALIF related)
Dominique Rothenfluh, United Kingdom

L5-S1 in the lateral Position XALIF Case and advantage
Jake Timothy, United Kingdom

Xalif vs Supine alif, advantages and technical aspects
Jake Timothy, United Kingdom

OR flow optimization of LSPS
Navin Verghese, United Kingdom

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... and Meet the Experts

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www.joimax.com
The following companies are organising small “Meet-the-Expert” gatherings at their exhibition booth during coffee breaks.

**Medtronic – booth 27**
Mazor Master Class with Dr Poelstra  
*Kornelius Poelstra, United States*  
Daily, 10:00–10:30 & 15:20–15:50

**Johnson & Johnson – booth 17**
Complex Cervical Surgery & Navigation Techniques  
*Claudius Thomé, Austria*  
Wednesday 15:20–16:20  
Thursday 10:00–10:30

**Joimax – booth 25A**
Entire Spectrum of Full-Endoscopic Spine Surgery  
*Dr. Ralf Wagner, Germany*  
Full-Endoscopic Transforaminal Access to Spine Pathologies  
*Felix Dominguez, Mexico*  
Full-Endoscopic Transforaminal and Interlaminar Approach  
*Dr. Frank Hassel, Germany*  
Navigated Endoscopic Spine Surgery with Intracs®  
*Michael Kraus, Germany*  
Facet Joint Pain Treatment and other Applications  
*Stefano Meloncelli, Italy*  
Daily, 10:00–10:30 & 15:20–15:50

**ZEISS – booth 14**
Intraoperative dural tear: Why you need the microscope?  
*Luca Papavero, Germany*  
Wednesday, 15:20 – 15:50

Bilateral decompression in „cross over” technique and sequestrectomy with the help of  
ZEISS KINEVO 900.  
*Andreas Korge, Germany*  
Thursday, 10:00 – 10:30

**EOS imaging – booth 33A**
How to analyze sagittal balance before any arthrodesis: practical implications  
*Jean-Charles Le Huec, France*  
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