Final Programme

EUROSPINE 2021
6–8 October 2021
Reed Messe Wien, Vienna, Austria

www.eurospinemeeting.org/vienna2021
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Important Contacts & Programme Highlights

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E: eurospine2021@mondial-congress.com
www.mondial-congress.com

IMPORTANT DATES

Official congress opening
Wednesday, 6 October, 08:30
Plenary Hall (see page 14)

Keynote lecture – Fabio Galbusera
Wednesday, 6 October, 13:45
Plenary Hall (see page 16)

Fireside chat (Members only)
Wednesday, 6 October, 17:30
Strauss 3 (see page 25)

ESF Charity Run
Thursday, 7 October, 07:00
Entrance Foyer D, Messe Wien

Honorary lecture and presidential address
Thursday, 7 October, 10:45
Plenary Hall (see page 28)

EUROSPINE General assembly
Thursday, 7 October, 17:20
Strauss 3 (see page 31)

Official congress evening
Thursday, 7 October, 19:30
Heuriger Wolff

Keynote lecture – Lawrence Lenke
Friday, 8 October, 13:45
Strauss 3 (see page 35)

Best of Show: Presentation of the highest rated abstracts
Friday, 8 October, 16:15
Plenary Hall (see page 30)
Programme Committee 2021

Chair
Tamás Fekete, Zürich, Switzerland

Members
Enrico Gallazzi, Milan, Italy
Baoge Liu, Beijing, China
Sait Naderi, Istanbul, Turkey
Cornelia Neidlinger-Wilke, Ulm, Germany
Javier Pizones, Madrid, Spain
Klaus John Schnake, Erlangen, Germany
Patrick Strube, Jena, Germany

Institutional Members
Jörg Franke, Magdeburg, Germany
Everard Munting, Biez, Belgium

Staff
Judith Reichert, Uster-Zürich, Switzerland

Pre-day Courses

Chair
Hossein Mehdian, London, United Kingdom

Members
Ibrahim Obeid, Bordeaux, France
Jose Maria Cavanilles Walker, Badalona, Spain
Stavros Stavridis, Thessaloniki, Greece

Spine Precision Partnership

Cios Spin and Pulse – the integrated solution for the OR

Siemens Healthineers Cios Spin and the NuVasive Pulse platform together form one holistic solution that combines dedicated spine surgery technologies with precise 3D and 2D imaging.

Learn more about our combined solution and visit us on our website: siemens-healthineers.com/spine-precision-partnership

The information shown herein refers to a product of a 3rd party manufacturer, NuVasive, Inc., and is in their regulatory responsibility. Please contact the 3rd party manufacturer for further information. 11159-0921

Strategic Partner
Spine Precision Partnership™
Scientific Programme
Overview
## Wednesday, 6 October

### Programme Overview

<table>
<thead>
<tr>
<th>Time</th>
<th>Plenary Hall</th>
<th>Strauss 2</th>
<th>Strauss 3</th>
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<tbody>
<tr>
<td>8:30–8:40</td>
<td>Official congress opening</td>
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<td></td>
<td>p. 14</td>
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<tr>
<td>8:40–10:00</td>
<td>Thoracolumbar degenerative disease</td>
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<td>p. 14</td>
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<td>10:00–10:45</td>
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<td></td>
<td>Coffee Break in the Exhibition Hall</td>
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<tr>
<td>10:45–11:45</td>
<td>Debate 1: Robotics in spinal surgery – benefit or gimmick?</td>
<td>p. 15</td>
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<tr>
<td>11:45–13:45</td>
<td>Industry Workshops and Lunch Break</td>
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<tr>
<td>13:45–15:15</td>
<td>Keynote</td>
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<tr>
<td></td>
<td>Trauma and infection</td>
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<td></td>
<td>p. 16</td>
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<tr>
<td>15:15–16:00</td>
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<td></td>
<td>Coffee Break in the Exhibition Hall</td>
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<tr>
<td>16:00–17:25</td>
<td>Spinal degenerative disease &amp; Craniocervical junction</td>
<td>p. 18</td>
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<td>16:00–17:25</td>
<td>Growing spine, diagnostic and imaging</td>
<td>p. 22</td>
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<tr>
<td>16:00–17:25</td>
<td>Adult deformity and infection</td>
<td>p. 20</td>
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<tr>
<td></td>
<td>Fireside chat</td>
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<td></td>
<td>Members only</td>
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<td>p. 25</td>
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### Thursday, 7 October

#### Programme Overview

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<th>Time</th>
<th>Plenary Hall</th>
<th>Strauss 2</th>
<th>Strauss 3</th>
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<tbody>
<tr>
<td>8:30–10:00</td>
<td>Cervical degenerative disease &amp; New techniques</td>
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<tr>
<td>10:00–10:45</td>
<td>Coffee Break in the Exhibition Hall</td>
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<tr>
<td>10:45–12:00</td>
<td>Honorary lecture and presidential address</td>
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<tr>
<td>12:00–14:00</td>
<td>Industry Workshops and Lunch Break</td>
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<tr>
<td>14:00–15:30</td>
<td>Growing spine, complications and patient safety</td>
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<tr>
<td>15:30–16:15</td>
<td>Coffee Break in the Exhibition Hall</td>
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<tr>
<td>16:15–17:15</td>
<td>Best of Show: Presentation of the highest rated abstracts</td>
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<tr>
<td>17:20–18:40</td>
<td>EUROSPINE General assembly Members only</td>
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<tr>
<td>19:30</td>
<td>OFFICIAL CONGRESS EVENING, Heuriger Wolff – at own expense</td>
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### Scientific Programme Overview

**Friday, 8 October**  
**Programme Overview**

<table>
<thead>
<tr>
<th>Time</th>
<th>Plenary Hall</th>
<th>Strauss 2</th>
<th>Strauss 3</th>
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</thead>
</table>
| 08:30–10:00   | **Spinal cord tumours and degenerative spine**  
                p. 33                                                               |                                                                           |                                                                           |
| 10:00–10:45   |                                                                             |                                                                           |                                                                           |
| 10:45–11:45   | **Coffee Break in the Exhibition Hall**                                       |                                                                           |                                                                           |
| 11:45–13:45   | **Debate 2: Anterior vs. posterior approach for the treatment of cervical radiculopathy**  
                p. 34                                                               |                                                                           |                                                                           |
| 13:45–15:15   | **Industry Workshops and Lunch Break**                                         |                                                                           | **Keynote**  
                Adult Deformity  
                p. 35                                                               |                                                                           |
| 15:15–15:45   | **Coffee Break in the Exhibition Hall**                                         |                                                                           |                                                                           |
| 15:45–17:05   | **Trauma, tumour and MISS**  
                p. 36                                                               |                                                                           | **Risk factors, safety & New techniques**  
                p. 38                                                               |
Scientific Programme
Tuesday, 5 October
### PRE-DAY COURSE I:
**Management of traumatic injuries of the cervical spine**

**Location:** Strauss 2  
**Chairs:** Pedro Berjano, Milan, Italy  
Heiko Koller, Munich, Germany  
Matti Scholz, Frankfurt, Germany

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>13:00</td>
<td>Introduction</td>
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<tr>
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<td><em>Pedro Berjano, Milan, Italy</em></td>
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<tr>
<td>13:05</td>
<td>Cervical trauma classification: Definition of posttraumatic stability</td>
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<td><em>Matti Scholz, Frankfurt, Germany</em></td>
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<tr>
<td>13:20</td>
<td>Emergency management of cervical trauma – Evidence &amp; good practice</td>
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<td><em>Yohan Robinson, Gothenburg, Sweden</em></td>
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<td>13:35</td>
<td>Occipitocervical trauma: How to detect &amp; when to fuse</td>
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<td><em>Frank Kandziora, Frankfurt, Germany</em></td>
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<td>13:50</td>
<td>Cervical injuries and reduction techniques</td>
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<td><em>Alexander van der Horst, Windhoek, Namibia</em></td>
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<tr>
<td>14:05</td>
<td>Discussion</td>
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<tr>
<td>14:15</td>
<td>Atlas injuries: When no surgery, when motion preservation osteosynthesis, when fusion?</td>
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<td></td>
<td><em>Matti Scholz, Frankfurt, Germany</em></td>
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<tr>
<td>14:30</td>
<td>C2 fractures: Definition of instability &amp; indication for surgery</td>
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<td></td>
<td><em>Carmen Vleggeert-Lankamp, Leiden, Netherlands</em></td>
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<tr>
<td>14:45</td>
<td>Discussion</td>
</tr>
<tr>
<td>15:00</td>
<td>Subaxial fractures: Indications for surgery</td>
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<td><em>Nuno Neves, Porto, Portugal</em></td>
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<td>15:15</td>
<td>Subaxial: When anterior, posterior and when combined 360</td>
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<td><em>Rafael Gonzalez Diaz, Madrid, Spain</em></td>
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<td>15:30</td>
<td>Treatment of paediatric cervical fractures</td>
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<td><em>Anton Kathrein, Zams, Austria</em></td>
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<tr>
<td>15:45</td>
<td>Discussion</td>
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<tr>
<td>16:00</td>
<td>BREAK</td>
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<tr>
<td>16:30</td>
<td>Injury to the vertebral artery: Standards for detection, treatment guidelines &amp; outcomes</td>
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<td><em>Gergely Bodon, Esslingen, Germany</em></td>
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<tr>
<td>16:45</td>
<td>Traumatic atlantoaxial disclocation</td>
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<td>17:00</td>
<td>Pre-existing cervical canal stenosis and trauma</td>
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<td>17:15</td>
<td>Discussion</td>
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<tr>
<td>17:30</td>
<td>Cervical trauma in rigid spines: AS &amp; DISH</td>
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<tr>
<td>17:45</td>
<td>Cervical postraumatic deformity</td>
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<td>18:00</td>
<td>Discussion and Adjourn</td>
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**PRE-DAY COURSE II:**

**Another health threat to the elderly: The aging Spine: Lumbar spinal stenosis in Europe.**

**Section A: Basic science**

- Location: Strauss 3
- Organised by EUROSPINE EuSSAB
- Chairs: Margareta Nordin, Romorantin, France  
  Werner Schmorzel, Innsbruck, Austria

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker/Location</th>
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<tbody>
<tr>
<td>13:00</td>
<td>Welcome by local hosts EUROSPINE 2021</td>
<td>Petra Krepler, Vienna, Austria</td>
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</tbody>
</table>
  
  Werner Schmorzel, Innsbruck, Austria
<p>| 13:03  | EuSSAB: Introduction to the history, the role, the goals of EuSSAB and its achievements since the start up in Lyon | Johan Van Lerbeirghe, Gent, Belgium |
| 13:10  | Welcome and introduction                                                                   | Margareta Nordin, Romorantin, France |
| 13:15  | Ethical consideration and policies in the treatment of spinal stenosis                     | Bart Depreitere, Leuven, Belgium   |
| 13:30  | Evidence of pathophysiology, imaging and utility in clinical practice                     | Constantin Schizas, Lausanne, Switzerland |
| 13:45  | Evidence of digital biomarkers in spinal stenosis, utility in clinical practice            | Christy Tomkins-Lane, Calgary, Canada |
| 14:00  | Discussion                                                                                 |                                   |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</table>
| 14:15–15:20  | **PRE-DAY COURSE II:** Another health threat to the elderly: The aging Spine: Lumbar spinal stenosis in Europe.  
Section B: Spine Tango  
Location: Strauss 3  
Organised by EUROSPINE EuSSAB  
Chairs: Everard Munting, Biez, Belgium  
Jarkko Halme, Kuopio, Finland |
| 14:15        | Spine Tango and lumbar spinal stenosis - best of evidence  
Emin Aghayev, Zuerich, Switzerland                                                |
| 14:30        | Lumbar spinal stenosis in Swedish spine registry: lessons learned in 20 years  
Peter Fritzell, Falun, Sweden                                                  |
| 14:45        | Discussion                                                                               |
| 15:00–15:20  | **BREAK**                                                                                 |
| 15:20–17:30  | **PRE-DAY COURSE II:** Another health threat to the elderly: The aging Spine: Lumbar spinal stenosis in Europe.  
Section C: Continuum of therapeutic options  
Location: Strauss 3  
Organised by EUROSPINE EuSSAB  
Chairs: Ionnis Magras, Thessaloniki, Greece  
Johan Van Lerbeirghe, Gent, Belgium                                            |
| 15:20        | Injection therapy: Why do we do it? What’s the evidence?  
Stavros Stavridis, Thessaloniki, Greece                                        |
| 15:35        | Case discussion                                                                          
Ralph Kothe, Hamburg, Germany                                                   |
| 15:55        | Surgical treatment of lumbar spinal stenosis — a global perspective  
Shanmugarathan Rajasekaran, Coimbatore, India                                    |
| 16:15        | History, development and future of lumbar decompression  
Michael Mayer, Munich, Germany                                                   |
| 16:35        | Discussion                                                                               |
| 16:45        | The MIS full-endoscopic approach for the treatment of lumbar spinal stenosis  
Christoph Siepe, Munich, Germany                                               |
| 17:00        | Algorithm for the treatment of spinal stenosis – Literature review  
Artem Gushcha, Moscow, Russia                                                   |
| 17:15        | Discussion                                                                               |
| 17:30        | Closing remarks – overview of the day and take home message  
Johan Van Lerbeirghe, Gent, Belgium                                             |
Scientific Programme

Wednesday, 6 October
08:30–08:40 | **Official congress opening**  
Location: Plenary Hall  
Chairs: *Everard Munting, Biez, Belgium*  
*Tamás Fekete, Zuerich, Switzerland*  

08:30 | Welcome by the Local Hosts  
*Petra Krepler, Vienna, Austria*  
*Claudius Thomé, Innsbruck, Austria*  
*Werner Schmoelz, Innsbruck, Austria*  

08:34 | Welcome EUROSPINE President  
*Everard Munting, Biez, Belgium*  

08:37 | Introduction to the Scientific Programme  
*Tamás Fekete, Zuerich, Switzerland*  

08:40–10:00 | **Thoracolumbar degenerative disease**  
Location: Plenary Hall  
Chairs: *Everard Munting, Biez, Belgium*  
*Tamás Fekete, Zuerich, Switzerland*  

1 | COMPREHENSIVE IN VITRO COMPARISON OF CELLULAR AND OSTEOGENIC RESPONSE TO ALTERNATIVE BIOMATERIALS FOR SPINAL IMPLANTS  
Seunghun S. Lee, Zurich, Switzerland  
Seunghun S. Lee, Stephanie Huber, Stephen J. Ferguson  
Institute for Biomechanics, Dept of Health Sciences and Technology, ETH Zurich, Zuerich, Switzerland  

2 | THE EFFECT OF VARIOUS OPTIONS FOR DECOMPRESSION OF DEGENERATED LUMBAR SPINE MOTION SEGMENTS ON THE RANGE OF MOTION: A BIOMECHANICAL IN VITRO STUDY  
Sara Lener, Innsbruck, Austria  
Sara Lener, Werner Schmölz, Anto Abramovic, Patrick Kluger, Claudius Thomé, Sebastian Hartmann  
Department of Neurosurgery, Medical University of Innsbruck, Innsbruck, Austria; Department of Trauma Surgery, Medical University of Innsbruck, Innsbruck, Austria  

3 | CHONDROITINASE VERSUS PAPAIN DIGESTION LEADS TO DIFFERENT OUTCOME FOR IN VITRO SIMULATION OF DEGENERATED DISCS  
Jan Ulrich Jansen, Ulm, Germany  
Jan Ulrich Jansen, Graciosa Queilhas Teixeira, Andrea Vernengo, Sibylle Grad, Cornelia Neidlinger-Wilke, Hans-Joachim Wilke  
Institute of Orthopaedic Research and Biomechanics, Ulm University, Germany; AO Research Institute Davos, Switzerland  

4 | ADDITION OF KETOROLAC TO LOCAL ANESTHESIA FOR WOUND INFILTRATION BEFORE CLOSURE IN MULTILEVEL POSTERIOR LUMBAR SPINAL FUSION: A RANDOMIZED CONTROLLED TRIAL  
Akaworn Mahatthanatrakul, Phitsanulok, Thailand  
Akaworn Mahatthanatrakul, Nuttharat Chaibuddanugul, Artit Laoruengthana  
Department of Orthopaedics, Naresuan University Hospital, Phitsanulok, Thailand
DEVELOPMENT OF A MACHINE-LEARNING BASED MODEL FOR PREDICTING MULTIDIMENSIONAL OUTCOME AFTER SURGERY FOR DEGENERATIVE DISORDERS OF THE SPINE
Daniel Müller, Zürich, Switzerland
Daniel Müller, Daniel Haschtmann, Dave O’Riordan, Markus Loibl, Frank S Kleinstück, Tamas F Fekete, Francois Porchet, Raluca Reitmeir, Dezsö Jeszenszky, Anne F Mannion Schulthess Klinik, Zürich, Switzerland

DRAIN USAGE IN LUMBAR FUSION FOR DEGENERATIVE DISEASE: A RANDOMIZED, PROSPECTIVE, MULTICENTER STUDY
Marcelo Molina, Santiago, Chile
Marcelo Molina, Lucio Gonzales, Karen Weissman, Roberto Postigo, Antonia Benavente, Alberto Martí, Ramón Torres, Carlos Cortés, Oscar Eugenin, Dennis Witt, Marcos Ganga, Carlos Tapia
Instituto Traumatológico de Santiago, Orthopaedic Spine Surgery, Santiago, Chile

COMPARATIVE EFFECTIVENESS OF ANTERIOR (ALIF) VERSUS TRANSFORAMINAL (TLIF) LUMBAR INTERBODY FUSION OF L5-S1
Ole Alhaug, Hamar, Norway
Ole Alhaug, Ivar Austevoll, Sverre Mjønes, Oliver Grundnes, Filip Dolatowski
Akershus University Hospital, Norway; Inlandet Hospital Trust, Norway; Haukeland University hospital, Norway; Oslo University Hospital, Norway

SURGICAL MICRODISCECTOMY VS STEROID NERVE ROOT INJECTION FOR SCIATICA UP TO 1YR; THE NERVES TRIAL
Martin Wilby, Liverpool, United Kingdom
Martin Wilby, Ashley Best, Eifiona Wood, Girvan Burnside, Emma Bedson, Hannah Short, Manohar Sharma, Simon Clark, Dyfrig Hughes, Anthony Marson, Paula Williamson
Department Neurosurgery, The Walton Centre NHS Foundation Trust, Liverpool, United Kingdom

Discussion

10:00–10:45 COFFEE BREAK

10:45–11:45 Debate 1: Robotics in spinal surgery – benefit or gimmick?
App-Voting
Location: Plenary Hall
Chair: Klaus J. Schnake, Erlangen, Germany

10:45 Introduction and current state of evidence
Klaus J. Schnake, Erlangen, Germany

10:55 The pros of a robotic spinal system
Pablo Clavel Laria, Barcelona, Spain

11:05 Cases for the robot
Khai S. Lam, London, United Kingdom

11:15 Robotics: the future is (not quite) here
Tamás Fekete, Zuerich, Switzerland
### 11:25
- **Moderator / Experts / Audience discussion**
  - Klaus J. Schnake, Erlangen, Germany
  - Pablo Clavel Lario, Barcelona, Spain
  - Khai S. Lam, London, United Kingdom
  - Tamás Fekete, Zuerich, Switzerland

### 11:40
- **Summary panel**
  - Klaus J. Schnake, Erlangen, Germany

### 11:45–13:45
- **Industry Workshops and Lunch Break**

### 13:45–15:15
- **Keynote | Trauma and Infection**
  - **Location**: Plenary Hall
  - **Chairs**: Frank Kandziora, Frankfurt, Germany
    - Enrico Gallazzi, Milano, Italy
  - **Keynote**: INTELLIGENCE-BASED SPINE CARE: HOW TRUSTWORTHY AI CAN SHAPE THE FUTURE OF DIAGNOSIS AND TREATMENT OF SPINE DISORDERS
    - Fabio Galbusera, Milan, Italy
      - Head of the Laboratory of Biological Structures Mechanics (LABS), I.R.C.C.S. Istituto Ortopedico Galeazzi; Associate Editor for Biomechanics, Frontiers in Bioengineering and Biotechnology, Milan, Italy
  - **9** THE IMPACT OF LATERAL PEDICLE SCREW MISPLACEMENT AND SUBSEQUENT CORRECTION OF SCREW TRAJECTORY ON SCREW ANCHORAGE. A BIOMECHANICAL ANALYSIS
    - Anna Spicher, Innsbruck, Austria
    - Anna Spicher, Richard A. Lindtner, Michael Zegg, Rene Schmid, Peter Ferlic, Richard Bostelmann, Werner Schmoelz
    - Department of Orthopedics and Traumatology, Medical University of Innsbruck, Innsbruck, Austria
  - **10** RISK FACTORS FOR FAILURE OF NONOPERATIVE TREATMENT OF UNILATERAL LATERAL MASS FRACTURE
    - Juan Ignacio Cirillo, Santiago, Chile
    - Juan Ignacio Cirillo, Marcos Eduardo Gimbernat, José Vicente Ballesteros, Gabriel Hernandez, Ignacio Farias, Alejandro Urzúa
    - Dept of Spine Surgery, Hospital del Trabajador de Santiago, Chile
  - **11** OF PELVIS: A RELIABLE CLASSIFICATION FOR OSTEOPOROTIC SACRAL AND PELVIC RING FRACTURES
    - Bernhard Ullrich, Jena, Germany
    - Bernhard Ullrich, Klaus Schnake, Ulrich Spiegl, Sebastian Katscher, Akhil Verheyden, Max Scheyerer, Philipp Schenk, Georg Osterhoff
    - Department of Trauma, Hand and Reconstructive Surgery, Jena University Hospital, Friedrich Schiller University Jena, Jena, Germany
  - **12** THE INFLUENCE OF SURGEON EXPERIENCE AND SUBSPECIALITY ON THE RELIABILITY OF THE AO SPINE SACRAL CLASSIFICATION SYSTEM
    - Brian Karamian, Philadelphia, United States
    - Brian Karamian1, Gregory Schroeder1, Jose Canseco1, Lorin Benneker2, Frank Kandziora3, Shanmuganathan Rajasekaran4, Cumhur Öner5, Klaus Schnake6,7, Christopher Kepler6, Alexander Vaccaro1
13 BLOOD PRESSURE MANAGEMENT IN TRAUMATIC SPINAL CORD INJURY: DOES MAP TARGETING IMPROVE NEUROLOGICAL OUTCOME?
David Rowland, London, United Kingdom
David Rowland, Luke Geoghegan, Steve Ibe, Kevin Tsang
Dept Of Neurosurgery, St Mary's Hospital, Imperial College Healthcare NHS Trust, London, United Kingdom

14 INFECTIOUS AND AUTOINFLAMMATORY MODIC TYPE 1 CHANGES HAVE DIFFERENT PATHOMECHANISMS
Irina Heggli, Zurich, Switzerland
Irina Heggli, Regula Schüpbach, Nick Herger, Tiziano A. Schweizer, Astrid Jüngel, Nadja Farshad-Amacker, Michael Betz, José Miguel Spirig, Florian Wanivenhaus, Nils H. Ulrich, Florian Brunner, Annelies S. Zinkernagel, Mazda Farshad, Oliver Distler, Stefan Dudli
Center of Experimental Rheumatology, Department of Rheumatology, University Hospital, University of Zuerich, Zuerich, Switzerland; Department of Physical Medicine and Rheumatology, Balgrist University Hospital, University of Zurich, Zurich, Switzerland; Unit of Clinical and Applied Research, Balgrist University Hospital, University of Zurich, Zurich, Switzerland; Department of Infectious Diseases and Hospital Epidemiology, University Hospital Zurich, University of Zurich, Zurich, Switzerland; Department of Radiology, Balgrist University Hospital, University of Zurich, Zurich, Switzerland; Department of Orthopaedic Surgery, Balgrist University Hospital, University of Zurich, Zurich, Switzerland

15 THE ADIPOKINE PROFILE AND ELEVATION OF THE RANKL/OPG RATIO IN VERTEBRAL BODIES AND INTERVERTEBRAL DISCS OF PATIENTS WITH VERTEBRAL OSTEOMYELITIS: IMPLICATIONS FOR THE DISEASE PATHOGENESIS.
Siegmund Lang, Regensburg, Germany
Siegmund Lang, Markus Loibl, Joachim Gläsner, Michaela Simon, Markus Rupp, Carsten Neumann, Volker Alt, André Gessler, Frank Hanses
Department of Trauma Surgery, University Medical Center Regensburg, Regensburg, Germany

16 A VALIDATED SCORE FOR EVALUATING SPINAL INSTABILITY TO ASSESS SURGICAL CANDIDACY IN ACTIVE SPINAL TUBERCULOSIS - AN EVIDENCE-BASED APPROACH AND MULTINATIONAL EXPERT CONSENSUS STUDY
Shanmuganathan Rajasekaran, Coimbatore, India
S Rajasekaran, S Dilip Chand Raja, Shetty Ajoy Prasad, Kanna Rishi Mugesh
Department of Spine Surgery, Ganga Hospital, Coimbatore, India

Discussion

15:15–16:00 COFFEE BREAK
QF1  MICRONAS ASSOCIATED WITH TLR-2-INDUCED INFLAMMATION IN INTERVERTEBRAL DISC PATHOPHYSIOLOGY
Petra Cazzanelli, Rochester, United States
Petra Cazzanelli, Oliver Nic Hausmann, Karin Wuertz-Kozak
Department of Biomedical Engineering, Rochester Institute of Technology, United States

QF2  CERVICAL TOTAL DISC REPLACEMENT CAN RESTORE INTACT RANGE OF MOTION AND 3-D KINEMATICS
Morten Vogt, Ulm, Germany
Morten Vogt, Laura Zengerle, Rene Jonas, Hans-Joachim Wilke
Institute of Orthopaedic Research and Biomechanics, Ulm, Germany

QF3  10 YEAR RADIOLOGICAL FOLLOW-UP EVALUATING ROLE OF SYNTHETIC OSTEOCONDUCTIVE BONE SUBSTITUTE TO AUGMENT OCCIPITO-CERVICAL INSTRUMENTATION IN CHILDREN
Pranav Shah, Cardiff, United Kingdom
Pranav Shah, Younus Hanif, Dominic Thompson, Stewart Tucker
University Hospital of Wales, Cardiff; Great Ormond Street Hospital, London, United Kingdom

QF4  IS THE TECHNIQUE MEASURING THE C2-MANDIBLE ANGLE FOR PHYSIOLOGIC ALIGNMENT EFFECTIVE IN PATIENTS WITH CRANIOCERVICAL DISSOCIATIONS UNDERGOING OCCIPITAL-CERVICAL FUSIONS?
Celeste Tavolaro, Seattle, United States
Richard Bransford, Celeste Tavolaro, Julie Agel, Ekamjeet Dhillon, Derrick Foge, Carlo Bellabarba
Dept of Orthopaedics and Sport medicine University of Washington, Seattle, United States

QF5  ACDF WITH ULTRA-LOW DOSE BMP-2 VERSUS POSTERIOR APPROACH IN MULTILEVEL FUSIONS TO THE CERVICO-THORACIC JUNCTION
Stephen Saela, Paterson, NJ, United States
Daniel Coban, Stuart Changoor, Conor Dunn, Michael Pompliano, Kumar Sinha, Ki Hwang, Michael Faloon, Arash Emami
St. Joseph’s University Medical Center; Department of Orthopaedic Surgery, Paterson, NJ, United States

QF6  THE EFFECT OF DISCECTOMY ON FORAMINAL HEIGHT IN CERVICAL SURGERY
Géraldine Laféber, Leiden, Netherlands
Géraldine Laféber, C Goedmakers, M Arts, C.L.A. Vleggeert-Lankamp
Dept of Neurosurgery, LUMC, Netherlands

QF7  A MULTICENTRE PROSPECTIVE RANDOMIZED CONTROLLED TRIAL COMPARING EFFICACY AND SAFETY OF PRODISC-C TO ANTERIOR CERVICAL DISCECTOMY AND FUSION FOR TREATMENT OF SYMPTOMATIC CERVICAL DISC DISEASE
Naresh Kumar, Singapore, Singapore
Naresh Kumar, Wai Poon, Chun-Kun Park, Ruey-Mo Lin, Kyoung-Suok Cho, Chi Chien Niu, Hung-Yi Chen, Hee-Kit Wong
Department of Orthopaedic Surgery, National University Health System, Singapore, Singapore
QF8  ADJACENT SEGMENT DISEASE AFTER ANTERIOR CERVICAL DECOMPRESSION SURGERY FOR CERVICAL DEGENERATIVE DISC DISEASE: A SINGLE CENTER RETROSPECTIVE COHORT STUDY WITH LONG-TERM FOLLOW-UP
Valérie Schuermans, Heerlen, Netherlands
Valérie Schuermans, Anouk Smeets, Nienke Wijsen, Inez Curfs, Toon Boselie, Henk Van Santbrink
Dept. of Neurosurgery, Zuyderland Medical Center, Heerlen, The Netherlands; Dept. of Neurosurgery, Maastricht University Medical Center +, Maastricht, The Netherlands; CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, The Netherlands

QF9  SIMILAR EFFECTIVENESS OF LAMINECTOMY WITH FUSION AND LAMINECTOMY ALONE IN DEGENERATIVE CERVICAL MYELOPATHY
Paul Gerdhem, Stockholm, Sweden
Paul Gerdhem, David Fröjd Revesz, Anastasios Charalampidis
Reconstructive orthopaedics, Karolinska University Hospital, Stockholm, Sweden

QF10  THE ROLE OF SPECT/CT IN ANALYSING THE RADIOGRAPHIC PREVALENCE OF ASYMPTOMATIC DEGENERATIVE SPONDYLOSIS IN A CONSECUTIVE COHORT OF PATIENTS PRESENTING WITH CANCER
Atharv Patankar, London, United Kingdom
Atharv Patankar, Christopher Fenner, Evangelos Fragakis, Nikolaos Papadakos, Bisola Ajayi, Cristina Lupu, Jason Bernard, Timothy Bishop, Darren Lui
St. George’s Hospital, London, United Kingdom

QF11  COMPARISON OF TITANIUM-INTERLAYER MEDIATED HYDROXYAPATITE COATED AND UNCOATED POLYETHERETHERKETONE CAGES IN TRANSFORAMINAL LUMBAR INTERBODY FUSION SURGERY
Ce Zhu, Chengdu, China
Ce Zhu, Ganjun Feng, Limin Liu, Yueming Song
Department of Orthopedics and Orthopedic Research Institute, West China Hospital, Sichuan University, Chengdu, Sichuan, China

QF12  EARLY FAILURE OF DYNAMIC TOPPING-OFF CONSTRUCTS IN LUMBAR DEGENERATIVE DISEASE
Katharina A. C. Oswald, Bern, Switzerland
Katharina A. C. Oswald, Sven Hoppe, Christopher A. Mazuret S., Sebastian F. Bigdon, Christoph E. Albers
Dept. of Orthopaedic Surgery, Inselspital, Bern University Hospital, Bern, Switzerland

QF13  ISTHMIC SPONDYLOLISTHESIS IS ASSOCIATED WITH LESS REVISIONS FOR ADJACENT SEGMENT DISEASE AFTER LUMBAR SPINE FUSION THAN DEGENERATIVE SPINAL CONDITIONS – A 10-YEAR FOLLOW-UP STUDY
Leevi Toivonen, Tampere, Finland
Leevi Toivonen, Heikki Mäntymäki, Arja Häkkinen, Marko Neva
Dept of Orthopaedics, Tampere University Hospital, Tampere, Finland

QF14  POSTOPERATIVE ADVERSE EVENTS SECONDARY TO IATROGENIC VASCULAR INJURY DURING ANTERIOR LUMBAR SPINAL SURGERY
Olivier Groot, Boston, United States
Olivier Groot, Amanda Lans, Aditya Karhade, Jorrit-Jan Verlaan
Dept of Orthopaedics, Boston, United States
### Discussion

**16:00–17:25**  
**Title:** Adult deformity and infection  
**Location:** Strauss 3  
**Chairs:** Cornelia Neidlinger-Wilke, Ulm, Germany  
Ayman Assi, Beirut, Lebanon

**QF20**  
**SITTING SPINOPELVIC ADAPTATIONS IN ADULT SPINAL DEFORMITIES**  
Ayman Assi, Beirut, Lebanon  
Abir Massaad, Eddy Saad, Rami Rachkidi, Karl Semaan, Georges Kawkabani, Renée Maria Saliby, Mario Mekhael, Ismat Ghanem, Gaby Kreichati, Virginie Lafage, Wafa Skalli, Ayman Assi  
Faculty of Medicine, Saint Joseph University, Beirut, Lebanon

**QF21**  
**ALTERATION OF THE SITTING AND STANDING MOVEMENT IN ADULT SPINAL DEFORMITY**  
Ayman Assi, Beirut, Lebanon  
Eddy Saad, Karl Semaan, Georges Kawkabani, Abir Massaad, Renée Maria Saliby, Mario Mekhael, Marc Fakhoury, Krystel Abi Karam, Elena Jaber, Ismat Ghanem, Rami Rachkidi, Virginie Lafage, Wafa Skalli, Ayman Assi  
Faculty of Medicine, Saint Joseph University, Beirut, Lebanon

**QF22**  
**THE IMPACT OF UNPLANNED REINTERVENTIONS FOLLOWING ASD SURGERY**  
Ferran Pellisé, Barcelona, Spain  
Spine Surgery Unit, Hospital Universitario Vall d’Hebron, Barcelona, Spain; Spine Research Unit, Vall d’Hebron Institute of Research, Barcelona, Spain; Spine Unit, Department of Orthopedic Surgery, Hospital Universitario La Paz, Madrid, Spain; Department of Orthopedics, Schulthess Klinik, Zurich, Switzerland; Spine Surgery Unit, Pellegrin University Hospital, Bordeaux, France; Orthopedic Spine Unit, Ankara Spine Center, Ankara, Turkey

**QF23**  
**THE FATE OF THORACOLUMBAR ROTATIONAL KYPHOSIS AFTER ADULT SCOLIOSIS SURGICAL CORRECTION**  
Javier Pizones, Barcelona, Spain  
Spine Unit, Orthopaedic Surgery Department. Hospital Universitario La Paz, Madrid, Spain
QF24 NO DIFFERENCE IN PATIENT-RATED OUTCOME AFTER SHORT VERSUS LONG FUSION SURGERY IN PATIENTS UNDERGOING LUMBAR SPINE SURGERY FOR ADULT SPINAL DEFORMITY
Frank S Kleinstück, Zürich, Switzerland
Frank S Kleinstück, Sarah Richner-Wunderlin, Laura Zimmermann, Alba Vila-Casademunt, Aleix Ruiz de Villa, Ahmet Alanay, Markus Loibl, Ferran Pellisé, Francisco Sanchez Perez-Grueso, Ibrahim Obeid, Anne F Mannion
Schulthess Klinik, Zuerich, Switzerland

QF25 RELATIONSHIP BETWEEN ADULT SPINAL DEFORMITY SURGERY AND EMPLOYMENT, SICK LEAVES, RETURN TO WORK AND EARLY RETIREMENT: MINIMUM 5 YEARS FOLLOW-UP STUDY
Caglar Yilgor, Istanbul, Turkey
Altug Yucekul, Caglar Yilgor, Tais Zulemyan, Yasemin Yavuz, Javier Pizones, Ibrahim Obeid, Frank Kleinstueck, Francisco Javier Sanchez Perez-Grueso, Ferran Pellisé, Ahmet Alanay, European Spine Study Group ESSG
Department of Orthopaedics and Traumatology, Acibadem University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem University Maslak Hospital, İstanbul, Turkey; Department of Biostatistics, Ankara University Faculty of Medicine, Ankara, Turkey; Spine Surgery Unit, Hospital Universitario La Paz, Madrid, Spain; Spine Unit 1, Bordeaux University Hospital, Bordeaux, France; Spine Center, Schulthess Klinik, Zurich, Switzerland; Spine Surgery Unit, Hospital Universitario Vall d’Hebron, Barcelona, Spain; Vall d’Hebron Institute of Research, Barcelona, Spain

QF26 CAN LUMBOPELVIC PARAMETERS BE USED TO PREDICT THORACIC KYPHOSIS?
Yann Philippe Charles, Strasbourg, France
Yann Philippe Charles, Federico Solla, Sébastien Pesenti, Benjamin Blondel, Solène Prost, Georges Abi Lahoud, Jonathan Lebhar, Vincent Challier, Erik André Sauleau, Brice Ilharreborde
Dept of Spine Surgery, University of Strasbourg, France

QF27 DYNAMIC SAGITTAL BALANCE IN PATIENTS WITH ADULT SPINAL DEFORMITY
Ayman Assi, Beirut, Lebanon
Guillaume Rebeyrat, Ayman Assi, Abir Massaad, Helene Pillet, Karl Semaan, Eddy Saad, Ismat Ghanem, Gaby Kreichati, Rami Rachkidi, Wafa Skalli
Institut de Biomécanique Humaine Georges Charpak, Arts et Métiers ParisTech, Paris, France; Faculty of Medicine, Saint-Joseph University, Beirut, Lebanon

QF28 ASSOCIATION BETWEEN CERVICAL MUSCLES FUNCTION AND RADIOGRAPHS PARAMETERS IN PATIENTS WITH CERVICAL KYPHOSIS: A CASE CONTROL STUDY WITH SURFACE ELECTROMYOGRAPHY ASSESSMENT
Dian Wang, Beijing, China
Dian Wang, Tianhua Rong, Booge Liu
Dept of orthopeadic surgery, Beijing, China

QF29 RELATIONSHIP BETWEEN SPINAL SAGITTAL IMBALANCE AND NECK SYMPTOMS – LOCOMOTIVE SYNDROME AND HEALTH OUTCOME IN AIZU COHORT STUDY (LOHAS)
Kazuyuki Watanabe, Fukushima, Japan
Kazuyuki Watanabe, Koji Otani, Miho Sekiguchi, Takuya Naka, Kinshi Kato, Hiroshi Kobayashi, Ryoji Tominaga, Junichi Handa, Shoji Yabuki, Shin-ichi Kikuchi, Shin-ichi Kono
Dept of Orthopaedic Surgery, Fukushima Medical University, Japan

QF30 THE FUNCTION ASSESSMENT SCALE FOR SPINAL DEFORMITY (FASD): VALIDITY AND RELIABILITY OF A NEW CLINICAL SCALE
Pieter Severijns, Leuven, Belgium
Pieter Severijns, Thomas Overbergh, Thijs Ackermans, Erica Beaucauge-Gauvreau, Simon Brumagne, Kaat Desloover, Lennart Scheys, Lieven Moke
Institute for Orthopaedic Research and Training, KU Leuven, Belgium
QF31 THE USE OF SUBLAMINAR WIRES TO CREATE SEMI-RIGID JUNCTIONAL FIXATION IN SURGICAL CORRECTION OF ADULT DEGENERATIVE SCOLIOSIS
Julia van Agtmaal, Eindhoven, Netherlands
Julia van Agtmaal, Remco Doodkorte, Alex Roth, Keita Ito, Bert van Rietbergen, Paul Willems
Dept. Orthopaedics, Maastricht University Medical Center, Netherlands; Dept. Biomedical Engineering, Eindhoven University of Technology, Netherlands

QF32 EARLY LOOSENING IN CT-SCAN MAY SUGGEST LOW GRADE INFECTION IN REVISION SPINE SURGERY
Gemma Vilà-Canet, Barcelona, Spain
Gemma Vilà-Canet, Guillem Saló Bru, Alex Del Arco, David Rodríguez-Rubio, Demian Manzano, Berta Gasol Cudas, Mauro Gidi, Jesús Lafuente Baraza
UFCV, Parc de Salut Mar, Barcelona, Spain

QF33 COMPARATIVE ANALYSIS OF INSTRUMENTED VS NON-INSTRUMENTED ANTERIOR DECOMPRESSION IN THORACOLUMBAR TUBERCULOSIS
R Dinesh Iyer, Bangalore, India
R Dinesh Iyer, Saurabh Singh, Alok Rai, Rishabh Surana, Divyansh Sharma
Dept of Orthopaedics, AIIMS, Raipur, India

QF34 CULTURE NEGATIVE EXTRA PULMONARY SPINAL TUBERCULOSIS: A NEW CHALLENGE
Ali Taha, London, United Kingdom
Ali Taha, Bisola Ajayi, Thamer Hamdan, Christopher Fenner, Angelo Fragkakis, Jason Bernard, Angela Houston, Tim Bishop, Darren Lui
St. George’s University Hospital, London, United Kingdom

QF35 A NOVEL CLINICAL PREDICTION MODEL FOR DISCRIMINATE TUBERCULOUS SPONDYLODISCITIS FROM PYOGENIC SPONTANEOUS SPONDYLODISCITIS
Thamrong Lertudomphonwanit, Bangkok, Thailand
Thamrong Lertudomphonwanit, Chirtwut Somboonprasert, Suphaneeewan Jaovisidha, Sasivimal Rattanasiri, Pongthorn Chanplakorn
Department of Orthopaedics, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

Discussion

16:00–17:25 Growing spine, diagnostic and imaging
Location: Strauss 2
Chairs: Alessio Lovi, Milan, Italy
Caglar Yilgor, Istanbul, Turkey

QF40 THE 16-ITEM VERSION OF THE SRS-INSTRUMENT SHOWS BETTER STRUCTURAL VALIDITY THAN THE 20-ITEM VERSION IN YOUNG PATIENTS WITH SPINAL DEFORMITY
Anne F Mannion, Zürich, Switzerland
Anne F Mannion, Achim Elfering, Tamas F Fekete, Ian Harding, Marco Monticone, Peter Obid, Thomas Niemeyer, Ulf Liljenqvist, Andreas Boss, Laura Zimmermann, Alba Vila-Casademunt, Francisco Pérez-Grueso, Javier Pizones, Ferran Pellise, Sarah Richner-Wunderlin, Frank S Kleinstück, Ibrahim Obeid, L Boissiere, Ahmet Alanay, Juan Bago
Schulthess Klinik, Zuerich, Switzerland
QF41 A PREOPERATIVE PLANNING TOOL FOR PATIENTS WITH EARLY ONSET SCOLIOSIS BASED ON A FINITE ELEMENT MODEL TAILORED TO THE PATIENT
Ilse van Hulst, Eindhoven, Netherlands
Ilse van Hulst, Paul Willems, Remco Doodkorte, Alex Roth, Keita Ito, Bert van Rietbergen
Dept Biomedical Engineering, Eindhoven, Netherlands; Dept. of Orthopaedics, Maastricht University Medical Centre, Maastricht, Netherlands

QF42 HARNESSING TIME-SERIES KINEMATIC AND ELECTROMYOGRAPHY SIGNALS AS PREDICTORS TO DISCRIMINATE AMONGST LOW BACK PAIN RECOVERY STATUS
Deborah Falla, Birmingham, United Kingdom
Bernard X.W. Liew, David Rugamer, Alessandro De Nunzio, Deborah Falla
Centre of Precision Rehabilitation for Spinal Pain (CPR Spine), University of Birmingham, United Kingdom

QF43 UTILITY OF INERTIAL MEASUREMENT UNITS FOR ASSESSMENT OF SPINAL AND PELVIC KINEMATICS IN PEOPLE WITH LOW BACK PAIN
Liba Sheeran, Cardiff, United Kingdom
Jennifer Davies, Mohammad Al-Amri, Valerie Sparkes, Liba Sheeran
School of Healthcare Sciences and Biomechanics and Bioengineering Research Centre Versus Arthritis, Cardiff University, Cardiff, United Kingdom

QF44 PARAVERTEBRAL MUSCLE FUNCTION IN PARKINSON SPINAL DISEASE: A PRELIMINARY STUDY WITH SURFACE ELECTROMYOGRAPHY
Tianhua Rong, Beijing, China
Tianhua Rong, Booge Liu, Dian Wang, Wei Cui, Duo Zhang, Bingxuan Wu, Youxi Lin
Department of Orthopaedic Surgery, Beijing Tiantan Hospital, Capital Medical University, Beijing, China

QF45 THE ASSOCIATION OF SPINAL LEAN MUSCLE VOLUME ON LUMBAR SPINE MRI AND REGIONAL VOLUMETRIC BONE MINERAL DENSITY MEASURED BY QUANTITATIVE COMPUTED TOMOGRAPHY
Erika A. Chiapparelli, NYC, United States
Erika A. Chiapparelli, Ichiro Okano, Dominik Adl Amini, Jiaqi Zhu, Lisa Oezel, Ek T. Tan, Jennifer Shue, Federico P. Girardi, Frank P. Cammisa, Andrew A. Sama, Alexander P. Hughes
Hospital for Special Surgery, New York, NY, United States

QF46 DEEP LEARNING PIPELINE FOR AUTOMATED DETECTION AND CLASSIFICATION OF CENTRAL CANAL, LATERAL RECESS AND NEURAL FORAMINAL STENOSIS ON LUMBAR SPINE MRI
Jiong Hao Tan, Singapore, Singapore
Jiong Hao Tan, Lei Zhu, Kaiyuan Yang, Hiroshi Yoshioka, Beng Chin Ooi, Diyaa Abdul Rauf Algaziwi, Swee Tian Quek, James Thomas Patrick Decourcy, Naresh Kumar, Andrew Makmur, Yiong Huak Chan, Yun Song Choo, Sterling Ellis Eide, Yee Liang Thian, Qai Ven Yap
Department of Orthopedics, National University Hospital; Department of Diagnostic Imaging, National University Hospital; Department of Computer Science, School of Computing, National University of Singapore

QF47 SPINAL CORD MEDIAL SAFE ZONE DURING C2 PEDICLE INSTRUMENTATION: A MRI MEASUREMENT ANALYSIS
Erika A. Chiapparelli, NYC, United States
Erika A. Chiapparelli, Edward Bowen, Ichiro Okano, Stephan N. Salzmann, Marie-Jacqueline Reisener, Jennifer Shue, Andrew A. Sama, Frank P. Cammisa, Federico P. Girardi, Alexander P. Hughes
Hospital for Special Surgery, New York, NY, United States
QF48 SAGITTAL ALIGNMENT CHANGES DURING CHILDHOOD: RESULTS OF A NATIONAL COHORT ANALYSIS OF 1078 HEALTHY CHILDREN
Sebastien Pesenti, Marseille, France
Sebastien Pesenti, Brice Ilharreborde, Federico Solla, Benjamin Blondel, Solene Prost, Erik-André Sauleau, Yann Philippe Charles
Timone Enfants, Marseille, France

QF49 SELECTING "LTV-1" AS LIV IN LENKE 5 CURVE: RADIOGRAPHIC AND CLINICAL OUTCOMES WITH A MINIMUM OF 2-YEAR FOLLOW-UP
Zongshan Hu, Nanjing, China
Zongshan Hu, Zhikai Qian, Zezhang Zhu, Ziyang Tang, Jie Li, Yong Qiu, Zhen Liu
Department of Spine Surgery, the Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

QF50 INTER- AND INTRARATER RELIABILITY OF MEASURING LENGTHENING OF MAGNETICALLY CONTROLLED GROWING RODS ON DIGITAL RADIOGRAPHS
Charlotte Sommer Meyer, Vestbjerg, Denmark
Charlotte Sommer Meyer, Peter Doering, Peter Heide Pedersen, Kresten Wendell Rickers, Søren Peter Eiskjær
Dept. of Orthopaedics, Aalborg, Denmark

QF51 ULTRASOUND MEASUREMENT OF MAGNETICALLY CONTROLLED GROWING ROD (MAGEC) LENGTHENING. AN INTRA AND INTEROBSERVER RELIABILITY STUDY
Martin Estefan, NOTTINGHAM, United Kingdom
Martin Estefan, Nigil Palliyil, Alan Gessara, Masood Shafay
The Centre for Spinal Studies and Surgery, Queens Medical Centre, Nottingham University Hospitals NHS, Nottingham, United Kingdom

QF52 ASYMMETRIC PEDICLE SUBTRACTION OSTEOTOMY (APSO) FOR NEGLECTED PEDIATRIC COMPLEX SPINAL DEFORMITIES REQUIRING THREE COLUMN OSTEOTOMIES (3CO). MINIMUM 3 YEARS RESULTS REGARDING THE CORRECTIONAL EFFICACY AND COMPLICATIONS
Tuna Pehlivanoglu, Istanbul, Turkey
Tuna Pehlivanoglu, Yigit Erdag, Umut Dogu Akturk, Ismail Oltulu, Mehmet Aydogan
Emsey Hospital, Dept. of Orthopaedic Surgery, Advanced Spine Surgery Center, Istanbul, Turkey

QF53 DOES DIRECT VERTEBRAL ROTATION IMPROVES CLINICAL RESULT IN PATIENTS TREATED SURGICALLY FOR IDIOPATHIC SCOLIOSIS?
Wiktor Urbanski, Wroclaw, Poland
Wiktor Urbanski, Piotr Markowski, Jacek Nical, Anis Kokaveshi, Rafal Zaluski
Wroclaw Medical University, Dept of Neurosurgery, Wroclaw, Poland

QF54 SELECTION OF UPPER INSTRUMENTED VERTEBRA IN THE POSTERIOR CORRECTION AND FUSION OF LENKE 5+ ADOLESCENT IDIOPATHIC SCOLIOSIS: WHEN CAN THE STIFF THORACIC CURVE BE LEFT UNFUSED?
Zezhang Zhu, Nanjing, China
Zezhang Zhu, Jie Li, Zhikai Qian, Zongshan Hu, Yong Qiu, Zhen Liu
Department of Spine surgery, Drum Tower hospital, Nanjing University Medical School, Nanjing, China

QF55 IS THORACOSCOPIC VBT A PULMONARY FUNCTION DECLINING OR IMPROVING SURGERY?
Caglar Yilgor, Istanbul, Turkey
Caglar Yilgor, Burcu Akpunarli, Altug Yucekul, Kadir Abul, Peri Kindan, Gokhan Ergene, Sahin Senay, Tais Zulemyan, Yasemin Yavuz, Ahmet Alanay
Department of Orthopaedics and Traumatology, Acibadem University School of Medicine, Istanbul, Turkey; Uzla State Hospital, Izmir, Turkey; Clinic of Orthopedics, Istanbul Basaksehir City Hospital, Istanbul, Turkey; Acibadem University School of Medicine, Istanbul, Turkey; Operating Room Services, Acibadem University Vocational School of Health Sciences, Istanbul, Turkey; Department of Cardiovascular Surgery, Acibadem University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem University Maslak Hospital, Istanbul, Turkey; Department of Biostatistics, Ankara University Faculty of Medicine, Ankara, Turkey

Discussion

17:30–19:00  Fireside chat – Members only
Location: Strauss 3
Chairs: Tamás Fekete, Zuerich, Switzerland
       Dezső Jeszenszky, Zuerich, Switzerland

17:30  Welcome
       Tamás Fekete, Zuerich, Switzerland
       Dezső Jeszenszky, Zürich, Switzerland

17:35  Musculoskeletal Modelling in Spine Surgery – In Silico Experiments
       Dominika Ignasiak, Zuerich, Switzerland

17:53  Anterior Deformity Surgery. What we need to know for the Future
       Jürgen Harms, Heidelberg, Germany

18:11  Case report on Spinal Deformity
       Ibrahim Obeid, Bruges, France

18:29  Case report on Full-endoscopic surgery - The next step in minimal-invasive spinal decompression
       Christoph Siepe, Munich, Germany

18:47  Brain & Spine
       Frank Kandziora, Frankfurt, Germany
Scientific Programme
Thursday, 7 October
08:30–10:00  Cervical degenerative disease & New techniques  
Location: Plenary Hall  
Chairs: Tim Pigott, Liverpool, United Kingdom  
        Patrick Strube, Jena, Germany

BRAIN & SPINE  
Frank Kandziora, Frankfurt, Germany  
Co-Editor-in-Chief, Past President EUROSPINE

17 IMMUNOMODULATORY EFFECT OF STEM CELL SECRETOME IN A LOADED ANNULUS FIBROSUS ORGAN CULTURE  
Graciosa Q. Teixeira, Ulm, Germany  
Graciosa Q. Teixeira, Andreas Ekkerlein, Raquel M. Goncalves, Joana R. Ferreira, Anita Ignatius, Hans-Joachim Wilke, Cornelia Neidlinger-Wilke  
1. Institute of Orthopaedic Research and Biomechanics, Ulm University, Germany; 2. Instituto de Investigação e Inovação em Saúde (i3S), University of Porto, Portugal

18 PROSPECTIVE, RANDOMIZED, CONTROLLED, DOUBLE-BLINDED CLINICAL TRIAL COMPARING PEEK AND ALLOGRAFT SPACERS IN PATIENTS UNDERGOING TRANSFORAMINAL LUMBAR INTERBODY FUSION SURGERIES  
Alan Villavicencio, Boulder, United States  
Alan Villavicencio, E. Lee Nelson, Sharad Rajpal, Kara Beasley, Sigita Burneikiene  
Boulder Neurosurgical Associates, Boulder, United States

19 MYELOPATHY DISABILITY INDEX: ESTABLISHING CRITERIA FOR MILD, MODERATE AND SEVERE IMPAIRMENT IN PATIENTS WITH DEGENERATIVE CERVICAL MYELOPATHY  
Alba Pons, Barcelona, Spain  
Alba Pons, Andrea Salomé Khoudi, Ana Garcia de Frutos, Lluïsa Montesinos, Ferran Pellisé, Manuel Ramírez  
Spine Surgery Unit, Vall d’Hebron Research Institute; Barcelona, Spain

20 IMPACT OF CERVICAL KYPHOSIS ON INSTANTANEOUS CENTER OF ROTATION: A PROPENSITY-MATCHED COHORT ANALYSIS  
Bingxuan Wu, Beijing, China  
Bingxuan Wu, Baoge Liu  
Department of Orthopaedic Surgery, Beijing, China

21 IS SUBSIDENCE AFTER STAND-ALONE ANTERIOR CERVICAL DISCECTOMY AND FUSION WITHOUT PLATE FIXATION HARMFUL TO PATIENTS WITH DEGENERATIVE CERVICAL DISEASE? A LONG-TERM FOLLOW-UP STUDY  
Jung-Kil Lee, Gwangju, Korea (ROK / South Korea)  
Jung-Kil Lee, Moon-Soo Han, Bong Ju Moon  
Department of Neurosurgery, Gwangju, South Korea

22 ANTERIOR-ONLY VERSUS COMBINED ANTERIOR-POSTERIOR FUSION WITH ALLOGRAFT FOR MULTILEVEL CERVICAL SPINE FUSIONS: ARE THE FUSION RATES DIFFERENT?  
Celeste Tavolaro, Seattle, United States  
Richard Bransford, Ekamjeet Dhillon, Celeste Tavolaro, Jie Yao, Carlo Bellabarba  
Department of Orthopaedics and Sport Medicine, University of Washington, Seattle, United States
LOW DOSE SPINAL ANAESTHESIA REDUCES PERI-OPERATIVE OPIOID CONSUMPTION IN POSTERIOR CERVICAL NECK SURGERY
Andrew George, Oswestry, United Kingdom
Andrew George, John John, Sudarshan Munigangaiah, Sujay Dheerendra, Birender Balain, Jayesh Trivedi, Matthew Ockendon, Sarfraz Ahmad, Aashish Ghodke, Faz Kader
Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, United Kingdom

TRANSFORAMINAL THORACIC INTERBODY FUSION: PATIENT-REPORTED OUTCOME AT 12 MONTHS
Jani Puhakka, Zürich, Switzerland
Jani Puhakka, Anne F. Mannion, Daniel Haschtmann, Tamas Fekete, Markus Loibl, Dezső Jeszenszky
Schulthess Klinik, Spine Unit, Zuerich, Switzerland

A PROSPECTIVE CLINICAL TRIAL OF A MODIFICATION TO A STANDARD SURGICAL TECHNIQUE IN LUMBAR FUSION, SHOWS IMPROVED LORDOTIC CORRECTION
Shay Menachem, Eastwood, Australia
Shay Menachem, Kevin Seex
Department of Clinical Medicine, Faculty of Medicine, Health and Human Sciences, Macquarie University, Sydney, NSW, Australia

Discussion

10:00–10:45 COFFEE BREAK

10:45–12:00 Honorary lecture and presidential address
Location: Plenary Hall
Chairs: Thomas Blattert, Schwarzach, Germany
Marco Teli, Milan, Italy

10:45 Medical Genetics- Quo vadis? EUROSPINE Honorary Lecture 2021
Markus Hengstschläger, Vienna, Austria

11:10 Introduction to Spine20
Marco Teli, Milan, Italy

11:15 Spine20 2020 inaugural meeting Riyadh
Sami Aleissa, Riyadh, Saudi Arabia

11:20 Spine20 2021 2nd meeting Rome
Giuseppe Costanzo, Milan, Italy

11:25 Grammer Award 2020
Teixeira, Graciosa Q

11:35 EuSSAB Medal Ceremony
Handover of the medal to Artem Gushcha

11:38 EUROSPINE Presidential Address
Everard Munting, Biez, Belgium

12:00–14:00 Industry Workshops and Lunch Break
26  THE NUTRITIONAL PARAMETERS AS PREDICTOR OF POSTOPERATIVE COMPLICATION IN ELECTIVE POSTERIOR LUMBAR INTERBODY FUSION: A SINGLE INSTITUTION EXPERIENCE WITH 776 PATIENTS.
Min-Seok Kang, Seoul, Korea (ROK / South Korea)
Min-Seok Kang, Tae-Hoon Kim
Department of Orthopedic Surgery, Konk United Kingdom University Medical Center, Konk United Kingdom University School of Medicine, Seoul, South Korea

27  ADVERSE EVENTS AND HUMAN PERFORMANCE DEFICIENCIES IN SPINAL SURGERY AT A TERTIARY CARE UNIVERSITY HOSPITAL
Hanno S. Meyer, Munich, Germany
Hanno S. Meyer, Arthur Wagner, Thomas Obermüller, Chiara Negwer, Maria Wostrack, Sandro Krieg, Jens Gempt, Bernhard Meyer
Department of Neurosurgery, Klinikum rechts der Isar, School of Medicine, Technical University of Munich, Germany

28  FIXED CORONAL MALALIGNMENT (CM) IMPACTS INDEPENDENTLY DISABILITY IN ADULT SPINAL DEFORMITY (ASD) PATIENTS WHEN CONSIDERING THE OBEID-CM (O-CM) CLASSIFICATION.
Ibrahim Obeid, Bruges, France
Ibrahim Obeid, Anouar Bourghli, Daniel Lorrieu, Javier Pizones, Frank Kleinstuck, Ferran Pellisé, Ahmet Alanay, Markus Loibl, David Kieser, Louis Boissière, ESSG European Spine Study Group Clinique du Dos, Bordeaux-Terrefort, Bruges, France

29  THE DIAGNOSTIC ACCURACY OF MRI AND NON-ENHANCED CT FOR HIGH-RISK VERTEBRAL ARTERY ANATOMY FOR THE SAFETY IN SUBAXIAL ANTERIOR CERVICAL SPINE SURGERY
Ichiro Okano, New York, United States
Ichiro Okano, Stephan Salzmann, Fabian Winter, Erika Chiapparelli, Yushi Hoshino, Jennifer Shue, John Carrino, Andrew Sama, Frank Cammisa, Federico Girardi, Alexander Hughes
Spine Care Institute, Hospital for Special Surgery, New York, USA

30  DURAL REPAIR EFFICACY ASSESSMENT OF DIFFERENT TECHNIQUES, A CADAVERIC STUDY COMPARING THE NAKED EYE AND SURGICAL LOUPES
Roongrath Chitragran, Bangkok, Thailand
Roongrath Chitragran, Sompob Poopitaya, Sakpan Panyaporn
Spine surgery unit, Department of Orthopaedics, Phramongkutklao Hospital and College of Medicine, Bangkok, Thailand

31  SAFETY AND EFFECTIVENESS OF APICAL VERTEBRAL DEROATION AND TRANSLATION (AVDT) FOR ADOLESCENT IDIOPATHIC SCOLIOSIS USING SCREWS AND SUBLAMINAR BANDS
Andrea La Maida, Milano, Italy
Andrea La Maida, Andrea Della Valle, Enrico Gallazzi, Marcello Ferraro, Davide Cecconi, Bernardo Misaggi
ASST Centro Specialistico Ortopedico Traumatologico G. Pini - CTO, Milano, Italy

32  A NOVEL CLASSIFICATION OF 3D RIB CAGE DEFORMITY IN SUBJECTS WITH ADOLESCENT IDIOPATHIC SCOLIOSIS
Ayman Assi, Beirut, Lebanon
Ayman Assi, Mohamad Karam, Wafa Skalli, Claudio Vergari, Raphael Vialle, Raphael Pietton, Aren Joe BzidiKian, Khalil Kharrat, Jean Dubousset, Ismat Ghanem
Faculty of Medicine, Saint Joseph University, Beirut, Lebanon
33  GLOBAL POSTURAL MALALIGNMENT IN ADOLESCENT IDIOPATHIC SCOLIOSIS: THE AXIAL DEFORMITY IS THE MAIN DRIVER
Ayman Assi, Beirut, Lebanon
Mohamad Karam, Ismat Ghanem, Claudio Vergari, Maria Saade, Celine Chaaya, Ali Rteil, Elma Ayoub, Marc Fakhoury, Elena Jaber, Eddy Saad, Khalil Kharrat, Wafa Skalli, Ayman Assi
Faculty of Medicine, Saint Joseph University, Beirut, Lebanon

34  A NOVEL GROWTH MODULATION SCALE TO PREDICT CURVE BEHAVIOR AFTER VERTEBRAL BODY TETHERING
Altug Yucekul, Istanbul, Turkey
Altug Yucekul, Ipek Ege Gurel, Ilkay Karaman, Demirci Muhammed Nuri, Irem Havlucu, Tais Zulemyan, Yasemin Yavuz, Caglar Yilgor, Ahmet Alanay
Department of Orthopaedics and Traumatology, Acibadem University School of Medicine, Istanbul, Turkey; Acibadem University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem University Maslak Hospital, Istanbul, Turkey; Department of Biostatistics, Ankara University Faculty of Medicine, Ankara, Turkey

35  3D RADIOLOGICAL OUTCOMES FOR PATIENTS WITH MODERATE IDIOPATHIC SCOLIOSIS CURVES TREATED WITH INTERNAL (ANTERIOR VERTEBRAL GROWTH MODULATION) VS EXTERNAL BRACING: 2 YEARS OBSERVATIONAL STUDY
Stefan Parent, Montreal, Canada
Stefan Parent, Matias Pereira Duarte, Carl-Éric Aubin, Nikita Cobetto, Marjolaine Roy-Beaudry, Christian Bellefleur, Isabelle Turgeon, Hubert Labelle, Soraya Barchi
CHU Sainte-Justine, Montreal, Canada

Discussion

15:30–16:15  COFFEE BREAK

16:15–17:15

Best of Show: Presentation of the highest rated abstracts
Location: Plenary Hall
Chairs: Tamás Fekete, Zuerich, Switzerland
Dominique Rothenfluh, Oxford, United Kingdom
The audience is asked to vote via the EUROSPINE app.

36  LOCAL RETROPHARYNGEAL SPACE ANESTHETIC FOR DYSPHAGIA REDUCTION AFTER ANTERIOR CERVICAL DISCECTOMY AND FUSION SURGERY: A SINGLE-CENTER, PROSPECTIVE, RANDOMIZED, DOUBLE-BLINDED, PLACEBO-CONTROLLED CLINICAL TRIAL
Alan Villavicencio, Boulder, United States
Sigita Burneikiene, E. Lee Nelson, Sharad Rajpal, Kara Beasley, Alan Villavicencio
Boulder Neurosurgical Associates; Justin Parker Neurological Institute, Boulder, CO, United States

37  DEVELOPMENT OF A CROSSWALK FOR THE BIDIRECTIONAL MAPPING OF TWO COMMONLY USED CONDITION-SPECIFIC PATIENT-REPORTED OUTCOME MEASURES, THE OSWESTRY DISABILITY INDEX (ODI) AND THE CORE OUTCOME MEASURES INDEX (COMI)
Anne F Mannion, Zürich, Switzerland
Anne F Mannion, Achim Elfering, Frank S Kleinstück, Markus Loibl, Tamás Fekete, Ferran Pellise, Alba Vila-Casademunt, Francine Mariaux, Sarah Richner-Wunderlin, Francisco Pérez-Grueso , Ibrahim Obeid, Ahmet Alanay, Adam Pearson, Jon Lurie, Daniel Haschtmann
Schulthess Klinik, Zuerich, Switzerland
38 DECOMPRESSION WITH OR WITHOUT FUSION IN DEGENERATIVE LUMBAR SPONDYLOLISTHESIS – THE NORDSTEN-DS TRIAL
Ivar Magne Austevoll, H, Norway
Ivar Magne Austevoll, Erland Hermansen, Morten Wang Fagerland, Kjersti Storheim, Brox Jens Ivar, Solberg Tore, Frode Rekeland, Eric Fransson, Clemens Weber, Helena Brisby, Knut Algaard, Tordis Bøker, Oliver Grundnes, Kari Indrekvam, Christian Hellum
Haukeland University Hospital, Haukeland, Norway

39 GAIN IN HRQL AFTER ASD SURGERY IS MAINTAINED BETWEEN 2 AND 5 YEARS’ FOLLOW-UP. RESULTS FROM A PROSPECTIVE MULTICENTRE OBSERVATIONAL COHORT STUDY
Ferran Pellisé, Barcelona, Spain
Spine Surgery Unit, Vall d’Hebron University Hospital, Barcelona, Spain; Spine Research Unit, Vall d’Hebron Institute of Research, Barcelona, Spain; Spine Unit, Department of Orthopedic Surgery, Hospital Universitario La Paz, Madrid, Spain; Spine Surgery Unit, Pelletrin University Hospital, Bordeaux, France; Department of Orthopedics, Schulthess Klinik, Zurich, Switzerland; Orthopedic Spine Unit, Ankara Spine Center, Ankara, Turkey

40 IS VBT SAFE AND EFFECTIVE FOR 60º MAIN THORACIC CURVES? A MATCHED COHORT ANALYSIS
Caglar Yilgor, Istanbul, Turkey
Caglar Yilgor, Firoz Miyani, Stefan Parent, Laurel Blakemore, Kevin Neal, Daniel Hoernschemeyer, Baron Lonner, Amer Samdani, Peter Newton, Ahmet Alanay, Harms Study Group HSG
Department of Orthopedics and Traumatology, Acibadem University School of Medicine, Istanbul, Turkey; British Columbia Children’s Hospital, Vancouver, British Columbia, Canada; CHU Sainte-Justine, Montréal, QC, Canada; Department of Orthopaedics and Rehabilitation, University of Florida, Gainesville, FL, United States; Department of Pediatric Orthopedic Surgery, Nemours Children’s Specialty Care, Jacksonville, FL, United States; University of Missouri Department of Orthopaedic Surgery, Columbia, MO, United States; Scoliosis and Spine Associates, New York, NY, United States; Shriners Hospitals for Children, Philadelphia, PA, United States; Rady Children’s Hospital, San Diego, CA, United States

41 ARTIFICIAL INTELLIGENCE CAN ACCURATELY AND RELIABLY DETECT TRAUMATIC THORACOLUMBAR FRACTURES ON SAGITTAL RADIOGRAPHS
Enrico Gallazzi, Milano, Italy
Enrico Gallazzi, Guillermo Sanchez Rosenberg, Fabio Galbusera, Peter Varga, Boyko Gueorguiev, Mauro Alini, Giuseppe Rosario Schirò, Pietro Domenico Giorgi, Andrea Cina
ASST Centro Specialistico Ortopedico Traumatologico G. Pini - CTO, Milano, Italy

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17:20–18:40 EUROSPINE General assembly (members only)
Location: Strauss 3

17:20 Member Cocktail Reception

17:40 EUROSPINE General Assembly

19:30 OFFICIAL CONGRESS EVENING
Heuriger Wolff
(At own expense)
Scientific Programme
Friday, 8 October
08:30–10:00 Spinal cord tumours and degenerative spine
Location: Plenary Hall
Chairs: Claudius Thomé, Innsbruck, Austria
Zdenek Klezl, Derby, United Kingdom

42 CORRELATION BETWEEN THE MECHANICAL PROPERTIES OF THE METASTATIC VERTEBRAE AND THE FEATURES OF THE LESIONS
Marco Palanca, Sheffield, United Kingdom
Marco Palanca, Enrico Dall’Ara, Alessandro Gasbarrini, Giovanni Barbanti-Bròdano, Luca Cristofolini
Dept of Oncology and Metabolism, University of Sheffield, Sheffield, United Kingdom; Dept of Industrial Engineering, Alma Mater Studiorum - University of Bologna, Bologna, Italy; Dept of Oncological and Degenerative Spine Surgery, Rizzoli Orthopaedic Institute, Bologna, Italy

43 PROGNOSTIC FACTORS FOR SHORT-TERM VERSUS LONG-TERM READMISSION-FREE SURVIVAL AFTER METASTATIC SPINE TUMOR SURGERY
Naresh Kumar, Singapore, Singapore
Naresh Kumar, Andrew Thomas, Liang Shen, Sridharan Ramakrishnan, Sirisha Madhu
Department of Orthopaedic Surgery, National University Health System, Singapore, Singapore

44 CAN BODY COMPOSITION MEASURES ON COMPUTED TOMOGRAPHY PREDICT MORTALITY IN PATIENTS WITH SPINAL METASTASES UNDERGOING SURGERY?
Olivier Groot, Boston, United States
Olivier Groot, Michiel Bongers, Colleen Buckless, Neal Kapoor, Peter Twining, Joseph Schwab, Martin Torriani, Miriam Bredella
Dept of Orthopaedics, Massachusetts General Hospital, Boston, United States

45 THE DEVELOPMENT OF A SPINAL OLIGOMETASTASES PATHWAY AT A SUPRA-REGIONAL CENTER. A SURGICAL PERSPECTIVE
Philip Ho, London, United Kingdom
Philip Ho, Vino Siva, Christopher Fenner, Bisola Ajayi, Matthew Crocker, Pawanjit Minhas, Jason Bernard, Timothy Bishop, Darren Lui
Dept of complex spinal surgery, St. George’s Hospital, London, United Kingdom

46 MINIMALLY INVASIVE DOUBLE TUBULAR RESECTION OF INTRADURAL EXTRAMEDULLARY MENINGIOMA: SINGLE CENTER INITIAL EXPERIENCE
Ulrich Hubbe, Freiburg, Germany
Ulrich Hubbe, Katerina Argiti, Roland Roelz, Christoph Scholz, Jan-Helge Klingler, Ioannis Vasilikos
Clinic for Neurosurgery, medical center, University of Freiburg, Freiburg, Germany

47 COST-UTILITY ANALYSIS OF MICRODISCECTOMY VERSUS NON-OPERATIVE MANAGEMENT FOR THE TREATMENT OF CHRONIC RADICULOPATHY SECONDARY TO LUMBAR DISC HERNIATION
Andrew Glennie, Halifax, Canada
Andrew Glennie, Jennifer Urquhart, Prosper Koto, Parham Rasoulinejad, Tom Miller, Jim Watson, Fawaz Siddiqi, Keith Sequeria, Chris Bailey
Dalhousie University, Halifax, Canada

48 MINIMALLY-INVASIVE TRANSFORAMINAL LUMBAR INTERBODY FUSION INCREASES LATE-TERM RATES OF PSEUDARTHROSIS VERSUS OPEN APPROACH
Stephen Saela, Paterson, NJ, United States
Daniel Coban, Stuart Changoor, Conor Dunn, Michael Pompliano, Kumar Sinha, Ki Hwang, Michael Faloon, Arash Emami
St. Joseph’s University Medical Center, Department of Orthopaedic Surgery, Paterson, NJ, United States
49  EFFECT OF INDIRECT DECOMPRESSION TO ADJACENT LEVEL AFTER SINGLE-LEVEL OBLIQUE LATERAL INTERBODY FUSION (OLIF) PROCEDURE
Kaweekrai Anusart, Bangkok, Thailand
Kaweekrai Anusart, Kittisak Songthong, Vit Kotheeranurak, Weerasak Singhatanadgige, Worawat Limthongkul
Department of Orthopaedics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

50  HOW BACK PAIN INTENSITY RELATES TO CLINICAL AND PSYCHOSOCIAL FACTORS IN PATIENTS WITH IDIOPATHIC SCOLIOSIS
Javier Pizones, Barcelona, Spain
Javier Pizones, Antonia Matamalas, Clara Figueras, Ferran Pellise, Jesus Betegon, Jose Miguel Sanchez-Marquez, Lucia Moreno-Manzanaro, Marta Esteban, Joan Bago
Spine Unit, Orthopaedic Surgery Department, Hospital Vall D’Hebrón, Barcelona, Spain; Spine Unit, Orthopaedic Surgery Department, Hospital Universitario La Paz, Madrid, Spain; Spine Unit, Orthopaedic Surgery; Department, Complejo Asistencial Universitario de León (CAULE), Spain

51  TRABECULAR VOLUMETRIC BONE MINERAL DENSITY OF THE OCCIPITAL BONE AT PREFERRED SCREW PLACEMENT SITES MEASURED BY QUANTITATIVE COMPUTED TOMOGRAPHY
Manuel Moser, New York, United States
Manuel Moser, Dominik Adl Amini, Lisa Oezel, Jennifer Shue, John Carrino, Andrew Sama, Frank Cammisa, Federico Girardi, Alexander Hughes
Spine Care Institute, Hospital for Special Surgery, New York, United States

10:00–10:45  COFFEE BREAK

10:45–11:45  Debate 2: Anterior vs. posterior approach for the treatment of cervical radiculopathy
Location: Plenary Hall
Chairs: Klaus J. Schnake, Erlangen, Germany

10:45  Introduction and illustrative case presentation
Klaus J. Schnake, Erlangen, Germany

10:50  Audience to select preferred treatment
Klaus J. Schnake, Erlangen, Germany

10:52  Pro posterior foraminotomy
Luca Papavero, Hamburg, Germany

11:04  Pro anterior discectomy and fusion
Paulo Pereira, Porto, Portugal

11:16  Pro total disc replacement
Enrico Tessitore, Geneva, Switzerland

11:45–13:45  Industry Workshops and Lunch Break
KEYNOTE: EVOLUTION OF POSTERIOR TECHNIQUES FOR SPINAL DEFORMITY CORRECTION: 10 YEARS BACK, CURRENT, AND 10 YEARS FORWARD
Lawrence Lenke, New York, United States

52 ANALGESIC AND OPIOID MEDICATION PROFILE OF EUROPEAN ADULT SPINAL DEFORMITY PATIENTS: MINIMUM 5 YEARS FOLLOW-UP STUDY
Caglar Yilgor, Istanbul, Turkey
Department of Orthopaedics and Traumatology, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem University Maslak Hospital, Istanbul, Turkey; Department of Biostatistics, Ankara University Faculty of Medicine, Ankara, Turkey; Orthopedic and Spinal Surgery Department, Kingdome Hospital, Riyadh, Saudi Arabia; Spine Unit 1, Bordeaux University Hospital, Bordeaux, France; Spine Surgery Unit, Hospital Universitario La Paz, Madrid, Spain; Spine Center, Schulthess Klinik, Zurich, Switzerland; Spine Surgery Unit, Hospital Universitario Vall d’Hebron, Barcelona, Spain; Vall d’Hebron Institute of Research, Barcelona, Spain

53 COMPENSATORY MECHANISMS RECRUITED AGAINST PROXIMAL JUNCTIONAL KYPHOSIS BY PATIENTS INSTRUMENTED FROM THE THORACOLUMBAR JUNCTION TO THE Iliac
Javier Pizones, Barcelona, Spain
Javier Pizones, Francisco Javier Pérez-Grueso, Lucía Moreno-Manzanaro, Fernando Escámez, Caglar Yilgor, Alba Vila-Casademunt, Nicolás fernández-Baillo, Jose Miguel Sánchez-Marquez, Ibrahim Obeid, Frank Kleinstueck, Ahmet Alanay, Ferran Pellisé, European Spine Study Group ESSG
Spine Unit, Orthopaedic Surgery Department. Hospital Universitario La Paz, Madrid, Spain

54 WALKING ALTERATIONS IN ADULT SPINAL DEFORMITY DEPEND ON THE TYPE OF DEFORMITY
Ayman Assi, Beirut, Lebanon
Karl Semaan, Eddy Saad, Rami Rachkidi, Georges Kawkabani, Abir Massaad, Renée Maria Saliby, Mario MeKhael, Krystel Abi Karam, Marc Fakhoury, Elena Jaber, Ismat Ghanem, Gaby Kreichati, Wafa Skalli, Virginie Lafage, Ayman Assi
Faculty of Medicine, Saint-Joseph University, Beirut, Lebanon

55 COMPARATIVE EFFECTIVENESS OF ANTERIOR INTERBODY FUSION VERSUS POSTERIOR INTERBODY FUSION IN PATIENTS UNDERGOING SURGERY FOR ASD: A PROPENSITY SCORE BASED ANALYSIS.
Susana Núñez-Pereira, Barcelona, Spain
Spine Surgery Unit, Vall d’Hebron University Hospital, Barcelona, Spain; Spine Research Unit, Vall d’Hebron Institute of Research, Barcelona, Spain; Spine Unit, Department of Orthopedic Surgery, Hospital Universitario La Paz, Madrid, Spain; Department of Orthopedics, Schulthess Klinik, Zurich, Switzerland; Spine Surgery Unit, Pellegrin University Hospital, Bordeaux, France; Orthopedic Spine Unit, Ankara Spine Center, Ankara, Turkey
56 SPINO-PELVIC SAGITTAL BALANCE PARAMETERS, COMPARISON BETWEEN MEASUREMENTS OBTAINED BY A TRADITIONAL PROGRAM (AGFA-ENTERPRISE) VERSUS SEMI-AUTOMATIC USING SURGIMAP AS A TECHNOLOGICAL TOOL
Felipe Arriagada, Santiago, Chile
Felipe Arriagada, Jose Fleiderman, Juan Cirillo, Facundo Alvarez, Cristobal Varela, Diego Herreros
Dept of Orthopaedic Surgery, Clinica Universidad de los Andes, Santiago, Chile

57 CAN ARTIFICIAL INTELLIGENCE SUPPORT OR EVEN REPLACE PHYSICIANS IN MEASURING THE SAGITTAL BALANCE? A VALIDATION STUDY ON PREOPERATIVE AND POSTOPERATIVE IMAGES OF 170 PATIENTS.
Jörg Franke, Magdeburg, Germany
Jörg Franke, Priyanka Grover, Jakob Siebenwirth, Christina Caspari, Marcel Dreischarf, Michael Putzier
Klinikum Magdeburg, Raylytic GmbH, Charité – Universitätsmedizin Berlin, Germany

58 THE CATASTROPHIZATION EFFECTS OF AN MRI REPORT ON THE PATIENT AND SURGEON AND THE BENEFITS OF ‘CLINICAL REPORTING’ - RESULTS FROM AN RCT AND BLINDED TRIALS
Shanmuganathan Rajasekaran, Coimbatore, India
S Rajasekaran, S Dilip Chand Raja, Anand Kumar Behera, Pushpa BT, Shetty Ajoy Prasad, Rishi Mugesh Kanna
Department of Spine Surgery, Ganga Hospital, Coimbatore, India

Discussion

15:15–15:45 COFFEE BREAK

15:45–17:05 Trauma, tumour and MISS
Location: Strauss 2
Chairs: Werner Schmoelz, Innsbruck, Austria
Markus Loibl, Zuerich, Switzerland

QF60 TEACHABILITY OF LOWER CERVICAL SPINE INJURIES CLASSIFICATIONS
Andrey Grin, Moscow, Russia
Andrey Grin, Ivan Lvov, Aleksandr Talyrov, Anton Kordonskiy, Ulugbek Khushnazarov, Vladimir Krylov
Dept of Neurosurgery, Sklifosovsky Research Institute for Emergency Medicine, Moscow, Russia

QF61 ARE 4 SCREWS STILL BETTER THAN 2 FOR POSTERIOR C1-C2 FIXATION? THE RESULTS OF A META-ANALYSIS AND RETROSPECTIVE COHORT STUDY
Ivan Lvov, Moscow, Russia
Ivan Lvov, Andrey Grin, Zaali Barbakadze, Rinat Abdrafiev, Ulugbek Khushnazarov
Dept of Neurosurgery, Sklifosovsky Research Institute for Emergency Medicine, Moscow, Russia

QF62 EARLY CLINICAL PREDICTORS OF FUNCTIONAL RECOVERY FOLLOWING TRAUMATIC SPINAL CORD INJURY
Thea Overgaard Wichmann, Aarhus N, Denmark
Thea Overgaard Wichmann, Mette Haldrup Jensen, Helge Kasch, Mikkel Mylius Rasmussen
Dept of Neurosurgery, Aarhus, Denmark
QF63  RISK FACTORS FOR REFRACTURE FOLLOWING PRIMARY OSTEOPOROTIC VERTEBRAL COMPRESSION FRACTURES
Chengyue Ji, Nanjing, China
Chengyue Ji, Weihua Cai
Department of Orthopedics, the First Affiliated Hospital of Nanjing Medical University, Nanjing, China

QF64  THE INFLUENCE OF PHARMACOLOGICAL OSTEOPOROSIS TREATMENT ON REFRACTURES FOLLOWING A KYPHOPLASTY
Imran Alam, Bradenton, United States
Imran Alam, Mustasim Rumi
Orthopedic Associates of Central Texas, Bradenton, United States

QF65  PERCUTANEOUS SHORT FIXATION ASSOCIATED WITH KYPHOPLASTY FOR BURST FRACTURES OF THE THORACOLUMBAR SPINE: MONOAXIAL VERSUS POLYAXIAL SCREWS
Yann Sabah, Nice, France
Yann Sabah, Nicolas Bronsard
Department of orthopaedic surgery, Nice, France

QF66  SURGICAL TREATMENT OF SPINAL METASTASES. RESULTS OF A LARGE SINGLE CENTRE STUDY
Bernhard Springer, Vienna, Austria
Bernhard Springer, Christoph Stihsen, Anna Rienmüller, Philipp Funovics, Petra Krepler, Josef Grohs, Reinhard Windhager
Dept. of Orthopedics and Trauma Surgery, Medical University of Vienna, Vienna, Austria

QF67  REVIEW OF THE EFFECTIVENESS OF STEREOTACTIC RADIOSURGERY (SRS) TREATMENT OF SPINAL OLIGOMETASTATIC DISEASE DETERMINED BY LOCAL CONTROL, OVERALL SURVIVAL, PAIN RESPONSE AND TOXICITIES: A SYSTEMATIC REVIEW
Priyanshu Saha, London, United Kingdom
Priyanshu Saha, Thamer Hamdan, Bisola Ajayi, Christopher Fenner, Angelo Fragkakis, Timothy Bishop, Jason Bernard, Darren Lui
Complex Spinal Surgery department of Neurosciences, London, United Kingdom

QF68  TOTAL SPONDYLECTOMY OF C2: A SERIES OF 10 CASES FROM A SINGLE CENTER
Jan Štulík, Prague, Czech Republic
Jan Štulík, Zdenek Klezl, Michal Varga, Tomas Vyskocil
Department of Spinal Surgery, University Hospital Motol, Prague, Czech Republic

QF69  EN BLOC RESECTION OF GRADE II INTRAMEDULLARY EPENDYMOMAS IS ASSOCIATED WITH SUPERIOR GROSS TOTAL RESECTION (GTR) RATES AND FUNCTIONAL OUTCOME AT 3 MONTHS
Vincent Healy, Dublin, Ireland
Vincent Healy, Zaitun Zakaria, Patrick O’Kelly, Mohammed Ben Husien, Ciaran Bolger
National Neurosurgery Unit, Beaumont Hospital Dublin, Ireland

QF70  THE MANAGEMENT OF SPINAL OLIGOMETASTASES AT A SUPRA-REGIONAL CENTRE IN THE ERA OF STEREOTACTIC ABLATIVE RADIOTHERAPY
Philip Ho, London, United Kingdom
Vino Sivasubramaniam, Angelo Fragkakis, Philip Ho, Christoph Fenner, Bisola Ajayi, Matthew Crocker, Pawanjit Minhas, Timothy Bishop, Jason Bernard
ST George’s University Hospitals NHS Foundation Trust; Complex Spinal Surgery Dept, London, United Kingdom
QF71 COST-EFFECTIVENESS OF OPEN TRANSFORAMINAL LUMBAR INTERBODY FUSION (OTLIF) VERSUS MINIMALLY INVASIVE TRANSFORAMINAL LUMBAR INTERBODY FUSION (MITLIF): A SYSTEMATIC REVIEW.
Ruud Droeghaag, Heerlen, Netherlands
Ruud Droeghaag, Sem Hermans, Inge Caelers, Silvia Evers, Wouter van Hemert, Henk van Santbrink
Dept. of Orthopaedic Surgery, Zuyderland MC Heerlen, The Netherlands

QF72 FUSION RATE FOLLOWING THE MINIMALLY INVASIVE ANTEPSOAS (MIS-ATP) TECHNIQUE FOR LUMBAR AND LUMBOSACRAL ARTHRODESIS: A RETROSPECTIVE STUDY
Tony Tannoury, Boston, United States
Tony Tannoury, Aziz Saade, Rahul Bhale, Chadi Tannoury
Department of Orthopaedics, Boston, United States

QF73 MINIMALLY INVASIVE SACROILIAC JOINT FUSION VERSUS CONSERVATIVE TREATMENT IN PATIENTS WITH SACROILIAC JOINT DYSFUNCTION: A SYSTEMATIC REVIEW AND META-ANALYSIS
Sem M. M. Hermans, Sittard-Geleen, Netherlands
Sem M. M. Hermans, Ruud Droeghaag, Martijn G.M. Schotanus, Henk van Santbrink, Wouter L.W. van Hemert, Inez Curfs
Department of Orthopaedic Surgery, Zuyderland Medical Center, Heerlen, the Netherlands

QF74 OUTCOMES OF INJECTABLE PLATELET RICH FIBRIN (IPRF) AND CRYOPRESERVED HUMAN AMNIOTIC MEMBRANE (C-HAM) INJECTIONS FOLLOWING LUMBAR DECOMPRESSION SURGERY: A CLINICAL STUDY
Amit Lakhani, Parwanoo, India
Amit Lakhani, Ena Sharma
Dept. of orthopedics, MMMCH, Solan, Himachal Pradesh, Parwanoo, India

QF75 CLINICAL PERFORMANCE OF ENDOSCOPIC LUMBAR DECOMPRESSION FOR THE TREATMENT OF LUMBAR RADICULOPATHY: A CONTROLLED EVALUATION OF 28 CASES WITH 1 YEAR FOLLOW-UP DATA
Babak Saravi, Freiburg, Germany
Babak Saravi, Gernot Lang, Sara Ülkümen, Norbert Südkamp, Frank Hassel
1) Department of Orthopedics and Trauma Surgery, Medical Centre—Albert-Ludwigs-University of Freiburg, Faculty of Medicine, Albert-Ludwigs-University of Freiburg, Freiburg, Germany; 2) Department of Spine Surgery, Loretto Hospital, Freiburg, Germany

15:45–17:05 Risk factors, safety & New techniques
Location: Strauss 3
Chairs: Ahmet Alanay, Istanbul, Turkey
Caglar Yilgor, Istanbul, Turkey

QF80 BEHAVIOR OF 30º UPPER THORACIC CURVES AFTER THORACOSCOPIC VBT FOR MAIN THORACIC CURVES: A MATCHED COHORT ANALYSIS
Ahmet Alanay, Istanbul, Turkey
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Department of Orthopaedics and Traumatology, Acibadem University School of Medicine, Istanbul, Turkey; Acibadem University School of Medicine, Istanbul, Turkey; Comprehensive Spine Center, Acibadem University Maslak Hospital, Istanbul, Turkey; Operating Room Services, Acibadem University Vocational School of Health Sciences, Istanbul, Turkey;
QF81 BRACE AND PHYSIOTHERAPEUTIC SCOLIOSIS SPECIFIC EXERCISES (PSSE) FOR ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS) TREATMENT: A PROSPECTIVE STUDY FOLLOWING SCOLIOSIS RESEARCH SOCIETY (SRS) CRITERIA
Nikos Karavidas, Athens, Greece
Schroth Scoliosis & Spine Clinic, Athens, Greece

QF82 RELATIONSHIP OF KINESOPHOBIA WITH PAIN AND QUALITY OF LIFE IN PATIENTS WITH IDIOPATHIC SCOLIOSIS
Javier Pizones, Barcelona, Spain
Javier Pizones, Antonia Matamalas, Clara Figueras, Ferran Pellise, Jesus Betegon, Jose Miguel Sanchez-Marquez, Lucia Moreno-Manzanaro, Marta Esteban, Joan Bago
Spine Unit, Orthopaedic Surgery Department, Hospital Vall D’Hebrón, Barcelona, Spain; Spine Unit, Orthopaedic Surgery Department, Hospital Universitario La Paz, Madrid, Spain; Spine Unit, Orthopaedic Surgery Department, Complejo Asistencial Universitario de León (CAULE), Spain

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Jessica J. Wong, Toronto, Canada
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Dalla Lana School of Public Health, University of Toronto, Toronto, Canada

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Andrea M Aegerter, Winterthur, Switzerland
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Institute of Health Sciences, School of Health Professions, Zurich University of Applied Sciences, Winterthur, Switzerland; School of Health and Rehabilitation Sciences, The University of Queensland, Brisbane, QLD, Australia; Department of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark; Institute of Physiotherapy, School of Health Professions, Zurich University of Applied Sciences, Winterthur, Switzerland; School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham, United Kingdom; Faculty of Medicine, University of Basel, Basel, Switzerland; Division of Occupational and Environmental Medicine, Epidemiology, Biostatistics and Prevention Institute, University Hospital Zurich, University of Zurich, Zurich, Switzerland; Department of Rheumatology, University Hospital Zurich, University of Zurich, Zurich, Switzerland; Institute of Psychology, University of Bern, Bern, Switzerland; School of Medicine, The University of Western Australia,

QF85 PREDICTION OF SCREW LOOSENING: IS IT POSSIBLE VIA MEASURING THE INSERTION TORQUE? AN IN VITRO STUDY
Jan Ulrich Jansen, Ulm, Germany
Jan Ulrich Jansen, Laura Zengerle, Carsten Hackenbroch, Youping Tao, Hans-Joachim Wilke
Institute of Orthopaedic Research and Biomechanics, Ulm University, Germany; Department of Radiology, German Armed Forces Hospital Ulm, Germany
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Carole Cancelliere, Oshawa, Canada
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Ontario Tech University, Oshawa, Canada

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Sebastian Ille, Munich, Germany
Sebastian Ille, Lea Baumgart, Bernhard Meyer, Sandro Krieg
Department of Neurosurgery, Technical University Munich, School of Medicine, Klinikum rechts der Isar, Munich, Germany

QF88 COMPLICATION RATES BY APPROACH IN ANTERIOR LUMBAR INTERBODY FUSION, DOES IT MATTER? A SYSTEMATIC REVIEW
Iain Feeley, Dublin, Ireland
Iain Feeley, Aoife Feeley, Kevin Clesham, Joseph Butler
Department of Orthopaedics, National Orthopaedic Hospital Cappagh, Dublin, Ireland

QF89 OBESITY: AN INDEPENDENT RISK FACTOR FOR COMPLICATIONS IN ANTERIOR LUMBAR INTERBODY FUSION?
Aoife Feeley, Co. Offaly, Ireland
Aoife Feeley, Iain Feeley, Jake McDonnell, Joseph Butler
Midland Regional Hospital Tullamore, Offaly, Ireland

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Robin Srour, Colmar, France
Robin Srour, Amira El Arbi, Xavier Hoarau, Daniel Orenstein
Dept of Neurosurgery, Colmar, France

QF91 PREOPERATIVE NEUTROPHIL-LYMPHOCYTE RATIO (NLR) AND LYMPHOCYTE PERCENTAGE COULD BE USEFUL PREDICTORS OF POSTOPERATIVE COMPLICATIONS AFTER LUMBAR FUSION
Balint Borbas, Chester, United Kingdom
Balint Borbas, Temidayo Osunronbi, Hiba Lusta, Agbolahan Sofela, Himanshu Sharma
Faculty of Health, University of Plymouth, Plymouth, United Kingdom; Hull University Teaching Hospitals NHS Trust, Hull, United Kingdom; 3. Southwest Neurosurgery Centre, Plymouth, United Kingdom

QF92 INTRAOPERATIVE FLUID MANAGEMENT IN COMPLEX LUMBAR SPINE SURGERY
Anto Abramovic, Innsbruck, Austria
Anto Abramovic, Christoph Orban, Sara Lener, Pierre-Pascal Giraud, Claudius Thomé, Sebastian Hartmann
Department of Neurosurgery, Medical University of Innsbruck, Innsbruck, Austria

QF93 VIRTUAL REALITY TRAINING IN SPINE SURGERY: AN INNOVATIVE SOLUTION FOR INCLUSIVE AND VALUE-BASED COACHING
Andrea Luca, Milan, Italy
Andrea Luca, Riccardo Giorgino, Emanuele Ruberto, Alessio Lovi, Lisa Babbi, Marco Brayda-Bruno
Spine Unit III, IRCCS Galeazzi, Milan, Italy
**QF94**  SPINAL INTRADURAL ARACHNOID CYSTS – A MULTICENTRE CASE SERIES ASSESSING MANAGEMENT AND OUTCOMES
James Bartram, London, United Kingdom
James Bartram, Asfand Baig Mirza, Siddharth Sinha, Timothy Boardman, Axumawi Gebreyohanes, Amisha Vastani, Edward Dyson, Vittorio Russo, David Choi, Ahilan Kailaya-Vasan, Gordan Grahovac
Department of Neurosurgery, Kings College Hospital, London, United Kingdom

**QF94**  INTRAOPERATIVE INDOCYANINE GREEN (ICG) VIDEOANGIOGRAPHY IN INTRAMEDULLARY HEMANGIOBLASTOMA SURGERY: HELPFUL TOOL OR UNNECESSARY?
Jan-Helge Klingler, Freiburg, Germany
Jan-Helge Klingler, Christine Steiert, Bianca-Ioana Bloß, Romina Hohenhaus, Jürgen Grauvogel, Christian Scheiwe, Jürgen Beck
Dept of Neurosurgery, Freiburg, Germany
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Booth #03 at EUROSPINE
Industry Workshops
## Overview Industry Workshops

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<td>The age of AI, Robotics and patient specific care in spine management</td>
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<td>Strauss 2</td>
<td>12:00–13:30</td>
<td>Decreasing postoperative complications and enhancing recovery in Spine Surgery</td>
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<td>A case review of the first Pulse cases worldwide</td>
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<td>Evolution and potential of endoscopic spinal surgery</td>
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<td>New perspectives in spinal imaging with Multitom Rax</td>
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<td>Vertebral Body Tethering: Controversies and complications</td>
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<tr>
<td>12:15–13:45</td>
<td>Vertebral Body Tethering: Controversies and complications</td>
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12:00–13:30

**Medtronic**
Plenary Hall & online on the EUROSPINE 2021 virtual congress platform

**The age of AI, Robotics and patient specific care in spine management**
Will Artificial Intelligence augment surgeons performance? A new era of clinical decision making with UNID™ – **Christopher J. Kleck, USA**

Aligning Minimally Invasive Spinal (MIS) techniques with patients’ surgical needs
– **Paulo Pereira, Portugal**

Transforming surgery with spinal robotics: the European experience with Mazor™ technology
– **Klaus John Schnake, Germany**

**NuVasive**
Strauss 3

**A case review of the first Pulse cases worldwide**
- Overview of current surgical challenges and Pulse as a response to these challenges through its multiple modalities integrated into one platform
- Demonstrating enabling tech to cover all spine procedures through case reviews
- Previous of the future of the platform
– **Pedro Berjano, Sebastiaan Schelfaut, Jacques Mueller-Broich & Stewart Tucker**

**BD**
Strauss 2 & online on the EUROSPINE 2021 virtual congress platform

**Decreasing postoperative complications and enhancing recovery in Spine Surgery**
12:00 ERAS Guidelines: What is most tricky to implement – **Bertrand Debono, France**
12:30 Controlling the visible and the hidden blood loss – **Jean-Charles Le Huec, France**
13:00 Open Discussion
13:30 Closing Remarks

**Siemens Healthineers**
Online presentation on the EUROSPINE 2021 virtual congress platform with Live Q&A

**New perspectives in spinal imaging with Multitom Rax**
12:00 Welcome, Moderation – **Anna Rasche, Germany**
12:05 Introducing new perspectives in spinal imaging with Real 3D and True2scale
– **Franziska Altenbeck, Germany**
12:15 Experiences of the Siemens: Multitom Rax for 3D Spinal Imaging in a Tertiary
– **Naomi Winn, UK**
12:35 True2scale Body Scan in pediatric care – first experiences – **Jürgen Weidemann, Germany**
12:55 Multitom Rax and True2scale Body Scan in clinical routine – first experiences
– **Amir H. Bigdeli, Germany**
13:15 Live Q&A
Industry Workshops – Thursday, 7 October
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joimax® GmbH
Strauss 2

Evolution and potential of endoscopic spinal surgery
Moderator: Wolfgang Ries
Chairman: Menno Iprenburg
From scratch to 100 endoscopic cases in 200 days – challenges, solutions and results – Morten Zebitz Steiness, Denmark
Endoscopic decompression at all spinal levels – Vincent Hagel, Germany
Endoscopic assisted fusion – technique and applications – Ralf Wagner, Germany
From Tubology to endoscopic spine surgery – Richard Assaker, France

Zimmer Biomet Institute
Online presentation on the EUROSPINE 2021 virtual congress platform with Live Q&A

Vertebral Body Tethering: Controversies and complications
12:15 Event starts
12:15 Controversies in Vertebral Body Tethering – Ahmet Alanay
12:30 Controversial case 1 – Ahmet Alanay
12:40 Controversial case 2 – Aurélien Courvoisier
12:50 Complications in Vertebral Body Tethering – Aurélien Courvoisier
13:05 Case example 1 – Aurélien Courvoisier
13:15 Case example 2 – Ahmet Alanay
13:25 Live Q&A – Ahmet Alanay & Aurélien Courvoisier
13:45 Closure

Faculty
Prof. Ahmet Alanay (Acibadem Maslak Hospital, Istanbul, Turkey)
Prof. Aurélien Courvoisier (Grenoble Alps University Hospital, Grenoble, France)
Industry Workshops – Friday, 8 October
12:00–13:30

Globus Medical
Strauss 3

Robotic Navigation: Advanced Applications for Deformity and Prone Lateral Procedures Featuring ExcelsiusGPS®

In this interactive panel discussion, Dr. Theodore and Professor Dr. El Hindy, will discuss the evolution of ExcelsiusGPS® for deformity correction where screw placement is critical to the overall success of the procedure. Furthermore, they will provide details on their clinical experience using ExcelsiusGPS® for prone lateral procedures, including workflow, patient positioning and potential advantages.

- Introduction to EGPS
- Workflow
- Prone Lateral
- EGPS for Deformity
- Hands-on Demo

Nicholas Theodore & Nicolai El Hindy

We salute you.

While COVID-19 prevents our joining you, Surgalign employees around the world applaud the efforts of EUROSPINE to stimulate the exchange of knowledge and ideas in the field of research, prevention, and treatment of spine diseases. Surgalign is a global medical technology company focused on elevating the standard of care by driving the evolution of spine and digital surgery. Learn more at surgalign.com.
Meet the Expert

October 7: 10:10–10:30 & 15:40–16:00
October 8: 10:10–10:30

The following companies are organising small “Meet-the-Expert” gatherings during coffee breaks:

**DePuy Synthes**

DePuy Synthes presentation at booth n.41
Correction techniques for the complex cervical spine – Heiko Koller
How to make MIS surgery as simple as possible?
UNLEASH MIS in practice – Sebastian Hartmann

**EOS imaging**

EOS imaging presentation at booth n.10
Wednesday: 15:30–15:50
Thursday: 10:15–10:35
EOSedge: A new standard for flexion / extension exam to explore thoraco-lumbar spine motion. Interest to enhance pre-op planning – Jean-Charles Le Huec, France

**Medtronic**

Medtronic online presentation in the EUROSPINE 2021 Virtual Congress Platform
During all breaks
Mazor™ Surgical Case Observation with Dr. Jeffrey L. Gum – Jeffrey L. Gum, Norton Leatherman Spine Center, Louisville, USA

**Philips**

Philips online presentation in the EUROSPINE 2021 Virtual Congress Platform
During all breaks
In this Meet the Expert activity, Dr. Scarone, Neurosurgeon from the University of Southern Switzerland, Lugano, Switzerland will share his experiences on “minimal invasive spinal surgery assisted by ClarifEye augmented reality navigation in the Hybrid room”. Dr. Scarone will talk about the benefits of this new navigation solution.

**RIWOspine**

RIWOspine GmbH presentation at booth n.32
Wednesday: 10:00–10:20
The advantages of full-endoscopic transforaminal approach - LIVE Demonstration – Ali Güven Yörükoglu, Germany
Thursday: 15:15–15:35
Tipps & Tricks for precise interlaminar decompression with full-endoscopic approach – Christoph Siepe, Germany

**Siemens Healthineers**

Siemens Healthineers online presentation in the EUROSPINE 2021 Virtual Congress Platform with Spine Precision Partnership
During all breaks
Cios Spin and Pulse the integrated solution for the OR: Clinical case of spine surgery from University Hospital Frankfurt
Speaker: Franziska Pammler
Clinical Case: Dr. Müller-Broich, University Hospital Frankfurt

**ZEISS**

ZEISS presentation at booth n.71
Wednesday: 15:20–15:40
Microdisectomy for lumbar disc herniations: Tips and tricks – Sebastian Hartmann, Austria
Thursday: 10:05–10:25
Bilateral decompression in “cross over” technique and sequestrectomy with the help of ZEISS TIVATO 700, RealSpine Patient in simulated enviro – Andreas Korge, Germany
Gain & Shine with Brain & Spine

Explore the
Tube-in-Tube technique
Endoscopic guided fenestration
Endoscopic TLIF and PLIF

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