Final Programme

EUROSPINE 2017
11–13 October 2017
CCD – Convention Centre Dublin, Ireland
www.eurospine2017.eu
Download the new version of the EUROSPINE smartphone app from the App Store and enhance your conference experience with its features:

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- Have the full **congress programme** in your pocket – speakers, sessions and lecture rooms.

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Welcome Message of the Local Hosts

Dear colleagues,

It gives us great pleasure to welcome you to the annual meeting of EUROSPINE 2017 in Dublin and offer you a Cead Mile Failte go hEireann or a hundred thousand welcomes to Ireland.

The Conference Centre Dublin – CCD is centrally placed in our capital city which offers many historical, cultural and entertainment activities. There are many hotels within walking distance or a short tram or taxi ride away.

The overall scientific programme will take the familiar form that has been established over the last few years. This has been successful in advancing our spinal society meeting to the highest international standards. You can be sure of advancing your knowledge and renewing old and making new contacts.

October is the start of the winter in Ireland with temperatures varying between 5°C and 15°C. It is likely to be changeable and possibly wet (60% chance). It was no accident that the Romans called Ireland Hibernia (Latin for winter). You can be assured however of a warm welcome. Dublin has become a very popular tourist centre so it is easy to arrange additional excursions or activities as required.

So we would invite you to come and be educated, refreshed and entertained. The EUROSPINE Network Experience @ Guinness Storehouse will give you an opportunity to sample some of the best aspects of Irish music, refreshment and entertainment in a convivial multicentre space.

Yours sincerely,
Your local hosts,

Ciaran Bolger
consultant neurosurgeon

Frank Dowling
consultant orthopaedic surgeon
Dear EUROSPINE Members, Colleagues and Guests,

It is an honour to welcome you to the EUROSPINE Annual Meeting, in the beautiful historical city of Dublin. This multicultural city is an old Viking town known for the Trinity College and the Books of Kell’s – the oldest illustrated books in Western Europe, the Dublin Castle, the Ancient Temple at New Grange built 3200 BC, Guinness Beer world-wide known, the Famous Irish Storytelling, and literary authors such Joyce, Yeats and Beckett. Do not forget the beautiful beaches, sailing and much, much more. It is a true pleasure to be in Dublin.

EUROSPINE is now the largest spine society in Europe, having grown in 4 years from about 600 members to more than 1,200 members, with EUROSPINE’s European Spine Societies Advisory Board (EuSSAB) we have attracted approximately 7,000 additional associate members from 27 European countries, who will have their say in the society through the EUROSPINE Executive Committee.

The growth success is testament to our strength as an organisation on an international level, with an important impact on clinical care, education, research, communication and transfer of knowledge. The EUROSPINE Annual Meeting attracts more than 3,000 participants from more than 80 countries who want to learn about improving spinal care for patients through the latest advances in research and clinical findings and who enjoy education and networking with the best and the brightest in spine research and patient care.

The EUROSPINE 2017 Annual General Meeting is the international spine forum which will cover diversified topics such as the EUROSPINE Diploma and Advanced Diploma Courses, applying for Task Force Research Grants and Fellowships to improve your clinical or research skills, Spine Tango – a Europe-wide Spine Registry, networking and so much more. Visit the exhibition for a first-hand experience with state-of-the-art tools and the latest knowledge. Talk to your colleagues, make new friends and be part of a great network. Above all, enjoy the presentations, posters, abstracts, and debates on controversial issues.

The agenda is set by the EUROSPINE Programme Committee based on surveys, direct membership feedback and careful screening of abstracts. We are shaping the EUROSPINE meetings together with you – our members, our society’s strongest asset.

EUROSPINE has two formidable local hosts 2017. Former EUROSPINE President, a true Irishman, former astronaut and neurosurgeon – the respected Ciaran Bolger will share the history, the stories, the culture and beauty of Dublin, together with our colleague Frank Dowling, a true Irishman, a longstanding contributor to our society’s educational activities and much more.

Welcome to Dublin from 11-13 October 2017! It is the place to be for spine care.

Sincerely,

Margareta Nordin
EUROSPINE President 2016-2017
EUROSPINE PRESIDENT
Margareta Nordin, France

EUROSPINE VICE PRESIDENT
Frank Kandziora, Germany

EUROSPINE PAST PRESIDENT
Michael Ogon, Austria

EUROSPINE SECRETARY
Thomas Blattert, Germany

EUROSPINE TREASURER
Marco Teli, UK

ASSISTANT TREASURER
Zdenek Klezl, UK

EDUCATION COUNCIL
Bernhard Meyer, Germany

MEETING COUNCIL
Stavros Stavridis, Greece

RESEARCH COUNCIL
Björn Rydevik, Sweden

MEMBERSHIP COUNCIL
Serdar Kahraman, Turkey

STAKEHOLDER COUNCIL
Jörg Franke, Germany (MedTech)
Christoph Siepe, Germany (EuSSAB)

LOCAL HOSTS
Ciaran Bolger, Ireland
Frank Dowling, Ireland

CORE AND CO-REVIEWERS (ABSTRACTS AND PROGRAMME COORDINATION)
Chair & Coordination
Stavros Stavridis, Greece

CERVICAL SPINE (ALL PATHOLOGIES) & EPIDEMIOLOGY
Paulo Pereira, Portugal
Carmen Vleggeert-Lankamp, Netherlands
John Duff, Switzerland

BASIC SCIENCE:
BIOMETRY & BIOMECHANICS
Werner Schmoelz, Austria
Biology:
Karin Wuertz-Kozak, Switzerland
Stephen Ferguson, Switzerland
Biomechanics:
Stephen Ferguson, Switzerland
Hans-Joachim Wilke, Germany

DEGENERATIVE (THORACO-LUMBAR) & ECONOMICS
Tamas Fekete, Switzerland
Aron Lazary, Hungary
Sven Kevin Tschoeke, Germany

TRAUMA, TUMOUR, INFECTION (THORACO-LUMBAR)
Matti Scholz, Germany
Andrzej Maciejczak, Poland
Zdenek Klezl, UK

ADULT DEFORMITY & GROWING SPINE
Emre Acaroglu, Turkey
Viola Bullmann, Germany
René Castelein, Netherlands

NEW TECHNIQUES, IMAGING, PATIENT SAFETY, COMPLICATIONS & NON-OPERATIVE
Ibrahim Obeid, France
Nasir Quraishi, UK
Elias Papadopoulos, Greece
Addresses & Important Dates

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Congress organisation, sponsorship & exhibition management

Mondial
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Kerstin Roele-Hofmann, Ellen Valckenaree
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M: eurospine2017@mondial-congress.com
www.mondial-congress.com

IMPORTANT DATES

EUROSPINE TFR Alumni Get-Together
(by invitation only)
Wednesday, 11 October, 15:20–15:50

Exhibition Opening & Welcome Reception
Wednesday, 11 October, 17:30–18:30
Forum Exhibition Hall and Liffey Exhibition Hall, Ground Level & Level 1

Medal Lecture (Mark Pollock)
Thursday, 12 October, 10:30–12:00
Plenary Hall, Level 3

EUROSPINE Members’ Cocktail
(by invitation only)
Thursday, 12 October, 17:10
Wicklow Hall 1, Level 2

EUROSPINE General Assembly
.members only.
Thursday, 12 October, 17:30
Wicklow Hall 1, Level 2

EUROSPINE Network Experience
@ Guinness Storehouse (at own expense)
Thursday, 12 October, 20:00
Guinness Storehouse (see page 115)

EUROSPINE 2017 Best Full Paper Award
Thursday, 12 October, 20:00
Awarded during the Network Experience @ Guinness Storehouse

EUROSPINE ‘Best of Show’ and Award Papers
Friday, 13 October, 10:30–12:00
Plenary Hall, Level 3 (see page 50)
How to reach The CCD

By Plane
Dublin Airport offers direct flights daily to all major European cities. It is conveniently located 15 minutes/10 km from The Convention Centre Dublin via the Port Tunnel and serves over 180 routes.

By Bus
On arrival at Dublin Airport, the best way into the city is via the Airlink bus 747; a single journey into the city centre is €6, a return journey is €10. A ticket can be purchased from the driver upon boarding the coach. The Airlink bus departure stop is located opposite the Arrivals exit at the Terminal 1 in Dublin Airport. There is a direct stop at the CCD (Convention Centre Dublin). Busses leave every 10 to 15 minutes. Dublin Bus offers a high frequency, easy-to-use and accessible service across all of the city centre and surrounding areas. These services include city bus services, Airlink, Nitelink and DART feeder buses. Exact change, weekly tickets or top up Leapcards must be used.

By Taxi
Taxi ranks can be found outside the Arrivals Hall at Dublin Airport. A taxi from Dublin Airport to the city centre should cost approximately €25 - €30.

By Car
The Convention Centre Dublin is just minutes away from Ireland’s M50 motorway network and Dublin’s Port Tunnel. It is also next to the Samuel Beckett Bridge which spans the River Liffey, aiding access between the North and South of the city.
Parking: The Convention Centre Dublin’s underground car park has 320 spaces. Parking rates are € 3.50 per hour or € 25 per day. Pre-booking is recommended and can be done online.

Over 2,000 spaces are located in car parks nearby, as well as considerable on street ‘pay and display’ parking on North Wall Quay and adjoining roads.

By Tram
The Luas Red Line (Dublin’s light tram network) runs directly behind The CCD, conveniently linking to downtown Dublin and to Connolly and Heuston rail stations. The CCD is less than ten minutes’ walk from Dublin’s two mainline railway stations (Connolly and Heuston). For the CCD, take the Red Line towards The Point and exit at either Major Square or Spencer Dock.

EUROSPINE Members' Cocktail

EUROSPINE has the pleasure to invite all members to the Members’ Cocktail, right before the General Assembly 2017!

Every year, new members join existing ones at the Annual General Meeting. In order to get to know new members personally and facilitate collaboration and networking with existing members, we have established this inspiring reception.

Please join us for some drinks and snacks before the General Assembly!

When: Thursday, 12 October 2017, 17:10h
Where: Wicklow Hall 1 & Foyer, Level 2
CME credits and certificate of attendance
CME credits are assigned to participants per half-day. To collect your CME points for your certificate you need to use the scanning stations and SCAN THE BARCODE on your name badge each half-day at the following times:
Morning between 08:00 and 11:00
Afternoon between 13:30 and 16:30

The scanning stations, signposted with “CME Scanning” are located in the registration area (Ground Level).

Your certificate will be available for download via a personal link after completing the delegate questionnaire which the organisers will send you via e-mail on Friday, 13 October 2017.

The scientific programme of EUROSPINE 2017 has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME) as follows:

6 European CME credits (ECMEC) for the pre-day course “Spine Tango Users Meeting”
4 ECMEC for the pre-day course “Current concepts in the management of the elderly spine”
14 ECMEC for the congress (5 on Wednesday and Friday, 4 on Thursday)

Webcasts
As EUROSPINE wants to offer participants as much educational value as possible, presentations from the plenary hall 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.

Smartphone 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”.
Free WiFi is available within the entire congress venue.

Audience Response System (ARS)
Due to its great success at the last 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: app.eurospine.org or via your app store/google play store.
We are grateful for your participation in the programme of EUROSPINE 2017!

**Speakers’ Preview Centre**
The speakers’ preview centre is located on Level 5.

**Opening hours:**
- Tuesday, 10 October 07:30–18:30
- Wednesday, 11 October 07:30–17:00
- Thursday, 12 October 07:30–17:00
- Friday, 13 October 07:30–15:30

**Timing of session**
In order to keep the sessions running to schedule and allow questions from the audience it is very important to keep the presentations within the allotted time: your slides will fade automatically after the allotted times has elapsed, a stopwatch will help you keep track of time.

We strongly recommend speakers to ensure that their presentation **does not exceed the allotted time** as we expect the chairperson to strictly adhere to the timetable. Stopping a speaker from completing a presentation is very embarrassing for everybody concerned and hopefully will not be necessary if everyone respects this requirement.

**Regular presentation: 5 minutes**
(plus discussion/change 3 min)

**QuickFire presentation: 3 minutes**
(plus discussion/change 2 min)

**Conflict of interest**
EUROSPINE is committed to avoiding potential **conflicts of interest**: any financial relationship between the speaker/chairperson and a company manufacturing or distributing a product must be disclosed and openly shared. **Conflicts of interest need to be disclosed** for each author during the upload of your presentation and will be shown automatically for 5 seconds before your presentation. Presentations that do not fulfil this prerequisite cannot be shown. During the presentation/discussion, open publicity or unfair and/or unsupported information for products/organisations/business should be avoided. Commercial logos or photographs should not be used (other than in the designated industry workshops).

**Presentation material**
Please note that **only digital material** will be accepted for oral presentations. Speakers may submit their presentation material online prior to the congress. The presentations will be transferred to the session rooms electronically. The material remains the property of the speakers.

**Please note that the use of own notebooks and presentation equipment is not permitted.**

Speakers are reminded to **check in at the preview centre’s welcome desk at least 90 minutes prior to their scheduled presentation**, even if they have already uploaded their presentation prior to the meeting.

**Onsite presentation upload procedure**
- Check in at the preview centre’s welcome desk to receive your login details
- Log into an available computer and upload your presentation
- Presentations can be checked in presenter mode and edited onsite
- Make sure to have your portrait picture taken for the EUROSPINE 2017 webcasts

**Technical specifications**
- **Data carriers:** Please use one of the following data carriers: **USB stick, external hard disk**. The presentation should not be saved solely on a notebook, hand held (PDA’s), or similar.
• **PowerPoint** versions that can be used are: 2003, 2007, 2010 and 2013. Save your PowerPoint presentation as “.pptx”, “.ppt” or “.pps”. Do not use the “pack&go” function. Please make sure that all movie files are saved separately on the data carrier.

• For embedded movies please use “mpeg1”, “mpeg2”, “wmv” or “avi”. For best replayability please use only common and widespread video encodings (codecs), preferably in their newest version.

• **File size**: The size of one presentation should not exceed 500 MB, if uploaded online prior to the meeting. The size limit for presentations uploaded onsite at the Preview Centre is approx. 1GB (it is however recommended that presentations do not exceed 500 MB).

• For images use “.jpeg”/”jpg” or “.gif” formats. Please be aware that Office 2007 and newer does compress images by default, which may lead to reduced image quality. Disable image compression before saving/inserting images, to prevent this.

• Please use 4:3 as **presentation format**.

• **Flash-animations** are **not supported**. Should they be essential to your presentation please contact the EURSPINE Office.

• All files should be in the same folder. Files not included in the presentation (movies...) should be named numerical in ascending order (e.g.: 1.mpg, 2.bmp, 3.wmv, 4.jpg...).

• **Do not use** any passwords or encryption for your files.

• **Do not use** Macros within your presentation.

• We recommend using **default fonts** like Calibri, Arial, Verdana of Times New Roman only. If you have to use other fonts, please make sure that they are saved as ‘embedded fonts’ in the presentation (when saving the file proceed as follows: ‘save as’; ‘name of presentation’; under ‘tools’: ‘safe options’ and select ‘embed true type fonts’ and ‘embed all characters’).

• Please use only regular characters (a-z, A-Z, 0-9, spaces, underscore and dots) for your filenames and do not use special characters (accents, umlauts, foreign symbols).

• For **mathematic symbols** please use only characters that are listed under ‘Latin fonts’ (Unicode or DOS: Western Europe).

• Please use only “WinZip” to pack your data (free download of the current versions at www.winzip.com).

• If you are using PowerPoint for Mac or Keynote, please export your presentation as “.pptx” or “.ppt” for Windows.

### Presentation

1. **Arrive in the room** leaving sufficient time **before the session**. Introduce yourself to the moderator(s) and to the room assistant. Make the moderator familiar with the pronunciation of your name and institution. This is crucial for the moderator to run the session smoothly, to evaluate how fluent your English is, and consequently if you may need any help in reformulating questions from the audience when difficult to understand.

2. **Walk on the stage to become familiar with the system**, microphone and pointing device (the mouse).

3. The moderator may ask you in advance for a **specific topic** you would like to address to complement your presentation, in case there are no questions from the audience. Do not hesitate to prepare for it. The moderator may also propose a question of his/her own.

4. When the previous presentation is over, and before the moderator calls you, **stand up and approach the stage sideways** to be ready, but not to disturb the ongoing discussion. Approach the room assistant, who will help you set the microphone.

5. **Strictly follow the instructions of the moderator(s)**, especially regarding the time allotted for your talk.

6. Please pay attention to the installed “**time keeper**” instrument and **adhere to the foreseen scheduled slot for your presentation**.

7. **Speak** directly into the microphone in a normal voice and do **not touch the microphone**.

8. It is recommended to use the mouse as a pointer, and to follow the arrow on the monitor in front of you. This will prevent you from
turning your head, speaking away from the microphone, and not looking into the direction of the audience. This will be much more pleasant for the attendees. If you are using the laser pointer anyhow, make slow movements to give the participants a chance to find the red spot. When you do not point at anything, do not keep your finger on the switch – this uses up the batteries and may even be dangerous for audience eyes!

Hints for preparation
1. Do not cover too much ground. Leave the fine details for publication and discuss only the major points of your work, supported by the conclusions drawn from your data. Remember you are trying to communicate with the audience in a limited time. A rushed presentation is of no use to the audience or to your reputation.
2. Write out your presentation and practice it with a critic. This may help you to organise your material.
3. Practice and edit your presentation until you can deliver it clearly and understandably within the time allotted to you. If you exceed the allotted time, the session moderator may have to terminate your presentation.
4. Simplify – simplify – simplify: Keep data on slides simple. If there is an abundance of data, divide it into several slides. Simplify material on the slide to illustrate a single point or idea. The content of a slide should be comprehensible in 20 seconds.
5. Limit your slides to not more than two for each minute of your presentation. Think of people in the rear of the meeting room and use large, legible letters. A message slide should have no more than 7 lines with 7 words or less per line. Spaces between lines should be at least the height of a capital letter. Use only light colours such as white, yellow, light orange, light green or light blue on a dark background, such as dark blue or black (white on black background is better than black on white). Remember that almost 20% of the population is unable to see red letters.
6. Make sure the information on the slides of your radiographs is well presented – enlarge-ments of the significant areas and arrows are often helpful.
7. Do not overuse fancy animations available in PowerPoint.
8. Avoid any inappropriate jokes, comments and slides.
9. Patient names must not appear on the slides. This would be a violation of patient confidentiality.
Information on Scientific Programme

EUROSPINE 2017 Debates
There will be two debates 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.

Wednesday, 11 October
10:30–11:15 debate 1: to screen or not to screen for Psychological distress and surgical spine intervention
Moderation: Margareta Nordin, Romorantin, France
Surgical Point of View (Against): Emre Acaroglu, Ankara, Turkey
Non-Surgical Point of View (For): Christine Cedraschi, Geneva, Switzerland
Discussion and Recommendations: All

11:15–12:00 Debate 2: lumbar disc herniation: do we operate too early or should we operate earlier?
Moderation: Stavros Stavridis, Thessaloniki, Greece
“We operate too early”: Tim Pigott, Liverpool, UK
“We should operate earlier”: Klaus J Schnake, Fuerth, Germany

E-posters
The e-posters will be accessible during the main congress days on Level 2.

Presentation Types
All abstracts were graded by a minimum of four reviewers by means of a blind peer review process. Only about 20% of the submissions were accepted for podium presentation.

Regular presentations: 5 min + 3 min discussion
QuickFire presentations: 3 min + 2 min discussion

App-Voting: In marked presentations the audience is invited to vote on specific questions via the EUROSPINE App.

Best Podium Award: Will be evaluated within the `Best of Show´ and Award papers (Friday, 12 October, 10:30–12:00, Plenary Hall). Again with the audiences’ support and rating.
Scientific Programme
Overview
## Programme Overview

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<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event Description</th>
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</thead>
<tbody>
<tr>
<td>8:30–10:00</td>
<td>Plenary Hall</td>
<td>Epidemiology, Non-operative Treatment, Patient Safety</td>
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<tr>
<td>10:00–10:30</td>
<td></td>
<td>Coffee Break in the Exhibition Area</td>
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<tr>
<td>10:30–12:00</td>
<td></td>
<td>Debates</td>
</tr>
<tr>
<td>12:00–14:00</td>
<td>Liffey Hall 2</td>
<td>EUROSPINE Lunch Symposium 1: Discussing the Relevance of Sagittal Balance in the Cervical Spine (Organised by CSRS-Europe)</td>
</tr>
<tr>
<td>12:00–14:00</td>
<td>Wicklow Hall 1</td>
<td>EUROSPINE Lunch Symposium 2: Optimising Value and Outcomes in Spine Care Through Psychologically-informed Practice</td>
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<tr>
<td>14:00–15:20</td>
<td>various meeting rooms</td>
<td>QuickFires Deformity/Growing Spine</td>
</tr>
<tr>
<td>14:00–15:20</td>
<td>Wicklow Hall 2B</td>
<td>QuickFires Degenerative Spine</td>
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<tr>
<td>14:00–15:20</td>
<td></td>
<td>QuickFires Basic Science</td>
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<tr>
<td>15:20–15:50</td>
<td></td>
<td>Coffee Break in the Exhibition Area</td>
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<tr>
<td>15:50–17:30</td>
<td></td>
<td>Adult Deformity, Complications</td>
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<tr>
<td>17:30–18:30</td>
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<td>WELCOME RECEPTION (Forum exhibition hall &amp; Liffey exhibition hall)</td>
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# Thursday, 12 October

## Programme Overview

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<th>Venue</th>
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<tr>
<td>8:30–10:00</td>
<td>Plenary Hall</td>
<td>Degenerative Spine</td>
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<td>Wicklow Hall 1</td>
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<tr>
<td></td>
<td>Liffey Hall 2</td>
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<tr>
<td></td>
<td>various meeting rooms</td>
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<td></td>
<td>Wicklow Hall 2B</td>
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<tr>
<td>10:00–10:30</td>
<td></td>
<td>Coffee Break in the Exhibition Area</td>
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<tr>
<td>10:30–12:00</td>
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<td>Presidential Address and Medal Lecture</td>
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<tr>
<td>12:00–14:00</td>
<td></td>
<td>EUROSPINE Lunch Symposium 3 Challenges in the Management of Neuromuscular Spinal Deformities</td>
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<td>EUROSPINE Lunch Symposium 4 Enhanced Recovery After Surgery (ERAS) for Spinal Procedures</td>
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<td>Industry Lunch Workshops Concurrent Sessions in various rooms</td>
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<td>14:00–15:20</td>
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<td>Growing Spine, Diagnostics</td>
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<tr>
<td>15:20–15:50</td>
<td></td>
<td>Coffee Break in the Exhibition Area</td>
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<tr>
<td>15:50–17:05</td>
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<td>Cervical Spine</td>
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<tr>
<td>17:10</td>
<td></td>
<td>EUROSPINE Members’ Cocktail and General Assembly (for members only)</td>
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<tr>
<td>20:00</td>
<td></td>
<td>EUROSPINE 2017 NETWORK EXPERIENCE</td>
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<td>@ GUINNESS STOREHOUSE – at own expense</td>
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</table>
# Programme Overview

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30–10:00</td>
<td>Plenary Hall</td>
<td>Trauma, Tumour, Infection and Degenerative Lumbar Spine</td>
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<tr>
<td></td>
<td>Liffey Hall 2</td>
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<td></td>
<td>Wicklow Hall 1</td>
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<tr>
<td></td>
<td>various Meeting Rooms</td>
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<tr>
<td></td>
<td>Wicklow Hall 2B</td>
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<tr>
<td>10:00–10:30</td>
<td></td>
<td>Coffee Break in the Exhibition Area</td>
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<tr>
<td>10:30–12:00</td>
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<td>The ‘Best of Show’ and Award papers</td>
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<tr>
<td>12:00–14:00</td>
<td></td>
<td>EUROSPINE Lunch Symposium 5</td>
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<td></td>
<td></td>
<td>Live surgery session</td>
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<td>p. 49</td>
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<tr>
<td>12:00–14:00</td>
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<td>EUROSPINE Lunch Symposium 6</td>
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<tr>
<td></td>
<td></td>
<td>Management of Difficult Patients and Families</td>
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<td>p. 49</td>
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<tr>
<td>12:00–14:00</td>
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<td>Industry Lunch Workshops</td>
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<td></td>
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<td>Concurrent Sessions in various rooms</td>
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<td>p. 90</td>
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<tr>
<td>14:00–15:20</td>
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<td>QuickFires</td>
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<tr>
<td></td>
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<td>New Techniques and Imaging</td>
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<td>p. 53</td>
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<tr>
<td>14:00–15:20</td>
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<td>QuickFires</td>
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<td>Cervical Spine</td>
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<td>p. 57</td>
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<tr>
<td>14:00–15:20</td>
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<td>QuickFires</td>
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<td></td>
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<td>Trauma, Tumour</td>
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<td>p. 55</td>
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<tr>
<td>15:20–15:50</td>
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<td>Coffee Break in the Foyer of Level 3</td>
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<tr>
<td>15:50–17:00</td>
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<td>New Techniques, Medical Economics</td>
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<td>p. 59</td>
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<tr>
<td>17:00</td>
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<td>Adjourn - End</td>
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Scientific Programme
Tuesday, 10 October
### Pre-day Course Programme
**Tuesday, 10 October**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker/Location</th>
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</thead>
<tbody>
<tr>
<td>11:00-17:15</td>
<td><strong>PRE-DAY COURSE I</strong></td>
<td>Wicklow Hall 2A</td>
</tr>
<tr>
<td></td>
<td>Current concepts in the management of the elderly spine</td>
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<tr>
<td></td>
<td>Chair: L. Álvarez Galovich, Madrid, Spain</td>
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<tr>
<td>11:00</td>
<td>Welcome &amp; Course Objectives</td>
<td>L. Álvarez Galovich, Madrid, Spain</td>
</tr>
<tr>
<td>11:05–12:05</td>
<td><strong>Session I: Defining elderly. What differences them from the rest?</strong></td>
<td>Moderator: L. Álvarez Galovich, Madrid, Spain</td>
</tr>
<tr>
<td>11:05–11:20</td>
<td>No country for old men socio-economical problems of the osteoporotic patient</td>
<td>J. Pizones, Madrid, Spain</td>
</tr>
<tr>
<td>11:20–11:35</td>
<td>Dealing with comorbidities</td>
<td>F. Tome, Madrid, Spain</td>
</tr>
<tr>
<td>11:35–11:45</td>
<td>Bone changes in the aging spine – technical approaches to optimize fixation in osteoporotic bone</td>
<td>F. Tome, Madrid, Spain</td>
</tr>
<tr>
<td>11:45–12:05</td>
<td>Q &amp; A – Discussion Session</td>
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<tr>
<td>12:05–12:35</td>
<td><strong>COFFEE BREAK</strong></td>
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<tr>
<td>12:35–13:40</td>
<td><strong>Session II: The state of art in the management of osteoporotic vertebral fractures</strong></td>
<td>Moderator: K. Schnake, Fuerth, Germany</td>
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<tr>
<td>12:35–12:40</td>
<td>Case presentation: Osteoporotic vertebral fracture</td>
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<tr>
<td>12:40–12:55</td>
<td>Cervical fractures in elderly. Is a different entity?</td>
<td>C. Josten, Leipzig, Germany</td>
</tr>
<tr>
<td>12:55–13:10</td>
<td>How do I manage the osteoporotic vertebral fracture. Is there a place for open surgery?</td>
<td>M. Kleinschmidt, Bern, Switzerland</td>
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<tr>
<td>13:40–14:40</td>
<td><strong>LUNCH</strong></td>
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<tr>
<td>Time</td>
<td>Session Title</td>
<td>Presenter, Location</td>
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<tr>
<td>14:40–15:55</td>
<td><strong>Session III: Degenerative disease in elderly patients. Strategies and Pitfalls.</strong></td>
<td>Moderator: F. Tome, Madrid, Spain</td>
</tr>
<tr>
<td>14:40–14:55</td>
<td>Case presentation: Degenerative spondylolisthesis</td>
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<tr>
<td>14:55–15:10</td>
<td>Patient expectations. Quality of life in elderly</td>
<td>F. Girardi, New York, USA</td>
</tr>
<tr>
<td>15:10–15:25</td>
<td>To fuse or not to fuse. Cost utility in the treatment of degenerative aging spine</td>
<td>P. Berjano, Milan, Italy</td>
</tr>
<tr>
<td>15:25–15:40</td>
<td>Cervical myelopathy. Options of treatment</td>
<td>M. Kleinschmidt, Bern, Switzerland</td>
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<tr>
<td>15:40–15:55</td>
<td>Q &amp; A – Discussion Session</td>
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<tr>
<td>15:55–16:10</td>
<td>COFFEE BREAK</td>
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<tr>
<td>16:10–17:15</td>
<td><strong>Session IV: Adult Deformity</strong></td>
<td>Moderator: L. Álvarez Galovich, Madrid, Spain</td>
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<tr>
<td>16:10–16:15</td>
<td>Case presentation: Degenerative scoliosis</td>
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<tr>
<td>16:15–16:30</td>
<td>Sagital plane in elderly. Naturally forward</td>
<td>C. Yilgor, Istanbul, Turkey</td>
</tr>
<tr>
<td>16:30–16:45</td>
<td>Expected outcomes in aging degenerative scoliosis</td>
<td>J. Pizones, Madrid, Spain</td>
</tr>
<tr>
<td>16:45–17:00</td>
<td>The adjacent level in deformities. A problem to solve</td>
<td>F. Pellisé, Barcelona, Spain</td>
</tr>
<tr>
<td>17:00–17:15</td>
<td>Q &amp; A – Discussion Session</td>
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<tr>
<td>17:15</td>
<td>Summary and Closing Remarks</td>
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<td>Time</td>
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<tr>
<td>09:00-17:10</td>
<td>PRE-DAY COURSE II</td>
<td>Spine Tango Users Meeting (STUM) Wicklow Hall 1</td>
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<tr>
<td></td>
<td></td>
<td>Chairs: T. Zweig, Aarau, Switzerland A. Luca, Bari, Italy</td>
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<tr>
<td>09:00</td>
<td>Welcome</td>
<td>T. Zweig, Aarau, Switzerland and A. Luca, Bari, Italy</td>
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<tr>
<td>09:05</td>
<td>Introduction to the Programme</td>
<td>A. Luca, Bari, Italy</td>
</tr>
<tr>
<td>09:10-09:50</td>
<td>1. INFORMATION TECHNOLOGY MEETS TANGO</td>
<td>Experts make our life easier – go electric Chair: R. Sobottke, Aachen, Germany</td>
</tr>
<tr>
<td>09:10-09:16</td>
<td>Expertise from Italy</td>
<td>G. Banfi, Milan, Italy</td>
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<tr>
<td>09:20-09:26</td>
<td>Expertise from Germany</td>
<td>M. Ringe, Wuerselen, Germany</td>
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<tr>
<td>09:30-09:36</td>
<td>An academic approach to registries</td>
<td>T. Jansen, Bonn, Germany</td>
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<tr>
<td>09:40-09:50</td>
<td>Discussion</td>
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<tr>
<td>09:50-10:10</td>
<td>COFFEE BREAK</td>
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<tr>
<td>10:10-10:50</td>
<td>2. BACKGROUND AND CURRENT DEVELOPMENTS</td>
<td>Chairs: T. Pigott, Liverpool, UK E. Munting, Ottignies, Belgium</td>
</tr>
<tr>
<td>10:10-10:20</td>
<td>The philosophy behind ST</td>
<td>T. Pigott, Liverpool, UK</td>
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<tr>
<td>10:20-10:30</td>
<td>National society perspective</td>
<td>E. Munting, Ottignies, Belgium</td>
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<tr>
<td>10:40-10:50</td>
<td>Discussion</td>
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<tr>
<td>10:50-11:25</td>
<td>National Joint Registry</td>
<td>Keynote speaker: Keith Tucker, Norwich, UK</td>
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<tr>
<td>11:25-12:45</td>
<td>3. MEDTECH MEETS SPINE TANGO</td>
<td>Notified bodies and surgeons Chairs: T. Pigott, Liverpool, UK E. Munting, Ottignies, Belgium</td>
</tr>
</tbody>
</table>
11:25–11:35  Expectations of notified bodies  
G. Labek, Linz, Austria

11:35–11:45  Surgeon-Industry relationship  
J. Franke, Magdeburg, Germany

11:45–12:15  Industry presentations: How registries meet industry’s needs  
moderated by Mr. Keith Tucker

12:15–12:45  Podium Discussion

12:45–13:45  LUNCH

13:45–14:45  4. BEFORE IMPLEMENTATION, STATUS QUO AND NEAR FUTURE PLANS  
Chair: A. Luca, Bari, Italy

13:45–13:55  Experience from Italy  
E. Bottinelli, Milan, Italy

13:55–14:05  Experience from UK  
Ch. Harrop, Liverpool, UK

14:05–14:15  Experience from Belgium  
J. Van Lerbeirghe, Roeselare, Belgium

14:15–14:45  Open Discussion and User Forum (15 min each)

14:45–15:15  COFFEE BREAK

15:15–16:35  5. SPINE TANGO IN PRACTICE  
Chair: A. Mannion, Zurich, Switzerland

I. Siddique, Manchester, UK

R. Sobottke, Aachen, Germany

15:35–15:45  Spine Tango: Current status  
T. Zweig, Aarau, Switzerland

15:45–15:55  How to do research with ST  
A. Mannion, Zurich, Switzerland

15:55–16:05  User feedback survey  
K. Goodwin, Bern, Switzerland
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>16:05–16:35</td>
<td>Discussion</td>
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<tr>
<td>16:35–17:10</td>
<td><strong>6. ST CONSERVATIVE</strong></td>
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<td>Chair: S. Morris, Nottingham, UK</td>
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<tr>
<td>16:35–16:45</td>
<td>Conservative therapist’s view</td>
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<td>S. Morris, Nottingham, UK</td>
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<tr>
<td>16:45–16:55</td>
<td>Surgeon’s view</td>
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<td>T. Zweig, Aarau, Switzerland</td>
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<tr>
<td>16:55–17:10</td>
<td>Discussion</td>
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EUROSPINE PATIENT DAY

Tuesday, 10 October 2017
14:00 – 18:00

Convention Centre Dublin (CCD)
Spencer Dock, N Wall, Quay
Dublin, Ireland

ADMISSION FREE!

Your Spine can be a pain! How and Why?

14:00  Introduction: How the spine works and what can go wrong
Chairman: Mr. John McCabe (Galway), Mr. Andrew O’Brien (Belfast)

14:20  Why does the spine become crooked and what can be done about it?
(Kyphosis and Scoliosis) Mr. Pat Kiely (Dublin)

14:50  Why do I have a sore back or neck?
Mr. David O’Brian (Dublin), Mr. Mark Dolan (Cork)

15:10  Can I do anything to cure my spinal pain?
Ms. Marie Elaine Grant (Dublin)

15:50  New advances in the operative treatment of spinal pain
Chairman: Mr. Frank Dowling (Dublin), Mr. David O’Brien (Dublin), Mr. John McCabe (Galway)

16:20  The broken spine: fractures & sport injuries
Mr. Keith Synnott (Dublin), Mr. Niall Eames (Belfast)

17:05  Introduction to EUROSPINE’s patient information platform: Patient Line
Prof. Tamar Pincus (London)

For further information about the programme: http://www.eurospinemeeting.org/patient-day

In partnership with:

www.eurospine.org
Scientific Programme

Wednesday, 11 October
### Wednesday, 11 October

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Details</th>
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<tbody>
<tr>
<td>08:30</td>
<td>Opening</td>
<td>Plenary Hall</td>
<td>Local Hosts: Ciaran Bolger, Frank Dowling, Dublin, Ireland</td>
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<tr>
<td>08:33</td>
<td>Welcome Address</td>
<td></td>
<td>EUROSPINE President 2017: Margareta Nordin, Romorantin, France</td>
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<tr>
<td>08:36</td>
<td>Introduction to the Scientific Programme</td>
<td></td>
<td>The blinded peer review process of the Programme Committee</td>
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<td>Stavros Stavridis, Thessaloniki, Greece, Chair Programme Committee 2017</td>
</tr>
<tr>
<td>08:40–10:00</td>
<td>Epidemiology, Non-operative Treatment, Patient Safety</td>
<td>Plenary Hall</td>
<td>Chairs: Margareta Nordin, Romorantin, France; Stavros Stavridis, Thessaloniki, Greece</td>
</tr>
</tbody>
</table>

1. **VALIDITY OF LUMBAR SPINAL STENOSIS OUTCOME MEASURES USED IN CLINICAL STUDIES: A SYSTEMATIC ANALYSIS OF RANDOMIZED AND OBSERVATIONAL CLINICAL TRIALS**  
   Maria M. Wertli, Diego R. L. Rossi, Jakob M. Burgstaller, Eva Rasmussen-Barr, Sherri Weiser, Ulrike Held, Johann Steurer, Florian Brunner  
   1) Division of General Internal Medicine, Bern University Hospital, University of Bern, Bern, Switzerland; 2) Horten Centre, Zurich University, Zurich, Switzerland; 3) Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden; 4) NYU Langone Medical Center, Occupational and Industrial Orthopaedic Center (OIOC), New York University, New York, NY, USA; 5) Department of Physical Medicine and Rheumatology, Balgrist University Hospital, Zurich, Switzerland

2. **THE ADULT DEFORMITY SURGERY COMPLEXITY INDEX (ADSCI): A VALID TOOL TO QUANTIFY THE COMPLEXITY OF POSTERIOR ADULT SPINAL DEFORMITY SURGERY AND PREDICT POSTOPERATIVE COMPLICATIONS**  
   Ferran Pellisé, Alba Vila-Casademunt, Susana Núñez-Pereira, Montse Domingo-Sàbat, Joan Bagó Granell, Xavier Vidal, Ahmet Alanay, Emre Acaroglu, Frank Kleinstück, Ibrahim Obeid; Francisco Javier Perez-Grueso; Virginie Lafaque; Shay Bess; Christopher Ames; Anne F. Mannion; ESSG  
   Vall d’Hebron Hospital, Barcelona, Spain; Vall d’Hebron Institute of Research, Barcelona, Spain; St. Franziskus-Hospital, Köln, Germany; Acibadem University School of Medicine, Istanbul, Turkey; Ankara Spine Center, Ankara, Turkey; Schulthess Klinik, Zurich, Switzerland; Bordeaux University Hospital, Bordeaux, France; Hospital Universitario La Paz, Madrid, Spain; Hospital for Special Surgery, New York City, USA; Presbyterian/St. Luke’s Medical Center, Denver, USA; USCF Medical Center, San Francisco, USA
3 PATIENT REPORTED OUTCOMES OF LUMBAR DECOMPRESSION SURGERY: A STUDY OF 2,838 PATIENTS
Sujay Dheerendra, Geraint Sunderland, Robin Pillay
Dept of Neurosurgery, Liverpool, UK

4 WHAT DO PATIENTS WITH SPINE PAIN LEARN FROM PSYCHOLOGICALLY INFORMED PHYSICAL THERAPY?
Angela Lis*, Tara Brennan*, Gregg Ziemke**, Rudi Hiebert**, Danielle Faulkner**, Brian Iveson***, Danielle Southerst*, Marco Campello*
* Occupational and Industrial Orthopedics Center, New York University Hospital for Joint Diseases, New York, USA; **BADER Consortium, University of Delaware, Newark, USA; ***Department of Physical Therapy, Naval Medical Center Portsmouth, Norfolk VA, USA

5 INCIDENCE OF MATERIAL FAILURE OF DYNAMIC SPINE IMPLANTS. ARE IMPLANT TESTS BEFORE MARKET LAUNCH IN EUROPE SUFFICIENT?
Stavros Oikonomidis, Thomas Kaulhausen, Kourosh Zarghooni, Jan Siewe, Rolf Sobottke
Center of Traumatology and Orthopedics, City Region of Aachen, Germany

6 BRACING FOR ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS) AND SCHEUERMANN KYPHOSIS: THE ISSUE OF OVERTREATMENT IN GREECE
Nikos Karavidas
Schroth Scoliosis & Spine Clinic, Athens, Greece

7 POSTOPERATIVE BACK-SPECIFIC AND AEROBIC TRAINING DOES NOT IMPROVE TRUNK MUSCLE STRENGTH AND IMBALANCE AFTER LUMBAR SPINE FUSION - A RANDOMIZED CONTROLLED TRIAL
Outi Ilves 1, Marko H. Neva 2, Keijo Häkkinen 1, Joost Dekker 3, Salme Järvenpää 4, Kati Kyrölä 5, Arja Häkkinen 6
1) Faculty of Sports and Health Sciences University of Jyväskylä, Finland; 2) Department of Orthopaedics and Trauma Tampere University Hospital, Tampere, Finland; 3) Department of Rehabilitation Medicine and Department of Psychiatry, VU University Medical Center, Amsterdam, The Netherlands; 4) Department of Physical Medicine and Rehabilitation, Central Finland Health Care District, Jyväskylä, Finland; 5) Department of Orthopaedics and Trauma, Central Finland Health Care District, Jyväskylä, Finland; 6) Department of Physical Medicine and Rehabilitation, Central Finland Health Care District; Faculty of Sports and Health Sciences University of Jyväskylä, Finland

8 PROGNOSTIC FACTORS FOR PREGNANCY-RELATED PELVIC GIRDLE PAIN IN FIRST-TIME MOTHERS IN IRELAND
Francesca Wuytack, Deirdre Daly, Elizabeth Curtis, Cecily Begley
Trinity College Dublin, Ireland
10:00–10:30  COFFEE BREAK IN THE EXHIBITION AREA

10:30–12:00  Debates

Introduction: Haluk Berk, Izmir, Turkey

10:30

Debate 1: To Screen or Not to Screen for Psychological Distress and Surgical Spine Intervention

Moderation: Margareta Nordin, Romorantin, France

Surgical Point of View (Against): Emre Acaroglu, Ankara, Turkey

Non-Surgical Point of View (For): Christine Cedraschi, Geneva, Switzerland

Discussion and Recommendations: All

11:15

Debate 2: Lumbar Disc Herniation: Do We Operate Too Early or Should We Operate Earlier?

Moderation: Stavros Stavridis, Thessaloniki, Greece

“We operate too early”: Tim Pigott, Liverpool, UK

“We should operate earlier”: Klaus J Schnake, Fuerth, Germany

12:00–14:00  EUROSPINE LUNCH SYMPOSIA

12:00–14:00  EUROSPINE LUNCH SYMPOSUM 1

Liffey Hall 2

Discussing the Relevance of Sagittal Balance in the Cervical Spine

Lunch Symposium in collaboration with CSRS-Europe

Chairs: Carmen Vleggeert-Lankamp, Leiden; Ronald Bartels, Nijmegen, Netherlands

Sagittal balance in the cervical spine is important, but redression of the cervical spine has its limits. In discussing case reports with the audience the most important topics will come along:

12:15  Case reports and discussion of sagittal balance in the degenerative spine

Ronald Bartels, Nijmegen, Netherlands

12:35  Case reports and discussion of sagittal balance in the Parkinson’s patient

Carmen Vleggeert-Lankamp, Leiden, Netherlands

12:55  Case reports and discussion of sagittal balance in osteomyelitis

Philippe Bancel, Paris, France

13:15  Case reports and discussion of sagittal balance in in tumour in the cervical spine

Björn Zoëga, Stockholm, Sweden
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>12:00–14:00</td>
<td><strong>EUROSPINE LUNCH SYMPOSIUM 2</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>Wicklow Hall 1</td>
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<td></td>
<td>Optimising Value and Outcomes in Spine Care Through Psychologically-</td>
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<td>informed Practice</td>
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<td><em>Chair: Greg Whitcomb, Wisconsin, USA</em></td>
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<td>12:00–14:00</td>
<td><strong>EUROSPINE LUNCH SYMPOSIUM 2</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
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<td>Wicklow Hall 1</td>
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<td>Optimising Value and Outcomes in Spine Care Through Psychologically-</td>
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<td>informed Practice</td>
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<td><em>Chair: Greg Whitcomb, Wisconsin, USA</em></td>
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<tr>
<td>12:15</td>
<td>Introduction</td>
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<td><em>Greg Whitcomb, Wisconsin, USA</em></td>
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<td>12:20–12:30</td>
<td>PIP in the Evolving Health Care Environment</td>
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<td><em>Todd Wetzel, Philadelphia, USA. Current President of NASS</em></td>
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<tr>
<td>12:30–12:50</td>
<td>The Story of Back Pain: from pathology to PIP. How did this happen?</td>
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<td><em>Chris Main, Edinburgh, UK</em></td>
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<td>12:50–13:05</td>
<td>Informed decision making: the role of risk screening</td>
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<td><em>Christine Cedraschi, Geneva, Switzerland</em></td>
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<td>13:05–13:15</td>
<td>PIP: Optimising the provider’s experience</td>
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<td><em>Tamar Pincus, London, UK</em></td>
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<td><em>Greg Whitcomb, Wisconsin, USA</em></td>
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<td>13:25–13:45</td>
<td>What Have We Missed?</td>
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<td><em>Audience and Panel</em></td>
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<td>14:00–15:20</td>
<td><strong>CONCURRENT SESSIONS</strong></td>
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<td>QuickFires – Short Communications</td>
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<td>14:00–15:20</td>
<td><strong>Deformity/Growing Spine</strong></td>
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<td>Plenary Hall</td>
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<td><em>Chairs: Dominique Rothenfluh, Oxford, UK; Eftimios Samoladas, Thessaloni, Greece</em></td>
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<td><strong>QF1 MINIMAL CLINICALLY IMPORTANT DIFFERENCE (MCID) FOR CPCHILD</strong></td>
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<td><strong>QUESTIONNAIRE FOLLOWING SCOLIOSIS SURGERY IN CEREBRAL PALSY</strong></td>
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<td>Luigi Aurelio Nasto, Firoz Miyanji, Paul Sponseller, Tracey Bastrom,</td>
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<td>Suken Shah, Amer Samdani, Harry Shufflebarger, Burt Yaszay</td>
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<td>BC Children’s Hospital, Department of Orthopaedic Surgery, Vancouver,</td>
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<td>BC, Canada</td>
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1. *EUROSPINE LUNCH SYMPOSIUM 2* is a session focused on optimising value and outcomes in spine care through psychologically-informed practice. The session is chaired by Greg Whitcomb from Wisconsin, USA.

2. Another session titled *EUROSPINE LUNCH SYMPOSIUM 2* also focuses on optimising value and outcomes in spine care through psychologically-informed practice. It is chaired by Greg Whitcomb from Wisconsin, USA. This session seems to be a continuation or a part of the same thematic event.

3. The session at 12:15 introduces the concept with an overview provided by Greg Whitcomb. The presentation is scheduled to take place in Wicklow Hall 1.

4. The session from 12:20 to 12:30 discusses PIP in the Evolving Health Care Environment. This discussion is led by Todd Wetzel from Philadelphia, USA, who is also the current President of NASS.

5. The story of back pain from a pathological perspective to PIP is presented from 12:30 to 12:50 by Chris Main from Edinburgh, UK.

6. Informed decision making, focusing on the role of risk screening, is addressed from 12:50 to 13:05 by Christine Cedraschi from Geneva, Switzerland.

7. The subsequent session, from 13:05 to 13:15, explores PIP Optimising the provider's experience led by Tamar Pincus from London, UK.

8. The feasibility of implementing PIP in a clinical environment is discussed from 13:15 to 13:25 by Greg Whitcomb from Wisconsin, USA.

9. The segment from 13:25 to 13:45 is dedicated to what we have missed, moderated by an audience and panel discussion.

10. The session from 14:00 to 15:20 is designated for concurrent discussions, which include quickfires and short communications.

11. Another concurrent session from 14:00 to 15:20 focuses on deformity and growing spine issues in the plenary hall. The chairs for this segment are Dominique Rothenfluh from Oxford, UK, and Eftimios Samoladas from Thessaloniki, Greece.

12. The minimal clinically important difference (MCID) for CPCHILD questionnaires following scoliosis surgery in cerebral palsy is presented as QF1. The study involves Luigi Aurelio Nasto from BC Children's Hospital in Vancouver, Canada, and his team. They explore the clinical significance of these measurements in enhancing patient outcomes.
QF2  RADIATION EXPOSURE DURING THE COURSE OF TREATMENT FOR EARLY-ONSET SCOLIOSIS – LONGITUDINAL PILOT STUDY
En Xie, Dingjun Hao
Hong–Hui Hospital, Xi’an Jiaotong University College of Medicine, Xi’an, Shaanxi, China

QF3  WHERE IS THE AXIS OF ROTATION IN THORACIC IDIOPATHIC SCOLIOSIS?
Rob Brink, Tom Schlösser, Marijn van Stralen, Koen Vincken, Moyo Kruyt, Lin Shi, Winnie Chu, René Castelein, Jack Cheng
Dept of Orthopaedic Surgery, University Medical Center Utrecht, The Netherlands

QF4  THE EFFICACY OF SERIAL CORRECTIVE CASTING FOR THE COMPENSATORY CURVE OF CONGENITAL SCOLIOSIS
Shimei Tanida, Bungo Otsuki, Shunsuke Fujibayashi, Shuichi Matsuda, Noriaki Kawakami
Department of Orthopaedic Surgery, Graduate School of Medicine, Kyoto University

QF5  DOES PROXIMAL HOOK FIXATION PREVENT MID-TERM PROXIMAL JUNCTIONAL KYPHOSIS IN PATIENTS OPERATED FOR ADOLESCENT IDIOPATHIC SCOLIOSIS?
Felipe Rioseco, Alejandro Gomez-Rice, Javier Pizones, Felisa Sánchez-Mariscal, Jose Miguel Sánchez-Marquez, Mar Pérez Martín-Buitrago, Lorenzo Zúñiga, Nicomedes Fernández-Baillo, Francisco Javier Pérez-Grueso, Enrique Izquierdo
Hospital Universitario La Paz, Hospital Universitario de Getafe, Madrid, Spain

QF6  EXTREME CORONAL CORRECTION AND AXIAL DEROTATION PROMPT TO POST-OPERATIVE SHOULDER IMBALANCE IN IMMATURE AIS PATIENTS
Vicente García, Jesús Burgos, Carlos Barrios, Miguel Antón, Eduardo Hevia, Ignacio Sanpera, Gabriel Pizá, Miguel Castro
Dept of Orthopaedic Surgery, Hospital Mancha Centro, Alcázar de San Juan, Ciudad Real; Hospital Ramón y Cajal, Madrid; Universidad Católica De Valencia, Valencia; Hospital Ramón Y Cajal, Madrid, España; Hospital Central La Fraternidad-Muprespa, Madrid; Hospital Universitari Son Espases, Islas Baleares; Hospital Son Espases, Palma De Mallorca, Islas Baleares; Hospital Materno Infantil Teresa Herrera. La Coruña, Spain

QF7  THE OUTCOME OF VARIOUS SURGICAL TREATMENTS OF SPINAL STENOSIS IN ACHONDROPLASIA: A SYSTEMATIC REVIEW
Zaid Abual-Rub, Jennifer Campbell, Ghulam Abbas, Almas Khan
Leeds General Infirmary, Leeds, UK
QF8  THORACOLUMBAR ADULT SCOLIOSIS PATIENTS: TWO-YEAR SURGICAL RESULTS OF A PROSPECTIVE COHORT
Javier Pizones, Mar Pérez Martín-Buitrago, Francisco Javier Sánchez Pérez-Grueso, Mariana Díaz-Almirón, Ahmet Alanay, Ibrahim Obeid, Emre Acaroglu, Frank Kleinstueck, Ferran Pellise, European Spine Study Group ESSG
Hospital Universitario La Paz, Madrid, Spain

QF9  IMPACT OF THREE COLUMN OSTEOTOMY ON HEALTH RELATED QUALITY OF LIFE MEASURES IN PATIENTS WITH ADULT SPINAL DEFORMITY: A SYSTEMATIC REVIEW AND META-ANALYSIS
Muralidharn Venkatesan, Jagdeep Atwal, Dritan Pasku, Sarang Sapare, Nasir Quraishi
The Centre for Spinal Studies and Surgery, Nottingham, UK

QF10  IMPACT OF EARLY MAJOR RESOLVED COMPLICATIONS ON TWO-YEAR FOLLOW-UP OUTCOME FOLLOWING ADULT SPINAL DEFORMITY SURGERY
Susana Núñez-Pereira, Alba Vila-Casademunt, Montse Domingo-Sàbat, Sleiman Haddad, Ibrahim Obeid, Ahmet Alanay, Emre Acaroglu, Francisco Sánchez Pérez-Grueso, Frank Kleinstück, Ferran Pellisé, European Spine Study Group ESSG
Vall d’Hebron Research Institute, Barcelona, Spain

QF11  IMPACT OF ILIAC INSTRUMENTATION ON THE QUALITY OF LIFE OF PATIENTS WITH ADULT SPINE DEFORMITY
Hospital Universitario La Paz, Madrid, Spain

QF12  PREDICTIVE MODELS TO AID SURGICAL DECISION-MAKING FOR THORACOLUMBAR ADULT SCOLIOSIS
Javier Pizones, Mar Pérez Martín-Buitrago, Francisco Javier Sánchez Pérez-Grueso, Mariana Díaz-Almirón, Ahmet Alany, Ibrahim Obeid, Emre Acaroglu, Frank Kleinstueck, Ferran Pellisé, European Spine Study Group ESSG
Hospital universitario La Paz, Madrid, Spain

QF13  GLOBAL ALIGNMENT AND PROPORTION (GAP) SCORE: DEVELOPMENT AND VALIDATION OF A NEW METHOD OF ANALYZING SPINOPELVIC ALIGNMENT TO PREDICT MECHANICAL COMPLICATIONS AFTER ADULT SPINAL DEFORMITY SURGERY
Caglar Yilgor, Nuray Sogunmez, Yasemin Yavuz, Ibrahim Obeid, Frank S. Kleinstueck, Francisco Javier Sanchez Perez-Grueso, Emre R. Acaroglu, Ferran Pellisé, Ahmet Alanay, ESSG European Spine Study Group
School of Medicine, Acibadem University, Istanbul, Turkey
QF14 RELATIVE PELVIC VERSION (RPV): A NEW PI-BASED PROPORTIONAL PARAMETER THAT QUANTIFIES PELVIC VERSION MORE PRECISELY COMPARED TO PT
Caglar Yilgor, Nuray Sogunmez, Yasemin Yavuz, Ibrahim Obeid, Frank S. Kleinstueck, Francisco Javier Sanchez Perez-Grueso, Emre R. Acaroglu, Ferran Pellisé, Ahmet Alany, ESSG European Spine Study Group
School of Medicine, Acibadem University, Istanbul, Turkey

QF16 THORACOLUMBAR ERECTOR SPINAES AND TRUNK OBLIQUES MUSCLE ACTIVITY DURING WALKING AT VARIOUS SPEEDS AND INCLINATIONS: DIFFERENCES BETWEEN YOUNG AND OLDER ASYMPTOMATIC ADULTS
Rebecca Crawford, Leonardo Gizzi, Áine Ni Mhuiris, Angela Dieterich, Deborah Falla
1 Institute for Health Sciences, Zurich University of Applied Sciences, Switzerland; 2 Faculty of Health Professions, Curtin University, Australia; 3 Continuum Biomechanics and Mechanobiology Research Group, University of Stuttgart, Germany; 4 Institute for Neurorehabilitation Systems, University Medical Centre, Göttingen, Germany; 5 Pain Clinic, Anesthesiology, University Medical Center Göttingen, Germany; 6 Centre of Precision Rehabilitation for Spinal Pain (CPR Spine), School of Sport, Exercise and Rehabilitation Sciences, College of Life and Environmental Sciences, University of Birmingham, UK

Basic Science
Wicklow Hall 1
Chairs: Werner Schmoelz, Innsbruck, Austria; Karin Wuertz-Kozak, Zurich, Switzerland
QF19 MYRICITRIN INHIBITS RANKL-MEDIATED OSTEOCLASTOGENESIS BY ATTENUATING THE NF-κB AND MAPKs SIGNALING PATHWAY
Lingbo Kong, Xiaobing Yang
Honghui Hospital, Xi’an, China

QF20 CHRONIC INFECTION IN LUMBAR DISC HERNIATION: WHAT IS THE ROLE OF BIOFILM FORMATION?
Søren Ohrt-Nissen, Blaine G Fritz, Jonas Walbom, Kasper N Kragh, Thomas Bjarnsholt, Benny Dahl, Claus Manniche
Dep. of Orthopaedics, Spine Unit, Rigshospitalet, Denmark

QF21 ACETABULAR AND LOWER LIMB ALTERATIONS IN ADOLESCENT IDIOPATHIC SCOLIOSIS
Mohammad Karam, Ayman Assi, Ziad Bakouny, Joe Ghanimeh, Georges Mjaess, Aya Karam, Chris Labaki, Fares Yared, Nour Khalil, Aren Joe Bzdikian, Wafa Skalli, Ismat Ghanem
1. Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon; 2. Institut de Biomécanique Humaine Georges Charpak, Arts et Métiers, ParisTech, Paris, France

QF22 THE ALTERATION OF FULL BODY POSTURAL ALIGNMENT IN SUBJECTS WITH ADOLESCENT IDIOPATHIC SCOLIOSIS
Nour Khalil, Ayman Assi, Aren Joe Bzdikian, Fares Yared, Ziad Bakouny, Wafa Skalli, Virginie Lafage, Gaby Kreichati, Ismat Ghanem, Khalil Kharrat
1. Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon; 2. Institut de Biomécanique Humaine Georges Charpak, Arts et Métiers, ParisTech, Paris, France; 3. Spine division, Hospital for Special Surgery, New York, USA

QF23 EFFECT OF GLOBAL POSTURAL ALIGNMENT ON GAIT: A STUDY ON 145 ASYMPTOMATIC SUBJECTS WITH A LARGE AGE RANGE
Joeffroy Otayek, Fares Yared, Aren Joe Bzdikian, Ayman Assi, Ziad Bakouny, Nour Khalil, Joe Ghanimeh, Chris Labaki, Abir Massaad, Virginie Lafage, Wafa Skalli, Ismat Ghanem, Khalil Kharrat, Gaby Kreichati
1. Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon; 2. Institut de Biomécanique Humaine Georges Charpak, Arts et Métiers, ParisTech, Paris, France; 3. Spine division, Hospital for Special Surgery, New York, USA

QF24 THE IMPACT OF LOW BACK PAIN ON HEALTH-RELATED QUALITY OF LIFE IN SENIORS LIVING IN THE COMMUNITY
Christine Cedraschi, Christophe Luthy, Anne-Françoise Allaz, François Herrmann, Catherine Ludwig
Division of General Medical Rehabilitation, Geneva University Hospitals & University of Geneva, Switzerland
THE ASSOCIATED FACTORS OF LOW BACK PAIN IN PATIENTS WITH RHEUMATOID ARTHRITIS
Kazuto Miura, Osamu Morita, Toru Hirano, Kei Watanabe, Naoto Endo, Yugo Shobugawa
Dept. of Spine and Spinal Cord Surgery, Nagaoka, Japan

MECHANISM OF NEURAL COMPLICATION INDUCED BY CORRECTIVE SURGERY FOR SPINAL DEFORMITY -MULTI-INSTITUTIONAL SURVEY BY THE SPINAL CORD MONITORING WORKING GROUP OF THE JAPANESE SOCIETY FOR SPINE SURGERY AND RELATED RESEARCH
Kei Yamada, Yukihiro Matsuyama, Shigenori Kawabata, Muneharu Ando, Naoya Yamamoto, Sho Kobayashi, Shiro Imagama, Tsukasa Kanchiku, Kan ichiro Wada, Nobuaki Tadokoro
Dept of Orthopaedic Surgery, Kurume, Japan

ISOLATED LUMBAR EXTENSION RESISTANCE TRAINING FOR TREATING CHRONIC LOWER BACK PAIN: A RETROSPECTIVE STUDY ON 626 PATIENTS
Christoph Spang, Florestan Wagenblast, Desirée Haas, Florian Alfen
Department of Integrative Medical Biology, Umea, Sweden; Orthopaedic Spine Center, Würzburg, Germany; Institute of Occupational and Social Medicine and Health Services Research, Tübingen, Germany

LONG-TERM OUTCOMES OF LUMBAR TOTAL DISC REPLACEMENT VERSUS SPINAL FUSION FOR THE TREATMENT OF DDD: A NOVEL META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS
Jack Zigler, Matthew Gornet, Nicole Ferko, Chris Cameron, Francine Schranck, Leena Patel
Texas Back Institute, Center for Disc Replacement; Plano, TX USA

MODIC TYPE I CHANGES ARE NOT DUE TO HERNIATED DISC INFECTION. A PROSPECTIVE STUDY WITH FAR LATERAL ENDOSCOPIC DISCECTOMY.
Pandurang Dnyanraj Kulkarni, Christian Brogna, Prajwal Ghimire, Amanda Fife, Irfan Malik
Department of Neurosurgery, King’s College Hospital, London, UK

FACTORS ASSOCIATED WITH SYMPTOMS OF ANXIETY AND DEPRESSION IN ADULTS UNDERGOING SPINE SURGERY – A SYSTEMATIC INTEGRATIVE REVIEW
Janni Strøm, Lene Bastrup Jørgensen, Merete Bjerrum, Cecilie Nørby Thisted, Tove Lise Nielsen, Claus Vinther Nielsen, Malene Laursen
Spine Unit, Elective Surgery Centre, Regional Hospital Central Jutland, Silkeborg, Denmark
QF31 DOES THE OUTCOME OF SURGERY FOR LUMBAR DEGENERATIVE SPONDYLOLISTHESIS DEPEND ON THE APPROPRIATENESS OF SURGERY?
Anne F Mannion, Valerie Pittet, John-Paul Vader, Felix Steiger, Martin Aepli, Dave O’Riordan, Francine Mariaux, Francois Porchet
Spine Center, Schulthess Klinik, Switzerland

QF32 CRITERIA FOR “SUCCESS” AFTER SURGERY FOR SPINAL STENOSIS AND DEGENERATIVE SPONDYLOLISTHESIS. A MULTICENTRE OBSERVATIONAL STUDY FROM THE NORWEGIAN REGISTRY FOR SPINE SURGERY
Ivar M Austevoll, Margreth Grotle, Rolf Gjestad, Tore Solberg, Kjersti Storheim, Jens Ivar Brox, Erland Hermansen, Frode Rekeland, Kari Indrekvam, Christian Hellum
Kysthospitalet i Hagevik, Dept of Orthopedic, Bergen, Norway

QF33 CREATING LORDOSIS IN TRANSFORAMINAL AND POSTERIOR LUMBAR INTERBODY FUSION (TLIF/PLIF): THE IMPACT OF SURGICAL TECHNIQUE – A CONTROLLED CADAVERIC STUDY
Peter Robertson, Will Armstrong, Daniel Woods, Jeremy Rawlinson
The Orthopaedic Clinic, Mercy Specialist Centre, Auckland, New Zealand

QF34 ADJACENT SEGMENT DEGENERATION AND TOPPING OFF: NEVER STOP AT THE APEX!
Markus Konieczny, Shejda Mokhaberi, Ruediger Krauspe
University Hospital of Duesseldorf, Germany; Department of Orthopedic Surgery, Duesseldorf, Germany

QF35 LONG-TERM EFFICACY OF INTERLAMINAR STABILIZATION IN MEDICARE PATIENTS
Christina Dowe, Samuel Grinberg, Rachel Simon, Frank Cammisa, Celeste Abjornson
Hospital for Special Surgery, New York, NY, USA

QF36 ADJACENT LEVEL STENOSIS OR RECURRENT STENOSIS MORE COMMON AFTER DECOMPRESSION WITH FUSION FOR LUMBAR SPINAL STENOSIS THAN AFTER DECOMPRESSION ALONE.
Thomas Karlsson, Peter Försth, Bengt Sandén
Department of Orthopedics, Uppsala University Hospital

QF37 DISC HEIGHT RESTORATION WITH EXTREME LATERAL INTERBODY FUSION: DO WE NEED TO DIRECTLY DECOMPRESS THE NERVE ROOTS?
Salvatore Russo, Khai Lam
Department of Neurosurgery, The National Hospital for Neurology and Neurosurgery, London, UK

QF38 RADIOLOGICAL CHANGES AND PERIOPERATIVE COMPLICATIONS AFTER OBLIQUE LATERAL INTERBODY FUSION AT L4-5; PRELIMINARY REPORTS FOR COMPARISON WITH THE CLASSICAL MINIMALLY-INVASIVE ALIF AT L4-5
Nam-Su Chung, Chang-Hoon Jeon, Han-Dong Lee, Young-Uk Seo
Dept of Orthopaedic, Ajou University Medical Center, Suwon, South Korea
QF39 REVISION SURGERY OF SYMPTOMATIC PSEUDARTHROSIS AFTER LUMBAR FUSION: A Viable treatment option?
Markus Loibl, Anne Mannion, Siegmund Lang, Frank Kleinstück, Tamas Fekete, Dezső Jeszenszky, Daniel Haschtmann
Spine Center, Schulthess Klinik, Zurich, Switzerland

QF40 PEDIACLE SCREW DIAMETER AFFECTS THE UNION RATE OF SINGLE LEVEL L4/5 TRANSFORAMINAL LUMBAR INTERBODY FUSION
Bungo Otsuki, Shunsuke Fujibayashi, Shimei Tanida, Shuichi Matsuda
Dept of Orthopedics, Kyoto Univ, Japan

QF41 BULKY BONE GRAFT VERSUS GRANULAR BONE GRAFT IN LUMBAR FACET JOINT FUSION: A PROSPECTIVE SELF-CONTROLLED COMPARATIVE STUDY
Bolong Zheng, Baorong He, Dingjun Hao
Dept of Spine Surgery, Xi’an, China

15:20–15:50
COFFEE BREAK IN THE EXHIBITION AREA

15:50–17:30
Adult Deformity, Complications
Plenary Hall
Chairs: Emre Acaroglu, Ankara, Turkey; Marco Teli, Liverpool, UK

9 ALTERATIONS IN ACETABULAR ORIENTATION AND HIP MORPHOLOGY IN SUBJECTS WITH ADULT SPINAL DEFORMITY
Ayman Assi, Ziad Bakouny, Nour Khalil, Fares Yared, Joeffroy Otayek, Aren Joe Bizdikian, Mohammad Karam, Joe Ghaniem, Chris Labaki, Virginie Lafage, Ismat Ghanem, Gaby Kreichati, Wafa Skalli, Khalil Kharrat
1. Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon; 2. Institut de Biomécanique Humaine Georges Charpak, Arts et Métiers, ParisTech, Paris, France; 3. Spine division, Hospital for Special Surgery, New York, USA

10 POSTURAL CONSEQUENCES OF L4-SACRUM FUSION IN ACCOMMODATING POST-FUSION SITTING POSTURE: A RADIOGRAPHIC DATA-BASED SIMULATION MODEL
Avinash Patwardhan, Saeed Khayatzadeh, Jean-Charles Le Huec, Antonio Faundez, Robert Havey, Leonard Voronov, Michael Zindrick, Alexander Ghanayem
Department of Orthopaedic Surgery and Rehabilitation, Loyola University Chicago, Maywood, IL, USA

11 RELATIONSHIP BETWEEN SPINAL DEFORMITY IN THE AXIAL PLANE AND THE CORONAL COBB ANGLE IN ADOLESCENT IDIOPATHIC SCOLIOSIS
Ayman Assi, Mohammad Karam, Ziad Bakouny, Joeffroy Otayek, Gerard Bakhos, Cyril Hanna, Anthony Kassab, Virginie Lafage, Wafa Skalli, Abir Massaad, Ismat Ghanem
1. Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon; 2. Institut de Biomécanique Humaine Georges Charpak, Arts et Métiers, ParisTech, Paris, France; 3. Spine division, Hospital for Special Surgery, New York, USA

12 ADULT SPINAL DEFORMITY PATIENTS HAVE DIFFERENT AGE-DEPENDENT SAGITTAL PARAMETERS TO PREDICT PATIENT-REPORTED OUTCOMES
Yong-Chan Kim, Cheung-Kue Kim, Hyung-Suk Juh, Tae-Hwan Kim, Ho-Guen Chang, Young-Woo Kim, Jae-Hyuk Shin
Department of Orthopaedic Surgery, Kyung Hee University Hospital at Gangdong, Seoul, Korea

13 A SINGLE SAGITTAL PARAMETER FOR DECISION MAKING IN ASD?
Louis Boissière, Caglar Yilgor, Daniel Larrieu, Anouar Bourghli, Derek Cawley, Takashi Fujishiro, Emre Acaroglu, Frank Kleinstueck, Francisco Javier Perez-Grueso, Ferran Pellisé; Jean-Marc Vital; Olivier Gille; Ahmed Alanay; Ibrahim Obeid; European Spine Study Group
Spine Unit 1, CHU Pellegrin, Bordeaux University Hospital, France

14 THE APPROPRIATE SAGITTAL PLANE CORRECTION TO INDIVIDUALIZED PROPORTIONATE SHAPE AND ALIGNMENT DOES NOT NECESSARILY MEAN MORE COMPLEX SURGERY IN ADULT SPINAL DEFORMITY
Caglar Yilgor, Nuray Sogunmez, Yasemin Yavuz, Ibrahim Obeid, Frank S. Kleinstueck, Francisco Javier Sanchez Perez-Grueso, Emre R. Acaroglu, Ferran Pellisé, Ahmet Alanay, ESSG European Spine Study Group
School of Medicine, Acibadem University, Istanbul, Turkey

15 SAGITTAL REALIGNMENT GOALS SHOULD BE SET TO IDEAL PROPORTIONATE SHAPE AND ALIGNMENT INDEPENDENT OF AGE
Caglar Yilgor, Nuray Sogunmez, Yasemin Yavuz, Ibrahim Obeid, Frank S. Kleinstueck, Francisco Javier Sanchez Perez-Grueso, Emre R. Acaroglu, Ferran Pellisé, Ahmet Alanay, ESSG European Spine Study Group
School of Medicine, Acibadem University, Istanbul, Turkey

16 GLOBAL ALIGNMENT AND PROPORTION (GAP) SCORE BETTER CORRELATES TO HRQOL SCORES AND BETTER PREDICTS MECHANICAL COMPLICATIONS COMPARED TO SCHWAB SAGITTAL MODIFIERS
Caglar Yilgor, Nuray Sogunmez, Yasemin Yavuz, Ibrahim Obeid, Frank S. Kleinstueck, Francisco Javier Sanchez Perez-Grueso, Emre R. Acaroglu, Ferran Pellisé, Ahmet Alanay, ESSG European Spine Study Group
School of Medicine, Acibadem University, Istanbul, Turkey

17 ANTEROLATERAL VERSUS POSTERIOR-ONLY APPROACH FOR THE CORRECTION OF DEGENERATIVE ADULT SPINAL DEFORMITY – 1:2 MATCHED COHORT ANALYSIS OF 90 PATIENTS
Se-Jun Park, Chong-Suh Lee, Sung-Soo Chung, Kyung-Joon Lee, Chan-Duk Park, Dong-Uk Kim, Jin-Sung Park
Dept of Orthopedic Surgery, Samsung Medical Center, Seoul, Korea
18 DISABILITY 2 YEARS AFTER SURGERY FOR ADULT SPINAL DEFORMITY (ASD) CAN BE RELIABLY PREDICTED AT 6 MONTHS’ FOLLOW-UP
Miquel Serra, Ferran Pellisé, Susana Núñez-Pereira, Montse Domingo-Sàbat, Alba Vila-Casademunt, Ibrahim Obeid, Ahmet Alanay, Emre Acaroglu, Frank Kleinstück, Francisco Sánchez Pérez-Grueso, Anne F Mannion, European Spine Study Group (ESSG)
Centre for Research in Health and Economics (CRES), Barcelona, Spain; Hospital Universitari Vall Hebron, Barcelona, Spain; St. Franziskus-Hospital, Köln, Germany; VallHebron Institute of Research, Barcelona, Spain; Bordeaux University Hospital, Bordeaux, France; Acibadem University School of Medicine, Istanbul, Turkey; Ankara Spine Center, Ankara, Turkey; Schulthess Klinik, Zurich, Switzerland; Hospital Universitario La Paz, Madrid, Spain

19 THE IMPACT OF DEEP SURGICAL SITE INFECTION ON SURGICAL OUTCOMES IN ADULT PATIENTS UNDERGOING POSTERIOR FUSION FOR DEFORMITY CORRECTION: A MATCHED CONTROL STUDY
Sleiman Haddad, Susana Núñez Pereira, Alba Vila-Casademunt, Montse Domingo-Sàbat, Ahmet Alanay, Emre R. Acaroglu, Frank S. Kleinstueck

19 THE IMPACT OF DEEP SURGICAL SITE INFECTION ON SURGICAL OUTCOMES IN ADULT PATIENTS UNDERGOING POSTERIOR FUSION FOR DEFORMITY CORRECTION: A MATCHED CONTROL STUDY
Spine Surgery Unit, Vall D’Hebron University Hospital, Barcelona, Spain

20 “AFTER-HOURS” EMERGENT SPINE SURGERY: PERHAPS WE SHOULD THINK TWICE?
Combined Neurosurgical and Orthopedic Spine Program, Department of Orthopedic Surgery, University of British Columbia, Vancouver, British Columbia, Canada; Dept Orthopaedic Surgery, Centre hospitalier Universitaire de Québec, Québec, Québec, Canada; Dept of Anesthesiology, Pharmacology and Therapeutics, University of British Columbia, British Columbia, Canada

17:30–18:30 WELCOME RECEPTION (see page 115)
Forum exhibition hall & Liffey exhibition hall (Ground Level & Level 1)
Scientific Programme
Thursday, 12 October
Thursday, 12 October

08:30–10:00

Degenerative Spine

Plenary Hall

Chairs: Tamas Fekete, Zurich, Switzerland; Serdar Kahraman, Istanbul, Turkey

21 INCIDENCE AND INFLUENCE OF DEPRESSION AND ANXIETY ON CLINICAL OUTCOME BEFORE AND ONE YEAR AFTER SPINE SURGERY FOR DEGENERATIVE DISC DISEASE

Ehab Shiban, Youssef Shiban, Bernhard Meyer
Department of Neurosurgery, Technical University Munich, Germany

22 ADJACENT SEGMENT DEGENERATION AFTER LUMBAR TOTAL DISC REPLACEMENT: 5-YEAR RESULTS OF A MULTICENTER, PROSPECTIVE, RANDOMIZED STUDY WITH INDEPENDENT RADIOGRAPHIC ASSESSMENT

Scott Blumenthal, Donna Ohnmeiss, Richard Guyer, Jack Zigler
Center for Disc Replacement, Plano, USA

23 A PROGNOSTIC MODEL OF THE OUTCOME OF SURGERY FOR DISC HERNIATION

Emin Aghayev, Lukas Staub, Frank Kleinstück, Daniel Haschtmann, Tamas Fekete, Francois Porchet, Anne Mannion
University of Bern, Bern, Switzerland

24 TIMING OF PATIENT-RATED FOLLOW-UP AFTER SURGERY FOR DEGENERATIVE LUMBAR DISORDERS

Tamas F Fekete, Daniel Haschtmann, Hans-Juergen Becker, Frank Kleinstueck, Dezsö Jeszenszky, Peter Banczerowski*, Anne F Mannion
Schulthess Clinic, Spine Center, Zurich, Switzerland; *National Institute of Clinical Neurosciences, Hungary

25 LUMBAR MICRODISCECTOMY FOR SCIATICA IN TOBACCO SMOKERS: A MULTICENTER OBSERVATIONAL STUDY

Mattis Madsbu, Øystein Nygaard, Tore Solberg, Clemens Weber, Øyvind Salvesen, Eric Franssen, David Werner, Sasha Gulati
Dept of Neurosurgery, St. Olavs Hospital, Trondheim, Norway

26 SURGICAL DECOMPRESSION FOR FORAMINAL AND EXTRAFOAMINAL LUMBAR DISC HERNIATION USING THE FAR-LATERAL APPROACH: PATIENT-RATED OUTCOME DEPENDS ON THE INVOLVED SEGMENT

Daniel Haschtmann, Anne F. Mannion, Markus Loibl, Francois Porchet, Frank Kleinstück, Dezso Jeszenszky, Tamas Fekete
Schulthess Clinic, Zurich, Switzerland
27 CLINICAL RELEVANCE OF A NEW CLASSIFICATION SYSTEM FOR DEGENERATIVE SPONDYLOLISTHESIS OF THE LUMBAR SPINE
Olivier Gille, Soufiane Ghailane, Mathias Blangis, Camille Damade, Thibault Cloche, JeanMarc Vital
Spine Unit 1 – Bordeaux University Hospital, Service Pr Gille, Bordeaux, France

28 INFLUENCE OF POSTURE ON PELVIC AND LUMBAR PARAMETERS: COMPARISON BETWEEN THE STANDING, SITTING AND SUPINE POSITIONS. A PRELIMINARY STUDY.
Olivier Gille, Thomas Chevillotte, Derek T Cawley, Houssam Bouloussa, Simon Mazas, Soufiane Ghailane, Marion Petit, Louis Boissière, Ibrahim Obeid, Jean Marc Vital
Institut de la Colonne Vertébrale Bordeaux, France

29 MINIMALLY INVASIVE VERSUS OPEN TRANSFORAMINAL LUMBAR INTERBODY FUSION: A PROSPECTIVE RANDOMIZED STUDY
Gabriel Tender, Anthony DiGiorgio
Louisiana State University, New Orleans, USA

30 COMPARISON OF MINIMAL INVASIVE AND OPEN TRANSFORAMINAL LUMBAR INTERBODY FUSION IN THE TREATMENT OF SINGLE LEVEL LUMBAR SPINE DEGENERATIVE DISEASES WITH MINIMUM 6-YEAR FOLLOW-UP
Dingjun Hao, Biao Wang, Hua Guo, Xiaodong Wang
Honghui Hospital, Xi’an Jiaotong University College of Medicine, Xi’an, China

31 COMPARING INTERLAMINAR STABILIZATION WITH DECOMPRESSION VERSUS FUSION WITH DECOMPRESSION IN REGARDS TO ADJACENT SEGMENT DISEASES
Christina Dowe, Samuel Grinberg, Rachel Simon, Frank Cammisa, Celeste Abjornson
Hospital for Special Surgery, New York, NY, USA

10:00–10:30  COFFEE BREAK IN THE EXHIBITION AREA

10:30–12:00  Presidential Address and Medal Lectures
Plenary Hall
Chair: Frank Kandziora, Frankfurt, Germany
Co-Chairs: Thomas Blattert, Schwarzach, Germany
Ciaran Bolger, Dublin, Ireland
Frank Dowling, Dublin, Ireland

10:30  EUROSPINE Presidential Address
CLINICAL RESEARCH – reflections for the future
Margareta Nordin, Romorantin, France, EUROSPINE President 2016–2017
11:00  Honorary Medal for EuSSAB Representative
Johan van Lerbeirghe, Gent, Belgium

11:03  Announcement of the EUROSPINE Grants 2017
Björn Rydevik, Gothenburg, Sweden

11:10  Winner of the 2017 EUROSPINE Full Paper Award
Time to remove our rose-tinted spectacles: a candid appraisal of the relative success of surgery in over 4'500 patients with degenerative disorders of the lumbar spine, hip or knee
Anne F. Mannion1, Franco M. Impellizzeri2, Michael Leunig2, Dezső Jeszenszky3, Hans-Jürgen Becker3, Daniel Haschtmann3, Stefan Preiss2, Tamas F. Fekete3
1 Department of Teaching, Research and Development; 2 Department of Hip and Knee Surgery; 3 Department of Spine Surgery and Neurosurgery, Schulthess Klinik, Zurich, Switzerland

11:20  EUROSPINE Medal Lecture 2017
Expecting Problems As We Explore Possibilities
Mark Pollock, Explorer, Innovator & Collaboration Catalyst, Northern Ireland

12:00–14:00  EUROSPINE LUNCH SYMPOSIA

12:00–14:00  EUROSPINE LUNCH SYMPOSIUM 3
Wicklow Hall 1
Challenges in the Management of Neuromuscular Spinal Deformities
Chair: Hossein Mehdian, Nottingham, UK

12:10  Management of Adult Neuromuscular Spinal Disorders
Ferran Pellisé, Barcelona, Spain

12:30  Discussion

12:35  Sagittal Deformities Management and Indications of Osteotomies and/or VCR
Dezső J. Jeszenszky, Zurich, Switzerland

12:55  Discussion

13:00  Problems and Solutions for Cervicothoracic Junction
Francisco Javier Sánchez Pérez-Grueso, Madrid, Spain

13:20  Discussion

Hossein Mehdian, Nottingham, UK

13:45  Discussion
13:50  Panel Discussion – Questions and Answers

12:00–14:00  EUROSPINE LUNCH SYMPOSIUM 4
Liffey Hall 2
Enhanced Recovery After Surgery (ERAS) for Spinal Procedures
Chair: Bertrand Debono, Toulouse, France
Jean Charles Le Huec, Bordeaux, France

12:15  Transforming Care: Why and How?
Jean Charles Le Huec, Bordeaux, France

12:20  Main principles of ERAS
Bertrand Debono, Toulouse, France

12:30  ERAS in spinal surgery: Application in daily practice – Patient education, pathways...
Björn Zoëga, Stockholm, Sweden

12:50  Outpatient Spine Surgery – E-health
Bertrand Debono, Toulouse, France

13:05  ERAS in major spinal surgery
Thomas W. Wainwright, Bournemouth, UK

13:20  The role of the ERAS society – Guidelines
Thomas W. Wainwright, Bournemouth, UK

13:30  Enhanced recovery programs (ERP), a medical strategy for a healthcare group
Jean-Félix Verrier, Lyon, France

13:50  Keypoints for implementation in a spinal unit
Jean Charles Le Huec, Bordeaux, France

14:00–15:20  Growing Spine, Diagnostics
Plenary Hall
Chairs: René Castelein, Utrecht, Netherlands; Baoge Liu, Beijing, China

- 32 DO LUMBAR ORTHOSES AFFECT THE MUSCULAR REGENERATION AFTER POSTERIOR LUMBAR FUSION? A RANDOMIZED CONTROLLED TRAIL TO PROOF A DIFFERENCE IN MUSCLE REGENERATION WITH SURFACE ELECTROMYOGRAPHY
Yorck Rommelspacher, Jana Ziob, Hannah Bode, Charlotte Struwe, Rahel Bornemann, Andreas Strauss, Dieter Christian Wirtz, Robert Pflugmacher
Dept of Orthopedics and Trauma surgery, University Hospital Bonn, Germany
33. **PULMONARY CEMENT EMBOLISM FOLLOWING CEMENT AUGMENTED FENESTRATED PEDICLE SCREW FIXATION IN ADULT SPINAL DEFORMITY PATIENTS WITH SEVERE OSTEOПOROSIS (ANALYSIS OF 2978 FENESTRATED SCREWS)**

Meric Enercan, Isik Karalok, Emel Kaya, Onur Levent Ulusoy, Gokce Feride Inan, Cem Sever, Tunay Sanlı, Sinan Kahraman, Selhan Karadereler, Azmi Hamzaoglu

Istanbul Spine Center, Istanbul, Turkey

34. **SAGITTAL ALIGNMENT REFERENCE PARAMETERS WITH A SLOT-SCANNING 3D X-RAY IMAGER: REPRODUCIBILITY**

Jean charles Le Huec, Kenichiro Sakai, Masashi Okamoto, Shun Hatsushikano, Fouad Jabbour, Kazu Hazegawa

Bordeaux University Hospital, Orthorachis 2 Department, CHU Pellegrin, Bordeaux, France

35. **OVERESTIMATION OF PAPERS WITH POOR LEVEL OF EVIDENCE AMONG THE TOP-100 MOST INFLUENTIAL STUDIES ON IDIOPATHIC SCOLIOSIS. A BIBLIOMETRIC ANALYSIS**

Carlos Barrios, Joel Gambin, Joaquín Alfonso

Valencia Catholic University, Valencia, Spain

36. **THE INCREASED ACTIVITY OF THE END PLATE OF THE VERTEBRAL BODIES AFTER SURGICAL CORRECTION OF SCHEUERMANN’S DISEASE.**

Michal Latalski, Marek Fatyga, Anna Danielewicz Bromberek

Children Orthopedic Department, Lublin, Poland

37. **GROWTH VELOCITY OF FUSED SPINAL SEGMENT IN CHILDREN AFTER VERTEBRAL BODY RESECTION IN THE THORACOLUMBAR AND LUMBAR SPINE**

Nikita Khusainov, Sergey Vissarionov, Dmitry Kokushin

Department of Spine pathology and Neurosurgery, Turners scientific research institute for pediatric orthopedics, Russia

38. **SEVERE HYPERKYPHOSIS HARMs AEROBIC CAPACITY AND MAXIMAL EXERCISE TOLERANCE IN PATIENTS WITH SCHEUERMANN DISEASE**

Alejandro Lorente, Jesús Burgos, Carlos Barrios, Roció Tamariz, Eduardo Hevia, Luis Miguel Antón, Rafael Lorente

Dept of Orthopaedic Surgery, Madrid, Spain

39. **CONGENITAL CERVICO THORACIC SCOLIOSIS WITH HEMIVERTEBRA: INDICATED FOR POSTERIOR RESECTION**

Yong Qiu, Zhonghui Chen, Xu Sun

Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

40. **HORIZONTALIZATION OF LIV: CRUCIAL TO PREVENT CORONAL DECOMPENSATION AFTER HEMIVERTEBRA RESECTION AND SHORT FUSION IN PATIENTS YOUNGER THAN 5 YEARS OLD?**
Xu Sun, Song Li, Yong Qiu
Department of Spine Surgery, the Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

41 ASSESSING HEALTH RELATED QUALITY OF LIFE (HRQOL) IN CEREBRAL PALSY (CP) FOLLOWING SCOLIOSIS SURGERY: IS THE CPCHILD MEASURING WHAT WE WANT?
Luigi Aurelio Nasto, Firoz Miyanji, Tracey Bastrom, Paul Sponseller, Suken Shah, Amer Samdani, Randal Betz, Harry Shufflebarger, Michelle Marks, Baron Lonner
BC Children’s Hospital, Department of Orthopaedic Surgery, Vancouver, Canada

15:20–15:50  COFFEE BREAK IN THE EXHIBITION AREA

15:50–17:05  Cervical Spine
Plenary Hall
Chairs: Paulo Pereira, Porto, Portugal;
Bernhard Meyer, Munich, Germany

42 COMPARISON OF POSTERIOR FOSSA DECOMPRESSION WITH AND WITHOUT DURAPLASTY FOR THE TREATMENT OF CHIARI I MALFORMATION: A PROSPECTIVE INVESTIGATION
Zezhang Zhu, Enze Jiang, Zhen Liu, Bin Wang, Yang Yu, Yong Qiu
Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

43 NECK PAIN ASSOCIATION WITH MODIC CHANGES OF THE CERVICAL SPINE, PREVALENCE, RISK FACTORS, AND DISC DEGENERATION: A CROSS-SECTIONAL, LARGE-SCALE POPULATION-BASED STUDY
En Xie, Dingjun Hao
Hong–Hui Hospital, Xi’an Jiaotong University College of Medicine, Xi’an, Shaanxi, China

44 STRATEGIES FOR MAINTAINING HORIZONTAL GAZE IN ASYMPTOMATIC SUBJECTS
Ayman Assi, Ziad Bakouny, Nour Khalil, Michel Salameh, Naji Bou Zeid, Fares Yared, Joeffroy Otayek, Aren Joe Bizdikian, Renaud Lafage, Virginie Lafage, Ismat Ghanem, Wafa Skalli, Khalil Kherrat, Gaby Kreichati
Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon

45 PATIENTS BELIEFS ABOUT DIAGNOSIS AND TREATMENT OF CERVICAL SPONDYLOSIS
Clemens Weber, Maziar Behbahani, Roald Baardsen, Jens Lehmberg, Bernhard Meyer, Ehab Shiban
Dept. of Neurosurgery, Stavanger, Norway
46 SURGICAL OUTCOME OF ELDERLY PATIENTS OVER 80 YEARS WITH CERVICAL SPONDYLOTIC MYELOPATHY
Norihiro Isogai, Narihito Nagoshi, Junichi Yamane, Akio Iwanami, Hitoshi Kono, Yoshiomi Kobayashi, Nobuyuki Fujita, Mitsuru Yagi, Kota Watanabe, Kazuya Kitamura, Yuta Shiono, Masaya Nakamura, Morio Matsumoto, Ken Ishii
Spine and Spinal Cord Center, Mita Hospital, International University of Health and Welfare, Tokyo, Japan

47 RAPIDLY PROGRESSIVE NEUROLOGICAL DETERIORATION IN CERVICAL SPONDYLOTIC MYELOPATHY WITH CERVICAL INTRAMEDULLARY HIGH-INTENSITY AREA AND HISTORY OF CARDIOVASCULAR EVENT
Eiji Takasawa, Yasunori Sorimachi, Yoichi Iizuka, Haku Iizuka, Hirotaka Chikuda
Department of Orthopedic Surgery, Japanese Red Cross Maebashi Hospital, Maebashi, Japan; Department of Orthopedic Surgery, Gunma University Graduate School of Medicine, Maebashi, Japan

48 PREVALENCE, PROGRESSION, AND CLINICAL IMPLICATIONS OF HETEROTOPIC OSSIFICATION AFTER CERVICAL DISC ARTHROPLASTY AT 7 YEARS
Jacques Beaurain, Pierce Nunley
Neurosurgery Department, University Hospital, Dijon, France

49 MORTALITY, COMPLICATION AND FUSION RATES OF PATIENTS WITH ODONTOID FRACTURE
Yann Philippe Charles, Benjamin Blondel, Stéphane Fuentes, Jérémy Allia, Sébastien Schuller, Joël Godard, Paulo Marinho, Eurico Freitas, Julien Berthiller, Cédric Barrey
Société Française de Chirurgie Rachidienne (SFCR) Strasbourg, France

50 COMPARISON OF THREE-DIMENSIONAL HELICAL AXES OF THE CERVICAL SPINE BETWEEN IN VITRO AND IN VIVO TESTING
René Jonas, Robert Demmelmaier, Steffen Paul Hacker, Hans-Joachim Wilke
Institute of Orthopaedic Research and Biomechanics

17:05 EUROSPINE MEMBERS’ COCKTAIL and GENERAL ASSEMBLY
Wicklow Hall 1
Members only

20:00 NETWORK EXPERIENCE @ GUINNESS STOREHOUSE
(At own expense)
Attire: smart casual
Scientific Programme
Friday, 13 October
Friday, 13 October

08:30–10:00  Trauma, Tumour, Infection and Degenerative Lumbar Spine
Plenary Hall
Chairs: Matti Scholz, Frankfurt, Germany; Zdenek Klezl, Derby, UK

51 ANALYSIS OF DYNAMIC FACTORS IN PATIENTS WITH THORACIC SPONDYLOTIC MYELOPATHY
Norimitsu Wakao, Mikinobu Takeuchi, Mitsuhiro Kamiya, Atsuhiko Hirasawa, Masakazu Takayasu, Masataka Deie
Spine Center, Aichi, Japan

52 CONSTRUCT VALIDITY AND TEST-RETEST RELIABILITY OF THE SPINE ONCOLOGY STUDY GROUP OUTCOME QUESTIONNAIRE (SOSGOQ)
AOSpine Knowledge Forum Tumor

53 SOURCES OF PATIENTS: EXPECTATIONS OF LUMBAR SURGERY
Federico P. Girardi, Roland Duculan, Alex Fong, Manuela C. Rigaud, Carol A. Mancuso
Hospital for Special Surgery, New York, USA

54 DOES STANDARD SURGICAL PREPARATION IN SPINE SURGERY ERADICATE PROPIONIBACTERIUM SPECIES DWELLING IN SKIN?
Christina Dowe, Samuel Grinberg, Rachel Simon, Frank Cammisa, Celeste Abjornson
Hospital for Special Surgery, New York, USA

55 OCTENIDINE DEMONSTRATES A SIGNIFICANTLY HIGHER EFFECTIVENESS AGAINST A SPINE-SPECIFIC MICROBIOME
Claudia Eder, Peter Landowski, Gerlinde Angerler, Sabrina Schildböck, Michael Ogon
Spine Center, Department of Spine Surgery, Orthopaedic Hospital Vienna-Speising, Vienna, Austria

56 INCIDENCE AND RISK FACTORS FOR FACET JOINT VIOLATION IN OPEN VERSUS MINIMAL-INVASIVE PROCEDURE DURING PEDICLE SCREW PLACEMENT IN TRAUMA PATIENTS
Christian Herren, Miguel Pishnamaz, Philipp Lichte, Hagen Andruszkow, Frank Hildebrand, Philipp Kobbe
Department of Orthopaedic Trauma, Aachen, Germany
57 IS SALVAGED BLOOD TRANSFUSION APPROPRIATE IN METASTATIC SPINE TUMOUR SURGERY? A PROSPECTIVE CLINICAL STUDY
Naresh Kumar, Aye Sandar Zaw, Dhiraj Sonawane, Jonathan Tan
National University Health System, Singapore, Singapore

58 INFLUENCE OF METASTASECTOMY, PALLIATIVE DECOMPRESSION AND TARGET THERAPY ON OUTCOME OF PATIENTS WITH SPINAL METASTASES OF RENAL CELL CARCINOMA
Nikita Zaborovskii, Dmitrii Ptashnikov, Dmitrii Mikhaylov, Oleg Smekalenkov, Sergei Masevin, Stanislav Kostritckii, Elnara Zamanova
R.R.Vreden Russian Research Institute of Traumatology and Orthopedics, Sankt-Petersburg, Russia

59 LOW-GRADE INFECTION IN SPINAL INSTRUMENTATION: IS THIS THE REAL CAUSE OF SCREW LOOSENING?
Ehab Shiban, Insa Janssen, Jens Lehmberg, Florian Ringel, Bernhard Meyer
Department of Neurosurgery, Technical University of Munich, Germany

60 QUALITY OF LIFE AND UTILITY SCORES AMONG CANADIAN TRAUMATIC SPINAL CORD INJURY PATIENTS: A NATIONAL CROSS-SECTIONAL STUDY
Nicolas Dea, Christian Iorio-Morin, Vanessa Noonan, Barry White
Division of Neurosurgery, Université de Sherbrooke, Canada

61 SURGEONS’ PREOPERATIVE EXPECTATIONS PREDICT FULFILLMENT OF PATIENTS’ EXPECTATIONS TWO YEAR AFTER LUMBAR SURGERY
Federico P. Girardi, Roland Duculan, Alex Fong, Manuela C. Rigaud, Carol A. Mancuso, presented by Andrew A. Sama
Hospital for Special Surgery, New York, USA

10:00–10:30 COFFEE BREAK IN THE EXHIBITION AREA

10:30–12:00 The ‘Best of Show’ and Award papers
The highest scored abstract submissions
The 2017 Best Podium Award will be evaluated out of the presentations 62-67 of this session.
The audience is asked to vote via the EUROSPINE app.
Plenary Hall
Chairs: Michael Ogon, Vienna, Austria;
Björn Rydevik, Gothenburg, Sweden

62 DISC WALL STRUCTURAL ABNORMALITIES MAY ACT AS INITIATION SITES FOR HERNIATION
Kelly Wade, Nikolaus Berger-Roscher, Marija Josipovic, Volker Rasche, Fabio Galbusera, Hans-Joachim Wilke
Institute of Orthopaedic Research and Biomechanics, Ulm University, Ulm, Germany
64 PREDICTIVE SCORES UNDERESTIMATE SURVIVAL OF PATIENTS WITH SPINAL METASTATIC DISEASE
Christian Carrwik, Yohan Robinson
Dept of Surgical Sciences, Uppsala University Hospital, Sweden

65 NATURAL HISTORY OF LUMBAR DEGENERATIVE KYPHOSIS WITH CONSERVATIVE TREATMENT - DO CLINICAL SYMPTOMS AND RADIOLOGICAL PARAMETERS PROGRESS?
Whoan Jeang Kim, Kun Young Park, Jae Won Lee, Shann Haw Chang, Kyung Hoon Park
Dept of Orthopedic Surgery, Eulji University Hospital, Daejeon, South Korea

66 IS PREOPERATIVE DURATION OF SYMPTOMS A SIGNIFICANT PREDICTOR OF FUNCTIONAL OUTCOMES IN PATIENTS UNDERGOING SURGERY FOR THE TREATMENT OF DEGENERATIVE CERVICAL MYELOPATHY?
Lindsay Tetreault, Jefferson Wilson, Mark Kotter, Pierre Côté, Aria Nouri, Branko Kopjar, Paul Arnold, Michael Fehlings
Toronto Western Hospital, Department of Neurosurgery; University College Cork, School of Medicine, Toronto, Canada

67 NO LONG TIME BENEFIT FROM FUSION IN DECOMPRESSIVE SURGERY FOR LUMBAR SPINAL STENOSIS. 5 YEAR-RESULTS FROM THE SWEDISH SPINAL STENOSIS STUDY, A MULTICENTER RCT OF 233 PATIENTS
Peter Försth, Thomas Carlsson, Bengt Sandén, Karl Michaelsson
Dept of Orthopedics, Uppsala University Hospital, Sweden

11:20 Winner of 2016/2017 Grammer/European Spine Journal Award
THE EFFECT OF SIMULATED MICROGRAVITY ON LUMBAR SPINE BIO-MECHANICS: AN IN VITRO STUDY
Cory J. Laws, Britta Berg-Johansen, Alan R. Hargens, Jeffrey C. Lotz
Eur Spine J (2016) 25:2889-2897

11:30 Max Aebi Award for Clinical Sciences
INCIDENCE OF CANCER IN ADOLESCENT IDIOPATHIC SCOLIOSIS PATIENTS TREATED 25 YEARS PREVIOUSLY
Simony A, Hansen EJ, Christensen SB, Carreon LY, Andersen MO

11:40 Announcement of the Best Podium Award

11:45 EUROSPINE’s Education Activities
Bernhard Meyer, Munich, Germany
<table>
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<th>Time</th>
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<tr>
<td>12:00–14:00</td>
<td>EUROSPIE LUNCH SYMPOSIA</td>
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| 12:10 | Tumour: Chordoma of the Sacrum en Bloc Total Sacrectomy and Lumbopelvic Reconstruction  
*Peter Pal Varga, Aron Lazary, Budapest, Hungary* |
| 12:30 | Discussion                                                           |
| 12:35 | Trauma: Percutaneous Stabilization of T12 Fracture and a L5 Fracture  
*Matti Scholz, Frankfurt, Germany* |
| 12:55 | Discussion                                                           |
| 13:00 | Degenerative: Minimally Invasive Double Approach (Anterior and Posterior) to the Lumbar Spine  
*Roberto Bassani, Milan, Italy* |
| 13:20 | Discussion                                                           |
| 13:25 | Disc Herniation: Surgical Management of Thoracic Disc Herniation  
*Hossein Mehdian, Nottingham, UK* |
| 13:45 | Discussion                                                           |

**EUROSPIE LUNCH SYMPOSIUM 6**  
In collaboration with Oxford Medical Training  
Wicklow Hall 1  
Management of Difficult Patients and Families  
*Pedro Berjano, Milano, Italy*  
*Faculty: Stephen McGuire, Head of Development, Oxford Medical Training, Mr John O’Dowd Consultant Orthopaedic Spinal Surgeon, London UK*

Interaction with angry or reluctant patients and relatives are one of the most undesired experiences a clinician faces in his professional live. The goal of this session is to explore the topic of ‘difficult people’ in the medical environment including the drivers of their behaviour, the impact they have on doctors and tactics for moving forward. Stephen McGuire is a professional in medical education and doctor-patient communication and will provide his expertise to analyze the causes, consequences and strategies to reduce physician’s stress and improve communication. John O’Dowd and Pedro Berjano are
spine surgeons with more than 20 years of experience and a career-long interest in improving the communication with their colleagues and patients and will interact with Stephen to facilitate the achievement of the goals of the session.

12:15

Introduction: Difficult people: harder work, greater stress and poorer results?
What do we mean by ‘difficult’ people?
How do ‘difficult’ people make us feel?
What makes people ‘difficult’?
- Why do people not do what we want them to?
- Why do people complain?
Is there a strategy to move forward with ‘difficult’ people?
Questions and observations from the audience

14:00–15:20

CONCURRENT SESSIONS

QuickFires – Short Communications

14:00–15:20

New Techniques and Imaging
Plenary Hall
Chairs: Nasir Quraishi, Nottingham, UK; Elias Papadopoulos, Athens, Greece

QF42 NEW SURGICAL METHODS IN A HEALTH ECONOMIC PERSPECTIVE
Oddrun A. Fredriksli, Greger Loenne, Hege Andresen, Oystein P. Nygaard, Lars G. Johnsen
Dept of Neurosurgery St.Olavs Hospital/ NTNU, Norwegian University of Science and Technology, Trondheim, Norway

QF43 A SIMPLE WAY TO SEE THE SCOLIOSIS IN 3D: THE VERTEBRA VECTORS PROJECTION IN HORIZONTAL PLANE
Tamas Illés, Fabien Lauer, Francois Lavaste, Jean Dubousset
Deptartment of Orthopedics, CHU-Brugman, ULB/VUB, Brussels, Belgium

QF44 THREE-DIMENSIONAL RECONSTRUCTIONS OF THE RIB CAGE IN ADOLESCENT IDIOPATHIC SCOLIOSIS: WHAT DETERMINES GIBBOSITY?
1. Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon; 2. Institut de Biomécanique Humaine Georges Charpak, Arts et Métiers, ParisTech, Paris, France
QF45 WHAT DETERMINES ERRORS ON 3D SPINE RECONSTRUCTIONS OF SCOLIOTIC PATIENTS?
Joeffroy Otayek, Ayman Assi, Gerard Bakhos, Cyril Hanna, Ziad Bakouny, Mohammad Karam, Wafa Skalli, Fares Yared, Aren Joe Bizdikian, Ismat Ghanem
1. Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon; 2. Institut de Biomécanique Humaine Georges Charpak, Arts et Métiers ParisTech, Paris, France

QF46 THE USE OF PATIENT SPECIFIC TEMPLATES IN THORACIC SCOLIOSIS SURGERY
Janez Mohar, Robert Cirman, Rene Mihalic
Department of Spine Surgery and Paediatric Orthopaedics, Valdoltra Orthopaedic Hospital, Ankaran, Slovenia

QF47 COMPARISON BETWEEN DIFFERENT RADIOGRAPHIC METHODS FOR ASSESSMENT OF THE CURVE FLEXIBILITY IN AIS (> 70° CURVES)
Sinan Kahraman, Selhan Karadereler, Cem Sever, Isik Karalok, Sezgi Burcin Barlas, Gokce Feride Inan, Tunay Sanli, Meric Enercan, Azmi Hamzaoglu
Dept of Orthopaedics and Traumatology, Istanbul, Turkey

QF48 FAILURE TO VALIDATE THE AGE-ADJUSTED ALIGNMENT THRESHOLDS CONCEPT IN AN ADULT SPINAL DEFORMITY DATABASE
Caglar Yilgor, Nuray Sogunmez, Yasemin Yavuz, Ibrahim Obeid, Frank S. Kleinstueck, Francisco Javier Sanchez Perez-Grueso, Emre R. Acaroglu, Ferran Pellísé, Ahmet Alanay, ESSG European Spine Study Group
School of Medicine, Acibadem University, Istanbul, Turkey

QF49 ARE PATIENT-SPECIFIC RODS EFFECTIVE TO MANAGE ADULT SPINAL DEFORMITY?
Vincent Fiere, Henri D’Astorg, Marc Szadkowski, Evalina Burger
Santy Orthopaedic Center, Spine Unit, Lyon, France

QF50 USE OF S2-ALAR-ILIAC SCREWS DOES NOT PROMOTE SACROILIAC JOINT FUSION IN PATIENT WITH ADULT SPINAL DEFORMITY
Zhen Liu, Yong Qiu, Changchun Tseng, Bangping Qian, Bin Wang, Zezhang Zhu
Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

QF51 ALTERATION OF SENSORIMOTOR NETWORK IN LUMBAR SPINAL STENOSIS USING RESTING-STATE FUNCTIONAL CONNECTIVITY MRI
Eiji Takasawa, Yasunori Sorimachi, Yoichi Iizuka, Haku Iizuka, Hirotaka Chikuda
Department of Orthopaedic Surgery, Japanese Red Cross Maebashi Hospital, Maebashi, Japan, Department of Orthopaedic Surgery, Gunma University Graduate School of Medicine, Maebashi, Japan
QF52 TREATMENT OF CHRONIC LOW BACK PAIN VIA ABLATION OF THE BASIVERTEBRAL NERVE: RESULTS OF THE SMART TRIAL
Jörg Franke, Bernhard Meyer, Peter Vajkoczy, Alfred Rhyne, Jeff Fishground, Rick Sasso, Hyun Bae, Christopher Yeung, Eeric Truumees, Philip Yuan
Department of Orthopedics; Klinikum Magdeburg, Germany

QF53 DYNAMIC POSTERIOR STABILIZATION VERSUS POSTERIOR LUMBAR INTERVERTEBRAL FUSION: A MATCHED COHORT STUDY BASED ON THE SPINE TANGO REGISTRY
Kelly Goodwin, Kathrin Bieri, Emin Aghayev, Ralph Greiner-Perth
SwissRDL, Institute of Social and Preventive Medicine, University of Bern, Switzerland

QF54 DOES TI-COATING IMPROVE PEEK CAGES OSTEOCONDUCTIVE PROPERTIES? A PROSPECTIVE RANDOMIZED CLINICAL TRIAL
Marcus Rickert, Michael Rauschmann
Spine Department, University Hospital Friedrichsheim gGmbH, Frankfurt am Main, Germany

14:00–15:20 Trauma, Tumour
Wicklow Hall 2B
Chairs: Hossein Mehedian, Nottingham, UK; Andrzej Macieczak, Tarnow, Poland

QF55 SURGICAL AGGRESSIVENESS INDEX IN SURGERY FOR METASTATIC SPINE DISEASE
Naresh Kumar, Barry Tan, Aye Sandar Zaw
National University Health System, Singapore

QF56 PROSPECTIVE EVALUATION OF MECHANICAL STABILITY IN RELATION TO PAIN RESPONSE TO RADIOTHERAPY FOR SPINAL METASTASES
Joanne van der Velden, Anne Versteeg, Charles Fisher, Cumhur Öner, Jorrit-Jan Verlaan
University Medical Center Utrecht, Department of Radiation Oncology, Utrecht, The Netherlands

QF57 ABDOMINAL FAT DISTRIBUTION AS PROGNOSTIC FACTOR FOR SURVIVAL IN PATIENTS WITH SPINAL METASTASES
Paul van Urk, Joanne van der Velden, Bart Pielkenrood, Jorrit-Jan Verlaan
Dept of Orthopaedics, University Medical Center Utrecht, Utrecht, The Netherlands

QF58 ANALYSIS OF FUNCTIONAL OUTCOMES AND COMPLICATIONS AFTER PALLIATIVE SURGERY AND RADICAL SURGERY IN METASTATIC SPINE DISEASE
Keun-Young Choi, Young-Hoon Kim, Kee-Yong Ha, Sang-Il Kim, Hyeong-Youl Park, Joo-Hyun Ahn
Dept. of Orthopaedic Surgery, Seoul, Korea
QF59 RELATIONSHIP ANALYSES BETWEEN EPIDURAL SPINAL CORD COMPRESSION (ESCC) SCALE AND SEVERITY OF PARALYSIS OR IMPENDING PARAPLEGIA IN METASTATIC SPINE TUMOR
Yasuaki Tokuhashi, Hiroshi Uei, Masafumi Maseda, Masashi Oshima
Dept of Orthop Surg, Nihon University, Tokyo, Japan

QF60 TAG ARRAY GENE CHIP FOR SIMULTANEOUSLY RAPID DIAGNOSIS OF FIRST- AND SECOND-LINE ANTI-TUBERCULOSIS DRUG RESISTANCE IN MYCOBACTERIUM TUBERCULOSIS-A FEASIBILITY STUDY AUTHORS
Wenjie Wu, Peng Cheng, Jingtong Lyu, Zehua Zhang, Jianzhong Xu
Department of Orthopaedics, Southwest Hospital, Third Military Medical University

QF61 THE PREVALENCE OF DIFFUSE IDIOPATHIC SKELETAL HYPEROSTOSIS AMONG ACUTE TRAUMA PATIENTS IN SWEDEN
Atsuhiko Hirasawa, Yohan Robinson, Claes Olerud, Norimitsu Wakao, Mitsuhiro Kamiya, Mikinobu Takeuchi, Masataka Deie
Dept of Orthopaedic surgery, Aichi Med Univ., Japan

QF62 POSTERIOR REDUCTION AND STABILIZATION FOR THE TREATMENT OF COMPLETE THORACOLUMBAR FRACTURE-DISLOCATIONS
Dingjun Hao, Xiaodong Wang, Hua Guo, Biao Wang
Honghui Hospital, Xi’an Jiaotong University College of Medicine

QF63 CLINICAL AND RADIOGRAPHIC OUTCOME OF TREATMENT OF THORACOLUMBAR FRACTURES WITHOUT NEUROLOGY. OPEN VS PERCUTANEOUS C-ARM - GUIDED VS PERCUTANEOUS 3D NAVIGATION: GUIDED PEDICLE SCREW FIXATION.
Marek Roclawski, Rafa Pankowski, Stanislaw Adamski, Wojciech Kloc, Witold Libionka
Department of Orthopaedics, Medical University, Gdansk, Poland
Department of Neurosurgery, Copernicus Hospital, Gdansk, Poland
Department of Neurology and Neurosurgery, Faculty of Medical Sciences, University of Warmia and Mazury, Olsztyn, Poland

QF64 RISK FACTORS FOR KYPHOTIC RECURRENCE AFTER TEMPORARY SHORT-SEGMENT FIXATION FOR THORACOLUMBAR BURST FRACTURES
Hiroyuki Aono, Keisuke Ishii, Shota Takenaka, Yukitaka Nagamoto, Hidekazu Tobimastu, Masayuki Furuya, Tomoya Yamashita
Dept of Orthopedic Surgery, Osaka National Hospital

QF65 SINGLE STAGE POSTERIOR VERTEBRAL COLUMN RESECTION (PVCR) AND INTERNAL FIXATION FOR SURGICAL TREATMENT OF UNSTABLE THORACAL/THORACOLUMBAR BURST FRACTURE
Meric Enercan, Cem Sever, Selhat Karadere, Sinan Kahraman, Onur Levent Ulusoy, Isik Karalok, Yesim Erol, Tunay Sanli, Azmi Hamzaoglu
Istanbul Spine Center
| QF66 | IS THE PELVIC INCIDENCE RELATED WITH THE RESORPTION OF HERNIATED LUMBAR DISC?  
Nam-Su Chung, Chang-Hoon Jeon, Han-Dong Lee, Young-Uk Seo  
Dept of Orthopaedic, Ajou University Medical Center, Suwon, South Korea |
| QF67 | AN ANATOMIC EVALUATION OF RETROPERITONEAL ORGANS FOR LATERAL APPROACH SURGERY: PROSPECTIVE IMAGING STUDY USING COMPUTED TOMOGRAPHY IN LATERAL DECUBITUS POSITION.  
Jun Ouchida, Tokumi Kanemura, Kotaro Satake, Hiroaki Nakashima, Naoki Segi  
Dept of Orthopedic Surgery, Nagoya, Japan |

### 14:00–15:20

#### Cervical Spine

Wicklow Hall 1  
**Chairs:** Carmen Vleggeert-Lankamp, Leiden, Netherlands; John Duff, Lausanne, Switzerland

| QF68 | CHARACTERISTICS OF CERVICAL SPINE INJURY IN THE AGED SOCIETY (THE AGING RATE: >33.3%)  
Toshiyuki Dokai1, Toru Yonei1, Tetsuya Otsuka1, Ryunosuke Kono1, Hideki Nagashima2  
1) Dept of Orthopedic Surgery, Masuda Red Cross Hosp, Masuda, Japan  
2) Dept of Orthopedic Surgery, School of Medicine, Tottori University, Yonago, Japan |
| QF69 | USE OF COMI FOR COMPARISON OF ANTERIOR CERVICAL DISCECTOMY AGAINST POSTERIOR FORAMINOTOMY AS TREATMENT FOR CERVICAL RADICULOPATHY  
Anastasios Benjamin Konteas, Nick Carleton-Bland, Maggie Lee, Simon Clark, Martin Wilby  
The Walton Centre Liverpool NHS Trust |
| QF70 | MORTALITY AND UNEXPECTED SURGERY RATE IN PATIENTS WITH CERVICAL MYELOPATHY SURGICALLY TREATED. REVIEW OF 305 CASES OF AN INSTITUTION.  
Manuel Ramírez Valencia, Xavier Plano Jerez, Antonia Matamalas Adrover, Ana García de Frutos, Pilar González-Tartière, Joan Bagó Granell, Ferran Pellisé Urquiza, José Manuel Casamitjana Ferrándiz  
Vall d’Hebron University Hospital, Barcelona, Spain; Teknon Clinic, Barcelona, Spain |
| QF71 | RELATIONSHIP BETWEEN CLINICAL AND RADIOLOGICAL RESULTS IN PATIENTS SUBMITTED TO ANTERIOR CERVICAL DISCECTOMY AND FUSION  
Bruno Maia, Pedro Carvalhais, Luis Teixeira  
Spine Center - Cirurgia da Coluna, Coimbra, Portugal |
QF72 LONG-TERM OUTCOMES OF ARTHROPLASTY FOR CERVICAL MYELOPATHY VERSUS RADICULOPATHY, AND ARTHROPLASTY VERSUS ARTHRODESIS FOR CERVICAL MYELOPATHY
The Orthopedic Center of St. Louis, St. Louis, USA

QF73 COMPARING COST-EFFECTIVENESS OF ARTHROPLASTY WITH FUSION IN TREATMENT FOR ONE LEVEL CERVICAL RADICULOPATHY
Oddrun A. Fredriksli, Jarle Sundseth, Frode Kolstad, Hege Andresen, Kay Müller, Erling Myrseth, John A. Zwart, Oystein P. Nygaard, Lars G. Johnsen
Dept of Neurosurgery/NTNU, Norwegian University of Science and Technology, Trondheim, Norway

QF74 ASSESSING FUSION, SUBSIDENCE AND ALIGNMENT IN THE CERVICAL SPINE: COMPARISON OF DIFFERENT MEASUREMENTS ON PLANS RADIOGRAPHS
Ehab Shiban, Jens Lehmberg, Bernhard Meyer
Department of Neurosurgery, Technical University of Munich, Germany

QF75 ARE THE RADIOGRAPHIC COMPONENTS OF THE AMES-ISSG CLASSIFICATION SPECIFIC TO CERVICAL DEFORMITY?
Ziad Bakouny, Nour Khalil, Michel Salameh, Naji Bou Zeid, Renaud Lafage, Ismat Ghanem, Khalil Kharrat, Virginie Lafage, Gaby Kreichati, Ayman Assi
1. Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon; 2. Spine division, Hospital for Special Surgery, New York, USA

QF76 HOW CAN CERVICAL SAGITTAL ALIGNMENT PARAMETERS BE MEASURED ON X-RAY FILMS WHEN THE SHOULDER HIDES THE LOWER CERVICAL COLUMN?
Hitoshi Yamahata, Masanori Mori, Tadaaki Niiro, Jun Sugata, Kazunori Arita
Department of Neurosurgery, Kagoshima, Japan

QF77 SURGICAL CORRECTION FOR FIXED CERVICAL KYPHOTIC DEFORMITY. INDICATIONS, TECHNIQUES AND COMPLICATIONS IN A CONSECUTIVE SERIES OF 10 PATIENTS
John Michael Duff, Lukas Bobinski, Juan Barges-Coll
University Hospital of Lausanne, Lausanne, Switzerland

QF78 OPTIMAL TIMING FOR TRAUMATIC CERVICAL SPINAL CORD INJURY WITH SURGICAL DECOMPRESSION: 10 YEARS CASES REVIEWED
Dingjun Hao, Biao Wang, Hua Guo, Ziqi Zhu
Honghui Hospital Xi’an Jiaotong University College of Medicine, Xi’an, China
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<th>DOES CT ANGIOGRAPHY CHANGE THE MANAGEMENT OF PATIENTS WITH CERVICAL FRACTURES?</th>
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<td>Dingjun Hao, Biao Wang, Hua Guo, Ziqi Zhu</td>
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<th>QF80</th>
<th>REVISION SURGERY FOR CERVICAL CHORDOMAS IN PEDIATRIC PATIENTS</th>
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<td>Dezsoe Jeszenszky, Markus Loibl, Peter Obid, Christoph Heyde, Daniel Haschtmann, Frank Kleinstueck, Tamas F Fekete</td>
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<td>Schulthess Clinic, Spine Center, Zurich, Switzerland</td>
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<th>15:20–15:50</th>
<th>COFFEE BREAK IN THE FOYER OF LEVEL 3</th>
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<th>15:50–17:00</th>
<th>New Techniques, Medical Economics</th>
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<td>Chairs: Ibrahim Obeid, Bordeaux, France; Pedro Berjano, Milan, Italy</td>
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<th>ALTERATION OF BRAIN NEURAL NETWORK IN CERVICAL SPONDYLOTIC MYELOPATHY USINGRESTING-STATE FUNCTIONAL CONNECTIVITY MRI</th>
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<td>Eiji Takasawa, Yasunori Sorimachi, Yoichi Iizuka, Haku Iizuka, Hirotaka Chikuda</td>
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<td>Japanese Red Cross Maebashi Hospital, Gunma University School of Medicine, Dept of Orthopaedic and Spine Surgery, Maebashi, Japan</td>
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<th>69</th>
<th>REOPERATION RATE REDUCTION BY USE OF AN ANULAR CLOSURE DEVICE: 90-DAY RESULTS FROM A RANDOMIZED CONTROLLED CLINICAL TRIAL IN HIGH-RISK DISC HERNIATION PATIENTS</th>
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<td>Claudius Thome, Frederic Martens, Gert Bouma, Adisa Kursunovic, Anular Closure RCT Study Group, Peter Douglas Klassen</td>
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<td>Dept. of Neurosurgery, Medical University Innsbruck, Innsbruck, Austria</td>
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<th>DOES SCREW MATERIAL AND AUGMENTATION AFFECT PEDICLE SCREW LOOSENING?</th>
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<td>Richard A. Lindtner, Werner Schmoelz, Marko Konschake, Thomas Nydegger, Rene Schmid</td>
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<td>Department of Trauma Surgery, Medical University of Innsbruck, Innsbruck, Austria</td>
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<th>71</th>
<th>DEVELOPMENT AND VALIDATION OF A STRATIFICATION SCHEME FOR SURGICAL CARE OF SPINAL DISORDERS AS A GUIDE FOR IMPROVED RESOURCE UTILISATION IN UNDERSERVED AREAS OF THE WORLD: A DELPHI STUDY</th>
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<td>Emre Acaroglu, Tiro Mmopelwa, Selcen Yuksel, Selim Ayhan, Margareta Nordin, Kristi Randhawa, Scott Haldeman</td>
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<td>ARTES Spine Center, Ankara, Turkey</td>
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72 A NOVEL SURGICAL LATERAL APPROACH AVOIDING PSOAS DIVARICATION AND IN PRONE POSITION: TECHNIQUE AND SURGICAL COMPLICATIONS
Luca Antonelli, Maria De Luca
Dept of Orthopaedic Surgery, Ravenna, Italy

73 INCIDENCE OF LUMBAR PLEXOPATHY UTILIZING MECHANOMYOGRAPHY FOR TRANSPSOAS LATERAL INTERBODY FUSION
David Briski, Brandon Cook, Bradford Waddell, Joseph Zavatsky
Ochsner Medical Center, New Orleans, LA
Spine and Scoliosis Specialists, Tampa, FL, USA

74 RADIOGRAPHIC COMPARISON OF PATIENT-SPECIFIC (PS) AND MANUALLY CONTOURED CONVENTIONAL (C) RODS IN ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS) SURGERY
Evelina Burger, Pouya Alijanipour, Michael J. Heffernan, Nicholas K. Baldwin, Andrew G. King
Orthopedic Pediatric Spine Surgery, Children’s Hospital of New Orleans, Louisiana State University Health Sciences Center, New Orleans, USA

75 NON-FUSION GROWTH MODULATION WITH ANTERIOR VERTEBRAL BODY TETHERING FOR ADOLESCENT IDIOPATHIC SCOLIOSIS: A PROMISING MINIMAL INVASIVE ALTERNATIVE TO TRADITIONAL TREATMENT.
Barbaros Omer Cebeci, Nuray Sogunmez, Gokhan Ergene, Binnaz Ay, Caglar Yilgor, Ahmet Alanay
School of Medicine, Acibadem University, Istanbul, Turkey

17:00 ADJOURN – END
Scientific Programme
E-posters
BIOMINERAL CAP COATING REDUCES INFLAMMATORY BEHAVIOR OF PEEK IMPLANTS
Leena Jongpaiboonkit, Nicholas Caras, William Murphy
Tissue Regeneration Systems, Inc., Plymouth, USA

DRUG X CAN INHIBIT ANTI-APOPTOTIC CELL DEATH INDUCED BY OXIDATIVE STRESS IN VITRO AND IMPROVE LOCOMOTOR FUNCTION OF LOWER LIMBS IN SPINAL CORD INJURY MODEL MICE IN VIVO
Mikito Tsushima, Shiro Imagama, Kei Ando, Kazuyoshi Kobayashi
Dept of Orthopaedic Surgery, Nagoya, Japan

REDUCED RATE OF PROXIMAL JUNCTIONAL FRACTURES ABOVE LONG INSTRUMENTED CONSTRUCTS UTILIZING A TAPERED DOSE OF VERTEBRAL CEMENT. A BIOMECHANICAL STUDY
David Briski, Robert Mcquire, Vijay Goel, Joseph Zavatsky
Ochsner Medical Center, New Orleans, LA; Spine and Scoliosis Specialists, Tampa, FL; University of Toledo, Toledo, OH; USA

IN VITRO ANALYSIS OF THE SEGMENTAL FLEXIBILITY OF THE THORACIC SPINE BY STEPWISE REDUCTION OF THE ANATOMICAL STRUCTURES
Christian Liebsch, Stefan Grundler, Claudia Ottardi, Benedikt Schlager, Hans-Joachim Wilke
Institute of Orthopaedic Research and Biomechanics, Ulm, Germany

FUNCTIONAL AND RADIOGRAPHIC EVALUATION OF AN INTERSPINOUS DEVICE AS AN ADJUNCT FOR LUMBAR INTERBODY FUSION PROCEDURES
Anna Spicher, Werner Schmoelz, Rene Schmid, Hannes Stofferin, Niall J.A. Craig
Dept of Trauma Surgery, Innsbruck, Austria

QUALITY AND QUANTITY OF MOTION OF A MOBILE AXIS OF ROTATION POLYCRYSTAL-LINE DIAMOND CERVICAL DISC PROSTHESIS AFTER 1- AND 2-LEVEL ARTHROPLASTY
Leonard Voronov, Saeed Khayatzadeh, Robert Havey, Gerard Carandang, Kenneth Blank, Avinash Patwardhan
Department of Orthopaedic Surgery and Rehabilitation, Loyola University Chicago, Maywood, IL, USA; Edward Hines Jr. VA Hospital, Hines, IL, USA

OPTIMAL CEMENT DOSAGE AND CONFIGURATION FOR PROPHYLACTIC VERTEBROPLASTY ABOVE LONG THORACOLUMBAR FUSION CONSTRUCTS TO REDUCE PROXIMAL JUNCTION KYPHOSIS (PJK) - A FINITE ELEMENT STUDY
Joseph Zavatsky, David Briski, Robert McGuire, Vijay Goel
Cervical Spine (all pathologies)

P8  COMPARISON OF 7-YEAR RESULTS OF ONE-LEVEL VERSUS TWO-LEVEL CERVICAL DISC ARTHROPLASTY AND FUSION  
Matthew F. Gornet, Todd H. Lanman, J. Kenneth Burkus, Scott D. Hodges, Jeffrey R. McConnell, Randall F. Dryer, Francine W. Schranck, Anne G. Copay  
The Orthopedic Center of St. Louis

P9  MICROENDOSCOPIC LAMINOTOMY VERSUS CONVENTIONAL LAMINOPLASTY FOR CERVICAL SPONDYLOTIC MYELOPATHY - A 5-YEAR FOLLOW-UP STUDY  
Akihito Minamide, Munehito Yoshida, Andrew K. Simpson, Hiroshi Yamada, Hiroshi Hashizume, Yukihiro Nakagawa, Hiroshi Iwasaki, Shunji Tsutsui, Masanari Takami, Yasutsugu Yukawa  
Dept of Orthopaedic Surgery, Wakayama Medical University, Wakayama, Japan

P10  POSTOPERATIVE CHANGES OF CERVICAL SAGITTAL BALANCE IN PATIENTS WITH CERVICAL SPONDYLOTIC MYELOPATHY – A COMPARISON BETWEEN C3-6 LAMINOPLASTY AND C3-7 LAMINOPLASTY  
Atsunori Ohnishi, Hironobu Sakaura, Yusuke Kuroda, Tetsuo Ohwada  
Dept of Orthopaedic Surgery, Kansai Rosai Hospital, Amagasaki, Japan

P11  PROMIS PHYSICAL FUNCTIONING CORRELATION WITH NDI AND MJOA IN THE SURGICAL CERVICAL MYELOPATHY PATIENT POPULATION  
Robert Owen, Steven McAnany, Luke Zebala  
Department of Orthopedic Surgery, Washington University in St Louis

P12  INFLUENCE OF DIABETES MELLITUS ON SURGICAL OUTCOMES IN CERVICAL MYELOPATHY – A PROSPECTIVE, MULTI-CENTER STUDY  
Shinji Tanishima, Atsushi Tanida, Tokumitsu Mihara, Masaaki Murata, Tsugutake Morishita, Toshiaki Takahashi, Yasuo Morio, Yoshiroo Nanjo, Toshiyuki Dokai, Hideki Nagashima  
Tottori University  
Dept of Orthopedic Surgery,Yonago,Japan

P13  VERTEBRAL ARTERY AND OSSEOUS ANOMALIES CHARACTERISTIC AT THE CRANIOCERVICAL JUNCTION DIAGNOSED BY CT AND 3D CT ANGIOGRAPHY IN NORMAL CZECH POPULATION: ANALYSIS OF 511 CONSECUTIVE PATIENTS  
Petr Vanek, Ondrej Bradac, Renata Konopkova, Vladimir Benes  
Department of Neurosurgery and Neurooncology, Military University Hospital and Charles University, First Medical Faculty, Prague
P14 | PREDICTIVE FACTORS OF POOR SURGICAL OUTCOME IN THORACIC OSSIFIED LIGAMENTUM FLAVUM; AN INDIAN INSTITUTIONAL STUDY
Prabu Raj Andi Perumal Raj, Indira Devi, Dhananjay Bhat, Dhaval Shukla
Department of neurosurgery, NIMHANS, Bangalore, India

P15 | ADJACENT SEGMENT DEGENERATION AND REVISION SURGERY RATES AFTER HYBRID FUSION-STABILIZATION OF THE LUMBAR SPINE AS COMPARED TO CLASSICAL CIRCUMFERENTIAL FUSION. STUDY OF 2 COHORTS OF PATIENTS WITH DEGENERATIVE DISCOPATHY AT 2 AND 5-YEAR FOLLOW-UP
Carlos Barrios, José Ignacio Maruenda, Felipe Garibo, Juan Solaz, Borja Maruenda
Valencia Catholic University, Valencia, Spain; University Clinic Hospital, Valencia, Spain; Hospital de la Ribera, Alzira, Spain

P16 | PREDICTING PHYSICAL HEALTH-RELATED QUALITY OF LIFE USING NUMERIC, SEMANTIC AND GRAPHIC METHODS IN THE ASSESSMENT OF CHRONIC LOW BACK PAIN PATIENTS
Christine Cedraschi, Orly Sarid, Michel Kossovsky, Jules Desmeules, Anne-Françoise Allaz, Valérie Piguet
Division of Clinical Pharmacology and Toxicology, Multidisciplinary Pain Centre, Geneva, Switzerland

P17 | PREOPERATIVE EVALUATION OF LEFT COMMON ILIAC VEIN USING LUMBAR SPINE MRI IN OBlique LATERAL INTERBODY FUSION AT L5-S1
Nam-Su Chung, Chang-Hoon Jeon, Han-Dong Lee, Young-Uk Seo
Dept of Orthopaedic, Ajou University Medical Center, Suwon, South Korea

P18 | SPINOPELVIC SAGITTAL ALIGNMENT AFTER MINIMALLY INVASIVE DECOMPRESSION SURGERY WITHOUT FUSION IN PATIENTS WITH LUMBAR DEGENERATIVE Spondylolisthesis
Sho Dohzono, Hiromitsu Toyoda, Yusuke Hori, Shinji Takahashi, Akinobu Suzuki, Hidetomi Tera, Hiroaki Nakamura
Dept of Orthopaedic Surgery, Osaka, Japan

P19 | LUMBAR TOTAL DISC REPLACEMENT: PREDICTORS FOR LONG-TERM OUTCOMES
Håvard Furunes (1,2,3), Christian Hellum (1), Helga Brøgger (1), Ivar Rossvoll (4), Jens Ivar Brox (1,2), Linda Berg (5), Milada Cvancarova (2), Ansgar Espeland (5), Kjersti Storheim (1)
1 Oslo University Hospital; 2 University of Oslo; 3 Gjøvik Hospital; 4 St Olav’s University Hospital; 5 Haukeland University Hospital

P20 | LONG-TERM OUTCOME OF POSTEROLATERAL FUSION WITH DYNAMIC TRANSPEDICULAR TOPPING-OFF FOR THE ADULT DEGENERATIVE LUMBAR SPINE. REPORT OF 30 CASES WITH MORE THAN 9-YEAR FOLLOW-UP
Felipe Garibo, José Ignacio Maruenda, Borja Maruenda, Carlos Barrios
University Clinic Hospital, Valencia, Spain; Hopsital de la Ribera, Alzira, Spain; Valencia Catholic University, Valencia, Spain
P21  DEGREE OF MOBILITY AT L4-L5 IN PREOPERATIVE AND INTRAOPERATIVE IMAGES IN PATIENTS WITH LUMBAR DEGENERATIVE SPONDYLOLISTHESIS  
Federico P. Girardi, Roland Duculan, Alex Fong, Manuela C. Rigaud, Carol A. Mancuso  
Hospital for Special Surgery, New York, USA

P22  AMONG PATIENTS WITH STABILITY ON FLEXION-EXTENSION RADIOGRAPHS, PAIN IN FLEXION AND EXTENSION DOES NOT PREDICT SUBSEQUENT INTRAOPERATIVE INSTABILITY  
Federico P. Girardi, Alex Fong, Manuela C. Rigaud, Roland Duculan, Carol A. Mancuso  
Hospital for Special Surgery, New York, USA

P23  COMPLEXITY OF LUMBAR SURGERY DOES NOT DICTATE SURGEONS’ ASSESSMENT OF FUNCTIONAL OUTCOME  
Federico P. Girardi, Manuela C. Rigaud, Alex Fong, Roland Duculan, Carol A. Mancuso  
Hospital for Special Surgery, New York, USA

P24  SURGICAL OUTCOME CATEGORISATION USING GLOBAL ASSESSMENT (GA)  
Amanda Hansson Hedblom, Emma Jonsson, Peter Fritzell, Olle Hägg, Fredrik Borgström  

P25  PATHOGENESIS OF SCIATICA IN LUMBAR DISC HERNIATION. CHANGES IN INTRA-RADICULAR OXYGEN SATURATION AND ELECTOPHYSIOLOGICAL VALUE BY INTRAOPERATIVE STRAIGHT LEG RAISING (SLR) TEST  
Shigeru Kobayashi, Yuichi Hashishin, Hisanori Matsuoka, Katsuhiko Hayakawa, Adam Meir  
Dept of Orthopaedics and Rehabilitation Medicine, Fukui University, Japan

P26  3D POROUS LAMELLAR TITANIUM LATERAL INTERBODY CAGES: SUBSIDENCE RATES COMPARED TO PEEK AND EARLY CLINICAL OUTCOMES  
Robert Lee  
Department of Spinal Surgery, Royal National Orthopaedic Hospital NHS Trust, Stanmore, UK

P27  CLINICAL AND RADIOGRAPHIC RESULTS FOLLOWING THE USE OF LATERAL INTERBODY CAGES TO RESTORE LUMBAR LORDOSIS IN REVISION FUSION SURGERY  
Robert Lee  
Department of Spinal Surgery, Royal National Orthopaedic Hospital NHS Trust, Stanmore, UK

P28  3D POROUS LAMELLAR TITANIUM VERSUS PEEK AND SOLID TITANIUM INTERBODY TLIF CAGES: A PROSPECTIVE CLINICAL AND RADIOGRAPHIC COMPARISON  
Robert Lee, Lester Wilson  
Department of Spinal Surgery, Royal National Orthopaedic Hospital NHS Trust, Stanmore, UK
P29  SURGERY FOR HERNIATED LUMBAR DISC IN INDIVIDUALS 65 YEARS OF AGE OR OLDER: A MULTICENTER OBSERVATIONAL STUDY
Mattis Madsbu, Øyvind Salvesen, Øystein Nygaard, Tore Solberg, Sasha Gulati
Dept of Neurosurgery, St. Olavs Hospital, Trondheim, Norway

P30  LUMBAR MICRODISCECTOMY FOR SCIATICA IN ADOLESCENTS: A MULTICENTER OBSERVATIONAL REGISTRY-BASED STUDY
Mattis Madsbu, Tore Solberg, Øystein Nygaard, Sasha Gulati
Dept of Neurosurgery, St. Olavs Hospital, Trondheim, Norway

P31  RELATIONSHIP BETWEEN SPINO-PELVIC PARAMETERS AND CLINICAL AND FUNCTIONAL OUTCOMES IN 104 PATIENTS UNDERGOING LUMBAR FUSION SURGERY
Bruno Maia, Pedro Carvalhais, Luis Teixeira
Spine Center - Cirurgia da Coluna, Coimbra, Portugal

P32  HIGH RATE OF STUDIES WITH LEVEL OF EVIDENCE I-II AMONG THE 100 MOST CITED ARTICLES IN LUMBAR SPINAL STENOSIS
Juan Martínez-Andrés, Carlos Barrios, Joaquin Alfonso
Valencia Catholic University, Valencia, Spain

P33  RISK FACTORS OF ADJACENT SEGMENT DISEASE AFTER LUMBAR FUSION FOR DEGENERATIVE DISEASE
Sergei Masevnin, Dmitry Ptashnikov, Dmitry Mikhaylov, Oleg Smekalenkov, Nikita Zaborovskii, Olga Lapoeva
Dept of Spine Surgery, Vreden Russian Research Institute of Traumatology and Orthopedics, St.Petersburg, Russia

P34  MINIMALLY INVASIVE DECOMPRESSION SURGERY FOR LUMBAR SPINAL STENOSIS WITH DEGENERATIVE SCOLIOSIS: PREDICTIVE FACTORS OF RADIOGRAPHIC AND CLINICAL OUTCOMES
Akihito Minamidé, Munehito Yoshida, Andrew K. Simpson, Hiroki Iwashashi, Ryohei Kagotani, Hiroshi Yamada, Hiroshi Hashizume, Yukihiro Nakagawa, Hiroshi Iwasaki, Shunji Tsutsui
Dept of Orthopaedic Surgery, Wakayama Medical University, Wakayama, Japan

P35  IS ABDOMINAL AORTIC CALCIFICATION SEEN ON PREOPERATIVE LATERAL LUMBAR X-RAY A PREDICTOR OF FUSION FOLLOWING LUMBAR SPINAL FUSION SURGERY?
Naoki Okubo, Masayuki Nakahara
Dept of Orthopedic Surgery, Kitasuma Hospital, Kobe, Japan

P36  PROMIS PHYSICAL FUNCTIONING AND PAIN CORRELATION WITH ODI AND VAS IN THE SURGICAL LUMBAR DISC Herniation Patient Population
Robert Owen, Steven McAnany, Luke Zebala
Department of Orthopedic Surgery, Washington University in St Louis, USA

P37  PROMIS PHYSICAL FUNCTION AND PAIN CORRELATION WITH ODI AND VAS PAIN IN THE SURGICAL PATIENT POPULATION WITH LUMBAR STENOSIS AND CLAUDICATION
Robert Owen, Steven McAnany, Luke Zebala
Department of Orthopedic Surgery, Washington University in St Louis, USA
**P38**  INFLUENCE OF PSYCHOSOCIAL DISTRESS IN THE RESULTS OF ELECTIVE LUMBAR SPINE SURGERY  
Luiz Pimenta, Vivian Amaral, Heber Martim, Rodrigo Amaral, Joes Nogueira, Luis Marchi  
Instituto de Patologia da Coluna (IPC), Sao Paulo, Brazil

**P39**  WORKER’S COMPENSATION DETECTED BEFORE THE SURGERY IS ASSOCIATED WITH WORSE CLINICAL RESULTS AFTER LUMBAR FUSION  
Luiz Pimenta, Joes Nogueira-Neto, Vivian Amaral, Rodrigo Amaral, Luis Marchi  
Instituto de Patologia da Coluna (IPC), Sao Paulo, Brazil

**P40**  PREOPERATIVE BLADDER FUNCTION CAN BE ASSOCIATED WITH SURGICAL INDICATION FOR PATIENTS WITH LUMBAR SPINAL STENOSIS  
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Department of Orthopaedic Surgery, Japanese Red Cross Maebashi Hospital, Maebashi, Japan; Department of Orthopaedic Surgery, Japanese Red Cross Fukaya Hospital, Fukaya, Japan; Department of Orthopaedic Surgery, Gunma University Graduate School of Medicine, Maebashi, Japan

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Dept of Orthopaedic Surgery, Amagasaki, Japan

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Dept of Orthopaedic Surgery, Amagasaki, Japan

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Department of Orthopaedic Surgery, Konan Kosei Hospital, Konan, Japan

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Department of Neurosurgery, Technical University of Munich, Germany; Experimentelle Psychologie (Klinische Psychologie und Psychotherapie) Universität Regensburg, Germany
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Department of Neurosurgery, Technical University of Munich, Germany

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Department of Orthopedic Surgery, Faculty of Medicine, Chulalongkorn University and King Chulalongkorn, Memorial Hospital, Thai Red Cross Society, Bangkok, Thailand

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Chulalongkorn University and King Chulalongkorn Memorial Hospital, Thai Red Cross Society, Bangkok, Thailand

A COMPARISON BETWEEN REPEAT DISCECTOMY VERSUS FUSION FOR THE TREATMENT OF RECURRENT LUMBAR DISC HERNIATION: SYSTEMATIC REVIEW AND META-ANALYSIS
Weerasak Singhatanadgige, Chotawan Tanavalee, Worawat Limthongkul, Wicharn Yingsakmongkol
Department of Orthopedic Surgery, Faculty of Medicine, Chulalongkorn University and King Chulalongkorn, Memorial Hospital, Thai Red Cross Society, Bangkok, Thailand

ANALYSIS OF RISK FACTORS FOR WORSENING LOW BACK PAIN IN RESIDENTS IN YONAGO, JAPAN: WORSENED IN THE REGION RESIDENTS
Shinji Tanishima, Hiroshi Hagino, Hiromi Matsumoto, Hideki Nagashima
Dept of Orthopedic Surgery, Faculty of Medicine, Yonago, Japan

PSEUDOARTHROSIS RATE IN MINIMALLY INVASIVE TRANSFORAMINAL LUMBAR INTERBODY FUSION (MTLIF): 2-YR OUTCOMES VS OPEN TLIF
Daniel Thibaudeau, Kimona Issa, Nikhil Sahai, Conor Dunn, Sina Pourtaheri, Michael Faloon, Kumar Sinha, Ki Soo Hwang, Arash Emami
Seton Hall University, School of Health and Medical Sciences, South Orange, United States

SURGICAL OUTCOME OF THORACOLUMBAR BURST FRACTURE WITH SEVERE NEUROLOGICAL DEFICIT - A COMPARISON BETWEEN DIRECT DECOMPRESSION BY ANTERIOR CORPECTOMY AND INDIRECT DECOMPRESSION BY POSTERIOR LAMINECTOMY
Chien-Jen Hsu
Dept of Orthopaedics, VGHKS, Taiwan

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Xiongke Hu, Qinpeng Zhao, Xinhua Yin
Spinal surgery, Xi’an, China
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Mona Khoury, Kristian Welle, Cornelius Jacobs, Christof Burger, Koroush Kabir
University Hospital Bonn, Department of Orthopaedics and Trauma Surgery, Bonn, Germany

P55 SURGICAL TREATMENT OF GROSS RIGID POSTTRAUMATIC DEFORMITIES OF THORACIC AND LUMBAR SPINE
Aleksey Shul’ga, Igor’ Norkin, Vladimir Zaretskov, Aleksey Smolskin
Research Institute of Traumatology, Orthopedics and Neurosurgery of Saratov State Medical University of Razumovsky, Saratov, Russia

P56 MINIMALLY INVASIVE PEDICLE SCREW SHORT-SEGMENT FIXATION COMBINED WITH PERCUTANEOUS VERTEBROPLASTY FOR THORACOLUMBAR BURST FRACTURE CAN PRESERVE THORACOLUMBAR MOTION AND THE ACTIVITIES OF DAILY LIFE REGARDLESS OF POST-TRAUMATIC DISC DEGENERATION
Eiji Takasawa, Yasunori Sorimachi, Yoichi Iizuka, Haku Iizuka, Hirotaka Chikuda
Department of Orthopaedic Surgery, Japanese Red Cross Maebashi Hospital, Maebashi, Japan; Department of Orthopaedic Surgery, Gunma University Graduate School of Medicine, Maebashi, Japan

**Wednesday**

P57 SARCOGENIA, BUT NOT FRAILTY, PREDICTS THE OCCURRENCE OF ADVERSE EVENTS AFTER EMERGENT SURGERY FOR METASTATIC DISEASE OF THE SPINE
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Vancouver Acute Spine Program, Vancouver, Canada

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Vadim Byvaltsev, Ivan Stepanov, Andrei Kalinin, Evgeny Belykh
1 Irkutsk State Medical University, Irkutsk, Russia; 2 Railway Clinical Hospital, Irkutsk, Russia; 3 Scientific Center of Surgery and Traumatology, Irkutsk, Russia; 4 Irkutsk State Medical Academy of Continuing Education, Irkutsk, Russia

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John Tristan Cassidy, Joseph F Baker, Brian Lenehan
Dept of Trauma & Orthopaedics, University Hospital Limerick, Ireland

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1) Department of Orthopedics, Peking University Third Hospital, Beijing; 2) Department of Pathology, Peking University Health Center, Beijing; 3) Department of Radiotherapy, Peking University Third Hospital, Beijing, China
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Liang Jiang¹, XiangYu Xu¹, Song Bo Han², ShaoMin Yang³, XiaoGuang Liu³, ZhongJun Liu⁴  
¹) Department of Orthopedics, Peking University Third Hospital, Beijing; ²) Department of Radiology, Peking University Third Hospital, Beijing; ³) Department of Pathology, Peking University Health Center, Beijing, China

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National University Health System, Singapore

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National University Health System, Singapore

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Samsung medical center, Dept of orthopedic surgery, Seoul, Korea

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Research Institute of Traumatology, Orthopedics and Neurosurgery of Saratov State Medical University of Razumovsky, Saratov, Russia

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Kathryn Rooney, Stacey Thompson, Nagy Darwish  
Fracture Department, Royal Victoria Hospital, Belfast

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Department of Orthopaedic Surgery, University Medical Center Utrecht, The Netherlands

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National University Health System, Singapore
Infection, Thoracolumbar Spine

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William Griffiths-Jones, Luigi Aurelio Nasto, Oliver M Stokes, Hossein Mehdian
The Centre for Spinal Studies and Surgery, Nottingham, United Kingdom

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Spinal surgery, Xi’an, China

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Dept Orthopaedics and Traumatology, Fatmawati General Hospital, Universitas Indonesia

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1, 2, 4: ARTES Spine Center, Ankara, Turkey; 3: Department of Biostatistics, Yildirim Beyazit University, Ankara, Turkey; 5: Spine Unit, Bordeaux University Hospital, Bordeaux, France; 6: Spine Unit, Hospital Universitari La Paz, Madrid, Spain; 7: Schulthess Klinik, Zurich, Switzerland; 8: Comprehensive Spine Center, Acibadem Maslak Hospital, Istanbul, Turkey 9, 10: Spine Unit, Hospital Universitari Vall d’Hebron, Barcelona, Spain

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1, 2, 3: ARTES Spine Center, Ankara, Turkey; 4: Department of Biostatistics, Yildirim Beyazit University, Ankara, Turkey; 5: Spine Unit, Hospital Universitari La Paz, Madrid, Spain 6: Schulthess Klinik, Zurich, Switzerland; 7: Spine Unit, Bordeaux University Hospital, Bordeaux, France; 8: Comprehensive Spine Center, Acibadem Maslak Hospital, Istanbul, Turkey; 9, 10: Spine Unit, Hospital Universitari Vall d’Hebron, Barcelona, Spain
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Dept. of Orthopaedic Surgery, Seoul, Korea

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Christof Birkenmaier, Axel Unverzagt, Carolin Melcher
Department of Orthopedics, Physical Medicine & Rehabilitation, Ludwig-Maximilian-University Munich, Germany

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University of Colorado, Department of Orthopedics, Aurora, USA

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Dept. of Orthopaedics, Aarhus, Denmark

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Schulthess Clinic, Zurich, Switzerland

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Spine Surgery Unit, Vall d’Hebron University Hospital, Barcelona, Spain

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1. Department of Orthopaedic Surgery, College of Medicine, Kyung Hee University, Seoul, Korea
2. Department of Orthopaedic Surgery, St. Paul’s Hospital, The Catholic University of Korea College of Medicine, Seoul, Korea (*only the third author)

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Department of Spinal Surgery, Royal National Orthopaedic Hospital NHS Trust, Stanmore, UK

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Department of Spinal Surgery, Royal National Orthopaedic Hospital NHS Trust, Stanmore, UK

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Dept. of Orthopaedic Surgery, Seoul, Korea

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Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

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Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

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Department of Orthopaedic Surgery, Wajokai Eniwa Hospital, Hokkaido, Japan
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Kentaro Yamada, Yuichiro Abe, Shigenobu Satoh
Department of Orthopaedic Surgery, Wajokai Eniwa Hospital, Hokkaido, Japan

RELATIVE LUMBAR LORDOSIS (RLL): A NEW PI-BASED PROPORTIONAL PARAMETER THAT QUANTIFIES LUMBAR LORDOSIS MORE PRECISELY COMPARED TO PI-LL CONCEPT
Caglar Yilgor, Nuray Sogunmez, Yasemin Yavuz, Ibrahim Obeid, Frank S. Kleinstueck, Francisco Javier Sanchez Perez-Grueso, Emre R. Acaroglu, Ferran Pellisé, Ahmet Alanay, ESSG European Spine Study Group
School of Medicine, Acibadem University, Istanbul, Turkey

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Nikita Zaborovskii, Dmitrii Ptashnikov, Dmitrii Mikhaylov, Sergei Masevni, Oleg Smekalenkov, Olga Lapaeva, Zabioulah Mooraby, Yang Le, Elnara Zamanova
R.R.Vreden Russian Research Institute of Traumatology and Orthopedics, Saint-Petersburg, Russia

LUMBAR DISC GEOMETRY AFFECTS THE RISK FOR ROD FRACTURE IN ADULT SPINAL DEFORMITY (ASD) SURGERY
Joseph Zavatsky, Brandon Cook, David Briski
Ochsner Medical Center, New Orleans, LA; Spine and Scoliosis Specialists, Tampa, FL, USA

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Carlos Barrios, Karen Weismann, Philippe Mazeau, Guahua Lü, Lei Kuang, José Ignacio Maruenda
Valencia Catholic University, Valencia, Spain

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Dept of Orthopaedic Surgery, University Medical Center Utrecht, The Netherlands

RIB VERTEBRA ANGLE DIFFERENCE (MEHTA'S ANGLE) IS A REPRESENTATION OF ROTATION AND APICAL LORDOSIS
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Dept of Orthopaedic Surgery, University Medical Center Utrecht, The Netherlands
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Inje University Sanggye Paik Hospital; Korea University Guro Hospital; Kyung Hee University Hospital; Seoul, Korea

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Francesca Di Felice, Fabio Zaina, Sabrina Donzelli, Stefano Negrini
ISICO (Italian Scientific Spine Institute), Milan, Italy; Department of Clinical and Experimental Sciences, University of Brescia, Italy; IRCCS Fondazione Don Gnocchi, Milan, Italy

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Department of Orthopaedic Surgery, Peking Union Medical College Hospital, China

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Dept. of Orthopaedics, Our Lady’s Children’s Hospital Crumlin, Dublin, Ireland

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Dept of Orthopaedic Surgery, Osaka University Graduate School of Medicine, Suita, Japan

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Dept of Orthopaedic Surgery, Tokyo Saiseikai Central Hospital, Tokyo, Japan

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Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China
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Brandon Cook, David Briski, Joseph Zavatsky
Ochsner Medical Center, New Orlean, USA

NUANCES IN LUMBAR INTERBODY FUSION. REVIEW OF OUTCOME AND COMPLICATIONS ASSOCIATED WITH OBLIQUE LUMBAR INTERBODY FUSION (OLIF) AND EXTREME LATERAL INTERBODY FUSION (XLIF)
Maria Grazia Di Benedetto, Sujay Deherendra, Simon Clark, Marco Teli
Dept of Neurosurgery, Bari, Italy; Dept of Neurosurgery, Liverpool, UK

CLINICAL AND RADIOLOGICAL EVALUATION OF TLIF FOR DEGENERATIVE DISC DISEASES USING A NOVEL MODULAR CAGE
Mohamed Elmekaty, Emad El Mehy, Yohan Robinson
1 Department of Surgical Sciences, Uppsala University Hospital, Uppsala, Sweden; 2 Orthopedic Surgery Department, Tanta University, Tanta, Egypt

SURGICAL APPROACH CORRIDOR OF MINIMALLY INVASIVE ANTEROLATERAL OBLIQUE LUMBAR INTERBODY FUSION FOR L5-S1
Hae-Dong Jang, Jae Chul Lee, Sung-Woo Choi, Byung-Joon Shin
Dept of Orthopaedic Surgery, Soonchunhyang University Hospital, Seoul, Republic of Korea

COMPARISON OF INTERLAMINAR STABILIZATION WITH DECOMPRESSION VS FUSION WITH DECOMPRESSION IN PATIENTS REQUIRING 2 LEVELS OF SURGICAL TREATMENT FOR SPINAL STENOSIS
Rachel Simon, Christina Dowe, Samuel Grinberg, Frank Cammisa, Celeste Abjornson
Hospital for Special Surgery, New York, NY, USA

CARBON-FIBER ENHANCED PEEK (CF/PEEK) SCREWS IN SPINAL TUMOR SURGERY
Olaf Suess, Bjoern Kuehn, Sven Mularski
Spine and Neurotrauma Center, DRK Kliniken Berlin Westend, Berlin, Germany

ADDING SATELLITE RODS TO STANDARD 2-ROD CONSTRUCT: AN EFFECTIVE TECHNIQUE IN IMPROVING SURGICAL OUTCOMES AND PREVENTING PROXIMAL JUNCTIONAL KYPHOSIS FOR POSTERIOR CORRECTION OF SCHEUERMANN KYPHOSIS
Xu Sun, Xi Chen, Bin Wang, Zezhang Zhu, Yong Qiu
Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

SAFETY AND EFFICACY OF CONCURRENT SPINAL DEFORMITY AND INTRA-SPINAL SURGERY: CASE SERIES
Caglar Yilgor, Nuray Sogunmez, Mohamed Dalla, Gülden Demirci Otluoglu, Memet Ozek, Ahmet Alanay
School of Medicine, Acibadem University, Istanbul, Turkey
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Dept of Orthopaedic Surgery, Beijing, China

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Shimei Tanida, Shunsuke Fujibayashi, Bungo Otsuki, Kazutaka Masamoto, Shuichi Matsuda
The Department of Orthopaedic Surgery, Graduate School of Medicine, Kyoto University, Kyoto, Japan

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Laboratory of Biomechanics and Medical Imaging, Faculty of Medicine, University of Saint-Joseph, Beirut, Lebanon

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Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

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Dept of Neurosurgery, Liverpool, UK

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School of Medicine, Acibadem University; Istanbul, Turkey

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Dept. of Orthopedic Surgery, Spine Unit, Rigshospitalet, Denmark

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Michael Bond, Raphaele Charest-Morin, Alana Flexman, John Street
Combined Neurosurgical and Orthopedic Spine Program and Department of Anesthesia, University of British Columbia, Vancouver, BC
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Ochsner Medical Center, Childrens Hospital of New Orleans

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Adnan Kasapovic, Kristian Welle, Cornelius Jacobs, Christof Burger, Koroush Kabir
Department of Orthopedic and Trauma Surgery, University hospital Bonn, Bonn, Germany

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Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China

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Kotaro Satake, Tokumi Kanemura, Hiroaki Nakashima, Naoki Segi, Jun Ouchida
Dept. of Orthopaedic Surgery, Konan Kosei Hospital, Konan, Japan

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Eiji Takasawa, Yasunori Sorimachi, Yoichi Iizuka, Haku Iizuka, Hirotaka Chikuda
Department of Orthopaedic Surgery, Japanese Red Cross Maebashi Hospital, Maebashi, Japan; Department of Orthopaedic Surgery, Gunma University Graduate School of Medicine, Maebashi, Japan

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Dept of Orthopaedic Surgery, Osaka, Japan

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Bangping Qian, Hao Liu, Yong Qiu, Zezhang Zhu, Jack Cheng, TP Lam, Bobby Ng
Spine Surgery, Drum Tower Hospital of Nanjing University Medical School, Nanjing, China
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Faculty of Health Sciences, University of Ontario Institute of Technology |
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Dept of Neurosurgery, Maastricht, Netherlands |

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*Emma Jonsson, Gylfi Olafsson, Peter Fritzell, Olle Hägg, Fredrik Borgström*  
Registration & Congress Material

Registration opening times
Tuesday, 10 October 07:30–19:00
Wednesday, 11 October 07:30–18:00
Thursday, 12 October 08:00–18:00
Friday, 13 October 08:00–17:30

Service desks & self-print stations
Delegates will be able to print their name badges at several self-print stations onsite when scanning a barcode that will be sent out 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. Please note that there is no self-printing available for exhibitor name badges.

Tickets for the Network Experience @ Guinness Storehouse 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.

Other counters
Accommodation & Dublin Information
Opening times
Tuesday, 10 October 09:30-15:00
Wednesday, 11 October 09:30-17:00
Thursday, 12 October 09:30-17:00
Friday, 13 October 09:30-16:00

Onsite registration fees
Full congress registration:
EUROSPINE Members € 450
Non-Members € 800
Residents/Fellows/Basic Scientists* € 250

Pre-day courses:
Pre-day course with full congress registration € 30
Pre-day course only € 50
Residents/Fellows/Basic Scientists* € 30

Registration fees include 23% VAT and are cashed in Euro (€) only.

*To verify your resident/fellow/basic scientist status, a written confirmation from your hospital/clinic supervisor or your university/laboratory is required.
Delegates’ registration fee includes
• congress documentation (name badge, congress app incl. programme, abstract proceedings, pocket programme, certificate of attendance)
• admission to scientific sessions as well as industry organised sessions
• admission to the industry exhibition
• coffee breaks
• exhibition opening/welcome reception on Wednesday, 11 October 2017

Payment
Please note that all onsite payments need to be made in cash or via credit card (Visa, Mastercard and American Express will be accepted). Unfortunately we cannot accept traveller cheques or other credit cards.

Congress Material

Name Badges
Delegates will receive their name badge when collecting their congress documents. Please wear your name badge during all congress events, including the networking activities. Admission to scientific sessions is restricted to participants wearing their badges. 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.

How to read your name badge:
Name badges will be colour-coded as follows:

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<td><strong>PRESS</strong></td>
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Please be aware that allowing exhibiting companies to scan your barcode is optional. With scanning you allow your personal data (full name, email address, contact details – same as swapping business cards) to be forwarded to the respective company. This information may be used for commercial purposes. Permission or refusal of badge scanning remains the badge holder’s responsibility.

Don’t forget to pick up your pocket programme at the registration area in the entrance foyer.

**Congress bags**
EUROSPINE has decided to take a more green approach in 2017 and not produce any congress bags in order to save resources.
ATM/cash machine
There is no ATM onsite at the CCD. The closest one is a 5-minute walk away from the conference centre: AIB Bank Exterior Wall, Clarion Quay, North Wall Quay, North Wall, Dublin 1 (behind Spencer hotel).

Catering onsite
Coffee, tea and snacks will be served in both exhibition halls (Forum & Liffey) between 10:00–10:30 as well as 15:20–15:50.
Between 12:00–14:00, EUROSPINE Lunch Symposia and Industry Lunch Workshops take place, where food and drinks will be offered to the participants. At hours outside the official breaks, coffee, refreshments and small snacks can be purchased on a cash basis at three cash bars which are located at Forum, Liffey and Foyer Level 4. The latter offers cold snacks only. Cash catering areas are indicated as “CC” on the venue floor plans.

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

Cloakroom
Two cloakrooms (East and West Cloakroom) are available at the entrance level on both sides of the registration area. The cloakrooms are free of charge.

Currency & bank hours
The official Irish currency is Euro (€).
Banks are usually open from 10:00 to 12:30. They reopen at about 13:30 and generally close sometime between 15:00 and 17:00 Monday through Friday.

E-poster area
E-poster stations are located on Level 2. They are accessible on the main congress days until the last session of the day ends.

Electricity
The standard voltage in Ireland is 230 V, 50 Hz.
Power sockets of type G are used.

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 (Foyer Level 3).
OOT (Open Operating Theatre) can also be found at the EUROSPINE booth.

Opening hours:
Wednesday, 11 October 08:00–17:30
Thursday, 12 October 08:00–17:00
Friday, 13 October 08:00–16:00
**EUROSPINE Presence**
A smaller EUROSPINE Society presence can be found in the Forum Exhibition Hall (booth number F11, see page 107).

Opening hours:
- Wednesday, 11 October 08:00–18:30
- Thursday, 12 October 08:00–17:00
- Friday, 13 October 08:00–14:00

**Exhibition**
The exhibition is located on Ground Level and Level 1 (Forum exhibition hall and Liffey exhibition hall).

Opening hours:
- Wednesday, 11 October 08:00–18:30
- Thursday, 12 October 08:00–17:00
- Friday, 13 October 08:00–14:00

**Dublin**
Please refer to page 116 for more information about Dublin.

**First aid**
The CCD has a medical suite which is located on the basement level, Level B2.

**Future events**
The future events table can be found at Foyer Level 3.

**Health**
All visitors are advised to have valid international insurance before coming to Ireland. Citizens of the EU are insured with their EHIC (European Health Insurance Card).

**Insurance & liability**
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 cancellation insurance for their congress costs (i.e. registration fee, travel or accommodation costs).

**Internet**
Public places like airports, universities, libraries, restaurants and cafés may offer “free”-WiFi Hotspots. For information on internet access at the venue, please refer to “WIFI”, page 87.

**Language**
Irish (or Gaelic) is the national and first official language in Ireland, English being the other official language. The congress is held in English only, simultaneous translations will not be provided.
**Lead retrieval**
Some exhibiting companies may use a lead retrieval system at their booth or throughout their workshop session. If so, they may ask to scan the barcode on your name badge. When scanning your badge, they will receive the following information from you (similar to exchanging business cards): first name, last name, academic title, complete postal and e-mail address. You may, at any time, refuse this scan if you do not wish your contact details to be passed on to the respective company.

**Opening hours**
Shops in Ireland are generally open from 09:30 to 19:00 Monday to Saturday. On Sundays they typically open from 12:00 to 18:00. Supermarkets usually keep longer hours. Many convenience stores are open 24 hours.

**Parking**
Please refer to page 9 for more information.

**Smoking**
Currently, the Irish law prohibits smoking fully in the general workplace, enclosed public places, restaurants, bars, education facilities, healthcare facilities and public transport. Smoking rooms are permitted in hotels. Smoking at the CCD is strictly prohibited.

**Spine Village**
The following societies are represented at the Spine Village:

- AOSpine Europe
- Cervical Spine Research Society – Europe
- German Spine Society (DWG)
- International Group for Advancement in Spinal Science (IGASS)
- Russian Association of Spine Surgeons (RASS)
- Société Française de Chirurgie Rachidienne (SFCR)
- Turkish Spine Society
- United Kingdom Spine Societies Board

The Spine Village is located on Level 1, right outside the Liffey exhibition hall. So drop by and find out about their numerous activities!

**Tax**
Ireland has a standard Value Added Tax rate of 23%.

**Taxi**
NRC Taxi: +353 1 677 2222
Trinity Taxi: +353 1 708 2222
Airport Taxi: +353 85 172 9599

**Telephone & useful numbers**
Ireland’s international access code is +353 (00353).

Dial 112 in case of emergency to request the fire, ambulance and police services or refer to the staff at the registration area.
The Spine Times
Get your free copy of the congress’ daily newspaper, providing up-to-date information about hot topics and the latest trends, giving an insight into EUROSPINE, the Spine Society of Europe, and enriching the overall congress life as well as providing tips for activities in Dublin.

Time
Ireland’s time zone is UTC/GMT (Greenwich Mean Time).

WIFI
Free WIFI is accessible throughout the CCD.
Network: EUROSPINE2017
Password: 2017dublin
Industry Workshops
At Silony Medical we work with passion and commitment, doing everything possible to achieve the best results. We work in partnership with clinicians, solving problems, going beyond the accepted standard and looking at new trends that improve patient outcomes and best practices. Our core values – quality, integrity and teamwork – guide our work every day and with every patient.
Overview Industry Workshops

Wednesday, 11 October | 12:00–14:00

- Wicklow Hall 2A
- Liffey Hall 1
- Wicklow MR 1
- Liffey MR 2
- Wicklow MR 3
- Liffey MR 1
- Wicklow MR 4
- Liffey MR 5
- Wicklow MR 2
- Liffey MR 1
- Wicklow MR 5
- Liffey MR 2
- Wicklow MR 3
- Liffey MR 2
- Wicklow MR 4
- Liffey MR 1
- Wicklow MR 1
- Liffey MR 4
- Wicklow MR 5
- Liffey MR 3

Medtronic
DePuy Synthes
Lilly
Silony Medical
Kisco International
Globus Medical
Mainstay Medical
SAFE ORTHOPAEDICS
Spinendos
Zeiss

Thursday, 12 October | 12:00–14:00

- Wicklow Hall 2A
- Liffey Hall 1
- Wicklow MR 1
- Liffey MR 2
- Wicklow MR 3
- Liffey MR 1
- Wicklow MR 4
- Liffey MR 5
- Wicklow MR 2
- Liffey MR 1
- Wicklow MR 5
- Liffey MR 2
- Wicklow MR 3
- Liffey MR 2
- Wicklow MR 4
- Liffey MR 1
- Wicklow MR 1
- Liffey MR 4
- Wicklow MR 5
- Liffey MR 3

Medtronic
Nuvasive
Silony Medical
Zimmer Biomet
B. Braun
Joimax
Orthogem
Philips
RIWOspine
SOLAS

Friday, 13 October | 12:00–14:00

- Wicklow Hall 2A
- Liffey Hall 1
- Wicklow MR 1
- Liffey MR 2
- Wicklow MR 3
- Liffey MR 1
- Wicklow MR 4
- Liffey MR 5
- Wicklow MR 2
- Liffey MR 1
- Wicklow MR 5
- Liffey MR 2
- Wicklow MR 3
- Liffey MR 2
- Wicklow MR 4
- Liffey MR 1
- Wicklow MR 1
- Liffey MR 4
- Wicklow MR 5
- Liffey MR 3

Medtronic

E-posters
Programme overview
Tuesday
Wednesday
Thursday
Friday
Wednesday, 11 October

12:00–14:00 Lunch Workshops

**Medtronic**
Room: Wicklow Hall 2A

**Degenerative Surgery: Get it right the first time – improving outcomes with patient selection and therapy optimizers**

Improving outcomes – from patient selection to pain management
*Maarten Moens, Belgium*

Strategies to drive intraoperative efficiencies and success
*Jörg Franke, Germany*

rhBMP-2* (dibotermin alfa) – Increasing primary fusion rates whilst reducing costs
*Dominique Rothenfluh, UK*

*recombinant human Bone Morphogenetic Protein-2*

Discussion

**DISCLAIMER - PRESCRIBING INFORMATION**

**DePuy Synthes | Lilly**
Room: Liffey Hall 1

**Management of The Aging Spine: Less Invasive Surgical Considerations and Medical Treatment Options**

There are inevitable changes to the musculoskeletal system as patients age, which may lead to numerous conditions that may require treatment. Many of these conditions can cause chronic, disabling pain which can often reduce the quality of life of patients. The treatment planning for patients with spinal degeneration and fragility fractures may be long and onerous including physical therapy, bed-rest, medical therapies, and or surgery proposed on an individual basis. The decision-making process should address the timing of any surgery, surgical approach, level of interbody fusion required, correction of sagittal imbalance and the end of the construct. The seminar will also address and discuss the challenging areas of bone disorders and osteoporosis and other medical conditions that often require a co-management approach.

**The Challenges**
- Epidemiology, economic impact, morbidity & mortality
  *Christoph Siepe, Germany*

**Vertebral osteoporotic fractures & pharmacology treatments**
- Pathway for fracture prevention and impact of treatments and management
  *Opinder Sahota, UK*

**Considerations for Surgical Management**
- Percutaneous techniques and specific considerations
  *Pujan Kavakebi, Austria*
- Considerations for spinal surgery & the clinical benefits of MIS/LIS techniques in this patient group
  *Christoph Siepe, Germany*
- Spinal navigation in fracture treatment
  *Pujan Kavakebi, Austria*
Silony Medical
Room: Wicklow Meeting Room 2

**Minimal invasive posterior screw fixation – benefits and limitations in different surgical settings**

*Cornelius Wimmer, Germany*

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Kisco International
Room: Wicklow Meeting Room 3

**Indications of anterior cervical plates**

Presentation on the current treatment for cervical issues: fixation and cervical arthroplasty.
Prof. Vital and Dr. Huot will explain treatment and surgeries used for the stabilization.
Round table and discussion with the participants will take place around a workshop on sawbones.

*Jean-Marc Vital, France*
*Jean-Claude Huot, France*
At Globus we are continually exploring new and innovative solutions to promote healing in patients with musculoskeletal disorders. Our dedication to providing streamlined solutions and improved surgical procedures have made us one of the preeminent medical device manufacturers in the world.
Globus Medical
Room: Ecocem Room

REFLECT™ A Non-Fusion Technique for Adolescent Idiopathic Scoliosis

Mainstay Medical
Room: Liffey Meeting Room 1

Restorative Neurostimulation for Chronic Mechanical Low Back Pain

Restorative Neurostimulation for Chronic Mechanical Low Back Pain – ReActiv8
Jörg Franke, Germany

Chronic Mechanical Low Back Pain, the unmet clinical need
Seamus Morris, Ireland

ReActiv8-A Study Results
Chris Gilligan, USA
SAFE ORTHOPAEDICS
Room: Wicklow Meeting Room 5

Cemented Screws: Strategy or Hype?

Jean-Charles Le Huec, France
Steven Van Gaalen, Netherlands

Spinendos
Room: Wicklow Meeting Room 4

Marvelous Prosperity: SPINENDOS Full Endoscopic Spine Surgery System

Stefan Hellinger, Germany
Zainalabdin Anwar Hadi, Germany
Jiancheng Zeng, China
Chien-Min Chen, Taiwan
Initial experience with the novel robotic visualization system™ – KINEVO 900 from ZEISS in minimally invasive spine surgery

Dr. med. Andreas Korge, Schoen Clinic Munich, Germany, will share his first clinical experience with ZEISS KINEVO 900 that delivers unparalleled real-time insights. It assists surgeons in gaining greater certainty in a virtually disruption-free workflow with:

- Hands-free, **Surgeon-Controlled Robotics** to enable virtually uninterrupted work.
- **QEVO® – the unique Micro-Inspection Tool** to allow the surgeon to see hidden anatomical details.
- **Digital Hybrid Visualization** to give the freedom to choose between visualization modes.

Andreas Korge, Germany
• **Calculate** alignment parameters with preoperative planning tools.

• **Correct** the anterior and posterior column with comprehensive procedural solutions from NuVasive® with the industry’s only real-time intraoperative assessment.

• **Confirm** the restoration and preservation of global alignment postoperatively.
Lunch Workshops

**Medtronic**
Room: Wicklow Hall 2A

*When less is more – Role and impact of minimally invasive techniques for deformity correction*

Innovative minimally invasive technique for 3d correction of AIS
*Romain Dayer, Switzerland*

How to achieve sagittal balance with MIS when correcting Adult deformity?
*Neel Anand, USA*

MIS for deformity – the value perspective (economics)
*Martin Gehrchen, Denmark*

**Nuvasive**
Ecocem Room

*Expert Perspectives on Theoretical and Practical Aspects of Sagittal Alignment of the Spine*

Introduction:
Current and emerging data illustrates a direct correlation between spinal alignment and long term clinical outcomes. Specific spinal and spinopelvic parameters are key predictors in determining successful patient outcomes in all spinal procedures from single- to multi-level pathologies. Sagittal malalignment of the spine has also been associated with worsened postsurgical outcomes. For better operative planning of fusion and alignment restoration, improved knowledge of ideal fusion angles and interdependencies between upper and lower spine alignment is needed. Because spinal and spinopelvic parameters might play a role in sagittal alignment, their associations should be assessed.

NuVasive is committed to a global approach for assessing, preserving, and restoring spinal alignment in an effort to promote surgical efficiencies, lasting patient outcomes, and improved quality of life.

Learning Objectives:
1. Understand association between sagittal alignment and spinal and spinopelvic parameters
2. Learn how to calculate alignment parameters with preoperative planning tools.
3. Know the technical aspects of spinal column reconstruction with comprehensive procedural solutions with real-time intraoperative assessment.
4. Obtain an overview of the latest clinical evidence
5. Acquire tips and trick through case based discussions

*Pedro Berjano, Italy*
*Dominique Rothenfluh, UK*
*Jean-Charles Le Huec, France*
Mobi-C®
Cervical Disc Prosthesis

Thursday, October 12th
12:00 - 14:00
Liffey Meeting Room 1

«The key factors to indicate successfully an arthroplasty with Mobi-C»

Join us on the booth!

Booth F13
Silony Medical
Room: Wicklow Meeting Room 2

Strategies to approach lumbar interbody fusion:

- ALIF: benefits of and indications for anterior methods
  Markus Quante, Germany

- LLIF: Going lateral for improvement of sagittal balance
  Navin Verghese, UK

- TLIF: Achieving Lordosis step by step. Guidelines with animations & video sequences
  Henry Halm, Germany

Zimmer Biomet
Room: Liffey Meeting Room 1

The Key factors to indicate successfully an arthroplasty with Mobi-C®

- Thierry Dufour, France
- Stéphane Litrico, France
B. Braun
Room: Liffey Hall 1

Today’s challenges of a spine surgeon in complex spine and deformities
Case discussions and new perspectives

Thomas R. Blatter, Germany
Martin Repko, Czech Republic
Hisam Ariffin, Malaysia

Joimax
Room: Wicklow Meeting Room 1

Endoscopic Spinal Surgery: Experience and Evidence

Sandro Carletti, Italy
Alastair Gibson, Scotland
Menno Iprenburg, Netherlands
Stelios Kapetanakis, Greece
Guntram Krzok, Germany
Ralf Wagner, Germany
Orthogem
Room: Liffey Meeting Room 2

**Debate: This house believes that using iliac crest autograft for spinal fusion is ethically unacceptable**

For the motion  
*Bronek Boszczyk, UK*

Against the motion  
*Claudio Lamartina, Italy*

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**Philips**
Room: Wicklow Meeting Room 4

**Step into the new dimension of spine surgery**

Two leading spine surgeons will share the benefits they have experienced using advanced imaging and navigation technologies in the Philips Hybrid OR for both open and minimally invasive spine surgery. The session will be moderated by Prof. Y.P. Charles, Orthopedic Surgeon, CHRU Strasbourg, France.

Advantages of a Hybrid OR during spinal surgery  
*A. Seekamp, Germany*

First results using Philips Augmented Reality Surgical Navigation  
*K. Pedersen, Sweden*
RIWOspine
Room: Wicklow Meeting Room 3

The Concept of full-endoscopic Spine Surgery – State of the Art and latest developments

Full-endoscopic interlaminar and trans-/extraforaminal surgery of lumbar disk herniations – Technique and indications
Full-endoscopic decompression of lateral and central lumbar spinal stenosis – interlaminar and trans-/extraforaminal approach
Anterior and posterior approach for full-endoscopic surgery on the cervical spine – Opportunities and limitations
Full-endoscopic surgery on the thoracic spine – Interlaminar, extraforaminal and transthoracic procedure
Discussion

Martin Komp, Germany
Semih Oezdemir, Germany
Patrick Hahn, Germany
Sebastian Ruetten, Germany

SOLAS
Room: Wicklow Meeting Room 5

Lateral approach: Debating its place in the surgeon’s toolbox?

This workshop will provide participants with a balanced view about the relative pros and cons of lateral approach surgery compared to alternative interbody techniques regarding primary fusion of the degenerating spine and spinal deformity.

Pedro Berjano, Italy
Markus Quante, Germany
Khai Lam, UK
Mark Koszeqvory, Germany
Jim Youssef, USA
Friday, 13 October

12:00–14:00  Lunch Workshops

Medtronic
Room: Wicklow Hall 2A

Innovation in Disease Management for Trauma and Oncology Patients
The Importance of Restoration of Spinal Alignment In Fracture Treatment And How I Achieve This In My Practice
Christian Kammerlander, Germany

How Is The Development Of Enabling Technologies Driving Minimally Invasive Surgery In Trauma Treatment
Jose Angel Martinez Agüeros, Spain

Corpectomy or Minimally Invasive Surgery in Oncology Patients? Choosing the Best Treatment Option
Hanny Anwar, UK
Forum Exhibition Hall
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# List of Exhibitors (by area and number)

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## Liffey (Level 1)

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| L33 | EOS imaging                               | L34  | HumanTech Germany GmbH          |
| L35 | EIT GmbH                                 | L36  | Spinal Kinetics                 |
| L37 | icotec AG                                 | L38  | BAUI Spine                      |
| L39 | Paradigm Spine                            |      |                                 |
No.   Exhibitor
L80   Shanghai Bojin Electric Instrument & Device Co., Ltd
L81   Weigao Orthopaedic Devices Co., Ltd.
L82   Joline
L83   Creaplast Medical
L84   Beijing Fule Science & Technology Development Co., Ltd
L85   medi Gmbh & Co. KG
L86   IMPLANET
L87   Surgivisio
L88   Tecomet
L89   Integra
L90   SpineVision
L91   SI-BONE
L92   Intrinsic Therapeutics, Inc
L93   ZEISS
L94   Pfizer
L95   Tecres Spa
L96   Osimplant Tibbi Malzemeler
L97   KASIOS

Foyer Level 4
P98   Mainstay Medical
P99   Lifenet Health
P100  LfC Sp. z o. o.
P101  Orthogem

No.   Exhibitor
P102  S.H.Pitkar Orthotools Pvt. Ltd.
P103  Baxter Healthcare
P104  Artrofiks Medikal
P105  Dragon Crown Medical Co., Ltd
P106  TIDI Products, LLC
P107  Orchid Orthopedic Solutions

Spine Village
S1    German Spine Society (DWG)
S2    United Kingdom Spine Societies Board
S3    Turkish Spine Society
S4    Russian Association of Spine Surgeons (RASS)
S5    Société Française de Chirurgie Rachidienne (SFCR)
S6    International Group for Advancement in Spinal Science (IGASS)
S7    Cervical Spine Research Society – Europe
S8    AOSpine Europe

Media
M1    Wisepress Ltd.
M2    Spinal News International
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**Spine Village**

| S8  | AOSpine Europe                                                            |
| S7  | Cervical Spine Research Society - Europe                                  |
| S1  | German Spine Society (DWG)                                                |
| S6  | International Group for Advancement in Spinal Science (IGASS)             |
| S4  | Russian Association of Spine Surgeons (RASS)                              |
| S5  | Société Française de Chirurgie Rachidienne (SFCR)                         |
| S3  | Turkish Spine Society                                                     |
| S2  | United Kingdom Spine Societies Board                                      |

**Media**

| M2  | Spinal News International                                                 |
| M1  | Wisepress Ltd.                                                            |
Our special thanks to this year’s contributors:
Networking Programme

Opening and Welcome Reception
Date       Wednesday, 11 October
Time       17:30–18:30
Location   Forum exhibition hall and Liffey exhibition hall, Ground Level & Level 1

The first evening of the congress has become a nice tradition where amidst the setting of the exhibition, with snacks and refreshments, you can meet both familiar and new colleagues.

EUROSPINE Network Experience @ Guinness Storehouse
Date       Thursday, 12 October
Time       from 20:00
Location   Guinness Storehouse, St James’s Gate, Ushers, Dublin 8
Fee        € 95 (own expense)
Dress code  smart casual

Guinness Storehouse sits in the middle of Dublin, in the legendary St. James’s Gate Brewery, home of Guinness since 1759! In days gone by it was a fermentation plant, but today it has been transformed into Ireland’s number one international visitor attraction and world class event destination. It is designed in the shape of a giant pint glass and standing seven stories high – if filled, it would hold 14.3 million pints.

The evening will start with a welcome drink on level 2. After the awards ceremony, guests will have the opportunity to enjoy the experience walk before having an easy-going dinner on level 5.

Learn how to play the Bodhran, an ancient Irish drum, under the supervision of Ireland’s best Bodhran players an unforgettable experience. Enjoy the live show by the Sultans of Spine – a faculty band that will play an exclusive gig for guest of the EUROSPINE Network Experience.

We look forward to this exceptional evening and hope that you will join us for the EUROSPINE Network Experience @ Guinness Storehouse.
General Information about Dublin

Dublin is the capital and largest city of Ireland and is located on Ireland’s east coast, at the mouth of the River Liffey, its Northside and Southside being divided by the river. While its history dates back to the Viking times, the city today has an urban area population of 1,345,402. With three of Ireland’s largest universities in town, Dublin is a very young city.

The city’s character is shaped by its people. Dubliners are a friendly and mildly inquisitive lot. Rarely will you venture into a pub without somebody standing near you striking up a conversation. If you ever find yourself lost, ask somebody and more than likely you’ll be greeted with a little friendly chat. Dubliners are also known for their sharp wit and deadpan humour. Any bookshop in Ireland will sell you books of ‚Dublin Humour‘.

If you are looking for things to do in Dublin, please refer to one of the webpages below:
http://www.theccd.ie/visiting/things-to-see-and-do
http://www.visitdublin.com/

For an interactive map of Dublin, please visit http://www.theccd.ie/visiting.
At EUROSPINE we are committed to providing media organisations, journalists and press representatives with up-to-date information about our society and our international annual meeting and congress, which is taking place in Dublin in 2017.

In order to better assist the media with inquiries about press information and other media relevant content, we encourage agents to contact us via email: media@eurospine.org

We are happy to provide you with quality information, handle your interview requests, and will send you photos of the event. Please let us know, how we may assist you.

For information about our media accreditation process, please visit: www.eurospine2017.eu/press

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EUROSPINE 2018
19–21 September 2018
CCIB – Barcelona International Convention Centre, Spain

Local hosts
Luis Alvarez Galovich, Ferran Pellisé and Juan Bago

Congress organisation, sponsorship & exhibition management
Mondial Congress & Events
eurospine2018@mondial-congress.com

Scientific secretariat & society administration
EUROSPINE, the Spine Society of Europe
info@eurospine.org