NSpine innovative spine education TM



6th Major Multi-Disciplinary Conference

Porto May 31st - June 3rd

CONFERENCE PROGRAMME







| Topic: Keynotes Tuesday / Chair: Bronek Boszczyk (Germany) | | |
|--|--|------------------------|
| 8:00 | Nemours - optimising paediatric spine care | Suken Shah (USA) |
| 8:20 | Lessons of life as a spine surgeon | Max Aebi (Switzerland) |
| 8:40 | High performance teams - if the operating team were a band | Dan Resnick (USA) |
| | 9:00-9:30 Break | |



| Topic: Acute | Spine Trauma / Chair: Ian Vlok (South Africa) | |
|--------------|--|------------------------------------|
| 9:30 | Assessing the polytrauma patient with spine injury and surgical timing | Ricardo Rodrigues-Pinto (Portugal) |
| 9:45 | Ganga spine trauma imaging protocol - how CT radiation can be minimized or avoided | BT Pushpa (India) |
| 10:00 | Considerations in high velocity /energy injury mechanisms | Alex van der Horst (South Africa) |
| 10:15 | Evaluation & considerations in traumatic spine injury of the elderly | Max Aebi (Switzerland) |
| 10:30 | Update on screening criteria in cervical spine injury | Schalk Burger (South Africa) |
| 10:45 | Cervical spine immobilization (Halo, Philly vs Miami J, Traction) | Ian Zondagh (South Africa) |
| 11:00 | T-L fracture classification systems - application today | Ian Vlok (South Africa) |
| 11:15 | Understanding the mechanics and patterns of TL fractures | Max Aebi (Switzerland) |
| 11:30 | Discussion | |
| | 12:00-13:30 Break | |



| Lunch Workshop | Topic: Delegate Case Forum: Trauma Panel / | Chair: Ricardo Rodrigues-Pinto (Portugal) |
|----------------------|--|---|
| 12:20 lunch workshop | Delegate case TBD | Ricardo Rodrigues-Pinto (Portugal) |
| 12:40 lunch workshop | Delegate case TBD | Max Aebi (Switzerland) |
| 13:00 lunch workshop | Delegate case TBD | Alex van der Horst (South Africa) |
| | 17·00-13·30 Broad | |



| Topic: Cervica | al Trauma 1 / Chair: Max Aebi (Switzerland) | |
|----------------|--|------------------------------|
| 13:30 | Diagnosing and managing vertebral artery dissection in cervical spine trauma | Schalk Burger (South Africa) |
| 13:45 | Spinal injuries in professional sports – management and return to play | Johan Davis (South Africa) |
| 14:00 | Cervical reduction - tips and tricks | Nick Kruger (South Africa) |
| 14:15 | Cervical traction table – perfecting closed cervical reduction | Sanesh Miseer (South Africa) |
| 14:30 | The use of anterior only surgery in bifacet- and unifacet dislocation | Nick Kruger (South Africa) |
| 14:45 | Practicality of skeletal traction in low income countries | Sanesh Miseer (South Africa) |
| 15:00 | Neglected cervical fractures and dislocations | Johan Davis (South Africa) |
| 15:15 | Complex subaxial fractures | David Welsh (South Africa) |
| 15:30 | Discussion | |
| | 16:00-16:30 Break | |



| in extreme cases / Chair: Alex van der Horst (South Africa) | | |
|---|---|-----------------------------------|
| 16:30 | Case discussion - Neurologically intact dens dislocation. | Ian Vlok (South Africa) |
| 16:45 | Case discussion - Gunshot neck in child - time sensitive surgery and intervention | Sanesh Miseer (South Africa) |
| 17:00 | Case discussion - Cervical instability after dogbite | Ian Vlok (South Africa) |
| 17:15 | Case discussion - C2 Physeal injury in a 4 year old | Sanesh Miseer (South Africa) |
| 17:30 | Case discussion - C2 fracture after helicopter accident - conservative or active intervention | Alex van der Horst (South Africa) |
| 17:45 | Case discussion - Fall from a tree - Ociipito-cervical dislocation | Ian Vlok (South Africa) |
| | 18·00 Close | |







| Topic: Early | Onset Scoliosis 1 / Chair: Laurel Blakemore (USA) | |
|--------------|---|------------------------------|
| 9:30 | Classification of EOS and Growth Friendly Strategies | Laurel Blakemore (USA) |
| 9:45 | Assessment of maturation in the management of EOS and AIS | Kenneth Cheung (Hong Kong) |
| 10:00 | Casting - how I do it and when | Ralf Stücker (Germany) |
| 10:15 | Bracing vs casting vs growth modulation surgery - my experience | Peter Newton (USA) |
| 10:30 | Use of VEPTR in the very young child | Ralf Stücker (Germany) |
| 10:45 | Active surgical growth modulation technique in my practice | René Castelein (Netherlands) |
| 11:00 | My long-term experience with MCGR | Kenneth Cheung (Hong Kong) |
| 11:15 | My long-term experience with MCGR | Ralf Stücker (Germany) |
| 1:30 | Discussion | |
| | 12:00-13:30 Break | |



Lunch Workshop Topic: NSpine Lunch Symposium: AIS decision making and emerging technology Chair: Nuno Alegrete (Portugal)

| 12:20 lunch workshop | Selecting between bracing and Apifix | Nuno Alegrete (Portugal) |
|----------------------|--|--------------------------|
| 12:40 lunch workshop | Apifix - evidence, technique and my experience | Biren Desai (Germany) |
| 13:00 lunch workshop | VBT - Apifix - Fusion / combinations and decision making | Baron Lonner (USA) |
| | 12:00-13:30 Break | |



Topic: Early Onset Scoliosis 2 / Chair: Peter Newton (USA)

| The role and technique of Halo traction in my practice | Ralf Stücker (Germany) |
|---|--|
| Passive surgical growth modulation techniques in my practice | Peter Newton (USA) |
| Challenges in instrumenting the young child | Jwalant Mehta (UK) |
| Revisions in growth modulation surgery | Laurel Blakemore (USA) |
| Muscle splitting techniques in syndromic EOS deformity correction of young children | Areena D'Souza (Germany) |
| VBT - decision making in young children | Stefan Parent (Canada) |
| Is there a role for converting growth modulation to VBT | Laurel Blakemore (USA) |
| The role of early definitive fusion without growth modulation | Firoz Miyanji (Canada) |
| Discussion | |
| 16:00-16:30 Break | |
| | Passive surgical growth modulation techniques in my practice Challenges in instrumenting the young child Revisions in growth modulation surgery Muscle splitting techniques in syndromic EOS deformity correction of young children VBT - decision making in young children Is there a role for converting growth modulation to VBT The role of early definitive fusion without growth modulation Discussion |



Topic: Adolescent Idiopathic Scoliosis 1 / Chair: Per Trobisch (Germany)

| Topic. Adole | escent latopathic scottosis i / Chair. Fer Hobisch (derinally) | |
|--------------|--|------------------------------|
| 16:30 | Natural history of AIS - when is "no treatment" an option / what curve can be accepted | René Castelein (Netherlands) |
| 16:45 | Traction radiograph in assessing flexibility in AIS | Keyur Akbari (India) |
| 17:00 | Shoulder balance and structural proximal curves - considerations for surgical strategy | Laurel Blakemore (USA) |
| 17:15 | Selective thoracic fusion for AIS - when it works | Michael Ruf (Germany) |
| 17:30 | Selective lumbar fusion for AIS - when it works | René Castelein (Netherlands) |
| 17:45 | Discussion | |
| | 18:00 Close | |







| Topic: Paediatric Cervical Deformity / Chair: Firoz Miyanji (Canada) | | |
|--|---|-------------------------|
| 9:30 | Understanding early development of the craniocervical spine as basis for congenital deformity | G Balamurali (India) |
| 9:45 | Surgical strategies for complex craniocervical malformations | Suken Shah (USA) |
| 10:00 | Surgical considerations in complex subaxial congenital malformations | Michael Ruf (Germany) |
| 10:15 | Challenges in paediatric post-radiation / intraspinal surgery kyphosis | Suken Shah (USA) |
| 10:30 | Challenges in congenital cervico-thoracic deformity | Firoz Miyanji (Canada) |
| 10:45 | Managing paediatric cervical deformity in spinal infections | Rob Dunn (South Africa) |
| 11:00 | Technical pearls in anterior paediatric cervical spine surgery | Michael Ruf (Germany) |
| 11:15 | Technical pearls in posterior paediatric cervical spine surgery | Firoz Miyanji (Canada) |
| 11:30 | Discussion | |

12:00-13:30 Break



| Topic: Spondylolysis and Olisthesis | / Chair: Dietrich Schlenzka | (Finland) |
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| TODIC: Sponaviolysis and Onstriesis | / | Fillalia |

| 13:30 | Pathophysiology of spondylolysis and olisthesis revisited | Dietrich Schlenzka (Finland) |
|-------|---|------------------------------|
| 13:45 | Minimally Invasive Pars Repair Options | Matteo Pejrona (Italy) |
| 14:00 | Spondylolysis in Elite Athletes | Robert Dunn (South Africa) |
| 14:15 | Outcomes of Non-Surgical Treatment of Pars Fractures in Adolescents | Dietrich Schlenzka (Finland) |
| 14:30 | Evolving concepts in the management of spondylolisthesis | Dan Resnick (USA) |
| 14:45 | Mid-grade spondylolisthesis in the child - treatment options | Robert Dunn (South Africa) |
| 15:00 | High grade spondylolisthesis strategies | Suken Shah (USA) |
| 15:15 | X-ALIF in lateral spondylolisthesis surgery | Gergely Bodon (Germany) |
| 15:30 | Discussion | |



16:00-16:30 Break

Topic: Dysraphic / Congenital / Syndromic Paediatric Deformity 1 / Chair: Suken Shah (USA)

| 16:30 | Anatomical changes in vertebra in dystrophic scoliosis due to neurofibromatosis and its implications on surgical safety | BT Pushpa (India) |
|-------|---|--------------------------|
| 16:45 | Thoracic meningocele in patients with NF 1 | Ashraf Elsayed (UK) tbc |
| 17:00 | Neurofibromatosis and spinal deformity - surgical strategies | Suken Shah (USA) |
| 17:15 | Scoliosis correction in myelomeningocele children | Areena D'Souza (Germany) |
| 17:30 | Update on cause and treatment of Chiari Malformations | Paulo Pereira (Portugal) |
| 17:45 | Discussion | |
| | 18:00 Close | |







| 9:30 | Evaluating adult deformity patients for surgical correction | Michael Selby (Australia) |
|-------|--|---------------------------|
| 9:45 | Corrective posterior lumbar osteotomy techniques in degenerative adult deformity | Matteo Pejrona (Italy) |
| 10:00 | Optimising lordosis through L5/S1 anterior reconstruction - technical aspects | Daniel Chan (Singapore) |
| 10:15 | Advanced lateral access deformity correction | Michael Selby (Australia) |
| 10:30 | Open anterior thoracolumbar reconstruction in complex adult deformity | Daniel Chan (Singapore) |
| 10:45 | Vertebral body tethering in adult degenerative scoliosis | Baron Lonner (USA) |
| 11:00 | Predicitive parameters and outcome in adult deformity surgery | Matteo Pejrona (Italy) |
| 11:15 | Single position surgery in adult deformity | Gergely Bodon (Germany) |
| 11:30 | Discussion | |



| Lunch Workshop Topic: NSpine Lunch Symposium: TB related D | eformity |
|--|----------|
| Chair: Daniel Chan (Singapore) | |

| 12:20 lunch workshop | Challenging TB deformity cases from my practice | Kenneth Cheung (Hong Kong) |
|----------------------|---|----------------------------|
| 12:40 lunch workshop | Challenging TB deformity cases from my practice | Rob Dunn (South Africa) |
| 13:00 lunch workshop | Challenging TB deformity cases from my practice | G Balamurali (India) |
| | | |



Topic: Adult Deformity 2 / Chair: Michael Selby (Australia)

| 13:30 | Anaesthetic aspects in preparing for adult deformity surgery | Robert Nowicki (UK) |
|-------|--|------------------------------|
| 13:45 | Surgical strategies in correcting thoracic kyphosis | Michael Selby (Australia) |
| 14:00 | Correction strategies in ankylosing spondylitis | Michael Ruf (Germany) |
| 14:15 | Challenging deformity case from my practice | René Castelein (Netherlands) |
| 14:30 | Subaxial osteotomy in severe cervical kyphosis | Abolfazl Rahimizade (TBC) |
| 14:45 | Combined anterior-posterior correction of cervical and cervicothoracic deformity | Michael Ruf (Germany) |
| 15:00 | Pelvic instrumentation and "bedrock" sacroliliac fusion in adult deformity | Michael Selby (Australia) |
| 15:15 | Managing the new generation of blood thinners in spine surgery | Robert Nowicki (UK) |
| 15:30 | Discussion | |
| | 16:00-16:30 Break | |



Topic: Adult Deformity 3 / Chair: Matteo Pejrona (Italy)

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|-------|--|----------------------------|
| 16:30 | TLIF and PLIF options in adult degenerative deformity correction | Nuno Neves (Portugal) |
| 16:45 | All posterior vertebrectomy in adult deformity correction | Robert Dunn (South Africa) |
| 17:00 | Optimising rod patterns to avoid failure in adult deformity | Matteo Pejrona (Italy) |
| 7:15 | Salvage strategies in proximal junctional failure | Michael Selby (Australia) |
| 7:30 | Complications in adult deformity surgery | Matteo Pejrona (Italy) |
| 17:45 | Discussion | |
| | 18:00 Close | |







| Topic: Cervic | cal Degeneration and Arthroplasty / Chair: Paul Thorpe (UK) | |
|---------------|---|-------------------------|
| 9:30 | Overview of biomechanical concepts in disc arthroplasty and emerging technology | Paul Thorpe (UK) |
| 9:45 | Surgical pearls in cervical disc arthroplasty | Dan Resnick (USA) |
| 10:00 | Review of evidence and personal experience for multi-level disc arthroplasty | Nuno Neves (Portugal) |
| 10:15 | Cervical arthroplasty in athletes | Paul Thorpe (UK) |
| 10:30 | Decision making between cervical arthroplasty and fusion | Dan Resnick (USA) |
| 10:45 | The case for ACDF over TDR | Ciaran Bolger (Ireland) |
| 11:00 | Posterior cervical techniques in radiculopathy | Jake Timothy (UK) |
| 11:15 | Revision surgery in cervical arthroplasty | Paul Thorpe (UK) |
| 11:30 | Discussion | |



Topic: Thoracic Surgical Techniques / Chair: Ciaran Bolger (Ireland)

12:00-13:30 Break

| Topic. Thoracic Jurgical Techniques / Chair. Claran Doiger (Teland) | | |
|---|--|--------------------------|
| 13:30 | Retropleural thoracic disc surgery | Ciaran Bolger (Ireland) |
| 13:45 | Mini-open thoracic spine procedures | Jake Timothy (UK) |
| 14:00 | Techniques of crossing and splitting the diaphragm in reconstructive spine surgery | Daniel Chan (Singapore) |
| 14:15 | Anterior access to the cervicothoracic junction | Jake Timothy (UK) |
| 14:30 | Managing OPLL and related ossification condition in the thoracic spine | G Balamurali (India) |
| 14:45 | Posterior costotransversectomy techniques | Paulo Pereira (Portugal) |
| 15:00 | Spinal epidural abscess management | G Balamurali (India) |
| 15:15 | Spinal epi / subdural haematoma management | Ciaran Bolger (Ireland) |
| 15:30 | Discussion | |
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| Topic: Cervi | cal Myelopathy / Chair: Dan Resnick (USA) | |
|--------------|---|----------------------------|
| 16:30 | Anterior approaches to the cervical spine – from C1 to T1 | Kenneth Cheung (Hong Kong) |
| 16:45 | Anterior surgical strategies in cervical myelopathy | Dan Resnick (USA) |
| 17:00 | Posterior surgical strategies in cervical myelopathy | Kenneth Cheung (Hong Kong) |
| 17:15 | Processus spinous splitting limited width laminectomy | Gergely Bodon (Germany) |
| 17:30 | Treatment options in basilar invagination | G Balamurali (India) |
| 17:45 | Discussion | |
| | 18:00 Close | |



| Topic: Keynotes Wednesday / Chair: Laurel Blakemore (USA) | | | |
|---|---|------------------------------|--|
| 8:00 | My life in spinal cord injuries - where we came from and what is on the horizon | Harvinder Chhabra (India) | |
| 8:20 | Lessons of life as a spine surgeon | Réne Castelein (Netherlands) | |
| 8:40 | Lessons of life as a spine surgeon | Kenneth Cheung (Hong Kong) | |
| | 9:00-9:30 Break | | |



| Topic: Cervic | al Trauma 2 / Chair: Johan Davis (South Africa) | |
|---------------|--|-----------------------------------|
| 9:30 | Practicalities of managing combined head and spine trauma | Dan Resnick (USA) |
| 9:45 | Atlas fractures - surgical strategies, with or without C2 | Johan Davis (South Africa) |
| 10:00 | Odontoid fractures - decision making and surgical techniques | Sanesh Miseer (South Africa) |
| 10:15 | Odontoid fractures in the elderly | Johan Davis (South Africa) |
| 10:30 | Neglected hangman fractures | Abolfazl Rahimizade (Iran) |
| 10:45 | Flouroscopically assisted percutaneous C1-C2 transarticular fixation in odontoid fractures | Diogo Catelas (Portugal) |
| 11:00 | Condylar fractures | Schalk Burger (South Africa) |
| 11:15 | Cervicothoracic traumatic injuries – surgical tips and tricks | Alex van der Horst (South Africa) |
| 11:30 | Discussion | |
| | 12:00-13:30 Break | |



| Lunch Workshop Topic: Delegate Case Forum: Deformity Panel / Chair: Michael Selby (Australia) | | |
|---|-------------------|---------------------------|
| 12:20 lunch workshop | Delegate case TBD | Nuno Alegrete (Portugal) |
| 12:40 lunch workshop | Delegate case TBD | Masood Shafafy (UK) |
| 13:00 lunch workshop | Delegate case TBD | Michael Selby (Australia) |
| | 17:00-13:30 Break | |



| Topic: Paedia | tric Spine Trauma / Chair: Laurel Blakemore (USA) | |
|---------------|---|------------------------------|
| 13:30 | Cervical spine clearance in paediatric trauma patients | Alex Disch (Germany) |
| 13:45 | When (and how) to immobilise or apply traction in paediatric cervical spine trauma patients | Laurel Blakemore (USA) |
| 14:00 | Epidemiology of paediatric cervical spine injuries | Nuno Neves (Portugal) |
| 14:15 | My experience and strategies in managing spinal cord injury in the child | Rob Dunn (South Africa) |
| 14:30 | My experience and strategies in managing spinal cord injury in the child | Randal Betz (USA) |
| 14:45 | C2 synchondrosis injury in preschool children | Abolfazl Rahimizade (Iran) |
| 15:00 | Surgical strategies in paediatric cervical spine injuries | Johan Davis (South Africa) |
| 15:15 | Paediatric thoracolumbar trauma - diagnosis, injury patterns and treatment options | Sanesh Miseer (South Africa) |
| 15:30 | Discussion | |
| | 16:00-16:30 Break | |



| Topic: Traum | na Case Discussion Forum: Lumbar fractures / C | hair: Ian Zondagh (South Africa) |
|--------------|---|----------------------------------|
| 16:30 | Case discussion - challenging case from my practice | Nuno Neves (Portugal) |
| 16:45 | Case discussion - challenging case from my practice | Philip Horsting (Netherlands) |
| 17:00 | Case discussion - L5S1 gunshot | Ian Zondagh (South Africa) |
| 17:15 | Case discussion - challenging case from my practice | Alex Disch (Germany) |
| 17:30 | Case discussion - Lumbar intracanal bullet | David Welsh (South Africa) |
| 17:45 | Case discussion - thoracolumbar spondyloptosis | Sanesh Miseer (South Africa) |
| | 18:00 Close | |



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| Topic: Adolescent Idiopathic Scoliosis 2 / Chair: Suken Shah (USA) | | |
|--|---|-------------------------------|
| 9:30 | Fine-tuning end-vertebra balance and sagittal profile in AIS - surgical pearls | Suken Shah (USA) |
| 9:45 | Selective anterior fusion in AIS | Philip Horsting (Netherlands) |
| 10:00 | Vertebral Body Tethering in Adolescent Idiopathic scoliosis with more than 2 year follow-up - systematic review and meta-analysis | Aurélien Courvoisier (France) |
| 10:15 | VBT - decision making in teenagers | Baron Lonner (USA) |
| 10:30 | Borderline indications for VBT | Aurélien Courvoisier (France) |
| 10:45 | Alternative indications for anterior non-fusion procedures | Randal Betz (USA) |
| 11:00 | Reasons for VBT failure | Per Trobisch (Germany) |
| 11:15 | Revision strategies in construct failures and overcorrection after VBT | Peter Newton (USA) |
| 11:30 | Discussion | |
| | 12-00 12-20 Dwarl | |



| Lunch Workshop Topic: NSpine Lunch Symposium: VBT / Chair: Aurélien Courvoisier (France) | | |
|--|--|------------------------------|
| 12:20 lunch workshop | Outlook on motion preserving scoliosis surgery - where will we be in the next decade | Per Trobisch (Germany) |
| 12:40 lunch workshop | Requirements for the ideal motion preserving scoliosis implant | Stefan Parent (Canada) |
| 13:00 lunch workshop | Challenges in implementing novel scoliosis implants | René Castelein (Netherlands) |
| 12:00 12:20 PI | | |



| Topic: Adole | scent Idiopatnic Scollosis 3 / Chair: Steran Parent (Canada) | |
|--------------|---|---------------------------|
| 13:30 | Technical steps in mini-open thoracic and lumbar VBT | Michael Selby (Australia) |
| 13:45 | Thoracoscopic technique and limits for VBT | Firoz Miyanji (Canada) |
| 14:00 | Effect of non-fusion anterior scoliosis correction on thoracic and lumbar sagittal parameters in AIS - is it detrimental? | Keyur Akbari (India) |
| 14:15 | Hybrid VBT-fusion constructs | Baron Lonner (USA) |
| 14:30 | Retrospective matched cohort study in non-fusion anterior scoliosis correction | Keyur Akbari (India) |
| 14:45 | Incidental spine and extraspinal anomalies in routine MRI spine of patients with AIS | BT Pushpa (India) |
| 15:00 | Is there a longterm spinal cord perfusion concern in multilevel segmental ligation | Firoz Miyanji (Canada) |
| 15:15 | Thromboprophylaxis in paediatric deformity surgery - evidence, risks, benefits | Jwalant Mehta (UK) |
| 15:30 | Discussion | |
| | 16:00 16:20 Proals | |



| Topic: Adolescent Idiopathic Scoliosis 4 / Chair: Per Trobisch (Germany) | | |
|--|--|-------------------------------|
| 16:30 | Novel semi-rigid posterior AIS correction with composite implants | Areena D'Souza (Germany) |
| 16:45 | Reduction techniques in stiff AIS curves | Baron Lonner (USA) |
| 17:00 | Vertebral column resection in kyphoscoliosis correction - how I do it | Jwalant Mehta (UK) |
| 17:15 | Screw / hook placement and rod rotation / translation in deformity correction - how I do it / technique and patterns | Aurélien Courvoisier (France) |
| 17:30 | Technical steps in reconstructive posterior concave costoplasty | Areena D'Souza (Germany) |
| 17:45 | Discussion | |
| | 18:00 Close | |







| Topic: Dysraphic / Congenital / Syndromic Paediatric Deformity 2 / Chair: Ralf Stücker (Germany) | | |
|--|--|------------------------------|
| 9:30 | Chest and spine growth and consequences of early fusion | Laurel Blakemore (USA) |
| 9:45 | Sacral agenesis - treatment strategies | Jwalant Mehta (UK) |
| 10:00 | Managing congenital lumbar kyphosis in young children | Ralf Stücker (Germany) |
| 10:15 | Challenges in hemivertebra resection - strategy and timing | Masood Shafafy (UK) |
| 10:30 | Managing complex combined dysraphism and scoliosis | Rob Dunn (South Africa) |
| 10:45 | Managing rigid thoracic kyphosis in ambulatory children | Stefan Parent (Canada) |
| 11:00 | Challenges in managing conjoined ribs in congenital spinal deformity | Firoz Miyanji (Canada) |
| 11:15 | Is there a role for growth modulation in congenital or dysraphic deformity | René Castelein (Netherlands) |
| 11:30 | | |





| Lunch Workshop | Topic: NSpine Lunch Symposium: Early Childhood Fusion / | Chair: Ralf Stücker (Germany) |
|----------------------|--|-------------------------------|
| 12:20 lunch workshop | Is there a role for release and growth modulation of congenital fusions in the young child | Firoz Miyanji (Canada) |
| 12:40 lunch workshop | Longterm effects of early childhood fusion procedures | Michael Ruf (Germany) |
| 13:00 lunch workshop | Achieving optimal spine length in young children with severe spinal deformity | Ralf Stücker (Germany) |
| | 12:00-13:30 Break | |



| Topic: Neuro | muscular Scoliosis / Chair: Masood Shafafy (UK) | |
|--------------|--|--------------------------|
| 13:30 | Neuromuscular scoliosis in muscular dystrophy and spinal muscular atrophy - surgical timing and strategies | Masood Shafafy (UK) |
| 13:45 | Semi-flexible scoliosis correction in mobile cerebral palsy | Areena D'Souza (Germany) |
| 14:00 | Spine surgery challenges in major curves in cerebral palsy | Michael Ruf (Germany) |
| 14:15 | Advanced techniques and the use of halo-pelvic traction in large magnituge curves | Masood Shafafy (UK) |
| 14:30 | When to instrument to the pelvis or lumbar spine in neuromuscular scoliosis | Michael Ruf (Germany) |
| 14:45 | Neurosurgical techniques in managing spasticity | G Balamurali (India) |
| 15:00 | Combined deformity correction and dorsal rhizotomy in cerebral palsy | Masood Shafafy (UK) |
| 15:15 | Expansile thoracoplasty for thoracic hyperlordosis in cerebral palsy | Areena D'Souza (Germany) |
| 15:30 | Discussion | |
| | 16:00-16:30 Break | |



| Topic: Dysraphic / Congenital / Syndromic Paediatric Deformity 3 / Chair: Kenneth Cheung (Hong Kong) | | |
|--|---|------------------------------|
| 16:30 | Paediatric spinal deformity correction in bone formation disorders | René Castelein (Netherlands) |
| 16:45 | Paediatric deformity in achondroplasia - treatment options and strategies | Stefan Parent (Canada) |
| 17:00 | Role of Combined Selective Dorsal rhizotomy and posterior correction of spastic neuromuscular scoliosis | Masood Shafafy (UK) |
| 17:15 | Surgical challenges in uncommon syndromic spinal deformity | Patrick Kiely (Ireland) |
| 17:30 | Surgical techniques in Scheuermann kyphosis | Stefan Parent (Canada) |
| 17:45 | Discussion | |
| | 18:00 Close | |







| Topic: Spina | l Cord Injury 1 / Chair: Ricardo Rodrigues-Pinto (Portugal) | |
|--------------|---|---|
| 9:30 | Medical management of SCI – current guidelines and evidence | Ian Vlok (South Africa) |
| 9:45 | Minimalism but comprehensiveness in Spinal Cord Injury Management | Harvinder Chhabra (India) |
| 10:00 | The role of the MRI in Acute SCI | Doris Maier (Germany) |
| 10:15 | Clinical assessment in acute spinal cord injury | Ricardo Rodrigues-Pinto (Portugal) |
| 10:30 | Biomarkers in spinal cord injury research - an unmet need | Lukas Grassner / Doris Maier (Germany) |
| 10:45 | Timing of surgery in spinal cord injury | Harvinder Chhabra (India) |
| 11:00 | Expansile duroplasty for acute spinal cord injury | David Welsh (South Africa) |
| 11:15 | Acute traumatic central cord syndrome without associated cervical spine fracture: Conservative Vs Surgical Management | Harvinder Chhabra (India) |
| 11:30 | Discussion | |
| | 12:00-13:30 Break | |



| Topic: Spinal Cord Injury 2 / Chair: Doris Maier (Germany) | | | |
|--|--|----------------------------|--|
| 13:30 | Role of EARLY rehabilitation in improving outcome in acute SCI | Doris Maier (Germany) | |
| 13:45 | Management of the paralytic abdomen in acute SCI | Harvinder Chhabra (India) | |
| 14:00 | Bedsores in SCI – economic impact | Nick Kruger (South Africa) | |
| 14:15 | Management of complex decubital ulcers in spinal cord injury | Doris Maier (Germany) | |
| 14:30 | Optimising hand and arm function in tetraplegia | Harvinder Chhabra (India) | |
| 14:45 | SCI - considerations for return to sports | Doris Maier (Germany) | |
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15:00

15:15

15:30

| Topic: Spinal Cord I | njury 3 / Chair: Harvinder Chhabra (India) | |
|----------------------|--|----------------------------|
| 16:30 | Medicolegal challenges in SCI | Nick Kruger (South Africa) |

Advances in sexual rehabilitation in SCI

Discussion

Current developments in spinal cord stimulation

| 16:45 | Postraumatic spinal deformity - treatment strategies | Ricardo Rodrigues-Pinto (Portugal) |
|-------|--|------------------------------------|
| 17:00 | Prevention and management of posttraumatic syringomyelia | Paulo Pereira (Portugal) |
| 17:15 | Managing spasticity following spinal cord injuries | Harvinder Chhabra (India) |
| 17:30 | End of life in SCI | Nick Kruger (South Africa) |
| 17:45 | Discussion | |
| | 18:00 Close | |

16:00-16:30 Break

Harvinder Chhabra (India)

TBD







| Topic: Lumbar Degeneration and Arthroplasty / Chair: Kenneth Cheung (Hong Kong) | | |
|---|---|----------------------------|
| 9:30 | Pathophysiology of lumbar intervertebral disc degeneration, what have I learnt in the past 20 years | Kenneth Cheung (Hong Kong) |
| 9:45 | Advanced imaging in disc degeneration | BT Pushpa (India) |
| 10:00 | Is preoperative fat infiltration in lumbar spine muscles associated with worse clinical outcome after lumbar interbody fusion | Tiago Barbosa (Portugal) |
| 10:15 | Minimally invasive nucleus replacement | Michael Hess (Germany) |
| 10:30 | Theatre set-up and midline arthroplasty technique | Biren Desai (Germany) |
| 10:45 | Update on evidence and long-term follow-up for lumbar disc replacement | Nuno Neves (Portugal) |
| 11:00 | Hybrid and multi-level solutions in lumbar disc arthroplasty | Biren Desai (Germany) |
| 11:15 | OLIF in anterior reconstruction | Kenneth Cheung (Hong Kong) |
| 11:30 | Discussion | |
| | 17:00-13:30 Rreak | |



| Topic: G-Spi | ine Emerging Technology / Chair: Biren Desai (Germany) | |
|--------------|--|---------------------------|
| 13:30 | Advances in 3D printed cage design to facilitate osteoinduction | Robert Schultz (Aesculap) |
| 13:45 | Advances in edplate design in osteoconductice interbody fusion devices | Syntropiq (TBD) |
| 14:00 | Carbon composite technology in spinal implants | Coligne (TBD) |
| 14:15 | Advances in posterior dynamic fixation | Surgalign (TBD) |
| 14:30 | Surgify smart bone cutting technology | Surgify (TBC) |
| 14:45 | Smart vacuum poisitioning in spine surgery | Schuchmann (TBC) |
| 15:00 | Our vision of spine surgery in the next decade | (TBC) |
| 15:15 | Improving pedicle screw purchase with woven anchors | Woven (TBC) |
| 15:30 | Discussion | |
| | 16·00-16·30 Break | |



| Topic: G-Spine Emerging Techr | ology | | |
|-------------------------------|---------|------|--|
| 16:30 | | | |
| 16:45 | | | |
| 17:00 | | | |
| 17:15 | | | |
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| 17:45 | | | |
| | 18:00 C | lose | |





| Topic: Keynotes Thursday | | |
|--------------------------|--|------------------------------|
| 8:00 | Solutions to spine care in severely resource limited environment | Ian Vlok (South Africa) |
| 8:20 | Lessons of life as a spine surgeon | Randal R Betz (USA) |
| 8:40 | Lessons of life as a spine surgeon | Dietrich Schlenzka (Finland) |
| | 9·00-9·30 Break | |



| Topic: Thorac | columbar - Pelvic Trauma 1 / Chair: Ian Zondagh (South Africa) | |
|----------------------|---|-----------------------------------|
| 9:30 | Effective bracing in T-L and Lumbar fractures | Ian Zondagh (South Africa) |
| 9:45 | Less invasive posterior reduction and stabilisation in TL fractures | Stefan Hauck (Germany) |
| 10:00 | Anterior column reconstruction in trauma - when and how | Nick Kruger (South Africa) |
| 10:15 | Thoracoscopic spondylodesis of fresh unstable thoracolumbar spinal fractures | Stefan Hauck (Germany) |
| 10:30 | Single-stage Posterior Reconstruction of Unstable Thoracolumbar Burst Fractures | Bruno Santiago (Portugal) |
| 10:45 | Dealing with traumatic dural disruption and neural tissue prolapse in thoracolumbar fractures | David Welsh (South Africa) |
| 11:00 | Delayed presentation of spinal trauma | Alex van der Horst (South Africa) |
| 11:15 | Update on vertebral augmentation techniques in trauma | Stefan Hauck (Germany) |
| 11:30 | Discussion | |
| | 12:00-13:30 Break | |



| Lunch Workshop | Topic: Delegate Case Forum: | Degenerative Panel / | Chair: Paulo Pereira (Portugal) |
|----------------------|-----------------------------|----------------------|---------------------------------|
| 12:20 lunch workshop | Delegate case TBD | | Marcio Ramalha Cunha (Brazil) |
| 12:40 lunch workshop | Delegate case TBD | | Paulo Pereira (Portugal) |
| 13:00 lunch workshop | Delegate case TBD | | Ciaran Bolger (Ireland) |
| | | 12:00-13:30 Break | |



| 13:45 | Sepsis in traumatic spinal injuries - management strategies | |
|-------|--|------------------------------|
| | Sepsis in traumatic spinal injunes - management strategies | David Welsh (South Africa) |
| 14:00 | Acute and delayed projectile injuries to the spine: Management challenges and lessons learnt | Ian Vlok (South Africa) |
| 14:15 | Spinal fractures in ankylosing spondylitis | Sanesh Miseer (South Africa) |
| 14:30 | Insufficiency fractures | Schalk Burger (South Africa) |
| 14:45 | Managing combined spine and pelvic injuries | Stefan Hauck (Germany) |
| 15:00 | Lumboopelvic dissociation: indications and techniques for fixation | Sanesh Miseer (South Africa) |
| 15:15 | Traumatic sacral fractures | Ian Zondagh (South Africa) |
| 15:30 | Discussion | |



| Topic: Trauma Case Discussion Forum: Thoracic Fractures / Chair: Alex van der Horst (South Africa) | | |
|--|---|-----------------------------------|
| 16:30 | Case discussion - challenging case from my practice | Stefan Hauck (Germany) |
| 16:45 | Case discussion - challenging case from my practice | Bruno Santiago (Portugal) |
| 17:00 | Case discussion - Long level coronal thoracic fractures | Johan Davis (South Africa) |
| 17:15 | Case discussion -Thoracic instrumentation in severe obesity | Alex van der Horst (South Africa) |
| 17:30 | Case discussion - High thoracic fracture that is neurologically incomplete - go long? | Ian Vlok (South Africa) |
| 17:45 | Case discussion - post-traumatic kyphosis in thoracic fractures | David Welsh (South Africa) |
| | 18:00 Close | |





6th Major Multi-Disciplinary Conference Porto May 31st - June 3rd



| Topic: Neuromonitoring 1 / Chair: Winfried Roth (Germany) | | |
|---|--|-------------------------------|
| 9:30 | Neuromonitoring in spine surgery - biophysical principles of MEP and SSEP | Fa Langer (Germany) |
| 9:45 | Anaesthetic considerations in neuromonitoring cases - optimising anaesthetic for signalintensity | Winfried Roth (Germany) |
| 10:00 | Advanced neuromonitoring techniques in spine surgery | Fa Langer (Germany) |
| 10:15 | Neuromonitoring in the very young child - is it different? | Fa Langer (Germany) |
| 10:30 | Neuromonitoring in patients with epilepsie - what is the risk? | Fa Langer (Germany) |
| 10:45 | Epidural analgesia and neuromonitoring | Fabian Geiselbrecht (Germany) |
| 11:00 | Bite injury in use of MEP monitoring | Robert Nowicki (UK) |
| 11:15 | Intraoperative Neuromonitoring of pelvic nerves | Fa Langer (Germany) |
| 11:30 | Discussion | |
| | 17·00-13·30 Broak | |



Lunch Workshop Topic: Fa Langer Lunch Symposium: Neuromonitoring Incidents Chair: Patrick Kiely (Ireland)

| 12:20 lunch workshop | Strategies to reduce neurologic injury during deformity correction surgery | Kenneth Cheung (Hong Kong) |
|----------------------|--|----------------------------|
| 12:40 lunch workshop | Interpreting IONM alerts during surgery for AIS | Randal Betz (USA) |
| 13:00 lunch workshop | Surgical team actions in neuromonitoring signal loss | Patrick Kiely (Ireland) |
| | 12:00 12:20 Proal | |



Topic: Neuromonitoring 2 / Chair: Randal Betz (USA)

| 13:30 | Identifying neurological high risk deformity cases | Kenneth Cheung (Hong Kong) |
|-------|--|----------------------------|
| 13:45 | Surgical strategy in the child with spine deformity and neurological compromise | Patrick Kiely (Ireland) |
| 14:00 | MEP loss - how low can you go ? | Randal Betz (USA) |
| 14:15 | Conducting wake-up tests for monitoring loss | Robert Nowicki (UK) |
| 14:30 | Surgical decision making and salvage strategy in high grade intraoperative signal loss | Masood Shafafy (UK) |
| 14:45 | Perioperative management of the child with neurological deficit following surgery | Randal Betz (USA) |
| 15:00 | Returning to theatre following signal loss | Patrick Kiely (Ireland) |
| 15:15 | Using neuromonitoring in neurosurgical spine procedures to avoid deficit | Fa Langer (Germany) |
| 15:30 | Discussion | |
| | | |



| ropic: Neur | omonitoring 2 / Chair: Fa Langer (Germany) | |
|-------------|--|---------------------|
| 16:30 | Hands-on demonstration and turorial | Fa Langer (Germany) |
| 16:45 | Hands-on demonstration and turorial | Fa Langer (Germany) |
| 17:00 | Hands-on demonstration and turorial | Fa Langer (Germany) |
| 17:15 | Hands-on demonstration and turorial | Fa Langer (Germany) |
| 17:30 | Hands-on demonstration and turorial | Fa Langer (Germany) |
| 17:45 | Hands-on demonstration and turorial | Fa Langer (Germany) |
| | 18:00 Close | |

16:00-16:30 Break







| Topic: Cervical | and Intraspinal Tumours / Chair: G Balamurali (India) | |
|-----------------|---|-------------------------------|
| 9:30 | Intraspinal tumours - what the surgeon needs to look for on imaging | Paulo Pereira (Portugal) |
| 9:45 | Recognising and treating spinal meningeoma | G Balamurali (India) |
| 10:00 | Surgical strateties in challenging ependymomas | Jake Timothy (UK) |
| 10:15 | MIS surgery for spinal cord tumours | G Balamurali (India) |
| 10:30 | Evolving MIS endoscopic techniques in tumour resection | Marcio Ramalha Cunha (Brazil) |
| 10:45 | Know your enemy - behaviour of different spine metastasis types | Alex Disch (Germany) |
| 11:00 | Indications and strategies for separation surgery | Paulo Pereira (Portugal) |
| 11:15 | Ablation technology in spinal metastasis | Alex Disch (Germany) |
| 11:30 | Discussion | |

12:00-13:30 Break



| Topic: Spinal Meta | stasis / Chair: Dan Resnick (USA) | |
|--------------------|--|-------------------------------|
| 13:30 | When and how to use carbon implants in spinal tumour surgery | Alex Disch (Germany) |
| 13:45 | Management strategies in metastatic tumour recurrence | Bruno Santiago (Portugal) |
| 14:00 | When is aggressive en-bloc excision still indicated in spinal metastasis | Alex Disch (Germany) |
| 14:15 | Assessing craniocervical spine tumours and surgical planning | Ciaran Bolger (Ireland) |
| 14:30 | Technical advances in craniocervical reconstructive techniques | Bruno Santiago (Portugal) |
| 14:45 | Balancing tumour clearance and surgical morbidity in craniocervical surgery | Marcio Ramalha Cunha (Brazil) |
| 15:00 | Handling of the vertebral artery in cervical spine tumour surgery | Dan Resnick (USA) |
| 15:15 | Transoral microsurgical or endoscopic transnasal craniocervical surgery - when to choose which | Ciaran Bolger (Ireland) |
| 15:30 | Discussion | |



| Topic: Primary and Paediatric Spine Tumours / Chair: Alex Disch (Germany) | | |
|---|---|-------------------------|
| 16:30 | Overview of paediatric spine tumours and current management concepts | Laurel Blakemore (USA) |
| 16:45 | Treatment options in Ewings Sarcoma | Alex Disch (Germany) |
| 17:00 | All-posterior total en-bloc spondylectomy for treatment of lumbar vertebral Ewing Sarcoma | Sara E Diniz (Portugal) |
| 17:15 | Reconstructive tumour surgery of the spine in children | Alex Disch (Germany) |
| 17:30 | Challenges of treating paediatric spine tumours in children with substantial growth expectation | Laurel Blakemore (USA) |
| 17:45 | Discussion | |
| | 18:00 Close | |







| Topic: Spina | l Endoscopy / Chair: Miguel Loureiro (Portugal) | |
|--------------|--|----------------------------|
| 9:30 | Spine endoscopy in Azores Islands - a challenge how and why we started | Luis Soares (Portugal) |
| 9:45 | Advances in transforaminal endoscopic techniques | Frank Hassel (Germany) |
| 10:00 | Endoscopic transforaminal lumbar discectomy / preliminary clinical results | Sara E. Diniz (Portugal) |
| 10:15 | Advances in interlaminar endoscopic techniques | Miguel Loureiro (Portugal) |
| 10:30 | Utilising endoscopic techniques in combined adult deformity and neural compression | Frank Hassel (Germany) |
| 10:45 | State of the art microsurgical techniques in the lumbar spine - what the endoscope cannot do | Ciaran Bolger (Ireland) |
| 11:00 | Emerging possibilities in biportal endoscopy | Frank Hassel (Germany) |
| 11:15 | Complications in endoscopic spine surgery | Miguel Loureiro (Portugal) |
| 11:30 | Discussion | |
| | 12·00_13·30 Broak | |



Topic: Lateral MIS Surgery / Chair: Navin Verghese (UK)

| 13:30 | Theatre set-up and lateral LS/S1 ALIF technique | Jake Timothy (UK) |
|-------|---|----------------------------|
| 13:45 | Theatre set-up and pre- and transpsoas lateral access techniques | Navin Verghese (UK) |
| 14:00 | MIS lateral thoracolumbar techniques | Jake Timothy (UK) |
| 14:15 | Theatre set-up and combined posterior / lateral single position surgery | Navin Verghese (UK) |
| 14:30 | Vascular complications in lateral surgery - strategies | Jake Timothy (UK) |
| 14:45 | Radiologic and clinical outcomes using "target" view fluoroscopic technique for inserting 311 percutaneous pedicle screws | Jeff Golan (USA) |
| 15:00 | Combining endoscopy and fusion | Miguel Loureiro (Portugal) |
| 15:15 | Minimising dural leaks in MIS surgery | G Balamurali (India) |
| 15:30 | Discussion | |





Topic: Anaesthesia Aspects of Paediatric Deformity Surgery / Chair: Robert Nowicki (UK)

| 16:30 | Blood management in children | Fabian Geiselbrecht (Germany) |
|-------|--|-------------------------------|
| 16:45 | Analgesia in the very young child | Winfried Roth (Germany) |
| 17:00 | Epidural catheter analgesia after paediatric spine deformity surgery | Fabian Geiselbrecht (Germany) |
| 17:15 | Perioperative iv and oral pain management in children | Winfried Roth (Germany) |
| 17:30 | Effect of enhanced recovery pathway resulting in reduced length of stay and opioid consumption after non-fusion anterior scoliosis surgery for AIS | Keyur Akbari (India) |
| 17:45 | Discussion | |
| | 18:00 Close | |





| Topic: Keynotes Friday | | |
|------------------------|---|--------------------------|
| 8:00 | The challenge of effective surgical training | Bronek Boszczyk (NSpine) |
| 8:20 | Spinal training in the time of Covid - How far behind are we? | Ian Vlok (South Africa) |
| 8:40 | TBD | Portuguese Spine Society |
| | 9:00-9:30 Break | |



| 9:00-9:30 Break | | |
|--------------------|---|------------------------------------|
| Topic: Spine Traur | na Cases - as bad as it gets / Chair: South African Spine So | ociety |
| 9:30 | Case discussion - challenging case from my practice | South African Spine Society |
| 9:45 | Case discussion - challenging case from my practice | Stefan Hauck (Germany) |
| 10:00 | Case discussion - challenging case from my practice | Alex Disch (Germany) |
| 10:15 | Case discussion - challenging case from my practice | Ricardo Rodrigues-Pinto (Portugal) |
| 10:30 | Case discussion - challenging case from my practice | South African Spine Society |
| 10:45 | Case discussion - challenging case from my practice | Stefan Hauck (Germany) |
| 11:00 | Case discussion - challenging case from my practice | Alex Disch (Germany) |
| 11:15 | Case discussion - challenging case from my practice | South African Spine Society |
| 11:30 | Case discussion - challenging case from my practice | |



| Topic: Deformity Cases - Challenging Case Discussion / Chair: Portuguese Spine Society | | |
|--|---|----------------------------|
| 9:30 | Case discussion - challenging case from my practice | Nuno Alegrete (Portugal) |
| 9:45 | Case discussion - challenging case from my practice | Bronek Boszczyk (Germany) |
| 10:00 | Case discussion - challenging case from my practice | Kenneth Cheung (Hong Kong) |
| 10:15 | Case discussion - challenging case from my practice | Laurel Blakemore (USA) |
| 10:30 | Case discussion - challenging case from my practice | Nuno Alegrete (Portugal) |
| 10:45 | Case discussion - challenging case from my practice | Bronek Boszczyk (Germany) |
| 11:00 | Case discussion - challenging case from my practice | Kenneth Cheung (Hong Kong) |
| 11:15 | Case discussion - challenging case from my practice | Laurel Blakemore (USA) |
| 11:30 | Case discussion - challenging case from my practice | |



| Topic: Dege | nerative & infection Cases - Challenging Case Discussion | / Chair: Portuguese Spine Society |
|-------------|--|-----------------------------------|
| 9:30 | Case discussion - challenging case from my practice | Nuno Neves (Portugal) |
| 9:45 | Case discussion - challenging case from my practice | Jake Timothy (UK) |
| 10:00 | Case discussion - challenging case from my practice | Navin Verghese (UK) |
| 10:15 | Case discussion - challenging case from my practice | Miguel Loureiro (Portugal) |
| 10:30 | Case discussion - challenging case from my practice | Nuno Neves (Portugal) |
| 10:45 | Case discussion - challenging case from my practice | Jake Timothy (UK) |
| 11:00 | Case discussion - challenging case from my practice | Navin Verghese (UK) |
| 11:15 | Case discussion - challenging case from my practice | Miguel Loureiro (Portugal) |
| 11:30 | Case discussion - challenging case from my practice | |
| 11:30 | Case discussion - challenging case from my practice | |