Scientific Program

This is the scientific program for ISASS17 and is subject to change before the conference. This document is current as of April 12, 2017.

Wednesday, April 12, 2017

8:00 am - 9:30 am  General Session: MIS-1  
Moderator(s): Ali Araghi, DO; Frank Phillips, MD

8:00 am - 8:04 am  457 Revision Rates Following Minimally Invasive Decompression for Lumbar Spinal Stenosis in Patients with and without Preoperative Degenerative Lumbar Spondylolisthesis with a Minimum of 5-year Follow-up  
Speaker: R. Rampersaud  
Authors: N. Moayeri(1,2), M.A. Pahuta(3), R. Rampersaud(3)  
(1)University of Toronto, Surgery - Neurosurgery, Toronto, ON, Canada, (2)University Medical Center Utrecht, Neurosurgery, Utrecht, Netherlands, (3)University of Toronto, Surgery - Orthopaedics, Toronto, ON, Canada

8:05 am - 8:09 am  434 Multimodal versus Patient Controlled Analgesia Following Transforaminal Lumbar Interbody Fusion  
Speaker: F. Hijji  
Authors: D. Bohl(1), D. Massel(1), B. Mayo(1), P. Louie(1), F. Hijji(1), A. Narain(1), F. Phillips(1), A. Buvanendran(2), K. Singh(1)  
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States, (2)Rush University Medical Center, Anesthesiology, Chicago, IL, United States

8:10 am - 8:14 am  598 Sitting and Supine Posture Changes Psoas Muscle Geometry on MRI – Implications for Lateral and Oblique Approaches to the Lumbar Spine  
Speaker: A.J. Buckland  
Authors: A.J. Buckland(1), E. Isaacs(1), J.Y. Moon(1), J.M. Spivak(1)  
(1)Hospital for Joint Diseases at NYU Langone Medical Center, Department of Orthopaedic Surgery, New York, NY, United States

8:15 am - 8:19 am  454 Hip Flexion Weakness Following Lateral Transpsoas Interbody Fusion  
Speaker: L. Pimenta  
Authors: L. Pimenta(1,2), R. Aquaroli(1), E. Camacho(1), R. Amaral(1), L. Oliveira(1), E. Coutinho(1), L. Marchi(1)  
(1)Instituto de Patologia da Coluna, Sao Paulo, Brazil, (2)UCSD, Neurosurgery, San Diego, CA, United States

8:20 am - 8:24 am  227 Treatment of Moderate Lumbar Spinal Stenosis with InterSpinous Spacer: 4-year Results of a Randomized Controlled Trial  
Speaker: P. Nunley  
Authors: P. Nunley(1), V. Patel(2), D. Orndorff(3), J. Block(4), F. Geisler(5)  
(1)Spine Institute of Louisiana, Shreveport, TX, United States, (2)University of Colorado, Denver, CO, United States, (3)Spine Colorado, Durango, CO, United States, (4)The Jon Block Group, San Francisco, CA, United States, (5)Rhausler, Inc, San Carlos, CA, United States
8:25 am - 8:30 am  Discussion

8:30 am - 8:34 am  243 Complication Rates of Minimally Invasive Lateral Lumbar Interbody Fusion: A Systematic Review
Speaker: F. Hijji
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

8:35 am - 8:39 am  479 Early Clinical Experience of Minimally Invasive Oblique Lateral Lumbar Interbody Fusion of L5-S1
Speaker: J.C. Lee
(1)Soonchunhyang University Seoul Hospital, Orthopedic Surgery, Seoul, Korea, Republic of, (2)Incheon Medical Center, Orthopedic Surgery, Incheon, Korea, Republic of

8:40 am - 8:44 am  651 The Mini-open Lateral Approach for Corpectomy of the Thoraco-lumbar Spine. Results and Outcome
Speaker: M. Balsano
Authors: M. Balsano(1), A. Zachos(1), G.R. Mosele(2), C. Doria(2)
(1)Regional Spinal Department, Santorso, Italy, (2)Orthopedic University Clinic, Sassari, Jordan

8:45 am - 8:49 am  412 The Ideal Cage Position for Achieving Both Indirect Neural Decompression and Segmental Angle Restoration in Lateral Lumbar Interbody Fusion (LLIF)
Speaker: S.-J. Park
Authors: S.-J. Park(1), C.-S. Lee(1), S.-S. Chung(1), K.-J. Lee(1), C.-D. Park(1)
(1)Samsung Medical Center, Sungkyunkwan University School of Medicine, Orthopedic Surgery, Seoul, Korea, Republic of

8:50 am - 8:54 am  575 Sagittal Alignment Parameters in Patients Submitted to Extreme-lateral Interbody Fusion (XLIFR) versus Minimally Invasive Transforaminal Lumbar Interbody Fusion (MIS-TLIF)
Speaker: A. Arruda
Authors: C. Menezes(1), D. Oliveira(2), R. Falcon(2), R. Porto(2), G. Senna(2), A. Arruda(2), E. Menezes(3)
(1)Lifecenter Hospital/Columna Spine Institute, Belo Horizonte, Brazil, (2)Lifecenter Hospital, Belo Horizonte, Brazil, (3)Columna Spine Institute, Belo Horizonte, Brazil

8:55 am - 8:59 am  Discussion

9:00 am - 9:04 am  152 Differences in Clinical Outcomes between Isthmic and Degenerative Spondylolisthesis following a Minimally Invasive Transforaminal Lumbar Interbody Fusion
Speaker: K. Yom
Authors: D. Massel(1), B. Mayo(1), F. Hijji(1), A. Narain(1), K. Kudaravalli(1), K. Yom(1), N. Shoshana(1), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

9:05 am - 9:09 am  552 Reduction and Circumferential Arthrodesis of Low-grade Isthmic Spondylolisthesis with Mini-ALIF and Unilateral Percutaneous Screw Fixation without Posterior Decompression
Speaker: G. Edgard-rosa
Authors: G. Edgard-rosa(1), G. Geneste(1), M. Grau-Ortiz(1), G. Negre(1), T. Marnay(1)
(1)Clinique du Parc, Centre de Chirurgie Vertébrale, Castelnau-le Lez, France
9:10 am - 9:14 am 153 Sagittal Imbalance in Patients with Lumbar Spinal Stenosis and Outcomes after Simple Decompression Surgery
Speaker: C.H. Kim
Authors: C.H. Kim(1), C.K. Chung(1)
(1)Seoul National University Hospital, Neurosurgery, Seoul, Korea, Republic of

9:15 am - 9:19 am 151 Comparison of Cervical Sagittal Alignment and Kinematics after Posterior Full-endoscopic Cervical Foraminotomy and Discectomy According to Preoperative Cervical Alignment
Speaker: C.H. Kim
Authors: C.H. Kim(1), C.K. Chung(1)
(1)Seoul National University Hospital, Neurosurgery, Seoul, Korea, Republic of

9:20 am - 9:24 am 414 Significant Decreased Radiation Exposure in Percutaneous Adult Degenerative Spinal Instrumentation with Robotic Guidance
Speaker: A. Cannestra
Authors: A. Cannestra(1,2)
(1)University of Hawaii, John A Burns School of Medicine, Department of Surgery, Honolulu, HI, United States, (2)Lyery Neurosurgery, Jacksonville, FL, United States

9:25 am - 9:29 am Discussion

9:30 am - 10:30 am General Session: MIS-2
Moderator(s): Sheeraz Qureshi, MD; Jian Shen, MD

9:30 am - 9:34 am 468 An Analysis of Outcome Predictors with Circumferential Minimally Invasive Surgical Correction (CMIS) of Adult Spinal Deformity (ASD) - A Multivariate Linear Regression Analysis
Speaker: N. Anand
Authors: N. Anand(1), R. Cohen(1), J. Cohen(1), B. Khandehroo(1), S. Kahwaty(1), E. Baron(1)
(1)Cedars Sinai Medical Center, Spine Center, Los Angeles, CA, United States

9:35 am - 9:39 am 712 Simultaneous Percutaneous and Open Posterior (Hybrid) Technique for Adult Deformity Correction: Mid-term Clinical and Radiographic Outcomes
Speaker: A. Tohmeh
Authors: A. Tohmeh(1), A. Proctor(1), A. Khawaja(1)
(1)Northwest Orthopaedic Specialists, Spokane, WA, United States

9:40 am - 9:44 am 91 Postoperative Outcomes Following Primary Minimally Invasive Transforaminal Lumbar Interbody Fusion with Unilateral or Bilateral Interbody Cages
Speaker: A. Narain
Authors: A. Narain(1), F. Hijji(1), B. Mayo(1), W. Long(1), K. Kudaravalli(1), K. Yom(1), N. Shoshana(1), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

9:45 am - 9:49 am 400 Suggestion of Optimal Cortical Bone Trajectory Technique to Prevent Early Surgical Complication
Speaker: S. Yi
Authors: C.K. Lee(1), D.S. Kim(2), S. Yi(2)
(1)Keimyung University Dongsan Medical Center, Daegu, Korea, Republic of, (2)Yonsei University Severance Hospital, Seoul, Korea, Republic of

9:50 am - 9:54 am 261 Minimally Invasive Iliac Screw Fixation as a Palliative Surgical Option in Treating Painful Metastatic Lumbosacral Deformity
Speaker: G. Liu
Authors: G. Liu(1), M.Y. Hasan(1), H.K. Wong(1)
(1)National University Health System, University Orthopaedics and Hand Cluster, Singapore,
9:55 am - 9:59 am Discussion

10:00 am - 10:04 am 495 Minimally Invasive Sacroiliac Joint Fusion: Pooled Analysis of 3 Prospective Clinical Trials
Speaker: D. Cher
Authors: J. Dengler(1), D. Cher(2), D. Polly(3), B. Duhom(4), C. Frank(5), J. Glaser(6), B. Sturesson(7), S. Garfin(8), A. Rendahl(9)
(1)Charité - Universitätsmedizin Berlin, Neurosurgery, Berlin, Germany, (2)SI-BONE, Inc., Clinical Affairs, San Jose, CA, United States, (3)University of Minnesota, Orthopedics and Neurosurgery, Minneapolis, MN, United States, (4)University of Colorado Anschutz Medical Campus, Neurosurgery, Aurora, CO, United States, (5)Integrated Spine Care, Orthopedics, Wawautosa, WI, United States, (6)Medical University of South Carolina, Orthopedics, Charleston, SC, United States, (7)Aleris Angelholm Hospital, Orthopedics, Angelholm, Sweden, (8)University of California at San Diego, Orthopedics, San Diego, CA, United States, (9)University of Minnesota, Statistics, Minneapolis, MA, United States

10:05 am - 10:09 am 463 Clinical and Radiological Fate of the Lumbosacral Junction Following ALIF vs. AxiaLIF at the Bottom of a Long Construct in CMIS Treatment of Adult Spinal Deformity
Speaker: N. Anand
Authors: N. Anand(1), J. Cohen(1), R. Cohen(1), B. Khandehroo(1), S. Kahwaty(1), E. Baron(1)
(1)Cedars Sinai Medical Center, Spine Center, Los Angeles, CA, United States

10:10 am - 10:14 am 116 Is Body Mass Index Associated with an Increased Risk for Revision after Minimally Invasive Transforaminal Lumbar Interbody Fusion?
Speaker: A. Narain
Authors: A. Narain(1), F. Hijji(1), K. Yom(1), K. Kudaravalli(1), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

10:15 am - 10:19 am 167 Are Patients Misled when Counselling for Minimally-invasive Lumbar Spine Surgeries? A Stepwise Model to Assess Pivotal Information for Decision-making
Speaker: K.A. Tan
Authors: K.A. Tan(1), H.W.D. Hey(1), N. Kumar(1), A.Q.A. Teo(1), G.K.P. Liu(1), H.K. Wong(1)
(1)National University Health System, Orthopaedic Surgery, Singapore, Singapore

10:20 am - 10:24 am 303 Risk Factors for a Long Hospital Stay Following Transforaminal Lumbar Interbody Fusion
Speaker: K. Kudaravalli
Authors: B. Mayo(1), D. Massel(1), D. Bohl(1), A. Narain(1), F. Hijji(1), K. Kudaravalli(1), K. Yom(1), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

10:25 am - 10:29 am Discussion

10:30 am - 11:00 am Break on Exhibit Floor
Visit ISASS17 Exhibits

11:00 am - 12:00 am General Session: Spinal Innovation
Moderator(s): Mark Kurd, MD; Stephen Hochschuler, MD

11:00 am - 11:03 am 567 Ultrasonographic versus EMG Properties of the Lumbar Plexus via a Lateral Retroperitoneal Surgical Approach: A Live Human Validation Study
Speaker: K. Singh
Authors: T. Nguyen(1), D. Orndorff(2), S. Myhre(2), K. Singh(1), J. Youssef(2)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States,
11:04 am - 11:07 am  424  The Effects of Adjacent Level Osteophytes on Proximal Junctional Kyphosis after Multi-level Thoracolumbar Fusions: Are Osteophytes Protective?  
Speaker: O. Tannous  
Authors: O. Tannous(1), B. Nguyen(2), S. Garfin(2), R.T. Allen(2)  
(1)Georgetown University, Orthopaedics, Washington, DC, United States, (2)UCSD, Orthopaedics, San Diego, CA, United States

11:08 am - 11:11 am  674  5-year Experience with Magnetically Controlled Growing Rods for the Management of Early-onset Scoliosis: Results, Complications and Considerations for Final Treatment  
Speaker: G. La Rosa  
Authors: G. La Rosa(1), L. Ruzzini(1), S. Sessa(1), L. Oggiorno(1)

11:12 am - 11:15 am  503  Surgical Outcomes of Robotic-Guidance vs. Freehand Instrumentation – A Retrospective Review of 705 Adult Degenerative Spine Patients Operated in Minimally Invasive (MIS) and Open Approaches  
Speaker: A. Cannestra  
Authors: T. Sweeney(1), A. Cannestra(2), K. Poelstra(3), S. Schroerlucke(4)  
(1)Southeastern Spine Center & Research Institute, Sarasota, FL, United States, (2)Lyerly Neurosurgery, Jacksonville, FL, United States, (3)The Spine Institute on the Emerald Coast, Destin, FL, United States, (4)Tabor Orthopedics, Division of MSK Group, Memphis, TN, United States

11:16 am - 11:19 am  205  Anterior Cervical Discectomy and Fusion with Stand-alone PEEK Cages with Integrated Screws Compared to an Allograft and Plate Construct  
Speaker: P. Louie  
Authors: G. Shifflett(1), J. Kaikaus(1), M. Goczalk(1), B. Basques(1), P. Louie(1), F. Phillips(1)  
(1)Rush University Medical Center, Chicago, IL, United States

11:20 am - 11:24 am  Discussion

11:25 am - 11:28 am  655  Self-adapting ALIF Cage Restores Sagittal Balance and Improves Functional Outcome. A Prospective Consecutive Study  
Speaker: J.C. le Huec  
Authors: J.C. le Huec(1), F. Jabbour(2), M. Campana(2), J. Rigal(2), A. Cogniet(2)  
(1)Bordeaux University Hospital, Orthorachis (2), Bordeaux, France, (2)Bordeaux University Hospital, Bordeaux, France

11:29 am - 11:32 am  40  Comparison of Abrasion and Osseointegration Associated with Titanium Plasma Spray Coated PEEK vs. a Deeply Porous Titanium Scaffold on PEEK  
Speaker: R. Guyer  
Authors: R. Guyer(1), J.-J. Abitbol(2), D. Ohnmeiss(3), C. Yao(4)  
(1)Texas Back Institute, Plano, TX, United States, (2)California Spine Group, San Diego, TX, United States, (3)Texas Back Institute Research Foundation, Plano, TX, United States, (4)Nanovis, Columbia City, IN, United States

11:33 am - 11:36 am  532  Implant Osseointegration is Dependent on Implant Topography: Porous PEEK Promotes Superior in vitro and in vivo Osteogenic Response Compared with Micro-textured Titanium  
Speaker: J.K. Burkus  
Authors: J.K. Burkus(1), B. Torstrick(2), R. Guldberg(2), K. Gall(3)  
(1)Hughston Clinic, Spine Service, Columbus, GA, United States, (2)Georgia Institute of Technology, Parker H. Petit Institute for Bioengineering and Bioscience, Atlanta, GA, United States, (3)Duke University, Department of Mechanical Engineering and Materials Science, Atlanta, GA, United States
11:37 am - 11:40 am 483 Initial Results from a Series of Vertebral Body Replacement Using Patient-specific 3D-printed Polymer Implants in Cervical Spondylotic Myelopathy
Speaker: M. Colman
Authors: M. Colman(1), J.-E. Loret(2), E. Lioret(2)
(1)Rush University Medical Center, Chicago, IL, United States, (2)Hospital University Center, Neurosurgery, Tours, France

11:41 am - 11:44 am 113 Treatment of Chronic Low Back Pain via Ablation of the Basivertebral Nerve: Results of the SMART Trial
Speaker: J. Fischgrund
Authors: J. Fischgrund(1), H. Bae(2), M. Schaufele(3), R. Sasso(4), J. Franke(5), P. Yuan(6)
(1)Beaumont Hospital Royal Oak, Orthopaedic Surgery, Royal Oak, MI, United States, (2)Cedars Sinai Medical Center, Department of Surgery, Los Angeles, CA, United States, (3)Pain Solutions Treatment Centers, Marietta, GA, United States, (4)Indiana University School of Medicine, Indianapolis, IN, United States, (5)Klinikum Magdeburg gGmbH, Department of Orthopedics, Magdeburg, Germany, (6)Memorial Orthopedic Surgical Group, Long Beach, CA, United States

11:45 am - 11:48 am 353 Lateral Lumbar Interbody Fusion (LLIF) at L4/L5: Can Angled Instrumentation Overcome the Challenges of a High Iliac Crest?
Speaker: C. Hill
(1)Orthopaedic Institute, Paducah, KY, United States, (2)AXIS Neurosurgery and Spine, Williamsville, NY, United States, (3)Zimmer Biomet Spine, Broomfield, CO, United States, (4)University of Colorado - Denver, Denver, CO, United States, (5)Clinical Trials Consultant, Buffalo, NY, United States

11:49 am - 12:00 am Discussion

12:00 pm - 1:30 pm Industry Workshops (Not CME)
Non-CME Industry Workshop Sessions

1:30 pm - 2:30 pm Symposium 1: Pain management - Why do we do injections at all - The evidence is really weak
Moderator(s): Pierce Nunley, MD

1:30 pm - 1:40 pm Epidural Injections in the treatment of lumbar stenosis are really no better than placebo.
Speaker: P. Whang

1:40 pm - 1:50 pm Cervical epidural injections are of no value.
Speaker: Y-P Lee

1:50 pm - 2:00 pm Facet injections, medial branch blocks, and rhizotomies are of no value.
Speaker: D. Park

2:10 pm - 2:20 pm Rebuttal - Spinal Interventions work... It's spine surgery that doesn't.
Speaker: Jaren Riley, MD

2:20 pm - 2:30 pm Discussion

2:30 pm - 3:30 pm General Session: Biomechanics
Moderator(s): Leonard Voronov, MD

2:30 pm - 2:34 pm 606 An Updated Analysis of Gravity Line with Pelvic and Lower Limb Compensation: Now Where Do we Stand?
2:35 pm - 2:39 pm  
218 Gait Analysis Pre and Post-surgical Intervention in Patients with Symptomatic Adult Degenerative Scoliosis  
Speaker: R. Haddas  
Authors: R. Haddas(1), I. Lieberman(2)  
(1)Texas Back Institute, Research Foundation, Plano, TX, United States, (2)Texas Back Institute, Plano, TX, United States

2:40 pm - 2:44 pm  
222 The Correlation of Biomechanical Parameters Measured by Gait Analysis with the Functional Parameters Measured by Self-reported Questionnaires in Patients with Adult Degenerative Scoliosis  
Speaker: R. Haddas  
Authors: R. Haddas(1), S. Aghyarian(1), I. Lieberman(2)  
(1)Texas Back Institute, Research Foundation, Plano, TX, United States, (2)Texas Back Institute, Plano, TX, United States

2:45 pm - 2:49 pm  
599 Upper-most Instrumented Vertebra Mechanical Loading Correlates with the Magnitude of Proximal Junctional Kyphosis in Adult Spinal Deformity Surgery  
Speaker: J. Elysée  
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)Rocky Mountain Hospital for Children Denver, Denver, CO, United States, (3)University of Virginia Medical Center, Department of Neurosurgery, Charlottesville, VA, United States, (4)Centre Hospitalier, Universitaire de Bordeaux, Bordeaux, France, (5)Oregon Health Sciences University, Department of Orthopaedic Surgery, Portland, OR, United States, (6)Norton Leatherman Spine Center, Louisville, KY, United States, (7)San Francisco Medical Center, University of California, Department of Neurosurgery, San Francisco, CA, United States, (8)Scripps Clinic Torrey Pines, La Jolla, CA, United States, (9)NYU Langone Medical Center, Spine Division, Department of Orthopaedics, New York, NY, United States, (10)Washington University School of Medicine, Department of Orthopaedic Surgery, St. Louis, MO, United States

2:50 pm - 2:54 pm  
73 T9 versus T10 as the Upper Instrumented Vertebra for Correction of Adult Deformity  
Speaker: H.W.D. Hey  
(1)National University Health System, Orthopaedic Surgery, Singapore, Singapore, (2)National University of Singapore, Yong Loo Lin School of Medicine, Singapore, Singapore

2:55 pm - 2:59 pm  
Discussion

3:00 pm - 3:04 pm  
319 Primary Drivers of Adult Cervical Deformity: Prevalence, Variations in Presentation and Effect of Surgical Treatment Strategies on the Achievement of Post-operative Alignment Goals  
Speaker: P. Zhou  
3:05 pm - 3:09 pm 571 Variations among Human Spine Segments and their Relationships to in vitro Kinematics: A Retrospective Analysis of Experimental Data Including 282 Lumbar Motion Segments from 85 Donor Spines
Speaker: A. Newcomb
Authors: A. Newcomb(1), J. Lehrman(1), B. Kelly(1), N. Crawford(1)
(1)Barrow Neurological Institute, Spinal Biomechanics Lab, Phoenix, AZ, United States

3:10 pm - 3:14 pm 257 Biomechanical Evaluation of Unilateral versus Bilateral C1 Lateral Mass-C2 Intralaminar Fixation
Speaker: Y-P Lee
Authors: Y.-P. Lee(1), N. Bhatia(1), M. McGarry(1), T. Lee(1)
(1)UC Irvine Medical Center, Orthopaedic Surgery, Orange, CA, United States

3:15 pm - 3:19 pm 573 Anatomical Modifications during the Lateral Transpsoas Approach to the Lumbar Spine. The Impact of Vertebral Rotation
Speaker: P. Zhou
Authors: A. Patel(1), J. Oh(1), D. Leven(1), F. Gautela(1), D. Chatterjee(1), Q. Naziri(1), F. Langella(2), B. Diebo(1), C. Paulino(1)
(1)SUNY Downstate Medical Center, Orthopaedic Surgery, Orange, NY, United States, (2)Second University of Naples, Naples, Italy

3:20 pm - 3:24 pm 76 Lumbar Spine Alignment in 6 Common Postures - Insights into Motion Loss and Possible Sequelae following Fusion Based on the Standing Profile of the Spine
Speaker: H.W.D. Hey
(1)National University Health System, Orthopaedic Surgery, Singapore, Singapore, (2)National University of Singapore, Yong Loo Lin School of Medicine, Singapore, Singapore

3:25 pm - 3:29 pm Discussion

3:30 pm - 4:00 pm Break on Exhibit Floor
Visit ISASS17 Exhibits

4:00 pm - 5:00 pm General Session: Cervical Motion Preservation
Moderator(s): Seok Woo Kim, MD; Harel Deutsch, MD

4:00 pm - 4:03 pm 214 A MRI Characterization of the Dorsal Cervical Cord Migration Behaviour in Laminectomy versus Hybrid Open-door Laminoplasty
Speaker: J.H. Ng
Authors: J.H. Ng(1), G. Liu(2), J.Y.W. Tan(1), H.K. Wong(2)
(1)National University of Singapore, Singapore, Singapore, (2)National University Health System, Singapore, Singapore

4:04 pm - 4:07 pm 715 Cervical Disc Arthroplasty in the Management of Cervical Myelopathy - Long Term Follow up
Speaker: P. Karpe
Authors: P. Karpe(1), S. Khan(1), G. Reddy(1), C. Bhatia(1), T. Friesem(1)
(1)North Tees and Hartlepool NHS, Stockton, United Kingdom
Motion Preservation and the Incidence of Subsequent Surgical Intervention after Treatment with the Selectively Constrained SECURE®-C Cervical Artificial Disc

Speaker: J. McConnell
Authors: J. McConnell(1), J. Lindley(2), C. Tomaras(3), D. McKee(4), K. Baker(4)
(1)OAA Orthopaedic Specialists, Allentown, PA, United States, (2)Neurological Institute of Savannah, Savannah, GA, United States, (3)Polaris Spine and Neurosurgery Center, Atlanta, GA, United States, (4)Globus Medical, Inc., Audubon, PA, United States

Clinical and Radiographic Outcomes for the M6-C Artificial Cervical Disc: 1 Year Follow-up at Five IDE Investigation Centers for a Novel Design Six Degree of Freedom Prosthesis

Speaker: F. Phillips
(1)Midwest Orthopaedics at Rush University, Chicago, IL, United States, (2)Indiana Spine Group, Carmel, IN, United States, (3)Carolina Neurosurgery & Spine Associates, Charlotte, NC, United States, (4)Texas Back Institute, Plano, TX, United States, (5)Hospital for Special Surgery, New York, NY, United States

Clinical Outcomes and Incidence of Revision in Multi-level Cervical Total Disc Replacement Compared to Cervical Hybrid Constructs at 2 Year Follow-up

Speaker: M. Scott-Young
Authors: M. Scott-Young(1,2), L. McEntee(1,2), S.M. Lee(2), I.-M. Luukkonen(2)
(1)Bond University, Faculty of Health Sciences & Medicine, Gold Coast, QLD, Australia, (2)Gold Coast Spine, Southport, QLD, Australia

Discussion

Presenting Symptoms and Radiographic Features of Patients Undergoing Revision Surgery for Cervical Pseudarthrosis: A Case Series

Speaker: J. Kim
Authors: R. Merrill(1), S. Overley(1), J. Kim(1), J. Dowdell(1), S. Qureshi(1), S. Cho(1)
(1)Icahn School of Medicine at Mount Sinai, New York, NY, United States

Comparison of Outcomes after CDA in an Ambulatory Surgery Center vs. Hospital Setting

Speaker: M.F. Gornet
Authors: M.F. Gornet(1), R. Wohns(2), J. Billinghurst(3), D. Brett(4), R. Kube(5)
(1)Orthopedic Center of St. Louis, St Louis, MO, United States, (2)NeoSpine, Puyallup, WA, United States, (3)Spine and Ortho Specialists of South Florida, Boynton Beach, FL, United States, (4)Northwest Spine Surgery, Portland, OR, United States, (5)Prairie Spine and Pain Institute, Peoria, IL, United States

Prevalence, Progression and Clinical Implications of Heterotopic Ossification after Cervical Disc Arthroplasty at 7 Years

Speaker: P. Nunley
Authors: P. Nunley(1), D. Cavanaugh(1), E. Kerr(1), A. Utter(1), K. Frank(1), M. Stone(1)
(1)Spine Institute of Louisiana, Shreveport, LA, United States

Bony Remodeling at Implanted Vertebrae Following Cervical Artificial Disc Replacement

Speaker: S.B. Park
Authors: S.B. Park(1), C.K. Chung(2), C.H. Kim(2)
(1)Seoul National University Boramae Hospital, Seoul, Korea, Republic of, (2)Seoul National University Hospital, Seoul, Korea, Republic of

The Impact of Local Steroid Application on Dysphagia Following an Anterior Cervical Discectomy and Fusion: Preliminary Results of a Prospectively, Randomized,
Single Blind Trial
Speaker: K. Yom
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

4:45 pm - 4:48 pm
100 Asia-Pacific Multicenter, Prospective, Randomized, Trial Comparing Arthroplasty vs. Anterior Cervical Discectomy and Fusion in the Treatment of Symptomatic Cervical Disc Degeneration
Speaker: J. Zigler
Authors: J. Zigler(1), Z.J. Liu(2), C.C. Niu(3), C.-K. Park(4), C.K. Park(5)
(1)Texas Back Institute, Plano, TX, United States, (2)Peking University Third Hospital, Beijing, China, (3)Chang Gung Memorial Hospital, Taoyuan, Taiwan, Republic of China, (4)Kangnam St. Mary's Hospital, Seoul, Korea, Republic of, (5)Leon Wittse Memorial Hospital, Suwon-si, Korea, Republic of

4:49 pm - 5:00 pm
Discussion

5:00 pm - 5:10 pm
Oral Posters: Innovative Technologies
Moderator(s): Michael Ogon, MD

5:00 pm - 5:02 pm
135 The Feasibility of a Novel Hydrogel Intradiscal Implant for Nucleus Augmentation
Speaker: A. Yeung
Authors: A. Yeung(1,2), R. Morganstern(3), M. Knight(4), J. Yue(5), A. Prewett(6)
(1)University of New Mexico School of Medicine, Neurosurgery, Phoenix, NM, United States, (2)Desert Institute for Spine Care, Phoenix, AZ, United States, (3)Centro Medico Quiron Teknon, Barcelona, Spain, (4)Spinal Foundation, Manchester, United Kingdom, (5)Yale School of Medicine, New Haven, NH, United States, (6)Replication Medical, Cranbury, NJ, United States

5:03 pm - 5:05 pm
529 1 Year Results with Elastoplasty
Speaker: M. Eichler
Authors: M. Eichler(1), B. Hoelper(1), V. Goektas(1)
(1)German Spine Institute, Neurosurgery, Fulda, Germany

5:06 pm - 5:08 pm
265 Two Year Follow up of a Unique Minimally Invasive Lateral Lumbar Locking Cage System for Lateral and/or Anterolateral Lumbar Fusions
Speaker: M. Songer
Authors: M. Songer MD(1)
(1)Michigan State University, College of Human Medicine, Orthopedics, Marquette, MI, United States

5:09 pm - 5:11 pm
640 Use of a Novel 3-D Titanium Alloy Lordotic Expandable Cage Improves Segmental Lordosis after TLIF Greater than with a Static Lordotic Cage
Speaker: M. Weinstein
Authors: M. Weinstein(1), P. Dermarkar(2)
(1)University of South Florida School of Medicine/Florida Orthopaedic Institute, Orthopaedics and Sports Medicine/Spine Center, Tampa, FL, United States, (2)University of South Florida School of Medicine, Orthopaedics and Sports Medicine, Tampa, FL, United States

5:12 pm - 5:14 pm
23 The Use of a Novel IPad Application to Quantify Dysfunction in Cervical Myelopathy Patients
Speaker: A. Patel
Authors: T.J. Jenkins(1), B. Rosenthal(1), A. Ranade(2), W.K. Hsu(1), A.A. Patel(1)
(1)Northwestern University Feinberg School of Medicine, Department of Orthopaedic Surgery, Chicago, IL, United States, (2)Rosalind Franklin University of Medicine and Science, Chicago, IL, United States
Prediction of Alignment after Surgical Treatment of Adult Spinal Deformity (ASD) with Probabilistic Principal Component Analysis
Speaker: V. Lafage
(1)Centre Hospitalier, Universitaire de Bordeaux, Bordeaux, France, (2)Hospital for Special Surgery, New York, NY, United States, (3)Hospital for Special Surgery, Spine Service, New York, NY, United States, (4)University of Virginia Medical Center, Department of Neurosurgery, Charlottesville, VA, United States, (5)Johns Hopkins University School of Medicine, Department of Orthopaedic Surgery, Baltimore, MD, United States, (6)NYU Langone Medical Center, Spine Division, Department of Orthopaedics, New York, NY, United States, (7)Norton Leatherman Spine Center, Louisville, KY, United States, (8)Scripps Clinic Torrey Pines, La Jolla, CA, United States, (9)San Francisco Medical Center, University of California, Department of Neurosurgery, San Francisco, NY, United States, (10)University of California, Davis, Department of Orthopedic Surgery, Sacramento, CA, United States, ((1)(1))Washington University School of Medicine, Department of Orthopaedic Surgery, St. Louis, MO, United States

An Investigational Study of Titanium Plasma Spray on Osseointegration of PEEK and Titanium Implants - An in vivo Ovine Model
Speaker: B. Bucklen
Authors: B. Bucklen(2), B.W. Cunningham(1), M. Moldavsky(1), M. Hussain(1), W. Wang(1)
(1)Globus Medical, Inc., Musculoskeletal Education and Research Center (MERC), Audubon, PA, United States

Blockade of Osteoclast-mediated Bone Resorption with a RANKL Inhibitor Enhances Bone Formation in a Rat Model of Spinal Fusion
Speaker: V.V. Patel
Authors: V.V. Patel(1), K.A. Payne(1), M. Sauer(1), C. Erickson(1), P. Yarger(1), N. Shaw(1), T. Baldini(1), C.J. Kleck(1), E. Burger(1)
(1)University of Colorado Denver Anschutz Medical Campus, Orthopedics, Aurora, CO, United States

Ontario Inter-professional Spine Assessment and Education Clinics (ISAEC): Patient, Provider and System Impact of an Integrated Model of Care for the Management of Low Back Pain (LBP)
Speaker: R. Rampersaud
Authors: R. Rampersaud(1), A. Bidos(2), S. Schultz(3), C. Fanti(4), B. Young(5), B. Drew(6), D. Puskas(7), D. Henry(3)
(1)University of Toronto, Surgery - Orthopaedics, Toronto, ON, Canada, (2)University Health Network, Toronto, ON, Canada, (3)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, (4)Thunder Bay Regional Health Sciences Centre, Thunder Bay, ON, Canada, (5)Hamilton General Hospital, Hamilton, ON, Canada, (6)McMaster University, Surgery - Orthopaedics, Hamilton, ON, Canada, (7)Northern Ontario School of Medicine, Surgery - Orthopaedics, Thunder Bay, ON, Canada

In-vitro Characterization of an Anterior Cervical Plate Capable of Extreme Oblique Screw Angulation: Does Angulation Affect Construct Rigidity?
Speaker: C. Ferry
Authors: C. Ferry(1), A. Gandhi(1), S. Farmer(1), J. Inzana(1), J. Wanebo(2), R. Panchal(3)
(1)Zimmer Biomet Spine, Broomfield, CO, United States, (2)Barrow Neurological Institute, Phoenix, AZ, United States, (3)UC Davis, Sacramento, CA, United States

Validation of Patient Reported Outcomes Measurement Information System (PROMIS) in Surgically Managed Lumbar Spinal Stenosis Patients
Speaker: A. Patel
Authors: A. Patel(1), S.-N. Dodwad(2), S. Bhatt(3), J. Savage(4), W. Hsu(3), N. Rothrock(5)
(1)Northwestern University, Chicago, IL, United States, (2)University of Texas Health Science
5:33 pm - 5:35 pm 608 A Novel Technique for Radiographic Spinal Deformity Reconstruction Using Probabilistic Principal Component Analysis (PPCA)
Speaker: V. Lafage
Authors: O. Moal(1), B. Moal(2), R. Lafage(1), F. Schwab(1), J. Smith(3), C. Shaffrey(3), A. Jain(4), S. Bess(5), J. Gum(6), G. Mundis(7), C. Ames(8), E. Klineberg(9), V. Lafage(1)
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)Centre Hospitalier, Universitaire de Bordeaux, Bordeaux, France, (3)University of Virginia Medical Center, Charlottesville, VA, United States, (4)Johns Hopkins University School of Medicine, Department of Orthopaedic Surgery, Baltimore, MD, United States, (5)NYU Langone Medical Center, New York, NY, United States, (6)Norton Leatherman Spine Center, Louisville, KY, United States, (7)Scripps Clinic Torrey Pines, La Jolla, CA, United States, (8)San Francisco Medical Center, University of California, San Francisco, CA, United States, (9)University of California, Davis, Department of Orthopedic Surgery, Sacramento, CA, United States

5:36 pm - 5:38 pm 272 Outcomes of Open Staged Corrective Surgery in the Setting of Adult Spinal Deformity
Speaker: B. Beaubrun
(1)NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (2)Rocky Mountain Spine Center, Denver, CO, United States, (3)SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States, (4)University of Michigan, Ann Arbor, MI, United States, (5)Oregon Health and Science University, Portland, OR, United States, (6)University of Kansas, Kansas City, KS, United States, (7)Hospital for Special Surgery, New York, NY, United States, (8)Denver International Spine Center, Denver, CO, United States

5:39 pm - 5:41 pm 546 Predictors of Failure Following Stratified Education and Non-surgical Self-management Program for Low Back Pain
Speaker: R. Rampersaud
Authors: J. Wong(1), R. Rampersaud(2), E. Badley(1,3), A. Perruccio(3,4)
(1)University of Toronto, Dalla Lana School of Public Health, Toronto, ON, Canada, (2)University of Toronto, Surgery - Orthopaedics, Toronto, ON, Canada, (3)Krembil Research Institute, Healthcare & Outcomes Research, Toronto, ON, Canada, (4)University of Toronto, IHPME, Dalla Lana School of Public Health, Toronto, ON, Canada

5:42 pm - 5:44 pm 228 Fortifying the Bone-Implant Interface: An In Vivo Evaluation of 3D-printed and TPS-coated Triangular Implants
Speaker: D. Lindsey
Authors: R. MacBarb(1), D. Lindsey(1), S. Woods(2), P. Lalor(3), M. Gundanna(4), S. Yerby(1)
(1)SI-BONE, Inc., San Jose, CA, United States, (2)MPI Research, Mattawan, MI, United States, (3)Histon LLC, Everett, WA, United States, (4)Brazos Spine, College Station, TX, United States

5:45 pm - 5:47 pm 280 Full-Body Radiographic Analysis of Post-operative Deviations from Age-adjusted Alignment Goals in Adult Spinal Deformity Correction and Related Compensatory Recruitment
Speaker: B. Beaubrun
(1)NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (2)SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States, (3)Hospital for
321 Histopathologic Analysis of a Porous Tantalum Interbody Fusion Device: Findings in a Human Thoracolumbar Explant  
Speaker: C. Ferry  
Authors: C. Latimer(1), C. Ferry(1), R. Bloebaum(2), P. Saiz(3)  
(1)Zimmer Biomet Spine, Broomfield, CO, United States, (2)University of Utah, Salt Lake City, UT, United States, (3)Las Cruces Orthopaedic Associates, Las Cruces, NM, United States

17 Pilot Evaluation of the Incidence of Preoperative Spinopelvic Malalignment in One- and Two-level Non-deformity Fusion Patients and its Correction Following Minimally Invasive Posterior Lumbar Interbody Fusion  
Speaker: N. Khanna  
Authors: N. Khanna(1)  
(1)OSNI/ Indiana University School of Medicine, Orthopedic Surgery, Munster, IN, United States

539 Biomineral CaP Coating Promotes Osteostimulatory Responses of PEEK Implants  
Speaker: L. Jongpaiboonkit  
Authors: L. Jongpaiboonkit(1), N. Caras(1), V. Mondine(1), W. Murphy(2)  
(1)Tissue Regeneration Systems, Inc, Plymouth, MI, United States, (2)The University of Wisconsin, Madison, WI, United States

Alignment of Each Lumbar Vertebra in Relation to the Hip Centre for both Standing and Sitting Postures  
Speaker: K.A. Tan  
(1)National University Health System, Orthopaedic Surgery, Singapore, Singapore, (2)National University Health System, Diagnostic Imaging, Singapore, Singapore

Early Experience with the M6-C Artificial Cervical Disc: A Report from Two IDE Investigational Centers Involved in a US FDA Approved IDE Study  
Speaker: R. Sasso  
Authors: R. Sasso(1), J. Smucker(1), S. Blumenthal(2), R. Guyer(2), J. Zigler(2)  
(1)Indiana Spine Group, Carmel, IN, United States, (2)Texas Back Institute, Plano, TX, United States

A Comparison of Subsidence Rates after ACDF Using Structural Allograft with Anterior Plating vs a Stand Alone Cage Construct  
Speaker: J. Kim  
Authors: R. Merrill(1), S. Overley(1), D. Leven(1), A. Kumar(1), S. Qureshi(1), J. Kim(1)  
(1)Icahn School of Medicine at Mount Sinai, New York, NY, United States

The Effect of Abnormal Disc Mechanics on Activities of Daily Living  
Speaker: M.F. Gornet  
Authors: M.F. Gornet(1), J.A. Hipp(2), A.G. Copay(3), F.W. Schranck(3)  
(1)The Orthopedic Center of St. Louis, St Louis, MO, United States, (2)Medical Metrics, Inc., Houston, TX, United States, (3)SPIRITT Research, St Louis, MO, United States

Influence of Smoking on Two Level Anterior Cervical Discectomy and Fusion: A
Retrospective Study
Speaker: S. Niedermeier
Authors: E. Cerier(1), N. Jain(2), S. Lenobel(1), E. Yu(2), S. Niedermeier(1)
(1)Ohio State University, Columbus, OH, United States, (2)Ohio State University,
Orthopaedics, Columbus, OH, United States

5:12 pm - 5:14 pm
3 High-resolution Magnetization Transfer (MT) MRI in Patients with Cervical
Spondylotic Myelopathy
Speaker: B. Rosenthal
Authors: L. Suleiman(1), K. Weber II(2), B. Rosenthal(1), J. Savage(3), W. Hsu(1), T.
Parrish(2), A. Patel(1)
(1)Northwestern University, Orthopaedic Surgery, Chicago, IL, United States, (2)Northwestern
University, Chicago, IL, United States, (3)Cleveland Clinic, Center for Spine, Cleveland, OH,
United States

5:15 pm - 5:17 pm
69 Non-home Discharge is an Independent Risk Factor for Post-discharge Adverse
Events Following Fusion for Adult Spinal Deformity
Speaker: J. Goldstein
Authors: N. Lakomkin(1), J. Cheng(2), J. Bosco(3), J. Goldstein(4)
(1)Icahn School of Medicine at Mount Sinai, New York, NY, United States, (2)Yale School of
Medicine, Neurological Surgery, New Haven, CT, United States, (3)NYU Hospital for Joint
Diseases, Orthopaedic Surgery, New York, NY, United States, (4)NYU Hospital for Joint
Diseases, New York, NY, United States

5:18 pm - 5:20 pm
437 The Formation of Extragraft Bone Bridging after Anterior Cervical Discectomy and
Fusion: Finite Element Method Analysis
Speaker: C.H. Kim
Authors: C.H. Kim(1), C.K. Chung(1), T.H. Park(2), S.H. Woo(2), S.-J. Lee(3), S.B. Park(1)
(1)Seoul National University Hospital, Neurosurgery, Seoul, Korea, Republic of, (2)R&D
Center, Medyssey Co., Ltd., Hanbang expo-ro, Jecheon-si, Korea, Republic of, (3)Inje
University, Biomedical Engineering, Gimhae-si, Korea, Republic of

5:21 pm - 5:23 pm
398 Reliability of Transverse Plane Parameters for Tridimensional Analysis of Adult
Spinal Deformity
Speaker: V. Lafage
P. Guigu(1), F.J. Schwab(5), V. Lafage(2), W. Skalli(4)
(1)AP-HP, Paris, France, (2)Hospital for Special Surgery, Spine Research, New York, NY,
United States, (3)Hospital for Joint Diseases at NYU Langone Medical Center, Department of
Orthopaedic Surgery, New York, NY, United States, (4)Ecole Nationale Supérieure d'Arts et
Métiers, Arts et Métiers ParisTech, Paris, France, (5)Hospital for Special Surgery, Spine
Service, New York, NY, United States

5:24 pm - 5:26 pm
314 Diminished Mental Health Prior to Cervical Fusion Can Have a Profound Effect on
Patient Derived Outcomes Depending on Presenting Diagnosis: Results of a
Prospective Surgeon Driven Cervical Database at 2 Years
Speaker: J. Tishelman
Authors: B. Diebo(1), C. Jalai(2), J. Tishelman(2), G. Poorman(2), S. Horn(2), O. Bono(2), J.
Moon(2), P. Passias(2)
(1)SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States, (2)NYU Hospital for
Joint Diseases, Orthopaedic Surgery, New York, NY, United States

5:27 pm - 5:29 pm
418 A Modified Unilateral Open-door Laminoplasty Using Hydroxyapatite Laminar
Spacers and Miniplates for Cervical Spinal Stenotic Myelopathy: Surgical Results in 50
Cases
Speaker: S.-H. Kim
Lim(1)
(1)Korea University Ansan Hospital, Department of Neurosurgery, Ansan, Korea, Republic of
345 Slumped Seated Posture Causes Compensatory Hyperlordosis of the Lower Cervical (C2-C7) Spine – Radiographic Investigation in a Cohort of Asymptomatic Adults

Speaker: R. Havey
(1)Loyola University Chicago, Orthopaedic Surgery and Rehabilitation, Maywood, IL, United States, (2)Edward Hines Jr. VA Hospital, Hines, IL, United States, (3)Bordeaux University Hospital, Bordeaux, France, (4)Hopital La Tour, Meyrin, Switzerland

395 Reciprocal Changes in Lower Extremities and Cervical Alignment with Thoracolumbar Alignment Correction

Speaker: A.J. Buckland
(1)Hospital for Joint Diseases at NYU Langone Medical Center, Department of Orthopaedic Surgery, New York, NY, United States, (2)SUNY Downstate College of Medicine, Brooklyn, NY, United States, (3)SUNY Downstate Medical Center, Brooklyn, NY, United States, (4)Hospital for Special Surgery, Spine Research, New York, NY, United States, (5)NYU School of Medicine, New York, NY, United States, (6)Temple University Hospital, Philadelphia, PA, United States, (7)University of Vermont College of Medicine, Burlington, VT, United States, (8)Hospital for Special Surgery, Spine Service, New York, NY, United States

582 Ranges of Cervical Intervertebral Disc Deformation during in-vivo Dynamic Flexion-extension of the Neck

Speaker: Y. Yu
Authors: Y. Yu, H. Mao, J.-S. Li, T.-Y. Tsai, K. Khan, L. Cheng, K. Wood, G. Li, T. Cha
(1)Massachusetts General Hospital/ Harvard Medical School, Orthopaedic Surgery, Boston, MA, United States, (2)Stanford University Medical Center, Palo Alto, CA, United States

580 The Effect of Aging on Cervical Parameters in a Normative North American Population

Speaker: D. Stein
Authors: J. Iorio, J. Henry, R. Lafage, B. Liabaud, D. Stein, J. Varghese, B. Sides, M. Gupta, V. Lafage, F. Schwab, L. Lenke, H.J. Kim
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)NYU Langone Medical Center, New York, NY, United States, (3)SUNY Downstate Medical Center, Department of Orthopaedic Surgery, Brooklyn, NY, United States, (4)Washington University School of Medicine, Department of Orthopaedic Surgery, St. Louis, MO, United States, (5)Columbia University Medical Center, Department of Orthopaedic Surgery, New York, NY, United States

521 Assessment of Subsidence using Quantitative Motion Analysis on 30 Initial Patients using Additive Manufactured Titanium Truss Interbody Cervical Cages

Speaker: C. Carmody
Authors: C. Carmody
(1)Texas Back InstituteSpine Consultants, Addison, NC, United States

380 Lumbar Stenosis Severity Predicts Worsening Sagittal Malalignment on Full-body Standing Stereoroangiographs

Speaker: A.J. Buckland
(1)Hospital for Joint Diseases at NYU Langone Medical Center, Department of Orthopaedic Surgery, New York, NY, United States, (2)SUNY Downstate College of Medicine, New York, NY, United States, (3)Denver International Spine Center, Denver, CO, United States
5:48 pm - 5:50 pm  
97 Narcotic Consumption Following Anterior Cervical Discectomy and Fusion: A Comparison between Hospital and Ambulatory-based Surgery Centers  
Speaker: K. Yom  
Authors: B. Mayo(1), D. Bohl(1), A. Narain(1), F. Hijji(1), K. Kudaravalli(1), K. Yom(1), K. Singh(1)  
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

5:51 pm - 5:53 pm  
458 Randomized Controlled Trial between Two Different Cervical Disc Arthroplasty Implants - Four Year Follow-up  
Speaker: P. Karpe  
(1)University Hospital of North Tees, Spinal Unit, Stockton-on-Tees, United Kingdom, (2)Health Education North West, Manchester, United Kingdom, (3)Northumbria Healthcare NHS Foundation Trust, North Tyneside General Hospital, United Kingdom

5:54 pm - 5:56 pm  
302 Radiation Exposure to the Surgeon During Minimally Invasive Spine Procedures is Directly Related to Patient Dose  
Speaker: R. Isaacs  
Authors: R. Isaacs(1)  
(1)Duke University, Neurosurgery, Durham, NC, United States

5:57 pm - 5:59 pm  
626 Are the Cervical Spines of “Whiplash” Patients Different?  
Speaker: M.F. Gornet  
Authors: M.F. Gornet(1), J.A. Hipp(2), A.G. Copay(3), F.W. Schranck(3)  
(1)Orthopedic Center of St. Louis, St. Louis, MO, United States, (2)Medical Metrics, Inc., Houston, TX, United States, (3)SPIRITT Research, St Louis, MO, United States

6:00 pm - 6:10 pm  
Discussion

5:00 pm - 6:10 pm  
Oral Posters: Adult Spinal Deformity  
Moderator(s): Jean-Charles LeHuec, MD, PhD

5:00 pm - 5:02 pm  
32 A Prospective Evaluation of Sleep Quality in Patients who Undergo Spine Surgery  
Speaker: M. Swann  
Authors: M. Swann(1), R. Reddy(1), T. Mange(1), D. Riepen(1), H. Box(1), B. Schell(1), M. Wiley(1), J. Romero(1), M. Khaleel(1)  
(1)University of Texas Southwestern Medical Center, Orthopaedic Surgery, Dallas, TX, United States

5:03 pm - 5:05 pm  
616 Understanding Variability in Pelvic Tilt (PT) Response to Spinal Deformity Correction in Adult Spinal Deformity (ASD)  
Speaker: R. Lafage  
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)University of Virginia Medical Center, Department of Neurosurgery, Charlottesville, VA, United States, (3)San Francisco Medical Center, University of California, Department of Neurosurgery, San Francisco, CA, United States, (4)Baylor Scoliosis Center, Plano, TX, United States, (5)Scripps Clinic Torrey Pines, La Jolla, CA, United States, (6)University of Kansas Medical Center, Department of Orthopaedic Surgery, Kansas City, KS, United States, (7)NYU Langone Medical Center, Spine Division, Department of Orthopaedics, New York, NY, United States, (8)University of California, Davis, Department of Orthopedic Surgery, Sacramento, CA, United States
5:06 pm - 5:08 pm  
**397 Does Pelvic Incidence Increase with Age? - An Analysis of 1625 Adults**  
Speaker: H. Bao  
(1)Hospital for Special Surgery, New York, NY, United States, (2)SUNY Downstate Medical Center, Brooklyn, NY, United States, (3)Hospital for Special Surgery, Spine Research, New York, NY, United States, (4)University of Vermont College of Medicine, Burlington, VT, United States, (5)Hospital for Joint Diseases at NYU Langone Medical Center, Department of Orthopaedic Surgery, New York, NY, United States, (6)Temple University Hospital, Philadelphia, PA, United States, (7)Hospital for Special Surgery, Spine Service, New York, NY, United States

5:09 pm - 5:11 pm  
**343 Gait Analysis in Adult Degenerative Scoliosis Patients Compared to Normal Controls**  
Speaker: I. Lieberman  
Authors: R. Haddas(1), S. Aghyarian(1), I. Lieberman(2)  
(1)Texas Back Institute, Research Foundation, Plano, TX, United States, (2)Texas Back Institute, Plano, TX, United States

5:12 pm - 5:14 pm  
**501 Sagittal Spinal and Pelvic Parameters in Patients with Scheuermann’s Disease**  
Speaker: I. Lieberman  
Authors: S. Farhan(1), M. Eichler(1), X. Hu(2), I. Lieberman(2), T. Belanger(3), A. Pendi(1), S. Bederman(4)  
(1)University of California Irvine, Irvine, CA, United States, (2)Texas Back Institute, Texas Health Presbyterian Hospital Plano, Scoliosis and Spine Tumor Center, Plano, TX, United States, (3)Texas Back Institute, Plano, TX, United States, (4)Restore Orthopedics & Spine Center, Orange, CA, United States

5:15 pm - 5:17 pm  
**595 Revealing Different Compensation Model in Asymptomatic Adults: A Cluster Analysis with a Prospective Cohort of Volunteers**  
Speaker: R. Lafage  
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)Spine Service, Hospital for Special Surgery, Spine Service, New York, NY, United States, (3)NYU Langone Medical Center, Spine Division, Department of Orthopaedics, New York, NY, United States, (4)Washington University School of Medicine, Department of Orthopaedic Surgery, St. Louis, MO, United States

5:18 pm - 5:20 pm  
**341 Gait Analysis Comparing Walking Sticks versus a Walker in Patients with Adult Degenerative Scoliosis**  
Speaker: R. Haddas  
Authors: R. Haddas(1), A. Bozzo(1), S. Aghyarian(1), I. Lieberman(2)  
(1)Texas Back Institute, Research Foundation, Plano, TX, United States, (2)Texas Back Institute, Plano, TX, United States

5:21 pm - 5:23 pm  
**587 Do Oswestry Disability Index and Sagittal Alignment Parameters on Standing Radiographs Predict Endurance for the Sitting Position in Adult Spinal Deformity?**  
Speaker: J. Varghese  
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)SUNY Downstate Medical Center, Department of Orthopaedic Surgery, Brooklyn, NY, United States, (3)NYU Langone Medical Center, New York, NY, United States, (4)University of Virginia Medical Center, Charlottesville, VA, United States, (5)Norton Leatherman Spine Center,
241 Smoking and Low Back Pain in Korean Adults
Speaker: Y. Park
Authors: Y. Park(1), H.Y. Pak(2)
(1)Yonsei University College of Medicine / National Health Insurance Service Ilsan Hospital, Department of Orthopedic Surgery, Goyang, Korea, Republic of, (2)National Health Insurance Service Ilsan Hospital, Goyang, Korea, Republic of

516 A Modular Large Footprint Interbody in Adult Spinal Deformity Patients
Speaker: W. Lavelle
Authors: W. Lavelle(1), R. Tallarico(1)
(1)SUNY Upstate Medical University, Department of Orthopedic Surgery, Syracuse, NY, United States

604 Orientation of the Upper Instrumented Segment Influences Proximal Junctional Disease Following Adult Spinal Deformity (ASD) Surgery
Speaker: R. Lafage
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)Rocky Mountain Hospital For Children Denver, Denver, CO, United States, (3)University of Virginia Medical Center, Department of Neurosurgery, Charlottesville, VA, United States, (4)Norton Leatherman Spine Center, Louisville, KY, United States, (5)San Francisco Medical Center, University of California, Department of Neurosurgery, San Francisco, CA, United States, (6)Baylor Scoliosis Center, Plano, TX, United States, (7)Scripps Clinic Torrey Pines, La Jolla, CA, United States, (8)NYU Langone Medical Center, Spine Division, Department of Orthopedics, New York, NY, United States, (9)University of California, Davis, Department of Orthopedic Surgery, Sacramento, CA, United States

286 Morbidity of Adult Spinal Deformity Surgery in Elderly Has Declined Over Time
Speaker: A. Sure
(1)NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (2)Johns Hopkins University School of Medicine, Neurosurgery, Baltimore, MD, United States, (3)SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States, (4)Denver International Spine Center, Denver, CO, United States, (5)Hospital for Special Surgery, New York, NY, United States

340 Predictive Model for Patient-reported Outcomes Scores Following Cervical Spine Deformity Surgical Correction
Speaker: D. Montes
(1)NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (2)NYU Langone Medical Center, New York, NY, United States, (3)Hospital for Special Surgery, New York, NY, United States, (4)SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States, (5)University of Illinois at Chicago, Neurosurgery, Chicago, IL, United States, (6)University of Virginia Medical Center, Neurosurgery, Charlottesville, VA, United States, (7)University of Kansas Medical Center, Department of Orthopaedic Surgery, Kansas City, KS, United States, (8)University of California, Department of Orthopaedic Surgery, Sacramento, CA, United States, (9)Oregon Health and Science University, Orthopaedic Surgery, Portland, OR, United States
5:39 pm - 5:41 pm 277 The Impact of Obesity on Compensatory Mechanisms in Response to Progressive Sagittal Malalignment
Speaker: S. Horn
Authors: C. Jalai(1), B. Diebo(2), D. Cruz(1), G. Poorman(1), S. Vira(1), S. Horn(1), J. Moon(1), B. Beaubrun(1), A. Buckland(1), R. Lafage(3), S. Bess(4), T. Errico(1), V. Lafage(3), P. Passias(1)
(1) NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (2) SUNY Downstate, Orthopaedic Surgery, New York, NY, United States, (3) Hospital for Special Surgery, New York, NY, United States, (4) Denver International Spine Center, Denver, CO, United States

5:42 pm - 5:44 pm 88 Lateral Interbody Fusion without Muscle Relaxants: Early Experience with Adverse Events and Technical Considerations
Speaker: G. Fogel
Authors: G. Fogel(1), L. Rosen(2), I. Cheng(3)
(1) Spinepainbegone, San Antonio, TX, United States, (2) Star Anesthesia, San Antonio, TX, United States, (3) Stanford U, Orthopedics, Las Angeles, CA, United States

5:45 pm - 5:47 pm 517 Revision Adult Spinal Deformity Surgery: Does the Number of Previous Operations Have a Negative Impact on Patient Outcome?
Speaker: I. Lieberman
Authors: S. Farhan(1), M. Eichler(1), X. Hu(2), I. Lieberman(2), T. Belanger(3), A. Pendi(1), S. Bederman(4)
(1) University of California Irvine, Irvine, CA, United States, (2) Texas Back Institute, Texas Health Presbyterian Hospital Plano, Scoliosis and Spine Tumor Center, Plano, TX, United States, (3) Texas Back Institute, Plano, TX, United States, (4) Restore Orthopedics & Spine Center, Orange, CA, United States

5:48 pm - 5:50 pm 596 The Impact of Pre-operative Supine Radiographs on Surgical Strategy in Adult Spinal Deformity
Speaker: J. Varghese
(1) Hospital for Special Surgery, Spine Service, New York, NY, United States, (2) SUNY Downstate Medical Center, Department of Orthopaedic Surgery, Brooklyn, NY, United States, (3) San Francisco Medical Center, University of California, Department of Neurosurgery, San Francisco, NY, United States, (4) University of Virginia Medical Center, Department of Neurosurgery, Charlottesville, VA, United States, (5) Norton Leatherman Spine Center, Louisville, KY, United States, (6) NYU Langone Medical Center, Spine Division, Department of Orthopaedics, New York, NY, United States

5:51 pm - 5:53 pm 586 CT Guided Pre-operative Key Wire Insertion for Pedicle Screws Intra-operative Guidance, about 136 Cases and 1370 Screws
Speaker: T. Marnay
Authors: T. Marnay
(1) Montpellier Centre de Chirurgie Vertébrale, Spine Department, Castelnau-le Lez, France

5:54 pm - 5:56 pm 611 Impact of Radiculopathy on Patients Reported Outcomes (PRO): A Propensity Matched Study on 386 Adult Spinal Deformity Patients with and without Leg Pain
Speaker: T. Pannu
(1) Hospital for Special Surgery, Spine Service, New York, NY, United States, (2) Northwestern University Feinberg School of Medicine, Department of Neurological Surgery, Chicago, IL,
5:00 pm - 6:10 pm  Discussion

5:00 pm - 6:10 pm  Oral Posters: Values and Outcomes in Spine Surgery
Moderator(s): Larry Khoo, MD

5:00 pm - 5:02 pm  374  Effect of a Comprehensive Pre-surgical Education Program on the Anxiety Levels of Patients with Spinal Disorders: A Prospective Study
Speaker: S. Brice
Authors: X. Hu(1), A. Block(2), S. Brice(1), S. Bederman(1), I. Lieberman(1)
(1) Texas Back Institute, Texas Health Presbyterian Hospital Plano, Scoliosis and Spine Tumor Center, Plano, TX, United States, (2) Texas Back Institute, Plano, TX, United States

5:03 pm - 5:05 pm  523  Revision Rates after Lumbar Discectomy: A 7-year Survivorship Analysis of National Databases
Speaker: S. Virk
Authors: S. Virk(1), N. Jain(1), F. Phillips(2), H. Sandhu(3), A. Diwan(4), S. Khan(1)
(1) Ohio State University, Orthopaedics, Columbus, OH, United States, (2) Rush University Medical Center, Orthopaedics, Chicago, IL, United States, (3) Hospital for Special Surgery, Orthopaedics, New York, NY, United States, (4) University of New South Wales, Orthopaedics, Sydney, NSW, Australia

5:06 pm - 5:08 pm  311  Demographic and Surgical Risk Factors for Dysphagia Associated with ACDF Surgery, Acquisition versus Retention - A 7 Year Study of 732 Consecutive Surgeries
Speaker: D. Bullard
Authors: D. Bullard(1), S. Evans(1), A. Seaman(1)
(1) Triangle Neurosurgery, Raleigh, NC, United States

5:09 pm - 5:11 pm  359  Adjacent Segment Degeneration after Lumbar Total Disc Replacement: 5-year Results of a Multicenter, Prospective, Randomized Study with Independent Radiographic Assessment
Speaker: R. Guyer
Authors: R. Guyer(1), J. Zigler(1), D. Ohnmeiss(2)
(1) Texas Back Institute, Plano, TX, United States, (2) Texas Back Institute Research Foundation, Plano, TX, United States

5:12 pm - 5:14 pm  306  Normal Age-adjusted Sagittal Spinal Alignment Is Achieved With Surgical Correction in Adolescent Idiopathic Scoliosis
Speaker: J.Y. Moon
Authors: N.A. Foster(1), S. Ramchandran(2), L.M. Day(3), R. Lafage(4), V. Lafage(4), T.J. Errico(2), A.J. Buckland(2)
(1) Duke University Medical Center, Department of Orthopaedic Surgery, Durham, NC, United States, (2) Hospital for Joint Diseases at NYU Langone Medical Center, Department of Orthopaedic Surgery, New York, NY, United States, (3) SUNY Downstate College of Medicine, New York, NY, United States, (4) Hospital for Special Surgery, Spine Research, New York, NY, United States

5:15 pm - 5:17 pm  72  Is Propionibacterium Acnes Becoming the Most Common Bacteria of Postoperative Infection Following Adolescent Idiopathic Scoliosis Surgery
Speaker: M. Kardile
Survival Analysis and Prognostic Factors for Primary Spinal Cord Glioblastoma Surgery: Based on the 14 Years of Registry from Single Institution
Speaker: S. Yi
(1) Spine and Spinal Cord Institute, Yonsei University, College of Medicine, Neurosurgery, Seoul, Korea, Republic of.

Incidence, Epidemiology, and Treatment Trends for Spinal Epidural Abscesses - A Single Institution 10 Year Retrospective Analysis
Speaker: N. Jain
Authors: A. Bucca(1), Z. Denham(1), J. Darnley(1), N. Jain(2), K. Stammen(1), R. Rauck(3), S. Virk(2), S. Khan(2)
(1) Ohio State University, Columbus, OH, United States, (2) Ohio State University, Orthopaedics, Columbus, OH, United States, (3) Hospital for Special Surgery, Orthopaedics, New York, NY, United States

The Safety and Efficacy of Minimally Invasive Transforaminal Lumbar Interbody Fusion
Speaker: C. Wade
Authors: M. Flood(1), J. Weber(1), M. Weiss(1), C. Wade(2), R. Davis(1)
(1) Laser Spine Institute, Tampa, FL, United States, (2) Auburn University, Industrial and Systems Engineering, Auburn, AL, United States

Predicting Reciprocal Changes and Proximal Junctional Kyphosis (PJK) in the Unfused Thoracic Spine
Speaker: J. Elysée
(1) Hospital for Special Surgery, Spine Service, New York, NY, United States, (2) Oregon Health Sciences University, Department of Orthopaedic Surgery, Portland, OR, United States, (3) University of Virginia Medical Center, Department of Neurosurgery, Charlottesville, VA, United States, (4) NYU Langone Medical Center, Spine Division, Department of Orthopaedics, New York, NY, United States, (5) San Francisco Medical Center, University of California, Department of Neurosurgery, San Francisco, NY, United States, (6) Scripps Clinic Torrey Pines, La Jolla, CA, United States, (7) University of Kansas Medical Center, Department of Orthopaedic Surgery, Kansas City, KS, United States, (8) University of California, Davis, Department of Orthopedic Surgery, Sacramento, CA, United States

1 year Follow-up on AIS Patients Treated with a Hybrid Implant Construct Including 2nd Generation Sublaminar Bands and Connectors
Speaker: E. Rebich
Authors: A. Aminian(1), E. Rebich(1)
(1) Children’s Hospital Orange County, Orthopedic Sugery, Orange, CA, United States

Disseminated Intravascular Coagulopathy (DIC) Following Spinal Fusion for Congenital and Idiopathic Scoliosis: A Study on Nationwide Kid’s Inpatient Database (KID)
Speaker: P. Zhou
(1) SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States, (2) NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (3) Hospital for Special Surgery, Spine Service, New York, NY, United States
5:36 pm - 5:38 pm  Are Large Anular Defects in Primary Lumbar Discectomy Patients a Predictor of Increased Risk for Early Recurrent Herniation and Readmission? A Comparison of Prospectively Collected Large Defect Discectomy Data to the Literature
Speaker: A. Araghi
Authors: A. Araghi(1), P.D. Klassen(2), C. Thome(3), Anular Closure RCT Study Group (1)The Core Institute, Phoenix, AZ, United States, (2)St. Bonifatius Hospital, Lingen, Germany, (3)University of Innsbruck, Innsbruck, Austria

5:39 pm - 5:41 pm  90-day Bundled Payment for Primary Single Level Lumbar Discectomy/Decompression: What Does ‘Big Data’ Say?
Speaker: N. Jain
Authors: N. Jain(1), S. Virk(1), F. Phillips(2), S. Khan(1) (1)Ohio State University, Orthopaedics, Columbus, OH, United States, (2)Rush University Medical Center, Orthopaedics, Chicago, IL, United States

5:42 pm - 5:44 pm  Psychological Burden of Musculoskeletal Diseases: Investigation on Spine, Hip and Knee In-Hospital Patients
Speaker: J. Moon
Authors: B. Diebo(1), C. Jalai(2), G. Poorman(2), S. Horn(2), J. Moon(2), Q. Naziri(1), T. Errico(2), A. Patel(1), V. Lafage(3), C. Paulino(1), P. Passias(2) (1)SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States, (2)NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (3)Hospital for Special Surgery, Spine Service, New York, NY, United States

5:45 pm - 5:47 pm  The Influence of Psychosocial Issues into the Result of Elective Lumbar Spine Surgery
Speaker: F. Marcelino
Authors: V. Amaral(1), H. Martim(1), L. Marchi(1), R. Amaral(1), J. Nogueira-Neto(1), L. Oliveira(1), E. Coutinho(1), N. Faulhaber(1), F. Marcelino(1), R. Jensen(1), L. Pimenta(1,2) (1)Instituto de Patologia da Coluna, Sao Paulo, Brazil, (2)UCSD, Neurosurgery, San Diego, CA, United States

5:48 pm - 5:50 pm  Feasibility of Modified E-PASS and POSSUM System for Preoperative Risk Assessment in Patients with Spinal Disease
Speaker: S. Yi
Authors: S. Yi(1), D. Kim(1), D.H. Chun(1), D.A. Shin(1), Y. Ha(1), K.N. Kim(1), D.H. Yoon(1) (1)Spine and Spinal Cord Institute, Yonsei University, College of Medicine, Neurosurgery, Seoul, Korea, Republic of

5:51 pm - 5:53 pm  Measurement Performance of a Vertebral Motion Analysis System in Evaluating Segmental Cervical Motion
Speaker: C. Wade
Authors: S. Chang(1), B. Kelly(1), B. Santoni(2), P. Simon(2), C. Wade(3) (1)Barrow Neurological Institute, Phoenix, AZ, United States, (2)Foundation for Orthopedic Research and Education (FORE), Tampa, FL, United States, (3)Auburn University, Industrial and Systems Engineering, Auburn, AL, United States

5:54 pm - 5:56 pm  Venous Thromboprophylaxis in Post-operative Spine Patients
Speaker: P. Dermarkarian
Authors: P. Dermarkarian(1), M. Bender(2), J. Billys(3) (1)University of South Florida / Florida Orthopaedic Institute, Orthopaedic Surgery, Tampa, FL, United States, (2)University of South Florida, Tampa, FL, United States, (3)Florida Orthopedic Institute, Spine Surgery, Tampa, FL, United States

5:57 pm - 5:59 pm  Standing vs. Lateral Decubitus Imaging: The Influence on Lumbar Lordosis Angle Measurements and the Pelvic Incidence Minus Lumbar Lordosis Interval
Speaker: C. Wade
6:00 pm - 6:10 pm  Discussion

5:00 pm - 6:10 pm  Oral Posters: Thoraco-lumbar Degenerative
Moderator(s): Gabriel Liu, MD

5:00 pm - 5:02 pm  464 Intraradicular and Dorsal Epidural Enhancement in Lumbar Spinal Stenosis
Patients on Gadolinium-Enhanced MRI with Fat Suppression - Is the Grading of Spinal
Stenosis Possible ?
Speaker: Y.J. Jin
Authors: Y.J. Jin(1)
(1)Seoul Paik Hospital, College of Medicine, Inje University, Department of Neurosurgery,
Seoul, Korea, Republic of

5:03 pm - 5:05 pm  688 Demographics, Mechanisms of Injury and Concurrent Injuries Associated with
Thoracic Spine Injuries: A Study of 70,382 Patients
Speaker: N. Anandasivam
Authors: N. Anandasivam(1), N. Ondeck(1), A. Samuel(2), D. Bohl(3), J. Grauer(1)
(1)Yale University, Orthopedics and Rehabilitation, New Haven, CT, United States, (2)Hospital
for Special Surgery, Orthopedics, New York, NY, United States, (3)Rush University Medical
Center, Orthopedics, Chicago, IL, United States

5:06 pm - 5:08 pm  376 Factors Affecting Patient Activation in Individuals Undergoing Spine Surgery: A
Prospective Study
Speaker: X. Hu
Authors: X. Hu(1), A. Block(2), S. Bederman(1), I. Lieberman(1)
(1)Texas Back Institute, Texas Health Presbyterian Hospital Plano, Scoliosis and Spine Tumor
Center, Plano, TX, United States, (2)Texas Back Institute, Plano, TX, United States

5:09 pm - 5:11 pm  179 Inpatient Pain Scores and Narcotic Utilization Based on American Society of
Anesthesiologists Score after Cervical and Lumbar Spinal Fusion
Speaker: A. Narain
Authors: A. Narain(1), F. Hijji(1), W. Long(1), K. Yom(1), K. Kudaravalli(1), N. Shoshana(1), K.
Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

5:12 pm - 5:14 pm  697 Optimal Cement Dosage and Configuration for Prophylactic Vertebroplasty Above
Long Thoracolumbar Fusion Constructs to Reduce Proximal Junction Kyphosis (PJK):
A Finite Element Model
Speaker: J. Zavatsky
Authors: D. Briski(1), J. Zavatsky(2), R. McGuire(3)
(1)Ochsner Medical Center, New Orleans, LA, United States, (2)Spine and Scoliosis
Specialists, Tampa, FL, United States, (3)University of Mississippi Medical Center, Jackson,
MS, United States

5:15 pm - 5:17 pm  491 Annular and Periannular Epidural Venous Plexus Enhancement on a Gadolinium-
enhanced MRI with Fat Suppression – Significance in Diagnosis of Lumbar, Buttock,
and Leg Pain - The Localization of Discogenic Pain Site
Speaker: Y.J. Jin
Authors: Y.J. Jin(1)
(1)Seoul Paik Hospital, College of Medicine, Inje University, Department of Neurosurgery,
Seoul, Korea, Republic of

5:18 pm - 5:20 pm  634 The Incidence of Postoperative Sagittal Imbalance after Varying Forms of Lumbar
Fusion
299 What Is the Role of Epidural Steroid Injections in Lumbar Spinal Disease with Moderate Disability?
Speaker: J-Y Hong
Authors: J.-Y. Hong(1), S.-W. Suh(1), J.-H. Yang(1), S.-W. Han(1)
(1)Korea University Medical Center, Seoul, Korea, Republic of

338 Variations of Lumbopelvic Alignment in Standing, Seated and Slumped Postures in a Cohort of Asymptomatic Adults: Implications for Lumbar Fusion Surgery
Speaker: A. Patwardhan
Authors: A. Patwardhan(1,2), F. Jabbour(3), R. Havey(1,2), S. Khayatzadeh(2), J.-C. Le Huec(3), E. Cohen(2), L. Lomasney(1), A. Faundez(4), L. Voronov(1,2)
(1)Loyola University Chicago, Orthopaedic Surgery and Rehabilitation, Maywood, IL, United States, (2)Edward Hines Jr. VA Hospital, Hines, IL, United States, (3)Bordeaux University Hospital, Bordeaux, France, (4)Hopital La Tour, Meyrin, Switzerland

703 Increasing Pelvic Incidence Recruits Upper Lumbar Levels into the Lordotic Curve - A Radiographic Analysis of Standing Lumbopelvic Balance in Asymptomatic Subjets
Speaker: A. Patwardhan
Authors: A. Patwardhan(1,2), S. Khayatzadeh(2), A. Faundez(3), R. Havey(1,2), G. Carandang(2), L. Voronov(1,2), J.C. Le Huec(4)
(1)Loyola University Chicago, Orthopaedic Surgery and Rehabilitation, Maywood, IL, United States, (2)Edward Hines Jr. VA Hospital, Hines, IL, United States, (3)Bordeaux University Hospital, Bordeaux, France, (4)Hopital La Tour, Meyrin, Switzerland

481 Trans-sacral Epiduroscopic Laser Decompression (SELD) for the Treatment of Symptomatic Lumbar Disc Herniations (LDH): Single Center Experience of Clinical and Radiologic Results In Minimum 12-months Follow-up
Speaker: H-J Cho
(1)Seoul St. Mary’s Hospital, The Catholic University of Korea, Neurosurgery, Seoul, Korea, Republic of

695 Maintenance of Competence to Practice Spine Surgery: Do We Know How Many Cases Are Required?
Speaker: J. Zigler
Authors: J. Zigler(1), R. Guyer(1)
(1)Texas Back Institute, Plano, TX, United States

238 Individual Collagen Fibril Thickening and Stiffening of Annulus Fibrosus in Degenerative Intervertebral Disc
Speaker: Z-P Luo
Authors: T. Liang(1), L.-L. Zhang(1), W. Xia(1), H.-L. Yang(1), Z.-P. Luo(1)
(1)Orthopaedic Institute, Department of Orthopaedics, The First Affiliated Hospital, Soochow University, Suzhou, China

190 The Long-term Sustainability of 2-level Interlaminar Stabilization and 2-Level Fusion when Compared to Respective 1-level Procedures
Speaker: S. Grinberg
Authors: S. Grinberg(1), R. Simon(1), C. Dowe(1), F. Cammisa(1), C. Abjornson(1)
(1)Hospital for Special Surgery, Integrated Spine Research Program, New York, NY, United States
5:42 pm - 5:44 pm 165 The Extent of Lumbar Decompression and its Effect on Postoperative Morbidity
Speaker: P. Maloney
Authors: P. Maloney(1), D. Shepherd(1), M. Murphy(1), B. Mccutcheon(1), E. Habermann(2),
D. Ubl(2), P. Kerezoudis(1), M. Bydon(1)
(1)Mayo Clinic, Department of Neurosurgery, Rochester, MN, United States, (2)Mayo Clinic,
Rochester, MN, United States

5:45 pm - 5:47 pm 506 Complexities of Physical and Psychosocial Variables Independently Contribute to
Resource Utilization after Lumbar Surgery
Speaker: R. Duculan
Authors: C.A. Mancuso(1,2), R. Duculan(3), F.P. Cammissa(3), A.A. Sama(3), A.P. Hughes(3),
D.R. Lebl(3), F.P. Girardi(3)
(1)Hospital for Special Surgery, Research, New York, NY, United States, (2)Weill Cornell
Medical College, Medicine, New York, NY, United States, (3)Hospital for Special Surgery,
Orthopedics, New York, NY, United States

5:48 pm - 5:50 pm 635 3D Morphologic Assessment of Normal and Abnormal Si Joints and the
Implications in the Development of Pain Syndromes
Speaker: C. Kleck
Authors: C. Kleck(1), M. Jesse(1), D. Illing(1), A. Williams(1), B. Petersen(1), K. Milligan(1), D.
Glucek(1), K. Lind(1), V. Patel(1)
(1)University of Colorado Anschutz Medical Campus, Aurora, CO, United States

5:51 pm - 5:53 pm 279 The Effect of Smoking Status on Inpatient Pain Scores Following Transforaminal
Lumbar Interbody Fusion
Speaker: F. Hijji
Authors: F. Hijji(1), A. Narain(1), B. Mayo(1), D. Massel(1), K. Yom(1), K. Kudaravalli(1), K.
Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

5:54 pm - 5:56 pm 620 Predicting Sagittal Alignment Restoration Using Modern Interbody Technique
Speaker: A. Richter
Authors: A. Richter(1), J. Deckey(1), C. Borges(1), J. Smith(1)
(1)Hoag Orthopaedic Institute, Irvine, CA, United States

5:57 pm - 5:59 pm 384 Surgery for Degenerative Conditions of the Lumbar Spine in Parkinson’s Disease –
Comparative Analysis from the Nationwide Inpatient Sample Database
Speaker: G. Poorman
Hart(6), C.P. Ames(7), S. Bess(3)
(1)Auckland City Hospital, Department of Orthopaedic Surgery, Auckland, New Zealand,
(2)Hospital for Joint Diseases at NYU Langone Medical Center, Department of Orthopaedic
Surgery, New York, NY, United States, (3)Denver International Spine Center, Denver, CO,
United States, (4)University of Virginia Medical Center, Department of Neurological Surgery,
Charlottesville, VA, United States, (5)NYU School of Medicine, Department of Population
Health, New York, NY, United States, (6)Swedish Neuroscience Institute, Department of
Neurosurgery, Seattle, WA, United States, (7)University of California, San Francisco Medical
Center, Department of Neurological Surgery, San Francisco, CA, United States

6:00 pm - 6:10 pm Discussion

5:00 pm - 6:10 pm Oral Posters: MIS
Moderator(s): James Yue, MD

5:00 pm - 5:02 pm 476 Clinical, Functional & Radiological Outcomes of Minimal Invasive Spinal
Decompression Techniques in Lumbar Canal Stenosis
Speaker: V. Gupte
Authors: V. Gupte(1)
5:03 pm - 5:05 pm 488 Circumferential Minimally Invasive Approach for Low-grade Isthmic Spondylolisthesis: A Clinical and Radiological Study of 43 Patients
Speaker: P. Tropiano
Authors: B. Blondel(1), K. Farah(2), P. Tropiano(3), S. Fuentes(2)
(1)Université Aix-Marseille, Orthopaedic Surgery, Marseille, France, (2)Université Aix-Marseille, Marseille, France, (3)Université Aix-Marseille, Spine Unit, Marseille, France

5:06 pm - 5:08 pm 119 The Sequential Transforaminal Allograft Cage (STAC) Technique. A Novel MIS Method for Posterior Interbody Fusion
Speaker: S. Mather
Authors: S. Mather(1), K. Perillo(1)
(1)Dupage Medical Group, Spine, Downers Grove, IL, United States

5:09 pm - 5:11 pm 211 Body Mass Index is Not Associated with Inpatient Pain Scores or Postoperative Narcotic Consumption following a Minimally Invasive Transforaminal Lumbar Interbody Fusion
Speaker: K. Kudaravalli
Authors: D. Massel(1), B. Mayo(1), D. Bohl(1), F. Hijji(1), A. Narain(1), K. Kudaravalli(1), K. Yom(1), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

5:12 pm - 5:14 pm 333 Expandable Technology in Minimally Invasive TLIF: A Multicenter Clinical and Radiographic Prospective Analysis of 25 Patients with Two-year Follow-up
Speaker: C. Kim
Authors: C. Kim(1), M. Smith(2), I. Luna(3), G. Joshua(3)
(1)Spine Institute of San Diego, Minimally Invasive Spine Center of Excellence, San Diego, CA, United States, (2)Carolina Neurosurgery and Spine Associates, Charlotte, NC, United States, (3)Globus Medical, Post-Market Clinical Research, Audubon, PA, United States

5:15 pm - 5:17 pm 467 What is the Minimal Clinical Important Difference (MCID) in Patients Undergoing Circumferential Minimally Invasive Correction (CMIS) Correction of Adult Spinal Deformity (ASD)?
Speaker: N. Anand
Authors: N. Anand(1), J. Cohen(1), R. Cohen(1), B. Khandehroo(1), S. Kahwaty(1), E. Baron(1)
(1)Cedars Sinai Medical Center, Spine Center, Los Angeles, CA, United States

5:18 pm - 5:20 pm 639 Pedicile Screw Insertion in Spine: A Randomized Controlled Study between Robot-assisted Surgery and Fluoroscopy-guided Method
Speaker: W. Tian
Authors: W. Tian(1), M. Fan(1), Y. Liu(1)
(1)Beijing Jishuitan Hospital, Beijing, China

5:21 pm - 5:23 pm 99 Patient Outcomes for Single & Multilevel Spinal Fusion at an Independent Ambulatory Surgery Center (ASC)
Speaker: A. Deukmedjian
Authors: A. Deukmedjian(1), E. Mason(1), A. Cianciabella(1)
(1)Deuk Spine Foundation, Melbourne, FL, United States

5:24 pm - 5:26 pm 401 Risk Assessment of Abdominal and Retroperitoneal Organ Injuries Performing Transforaminal Percutaneous Endoscopic Lumbar Discectomy
Speaker: F. Tezuka
(1)Tokushima University, Orthopedics, Tokushima, Japan
644 Comparison of Outcomes for Lumbar Fusion in the Treatment of Degenerative Spondylolisthesis and Degenerative Disc Disease Using Contemporary Fusion Techniques: A Prospective Study  
Speaker: G. Lopez  
Authors: F. Phillips(1), G. Lopez(2), K. Kajavi(3), A. Kanter(4), M. Peterson(5)  
(1)Midwest Orthopaedics at Rush University, Spine Surgery, Chicago, IL, United States, (2)Midwest Orthopaedics at Rush University, Spine, Chicago, IL, United States, (3)Georgia Spine and Neurosurgery Institute, Atlanta, GA, United States, (4)University of Pittsburgh, Pittsburgh, PA, United States, (5)Southern Oregon Spine Care, Medford, OR, United States

708 Evaluation of Techniques to Achieve Proper Vertebral Body Alignment in Minimally Invasive Spine Surgery: A CT Analysis of Lumbar Spine Anatomy  
Speaker: A. Kumar  
Authors: A. Kumar(1), A. Su(2), V. Sundaram(2), A. Doshi(2), S. Qureshi(3)  
(1)Louisiana State University, New Orleans, LA, United States, (2)Mount Sinai Medical Center, Department of Radiology, New York, NY, United States, (3)Mount Sinai Medical Center, Department of Orthopedic Surgery, New York, NY, United States

231 Multi-expandable Cages for Minimally Invasive Posterior/Tranforaminal Lumbar Interbody Fusion - A Preliminary Report  
Speaker: J. Coe  
Authors: J. Coe(1), D. Kucharzyk(2), K. Poelstra(3), J. Ammerman(4), S. Kunwar(5)  
(1)Silicon Valley Spine Institute, Campbell, CA, United States, (2)Orthopaedic, Pediatric and Spine Institute, Crown Point, IN, United States, (3)Sacred Heart Hospital on the Emerald Coast, Department of Surgery, Miramar Beach, FL, United States, (4)Washington Neurosurgical Associates/Sibley Memorial Hospital, Washington, DC, United States, (5)Bell Neuroscience Institute, Washington Hospital Healthcare System, Fremont, CA, United States

25 The Safety Profile of Percutaneous Minimally Invasive Sacroiliac Joint Fusion: A Systematic Review and Meta-analysis  
Speaker: A. Shamrock  
Authors: A. Shamrock(1), A. Patel(1), M. Al Maaieh(1)  
(1)University of Miami, Department of Orthopaedic Surgery, Miami, FL, United States

24-month Clinical Evaluation of Radiographic Fusion after Minimally Invasive Sacroiliac Joint Fusion Surgery  
Speaker: W. Cross  
Authors: W. Cross(1), A. Delbridge(2), D. Hales(3)  
(1)Mayo Clinic, Rochester, MN, United States, (2)Cedar Valley Medical Specialists, Waterloo,
5:48 pm - 5:50 pm 465 Analysis of Operative Outcomes in Elderly Patients Following Circumferential Minimally Invasive Surgical (CMIS) Correction of Adults Spinal Deformity (ASD)
Speaker: N. Anand
Authors: N. Anand(1), J. Cohen(1), R. Cohen(1), B. Khandehroo(1), S. Kahwaty(1), E. Baron(1)
(1)Cedars Sinai Medical Center, Spine Center, Los Angeles, CA, United States

5:51 pm - 5:53 pm 474 Comparison of Percutaneous vs. Open Instrumentation for Spinal Deformity Correction
Speaker: G. Anderson
Authors: D. Mazzafferro(1,2), A. Vaccaro(1), D.G. Anderson(1)
(1)Rothman Institute, Thomas Jefferson University, Philadelphia, PA, United States, (2)Drexel University College of Medicine, Philadelphia, PA, United States

5:54 pm - 5:56 pm 636 Evaluating the Feasibility of Minimally Invasive Lateral Mass Screw Instrumentation of the Cervical Spine: A Cadaveric Study
Speaker: A. Kumar
Authors: A. Kumar(1), R. Merrill(2), S. Qureshi(3)
(1)Louisiana State University, New Orleans, LA, United States, (2)Icahn School of Medicine at Mount Sinai, New York, NY, United States, (3)Mount Sinai Medical Center, Department of Orthopedic Surgery, New York, NY, United States

5:57 pm - 6:10 pm Discussion

Thursday, April 13, 2017

8:00 am - 8:50 am General Session: Adult Spinal Deformity
Moderator(s): Ricardo Fontes, MD; Hanjo Kim, MD

8:00 am - 8:04 am 394 Measurement of Spinopelvic Angles on Prone Intraoperative Long-cassette Lateral Radiographs Predicts Postoperative Standing Global Alignment in Adult Spinal Deformity
Speaker: J.H. Oren
(1)SBH Health System, Orthopedic Surgery, Bronx, NY, United States, (2)SUNY Downstate College of Medicine, Brooklyn, NY, United States, (3)Auckland City Hospital, Department of Orthopaedic Surgery, Auckland, New Zealand, (4)Duke University Medical Center, Orthopedic Surgery, Durham, NC, United States, (5)New York Langone Medical Center, New York, NY, United States, (6)Hospital for Joint Diseases at NYU Langone Medical Center, Department of Orthopaedic Surgery, New York, NY, United States, (7)Temple University Hospital, Department of Orthopaedic Surgery and Sports Medicine, Philadelphia, PA, United States, (8)University of Vermont College of Medicine, Burlington, VT, United States, (9)Denver International Spine Center, Denver, CO, United States

8:05 am - 8:09 am 387 Analysis of Lumbar Flexibility on Supine MRI and CT May Reduce the Need for More Invasive Spinal Osteotomy in Adult Spinal Deformity Surgery
Speaker: A.J. Buckland
(1)Auckland City Hospital, Department of Orthopaedic Surgery, Auckland, New Zealand, (2)SUNY Downstate College of Medicine, New York, NY, United States, (3)SBH Health
8:10 am - 8:14 am 452 Reproducibility and Equivalence of CobbMeter App for Spino-pelvic Sagittal Parameters
Speaker: L. Pimenta
Authors: L. Marchi(1), F. Fortti(1), R. Amaral(1), L. Oliveira(1), J. Nogueira-Neto(1), R. Jensen(1), L. Pimenta(1,2)
(1)Instituto de Patologia da Coluna, Sao Paulo, Brazil, (2)UCSD, Neurosurgery, San Diego, CA, United States

8:15 am - 8:19 am 581 Principal Radiographic Characteristics for Cervical Spinal Deformity: A Health-related Quality of Life Analysis
Speaker: D. Stein
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)State University of New York (SUNY), New York, NY, United States, (3)NYU Langone Medical Center, New York, NY, United States, (4)SUNY Downstate Medical Center, Department of Orthopaedic Surgery, Brooklyn, NY, United States

8:20 am - 8:24 am Discussion

8:25 am - 8:29 am 459 The Role of Minimally Invasive Anterior Column Reconstruction in Maintaining Sagittal Balance
Speaker: J. Paluzzi
(1)University of South Florida, Neurosurgery, Tampa, FL, United States

8:30 am - 8:34 am 562 Under-correction of Sagittal Deformities Based on Age-adjusted Alignment Thresholds Leads to Worse HRQOL while over-correction Provides No Additional Benefit
Speaker: J. Andres-Bergos
(1)Northwestern University Feinberg School of Medicine, Department of Neurological Surgery, Chicago, IL, United States, (2)Hospital for Special Surgery, Spine Service, New York, NY, United States, (3)University of Virginia Medical Center, Charlottesville, VA, United States, (4)Scripps Clinic Torrey Pines, La Jolla, CA, United States, (5)Baylor Scoliosis Center, Plano, TX, United States, (6)San Francisco Medical Center, University of California, San Francisco, CA, United States, (7)University of Kansas Medical Center, Department of Orthopaedic Surgery, Kansas City, KS, United States, (8)NYU Langone Medical Center, New York, NY, United States, (9)Washington University School of Medicine, Department of Orthopaedic Surgery, St. Louis, MO, United States

8:35 am - 8:39 am 124 Reciprocal Changes in Unfused Spinal Regions Cervical Deformity Surgery: Effect of Deformity Type and Construct Termination Levels
Speaker: S. Horn
8:40 am - 8:44 am  
600  Location of Correction within the Lumbar Spine Impacts Acute Adjacent Segment Kyphosis  
Speaker: R. Lafage  
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)Centre Hospitalier, Université de Bordeaux, Bordeaux, France, (3)NYU Langone Medical Center, Spine Division, Department of Orthopaedics, New York, NY, United States, (4)Rocky Mountain Hospital for Children Denver, Denver, CO, United States, (5)University of Kansas Medical Center, Department of Orthopaedic Surgery, Kansas City, KS, United States, (6)University of Virginia Medical Center, Department of Neurosurgery, Charlottesville, VA, United States, (7)Baylor Scoliosis Center, Plano, TX, United States, (8)San Francisco Medical Center, University of California, Department of Neurosurgery, San Francisco, NY, United States, (9)University of California, Davis, Department of Orthopedic Surgery, Sacramento, CA, United States  

8:45 am - 8:49 am  
Discussion  

8:50 am - 8:54 am  
436  Lumbar Curve Adding-on in Lenke I and II Curves: What Are the Predictive Factors and How Do We Prevent Them?  
Speaker: J.H. Tan  
Authors: J.H. Tan(1), D. Hey Hwee Weng(1), G. Wong(1), H.-K. Wong(1), L.L. Lau(1)  
(1)National University Hospital, Singapore, Department of Orthopaedic Surgery, Singapore, Singapore  

8:55 am - 8:59 am  
221  The Correlation between Self-reported Psychological Assessments with Objective Biomechanical Measures of Function in Patients with Adult Degenerative Scoliosis  
Speaker: R. Haddas  
Authors: R. Haddas(1), I. Lieberman(2), A. Block(2)  
(1)Texas Back Institute, Research Foundation, Plano, TX, United States, (2)Texas Back Institute, Plano, TX, United States  

9:00 am - 9:04 am  
564  Psychological Burden of Spinal Deformity: A Comparative Analysis with 3 Disabling Chronic Diseases  
Speaker: G. Poorman  
Authors: B. Diebo(1), C. Jalai(2), G. Poorman(2), S. Horn(2), P. Zhou(2), T. Errico(2), V. Lafage(3), Q. Naziri(1), C. Paulino(1), P. Passias(2)  
(1)SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States, (2)NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (3)Hospital for Special Surgery, Spine Service, New York, NY, United States  

9:05 am - 9:09 am  
294  Patient Profiling Can Identify Adult Spinal Deformity (ASD) Patients at Risk for Conversion from Nonoperative to Surgical Treatment; Initial Steps to Reduce Ineffective ASD Management  
Speaker: J. Moon  
Authors: P. Passias(1), C. Jalai(1), B. Line(2), G. Poorman(1), J. Scheer(3), S. Horn(1), J.
9:10 am - 9:15 am  Discussion

9:15 am - 10:10 am  Presidential Address & Presidential Guest Speaker
Presidential Address by Hee Kit Wong, MD

10:10 am - 10:40 am  Break on Exhibit Floor
Visit ISASS17 Exhibits

10:40 pm - 12:00 pm  General Session: Tumor, Trauma, and Infection
Moderator(s): Steven Ludwig, MD; Yu-Po Lee, MD

10:40 am - 10:44 am  202 Does Standard Surgical Preparation in Lumbar Spine Surgery Eradicate Propionibacterium Species Dwelling in Skin?
Speaker: C. Dowe
Authors: C. Dowe(1), T. Callanan(1), S. Grinberg(1), R. Simon(1), D. Lebl(1), F. Cammisa(1), C. Abjornson(1)
(1)Hospital for Special Surgery, Integrated Spine Research Program, New York, NY, United States

10:45 am - 10:49 am  335 Infection Prevention in Spinal Surgery Procedures: Does the Choice of Antiseptic Make a Difference?
Speaker: M. Ogon
Authors: C. Eder(1), P. Landowski(2), G. Angerler(3), M. Toth(4), S. Schildböck(5), M. Ogon(1)
(1)Orthopaedic Hospital Vienna - Speising, Spine Center - Department of Spine Surgery, Vienna, Austria, (2)Krankenhaus Göttlicher Heiland, Department of Vascular Surgery, Vienna, Austria, (3)Orthopaedic Hospital Vienna - Speising, Department of Hospital Hygiene, Vienna, Austria, (4)University of Applied Sciences, Vienna, Austria, (5)Orthopaedic Hospital Vienna - Speising, Spine Research Laboratory, Vienna, Austria

10:50 am - 10:54 am  525 Efficacy and safety of Berberex Wound Cleanser on Post-operative Surgical Incisions
Speaker: T. Spencer
Authors: T. Spencer(1), B. Gorinshteyn(2), T. Ganey(3)
(1)Greater Michigan Spine and Neurological Institute, Battle Creek, MI, United States, (2)Nuvision Pharmaceuticals, Roswell, GA, United States, (3)Atlanta Medical Center, Orthopaedic Surgery, Atlanta, GA, United States

10:55 am - 10:59 am  559 Revision Spine Surgery in Patients Without Clinical Signs of Infection: How Often Are There Occult Infections in Removed Hardware?
Speaker: I. Lieberman
Authors: I. Lieberman(1), X. Hu(1)
(1)Texas Back Institute, Texas Health Presbyterian Hospital Plano, Scoliosis and Spine Tumor Center, Plano, TX, United States
11:00 am - 11:04 am Discussion

11:05 am - 11:09 am **369 Surgery for Spinal Tuberculosis: A Multi-center Experience of 621 Case**
Speaker: M.S. Alam
(1)National Institute of Traumatology & orthopaedic Rehabilitation (NITOR), Spine & Orthosurgery, Dhaka, Bangladesh, (2)NeuroSpine Surgery Research Group (NSURG), Spine & Orthosurgery, Sydney, NSW, Australia, (3)Bangladesh Medical College Hospital, Spine & Orthosurgery, Dhaka, Bangladesh

Speaker: N. Kumar
Authors: N. Kumar(1), A.S. Zaw(1), B.L. Khoo(2), B. Tan(1)
(1)National University Health System, Singapore, Singapore, (2)National University of Singapore, Singapore, Singapore

11:15 am - 11:19 am **129 EVOLVE: A Prospective and Multicenter Evaluation of Outcomes for Quality of Life, Pain and Activities of Daily Living for Balloon Kyphoplasty in the Treatment of Medicare Eligible Subjects with Vertebral Compression Fractures**
Speaker: M.R. Chambers
Authors: M.R. Chambers(1), D.P. Beall(2), D.K. Datta(3), R.W. Easton(4), B.S. Goodman(5), D.A. Linville II(6), S. Talati(7), S. Thomas(8), J. Webb(9)

11:20 am - 11:24 am **358 Multilevel Percutaneous Vertebroplasty (More than Three Levels) in the Management of Osteoporotic Fractures**
Speaker: I. Zidan
Authors: I. Zidan(1)
(1)Faculty of Medicine, Alexandria University, Neurosurgery, Alexandria, Egypt

11:25 am - 11:29 am Discussion

11:30 am - 11:34 am **419 Feasibility of Expandable Cage for Vertebral Body Reconstruction in Unstable Thoracolumbar Spine Fractures via Single-stage Posterior Approach: Surgical Results of 30 Patients**
Speaker: S-H Kim
(1)Korea University Ansan Hospital, Department of Neurosurgery, Ansan, Korea, Republic of

11:35 am - 11:39 am **547 Cervical Spinal Epidural Abscess: Incidence, Epidemiology, and Treatment Trends from a Single Institution 10 Year Retrospective Analysis**
Speaker: N. Jain
Authors: Z. Denham(1), A. Bucca(1), J. Darnley(1), N. Jain(2), K. Stammen(1), R. Rauck(3), S. Virk(2), S. Khan(2)
(1)Ohio State University, Columbus, OH, United States, (2)Ohio State University, Orthopaedics, Columbus, OH, United States, (3)Hospital for Special Surgery, Orthopaedics,
11:40 am - 11:44 am  413 Incidence and Prognosis of Spinal Metastases as the First Manifestation of Malignant Tumors: New Prognostic Factor for Spine Metastasis - Analysis of 338 Patients Undergoing the Surgical Treatment
Speaker: S.-J. Park
Authors: S.-J. Park(1), C.-S. Lee(1), S.-S. Chung(1), K.-J. Lee(1), C.-D. Park(1)
(1) Samsung Medical Center, Sungkyunkwan University School of Medicine, Orthopedic Surgery, Seoul, Korea, Republic of

11:45 am - 11:49 am  540 Index for Extent of Surgery for Metastatic Spine Disease – “Intrusiveness Index”
Speaker: N. Kumar
Authors: N. Kumar(1), B. Tan(1), A.S. Zaw(1)
(1) National University Health System, Singapore, Singapore

11:50 am - 11:54 am  108 Perioperative Blood Transfusion and Outcomes in Patients Undergoing Surgery for Spinal Tumours
Speaker: B. Tan
Authors: A.S. Zaw(1), B. Tan(1), N. Kumar(1)
(1) National University Health System, Singapore, Singapore

11:55 pm - 12:00 pm  Discussion

12:00 pm - 1:30 pm  Industry Workshops (Not CME)
Non-CME Industry Workshop Sessions

1:30 pm - 2:30 pm  Symposium 2: Adult Spinal Deformity
Moderator(s): Luis Pimenta, MD, PhD

1:30 pm - 1:39 pm  The Preoperative Complications of Open Adult Deformity Surgery Outweigh The Benefits
Speaker: S. Qureshi

1:40 pm - 1:49 pm  All These New Angles and Measurements Just Mean More Surgery on Patients That Have Focal Problems
Speaker: C. Kim

1:50 pm - 2:59 pm  Deformity Surgery is Too Expensive in a New Healthcare Model
Speaker: M. Kurd

2:00 pm - 2:09 pm  Adolescent Idiopathic Scoliosis – When Should we Really Operate? Forget the Numbers this is My Daughter Undergoing Surgery
Speaker: G. Lopez

2:10 pm - 2:19 pm  Rebuttal – Deformity Surgery Has the Most Evidence to Support its Efficacy
Speaker: V. Lafage

2:20 pm - 2:29 pm  Discussion

2:30 pm - 3:00 pm  General Session: Value and Outcomes in Spine Surgery
Moderator(s): Neel Anand, MD; Alexander Vaccaro, MD

2:30 pm - 2:32 pm  155 Spinal Surgeon Variation in Single-level Cervical Fusion Procedures: A Cost and Hospital Resource Utilization Analysis
Speaker: F. Hijji
Authors: F. Hijji(1), D. Massel(1), B. Mayo(1), A. Narain(1), K. Kudaravalli(1), R. Burke(2), J.
Canar(2), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States, (2)Rush University Medical Center, Health Systems and Management, Chicago, IL, United States

2:33 pm - 2:35 pm 284 **Case Type, Length of Stay and Comorbidities´ Affect on Medicare DRG Reimbursement on Minimally Invasive Surgery (MIS) for Spinal Deformity**
Speaker: N. Anand
(1)Spine Institute of Louisiana, Shreveport, LA, United States, (2)Rush University Medical Center, Chicago, IL, United States, (3)University of Michigan, Ann Arbor, MI, United States, (4)San Diego Center for Spinal Disorders, San Diego, CA, United States, (5)Scripps Clinic, La Jolla, CA, United States, (6)University of South Florida, Tampa, FL, United States, (7)University of California at San Francisco, San Francisco, CA, United States, (8)University of Miami, Miami, FL, United States, (9)Cedars Sinai Medical Center, Los Angeles, CA, United States, (10)University of Pittsburgh Medical Center, Pittsburgh, PA, United States, ((1)(1))University of Virginia Neurological Surgery, Charlottesville, VA, United States

2:36 pm - 2:38 pm 118 **Does Clinical Improvement of Symptomatic Degenerative Lumbar Disease Impact Obesity?**
Speaker: J. Joseph
Authors: J. Joseph(1), Z. Farooqui(1), B. Smith(1), E. Kahn(1), F. La Marca(1), P. Park(1)
(1)University of Michigan, Ann Arbor, MI, United States

2:39 pm - 2:41 pm 125 **Patient Knowledge Regarding Radiation Exposure from Spinal Imaging**
Speaker: K. Singh
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

2:42 pm - 2:44 pm 624 **An Evaluation of Standardized Bundles to Reduce Surgical Site Infections among Spine Patients**
Speaker: D. Ou-Yang
Authors: E. Burger(1), M. Sandoval(2), D. Ou-Yang(3)
(1)University of Colorado - Denver, Orthopedics, Aurora, CO, United States, (2)University of Colorado - Denver, Aurora, CO, United States, (3)University of Colorado Anschutz Medical Campus, Department of Orthopedics, Aurora, CO, United States

2:45 pm - 2:47 pm 375 **The Effect of Surgeon Volume on Complications, Length of Stay and Costs following Anterior Cervical Fusion**
Speaker: K. Singh
Authors: B. Basques(1), P. Louie(1), B. Mayo(1), D. Massel(1), J. Guzman(2), D. Bohl(1), A. Narain(1), F. Hijji(1), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States, (2)Mount Sinai Hospital, Department of Orthopedic Surgery, New York, NY, United States

2:48 pm - 2:50 pm 592 **Does the Addition of either a Lateral or Posterior Interbody Device to Posterior Instrumented Lumbar Fusion Decrease Cost over a 6 Year Period?**
Speaker: S. Koutsoumbelis
Authors: P. Schadler(1), P. Derman(1), J. Shue(1), S. Koutsoumbelis(1), L. Lee(1), H. Do(1), A.A. Sama(1), F.P. Girardi(1), F.P. Cammisa(1), A.P. Hughes(1)
(1)Hospital for Special Surgery, New York, NY, United States

2:51 pm - 2:53 pm 477 **Maximizing Operating Room Efficiency in Spine Surgery: A Process of Tray Consolidation, Instrument Standardization and Cost Savings**
Speaker: J. Abrams
Authors: J. Abrams(1), M. Dekutoski(1), N. Chutkan(1)
2:54 pm - 2:59 pm  Discussion

3:00 pm - 3:30 pm  Guest Speaker Robin Young; Awards Ceremony; Transfer of Presidency
Hee-Kit Wong, MD

3:30 pm - 4:00 pm  Break on Exhibit Floor
Visit ISASS17 Exhibits

4:00 pm - 5:00 pm  General Session: Lumbar Motion Preservation
Moderator(s): Jack Zigler, MD; Luiz Pimenta, MD, PhD

4:00 pm - 4:04 pm  536 Impact of Device Type, Treatment Level and Lordotic Angle Correction on Clinical and Radiographic Outcomes 5 Years Following Lumbar Total Disc Replacement
Speaker: J. Zigler
Authors: J. Zigler(1)
(1)Texas Back Institute, Spine Surgery, Plano, TX, United States

4:05 pm - 4:09 pm  615 Range of Motion and Centers of Rotation with the 6 Degrees of Freedom Viscoelastic LP-ESP Lumbar Disc Prosthesis: A 5 Years Prospective Study in 76 Patients
Speaker: J.Y. Lazennec
Authors: J.Y. Lazennec(1), J.P. Rakover(2), O. Ricart(3), S. Ramare(2), M.A. Rousseau(4)
(1)Pitié Hospital UPMC, Orthopedic Surgery, Paris, France, (2)Clinique du Pre, Orthopedic Surgery, Le Mans, France, (3)Kirchberg Hospital, Orthopedic Surgery, Luxembourg, Luxembourg, (4)Beaujon Hospital, Orthopedic Surgery, Clichy, France

4:10 pm - 4:14 pm  551 Range of Motion Preservation Five Years Following Lumbar Total Disc Replacement: Comparison of Treatment Level and Device Type
Speaker: J. Zigler
Authors: J. Zigler(1)
(1)Texas Back Institute, Plano, TX, United States

4:15 pm - 4:19 pm  92 Five-year Follow-up of a Multicenter Prospective Study with a Viscoelastic Total Disc Replacement in 72 Patients
Speaker: B. Rischke
Authors: B. Rischke(1), J.Y. Lazennec(2)
(1)Spine-Center-Rischke, Zurich, Switzerland, (2)UPMC, Orthopaedic and Trauma Surgery, Pitié-Salpêtrière Hospital Assistance Publique – Hopitaux de Paris, Paris, France

4:20 pm - 4:24 pm  451 Lumbar Total Disc Replacement by the Lateral Approach – Up to 10-year Follow-up
Speaker: F. Marcelino
Authors: L. Marchi(1), R. Amaral(1), E. Coutinho(1), J. Nogueira-Neto(1), L. Oliveira(1), R. Jensen(1), N. Faulhaber(1), F. Marcelino(1), L. Pimenta(1,2)
(1)Instituto de Patologia da Coluna, Sao Paulo, Brazil, (2)UCSD, Neurosurgery, San Diego, CA, United States

4:25 pm - 4:29 pm  Discussion

4:30 pm - 4:34 pm  39 Ten-year Follow-up of Patients Enrolled in the FDA-regulated Trial for Single-level Lumbar Total Disc Replacement: One Site’s Experience
Speaker: R. Guyer
Authors: R. Guyer(1), J. Zigler(1), D. Ohnmeiss(2)
(1)Texas Back Institute, Plano, TX, United States, (2)Texas Back Institute Research Foundation, Plano, TX, United States
4:35 pm - 4:39 pm  590 Elastomeric Lumbar Total Disc Replacement: Clinical and Radiological Results with Minimum 84 Months Follow-up
Speaker: L. Pimenta
Authors: L. Pimenta(1,2), L. Marchi(1), L. Oliveira(1), J. Nogueira-Neto(1), E. Coutinho(1), R. Amaral(1)
(1)Instituto de Patologia da Coluna, Sao Paulo, Brazil, (2)UCSD, Neurosurgery, San Diego, CA, United States

4:40 pm - 4:44 pm  692 Comparison of Single Level Lumbar Surgery: Anterior and Posterior Fusion vs TLIF Procedure vs Single Level Arthroplasty
Speaker: L. Nel
Authors: L. Nel(1)
(1)Spine Africa, Pretoria, South Africa

4:45 pm - 4:49 pm  94 Clinical Outcome of Two-level Lumbar Total Disc Replacement: An Analysis of 141 Patients with Minimum 24-month Follow-up
Speaker: R. Guyer
Authors: R. Guyer(1), J. Zigler(1), D. Ohnmeiss(2)
(1)Texas Back Institute, Plano, TX, United States, (2)Texas Back Institute Research Foundation, Plano, TX, United States

4:50 pm - 4:54 pm  543 Comparison of Single-level and Multiple-level Outcomes of Total Disc Arthroplasty: 5 Year Results of the M6-L Artificial Lumbar Disc
Speaker: C. Schaetz
Authors: L. Gössel(1), C. Schätz(1), K. Ritter-Lang(2)
(1)Orthopädische Klinik Markgröningen, Markgröningen, Germany, (2)Orthopädikum Potsdam, Potsdam, Germany

4:55 pm - 5:00 pm  Discussion

5:00 pm - 6:00 pm  Symposium 3: Minimally Invasive Endoscopic Surgery
Moderator(s): Anthony Yeung, MD, PhD; Choll Kim, MD

5:00 pm - 5:02 pm  Introduction
Speaker: C. Kim

5:03 pm - 5:12 pm  The ideal Indications for the transforaminal endoscopic Approach
Speaker: C. Yeung

5:13 pm - 5:22 pm  Translaminar Endoscopic Approach, advantages over MLD
Speaker: C. Hoffsteter

5:23 pm - 5:32 pm  Transforaminal Approach for multimodal HNP and Mini-TLif and Olif Fusion
Speaker: J. Yue

5:33 pm - 5:42 pm  University of New Mexico’s Multidisciplinary Academic Endoscopic Surgery Program
Speakers: P. Shin; E. Rivers

5:43 pm - 5:52 pm  Surgical Pain Management: Lessons Learned Treating Painful Conditions of the Lumbar Spine
Speaker: A. Yeung

5:53 pm - 6:00 pm  Discussion
Friday, April 14, 2017

6:45 am - 7:45 am  
5K Fun Run

7:00 am - 8:00 am  
Continental Breakfast

8:00 am - 9:00 am  
General Session: Thoraco-Lumbar Degenerative
Moderator(s): Gunnar B.J. Andersson, MD, PhD; Michael Gerling, MD

8:00 am - 8:03 am  
354 Is Interspinous Process Fixation Appropriate at L5/S1 in ALIF? 2-year Comparative
Outcomes to Pedicle Screw Fixation from a Prospective, Randomized, Controlled,
Multi-center Trial
Speaker: C. Hill
Authors: K. Kim(1), R. Denhaese(2), C. Hill(3), K.B. Strenge(3), A. de Moura(4), P.
Passias(4), R. Panchal(1), P. Arnold(5), C. Ferry(6), B. Ventimiglia(6), T. Glorioso(7), K.
Martin(6), S. Martineck(8)
(1)UC Davis, Sacramento, CA, United States, (2)AXIS Neurosurgery and Spine, Williamsville,
NY, United States, (3)Orthopaedic Institute, Paducah, KY, United States, (4)New York Spine
Institute, New York, NY, United States, (5)University of Kansas, Kansas City, KS, United
States, (6)Zimmer Biomet Spine, Broomfield, CO, United States, (7)University of Colorado -
Denver, Denver, CO, United States, (8)Clinical Trials Consultant, Buffalo, NY, United States

8:04 am - 8:07 am  
201 Postoperative Outcomes Based on American Society of Anesthesiologists Score
after Minimally Invasive Transforaminal Lumbar Interbody Fusion
Speaker: K. Kudaravalli
Authors: A. Narain(1), F. Hijji(1), K. Kudaravalli(1), K. Yom(1), N. Shoshana(1), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

8:08 am - 8:11 am  
480 Safety of Lateral Interbody Fusion for the Treatment of Multi-level Degenerative
Lumbar Disease without Intraoperative Monitoring (IOM): A Single Center Experience
of 129 Oblique Lateral Lumbar Interbody Fusions (OLIF) in Terms of Perioperative
Complications
Speaker: H-J Cho
(1)Seoul St. Mary’s Hospital, The Catholic University of Korea, Neurosurgery, Seoul, Korea,
Republic of

8:12 am - 8:15 am  
101 Inpatient Pain Scores Following Primary and Revision Minimally Invasive
Transforaminal Lumbar Interbody Fusion
Speaker: A. Narain
Authors: A. Narain(1), F. Hijji(1), B. Mayo(1), K. Yom(1), K. Kudaravalli(1), N. Shoshana(1), K.
Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

8:16 am - 8:19 am  
494 Baseline Demographic, Clinical and Radiographic Predictors of Instability, Patient
Outcomes and Re-Operation Rates in Lumbar Spinal Stenosis Patients Undergoing
Decompression with or without Fusion
Speaker: R. Rampersaud
Authors: R. Rampersaud(1,2),(3), K. Sundararajan(3), R. Amritanand(4), B. Ravi(1,5), K.
David(4)
(1)University of Toronto, Surgery - Orthopaedics, Toronto, ON, Canada, (2)Krembil Research
Institute, Toronto, ON, Canada, (3)University Health Network, Toronto, ON, Canada,
(4)Christian Medical College Vellore, Department of Orthopaedics, Spinal Disorders Surgery
Unit, Vellore, India, (5)Sunnybrook Research Institute, Holland Musculoskeletal Research
Program, Toronto, ON, Canada
8:20 am - 8:23 am  577 Transforaminal Lumbar Interbody Fusion: Comparison between Open Unilateral, Open Bilateral and MIS Techniques Performed at a Veterans Affairs Medical Center
Speaker: D. Ou-Yang
Authors: J. Sembrano(1,2), D. Ou-yang(1), S. Yson(1)
(1)University of Minnesota, Minneapolis, MN, United States, (2)Minneapolis VA Health Care System, Orthopaedic Surgery, Minneapolis, MN, United States

8:24 am - 8:29 am  Discussion

8:30 am - 8:33 am  526 Lateral (LLIF) versus Anterior (ALIF) Lumbar Interbody Fusion: 2-year Outcomes from a Prospective Multi-center Study
Speaker: C. Hill
(1)UC Davis, Sacramento, CA, United States, (2)AXIS Neurosurgery and Spine, Williamsville, NY, United States, (3)Orthopaedic Institute, Paducah, KY, United States, (4)New York Spine Institute, New York, NY, United States, (5)University of Kansas, Kansas City, KS, United States, (6)Southern Oregon Orthopedics, Medford, OR, United States, (7)South Texas Spinal Clinic, San Antonio, TX, United States, (8)Buffalo Spine Surgery, Buffalo, NY, United States, (9)Brain And Spine Institute of California, Newport Beach, CA, United States, (10)Zimmer Biomet Spine, Broomfield, CO, United States, ((1)(1))University of Colorado - Denver, Denver, CO, United States, ((1)(2))Clinical Trials Consultant, Buffalo, NY, United States

8:34 am - 8:37 am  171 Preoperative Mental Health May Not Be Predictive of Improvements in Patient Reported Outcomes Following a Minimally Invasive Transforaminal Lumbar Interbody Fusion
Speaker: K. Yom
Authors: B. Mayo(1), D. Massel(1), D. Bohl(1), A. Narain(1), F. Hijji(1), K. Yom(1), K. Kudaravalli(1), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

8:38 am - 8:41 am  528 Comparison of Interlaminar Stabilization with Decompression versus Fusion with Decompression in Patients Requiring Two Levels of Surgical Treatment for Spinal Stenosis
Speaker: R. Simon
Authors: R. Simon(1), S. Grinberg(1), C. Dowe(1), F. Cammisa(2), C. Abjornson(2)
(1)Hospital for Special Surgery, Integrated Spine Research Program, New York, NY, United States, (2)Hospital for Special Surgery, New York, NY, United States

8:42 am - 8:45 am  404 Risk Factors Associated with Failure to Reach Minimal Clinically Important Difference in Patient Reported Outcomes Following Minimally Invasive Transforaminal Lumbar Interbody Fusion for Spondylolisthesis
Speaker: K. Kudaravalli
Authors: F. Hijji(1), A. Narain(1), D. Bohl(1), K. Yom(1), K. Kudaravalli(1), K. Singh(1)
(1)Rush University Medical Center, Orthopaedic Surgery, Chicago, IL, United States

8:46 am - 8:49 am  407 Are the Benefits of MIS TLIF over Open TLIF Relevant to Obese Patients? A Systematic Review and Meta-analysis
Speaker: J.H. Tan
Authors: J.H. Tan(1), G. Liu(1), R. Ng(2), N. Kumar(1), H.K. Wong(1)
(1)National University Health System, Orthopaedic Surgery, Singapore, Singapore, (2)National University of Singapore, Singapore, Singapore

8:50 am - 8:53 am  500 Successful Lumbar Surgery Results in Long-term Improvement in Psychological Well-being
Speaker: R. Duculan
Discussion

Symposium 4: Don't believe the hype
Moderator(s): Alexander Vaccaro, MD

Robotics – Isn't this like the erector set when we were kids?
Speaker: Jeffrey Goldstein

Biologics – Let's be honest, have we become lazy and don't want to take ICBG?
Speaker: Alpesh Patel

Navigation – Are we just coming up with an excuse for not learning anatomy?
Speaker: Safdar Khan

Lasers – Has anyone really used one in a real spine surgery?
Speaker: Gregory Lopez

Rebuttals – We should be embracing new technology
Speaker: Isador Lieberman

Discussion

Break on Exhibit Floor
Visit ISASS17 Exhibits

General Session: Cervical Degenerative
Moderator(s): Gunny Deol, MD; Kris Siemenow, MD

The Impact of Time on Patients’ Perception of Cervical Arthroplasty with SECURE-C: An Analysis of Patient-reported Outcomes at Two and Seven Years Postoperative
Speaker: W. Beutler
Authors: W. Beutler(1), I. Volcan(2), P. Asdourian(3), J. Myer(4), K. Baker(4)

Cervical Disc Arthroplasty for Axial Neck Pain vs. Radiculopathy/Myelopathy: A Comparison of Clinical and Functional Outcomes
Speaker: M.F. Gornet
Authors: M.F. Gornet(1), A.G. Copay(2), F.W. Schranck(2)
(1) Orthopedic Center of St. Louis, St Louis, MO, United States, (2) SPIRITT Research, St Louis, MO, United States

Radiological Outcomes of Novel a 3D Printed Cervical Interbody Cage Following Anterior Cervical Discectomy and Fusion
Speaker: F. Cammisa
Authors: S. Grinberg(1), B. Walker(1), B.V. Yoon(1), C. Abjornson(1), F. Cammisa(1)
(1) Hospital for Special Surgery, Integrated Spine Research Program, New York, NY, United States
10:45 am - 10:49 am  C2 Pedicle Width and its Relation to Screw Feasibility
Speaker: D. Yin
Authors: D. Yin(1), G. Oh(1), S. Neckrsh(1)
(1)University of Illinois at Chicago, Neurosurgery, Chicago, IL, United States

10:50 am - 10:54 am  Gait Analysis on Adult Cervical Spondylotic Myelopathy Surgical Patients
Speaker: R. Arakal
Authors: R. Haddas(1), R. Arakal(2), S. Aghyarian(1), T. Belanger(3)
(1)Texas Back Institute, Research Foundation, Plano, TX, United States, (2)Texas Back Institute, Plano, TX, United States, (3)Texas Back Institute, Rockwall, TX, United States

10:55 am - 10:59 am  Discussion

11:00 am - 11:04 am  A Matched Cohort Analysis Comparing Stand-alone Cages and Anterior Cervical Plates Used for Anterior Cervical Discectomy and Fusion
Speaker: S. Overley
Authors: S. Overley(1), R. Merrill(1), D. Leven(1), J. Meaike(1), A. Kumar(1), S. Qureshi(1)
(1)Icahn School of Medicine at Mount Sinai, New York, NY, United States

11:05 am - 11:09 am  The Natural Course of Prevertebral Soft-tissue Swelling after Anterior Cervical Spine Surgery: How Long Will it Last?
Speaker: S.W. Kim
Authors: S.W. Kim(1), C. Jang(1), M.H. Yang(1), S. Lee(1), J.H. Yoo(1), Y.H. Kwak(1), J.H. Hwang(2)
(1)Hallym University Sacred Heart Hospital, Seoul, Korea, Republic of, (2)Kangnam Sacred Heart Hospital, Seoul, Korea, Republic of

11:10 am - 11:14 am  Clinical Outcomes of Hybrid Laminoplasty versus Laminectomy with Fusion
Speaker: J.Y.W. Tan
Authors: J.Y.W. Tan(1), G. Liu(2), J.H. Ng(1), J.H. Tan(2), H.K. Wong(2)
(1)National University of Singapore, Singapore, Singapore, (2)National University Hospital, Singapore, Singapore

11:15 am - 11:19 am  The Effect of Local versus Intravenous Steroids on Dysphagia and Dysphonia Following Anterior Cervical Discectomy and Fusion (ACDF): A Single-blinded, Prospective, Randomized Control Trial
Speaker: A. Patel
Authors: T.J. Jenkins(1), B. Rosenthal(1), A. Ranade(2), W.K. Hsu(1), A.A. Patel(1)
(1)Northwestern University Feinberg School of Medicine, Department of Orthopaedic Surgery, Chicago, IL, United States, (2)Rosalind Franklin University of Medicine and Science, Chicago, IL, United States

11:20 am - 11:24 am  Is Cervical Bracing Necessary after Single and Multi-level Anterior Cervical Discectomy and Fusion? A Prospective Randomized Study
Speaker: S. Overley
Authors: S. Overley(1), R. Merrill(1), E. Baird(1), J. Meaike(1), S. Cho(1), A. Hecht(1), S. Qureshi(1)
(1)Icahn School of Medicine at Mount Sinai, New York, NY, United States

11:25 am - 11:29 am  Discussion

11:30 am - 11:34 am  In vivo Study on the Effect of Cervical Arthroplasty on Cervical Spine Biokinematics
Speaker: O.L. Alves
Authors: O.L. Alves(1), R. Reinas(1), D. Kitumba(1), F. Pagaimo(2)
(1)Centro Hospitalar de Gaia/ Espinho, Neurocirurgia, Gaia, Portugal, (2)Universidade de Lisboa, Lisboa, Portugal
11:35 am - 11:39 am  307  Low Body Mass is a Negative Independent Risk Factor in Elective Cervical Spine Surgery  
Speaker: S. Horn  
Authors: S. Horn(1), O. Bono(1), B. Diebo(2), G. Poorman(1), B. Beaubrun(1), A. Sure(1), C. Jalai(1), N. Foster(1), P. Passias(1)  
(1)St. Francis Hospital & Medical Center, Spine Institute of Connecticut, Hartford, CT, United States, (2)University of California, Berkeley, Austin, TX, United States, (3)St. Francis Hospital & Medical Center, Hartford, CT, United States

11:40 am - 11:44 am  188  Seven-year Clinical Results of Cervical Total Disc Replacement Compared with Anterior Discectomy and Fusion for Treatment of Two-level Symptomatic Degenerative Disc Disease: A Prospective, Randomized, Controlled, Multicenter FDA Clinical Trial  
Speaker: K. Radcliff  
Authors: K. Radcliff(1), R. Davis(2), M. Hisey(3), P. Nunley(4), G. Hoffman(5), R. Jackson(6), H. Bae(7), T. Albert(8), D. Coric(9), K. Kim(10)  
(1)NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (2)SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States

11:45 am - 11:49 am  390  Radiographic Adjacent Segment Pathology Following Treatment with TDR or ACDF at One or Two Levels: A Prospective, Randomized, Controlled FDA Clinical Trial at Seven Years  
Speaker: P. Nunley  
Authors: P. Nunley(1), D. Cavanaugh(1), E. Kerr(1), A. Utter(1), K. Frank(1), M. Stone(1)  
(1)Rothman Institute, Thomas Jefferson University, Department of Orthopedic Surgery, Egg Harbor, NJ, United States, (2)Laser Spine Institute, Tampa, FL, United States, (3)Texas Back Institute, Plano, TX, United States, (4)Spine Institute of Louisiana, Shreveport, LA, United States, (5)Ortho Northeast, Fort Wayne, IN, United States, (6)Orange County Neurosurgical Associates, Laguna Hills, CA, United States, (7)Cedars Sinai Medical Center, Los Angeles, CA, United States, (8)Hospital for Special Surgery, New York, NY, United States, (9)Carolina Neurosurgery & Spine Associates, Charlotte, NC, United States, (10)University of California, Davis, Davis, CA, United States

11:50 am - 11:59 am  Discussion

12:00 pm - 1:00 pm  General Session: ACSR at ISASS: Controversies in Spine Surgery  
Moderator(s): Mark Kurd, MD; Alexander Vaccaro, MD

12:00 pm - 12:09 pm  MIS Surgery - Ethics of the Learning Curve  
Speaker: K. Singh

12:10 pm - 12:19 pm  Bundled Payment in Spine Surgery  
Speaker: A. Vaccaro

12:20 pm - 12:29 pm  Discussion

12:30 pm - 12:39 pm  Optimal Material for TLIF Cages  
Speaker: M. Kurd

12:40 pm - 12:49 pm  Robotic Spine Surgery - Will it Ever be a Reality?  
Speaker: S. Khan

12:50 pm - 1:00 pm  Discussion

1:00 pm - 2:00 pm  General Session: Endoscopic Surgery  
Moderator(s): Michael Wang, MD; Christopher Yeung, MD
1:00 pm - 1:03 pm 658  **Endoscopic Transforaminal Discectomy Associated with Cilindrical Percutaneous Interspinous Spacer with Uniportal Approach**  
Speaker: R. Cantu-Leal  
Authors: R. Cantu-Leal(1), R.A. Cantu-Longoria(1)  
(1)Universidad de Monterrey Christus Muguerza Alta Especialidad, Spine Surgery, Monterrey, Mexico

1:04 pm - 1:07 pm 367  **Percutaneous Endoscopic Lumbar Discectomy (PED) for Top Athletes**  
Speaker: K. Yamashita  
(1)Tokushima University Graduate School, Department of Orthopedics, Tokushima, Japan

1:08 pm - 1:11 pm 420  **Complication and Treatment of the Lumbar Intervertebral Disc Herniation Using Percutaneousendoscopic Lumbar Discectomy**  
Speaker: D. J  
Authors: X. Zhang(1), Z. Huang(1), J. Du(1)  
(1)General Hospital of Chinese PLA, Spine, Beijing, China

1:12 pm - 1:15 pm 694  **Percutaneous 360° Lumbar Fusion with an Expandable Interbody Cage Using the Endoscopic Posterolateral Transforaminal Approach**  
Speaker: R. Morgenstern  
Authors: R. Morgenstern(1), C. Morgenstern(2)  
(1)Centro Médico Teknon, Barcelona, Spain, (2)Charité - Universitätsmedizin Berlin, CMSC, Berlin, Germany

1:16 pm - 1:19 pm 182  **Outcome of Percutaneous Endoscopic Lumbar Discectomy Based on Surgical Difficulty Grade of Disc Herniations: A New Classification**  
Speaker: K. Lee  
(1)Nanoori Hospital, Suwon, Korea, Republic of, (2)Nanoori Hospital, Incheon, Korea, Republic of, (3)Nanoori Hospital, Seoul, Korea, Republic of

1:20 pm - 1:23 pm 242  **Oblique Lateral Lumbar Interbody Fusion (OLLIF): Technical Notes and Early Results of a Single Surgeon Comparative Study**  
Speaker: H. Abbasi  
Authors: H. Abbasi(1), A. Abbasi(2)  
(1)Tristate Brain and Spine Institute, Alexandria, MN, United States, (2)Trinity College, University of Cambridge, Edina, MN, United States

1:24 pm - 1:29 pm  **Discussion**

1:30 pm - 1:33 pm 415  **Treatment of Cervical Spinal Stenosis with Percutaneous Full-endoscopic Cervical Partial Laminectomy Under Local Anaesthesia**  
Speaker: D. J  
Authors: X. Zhang(1), Z. Huang(1), J. Du(1)  
(1)General Hospital of Chinese PLA, Spine, Beijing, China

1:34 pm - 1:37 pm 192  **Endoscopic Spine Surgery: Outcomes for the First 8 Years of Cervical Deuk Laser Disc Repair® for Symptomatic Disc Herniations in 138 Patients**  
Speaker: A.J. Deukmedjian  
Authors: A.J. Deukmedjian(1), E. Mason(1), A. Cianciabella(1), A. Deukmedjian(1)  
(1)Deuk Spine Foundation, Melbourne, FL, United States

1:38 pm - 1:41 pm 68  **Anatomical Consideration of Iliac Crest on Percutaneous Endoscopic Discectomy Using Transforaminal Approach**  
Speaker: F. Tezuka
1:42 pm - 1:45 pm  
210  **Feasibility of Endoscopic Inspection of Pedicle Wall Integrity in a Live Surgery Model**  
Speaker: K. Radcliff  
Authors: K. Radcliff(1), B. Woods(1), H. Smith(2), B. Kalantar(3), J. Brannon(4)  
(1)Rothman Institute, Thomas Jefferson University, Department of Orthopedic Surgery, Egg Harbor, NJ, United States, (2)University of Pennsylvania, Philadelphia, PA, United States, (3)Georgetown University, Washington, DC, United States, (4)Orthopedic Sciences, Inc, Seal Beach, CA, United States

1:46 pm - 1:49 pm  
730  **Level of Evidence and Grade of Recommendation of Endoscopic Discectomy in the Management of Lumbar Disc Herniation. Systematic Review**  
Speaker: A.J. Moheno-Gallardo  
Authors: Y.F. Rojas-Sato(1), E. Pérez-Hernández(1), E. Elizalde Martínez(1), A.J. Moheno-Gallardo(1), P. Tejerina-Vargas(1)  
(1)Unidad Médica de Alta Especialidad “Dr. Victorio de la Fuente Narváez”, Instituto Mexicano del Seguro Social, México, Mayotte

1:50 pm - 1:59 pm  
**Discussion**

2:00 pm - 3:00 pm  
**General Session: Pediatric Spine**  
Moderator(s): Joseph Zavatsky, MD; Tom Errico, MD

2:00 pm - 2:04 pm  
366  **Low Back Pain of the Adolescent Athletes - The Pathology that Falls into Unidentified Non-specific Low Back Pain**  
Speaker: K. Yamashita  
(1)Tokushima University Graduate School, Department of Orthopedics, Tokushima, Japan, (2)Hachioji Sports Clinic, Department of Orthopedics, Tokyo, Japan

2:05 pm - 2:09 pm  
601  **The Impact of Pelvic Incidence on Hip Performance during Gait Phases: A Study in Adolescent Idiopathic Scoliosis**  
Speaker: J. Varghese  
Authors: A. Patel(1), J. Varghese(1,2), H. Bao(1), A. Assi(3), E. Godwin(2), L. Day(2), B. Diebo(1), V. LaFage(1), C. Paulino(1)  
(1)Hospital for Special Surgery, Spine Service, New York, NY, United States, (2)SUNY Downstate Medical Center, Department of Orthopaedic Surgery, Brooklyn, NY, United States, (3)University of Saint-Joseph, Beirut, Lebanon

2:10 pm - 2:14 pm  
290  **Incidence of Congenital Spinal Abnormalities among Paediatric Patients and Their Association with Scoliosis and Systemic Anomalies**  
Speaker: G. Poorman  
(1)NYU Hospital for Joint Diseases, Orthopaedic Surgery, New York, NY, United States, (2)SUNY Downstate, Orthopaedic Surgery, Brooklyn, NY, United States, (3)Rocky Mountain Spine Clinic, Orthopaedic Surgery, Denver, CO, United States, (4)Denver International Spine Center, Denver, CO, United States, (5)Hospital for Special Surgery, Spine Service, New York, NY, United States

2:15 pm - 2:19 pm  
530  **The Use of MRI and Plain Radiographs among Adolescents with Back Pain and Adolescent Idiopathic Scoliosis**
Speaker: H.W.D. Hey
(1)National University Health System, Orthopaedic Surgery, Singapore, Singapore,
(2)National University of Singapore, Yong Loo Lin School of Medicine, Singapore, Singapore

2:25 pm - 2:29 pm Discussion

2:30 pm - 2:34 pm 443 Use of Intraoperative Traction in Adolescent Idiopathic Scoliosis: Impact on Concave Apical Screws Density, Curve Correction and Functional Outcomes
Speaker: P. Sudarsan
Authors: H. Suthar(1), M. Yarlagadda(1), C. Chikhale(1), M. Jindal(1), S. Hegde(1), P. Sudarsan(2)
(1)Apollo Hospitals, Orthopaedics, Chennai, India

2:35 pm - 2:39 pm 442 Tilt on Traction: A New Parameter to Decide the Lower Instrumented Vertebra in Scoliosis Correction
Speaker: P. Sudarsan
Authors: H. Suthar(1), M. Yarlagadda(1), C. Chikhale(1), M. Jindal(1), S. Hegde(1), P. Sudarsan(2)
(1)Apollo Hospitals, Orthopaedics, Chennai, India

2:40 pm - 2:44 pm 472 Reduced Post-operative Infections and Revision Surgery with Plastic Surgery Closure in the Treatment of Neuromuscular Scoliosis
Speaker: J. Zavatsky
Authors: B. Cook(1), D. Briski(1), A. King(2), J. Zavatsky(3)
(1)Ochsner Medical Center, New Orleans, LA, United States, (2)Childrens Hospital New Orleans, New Orleans, LA, United States, (3)Florida Orthopedic Institute, Tampa Bay, FL, United States

2:45 pm - 2:49 pm 444 Outcome of Selective Fusion in Lenke Type 1C and 5C Adolescent Idiopathic Scoliosis Curves
Speaker: P. Sudarsan
Authors: H. Suthar(1), M. Yarlagadda(1), C. Chikhale(1), M. Jindal(1), S. Hegde(1), P. Sudarsan(2)
(1)Apollo Hospitals, Orthopaedics, Chennai, India

2:50 pm - 2:54 pm 497 Clinical Outcome of Idiopathic Scoliosis Surgery: Is There a Difference between Young Adult Patients and Adolescent Patients?
Speaker: I. Lieberman
Authors: W. Lavelle(1), X. Hu(2), S. Kurra(1), I. Lieberman(2)
(1)SUNY Upstate Medical University, Syracuse, NY, United States, (2)Texas Back Institute, Texas Health Presbyterian Hospital Plano, Scoliosis and Spine Tumor Center, Plano, TX, United States

2:55 pm - 2:59 pm Discussion

3:00 pm - 3:15 pm Close of ISASS17

3:30 pm - 5:30 pm Cadaver Lab Lecture