SMISS ’16 Annual Forum – Full Program

Friday, October 14

6:45am Registration

7:30 Non-CME Technology Workshops with Breakfast  
Participants choose which to attend

Session 1: Part i. MIS Anterior and Lateral
Moderators: J. Uribe, MD & A. Kanter, MD

8:30 Welcome  
F. Phillips, MD

When, Why, and What’s the Evidence?
8:35 Lateral Trans-psoas  
J. Youssef, MD
8:45 Lateral Pre-psoas  
N. Anand, MD
8:55 Mini-ALIF (at L5-S1)  
F. Phillips, MD
9:05 Q & A

Complications Avoidance and Surgical Tips
9:13 Lateral Trans-psoas: The Role of Neural Monitoring  
W. Taylor, MD
9:21 Lateral Pre-psoas/ Anterolateral: How to Avoid Vascular and Autonomic Injuries  
B. Kwon, MD (Boston)
9:29 Surgical Technique and Tips: MIS Anterior Column Release  
J. Uribe, MD
9:41 Q & A

Session 1: Part ii. Case Discussion: L4/5 Spondylolistheses with Stenosis
Moderator: W. Taylor, MD

9:49 Case Introduction and Surgical Options (4 mins)  
W. Taylor, MD
• Decompression without Fusion (5 mins)  
G. Deol, MD
• Inter-spinous/Laminar Approaches (5 mins)  
Karahalios, MD
• MIS TLIF (5 mins)  
K. Singh, MD
• LLIF with Indirect Decompression (5 mins)  
P. Berjano, MD
10:13 Q & A

10:15 Refreshment Break; Exhibit Viewing  
Exhibit Hall

Session 2: Concurrent Free Paper Sessions
Participants choose Option A or B

Session 2A: Free Papers
Moderators: J. Youssef, MD & P. Berjano, MD

NAVIGATION
10:45 Paper #1: Surgical Outcomes of Robotic-Guidance vs. Freehand Instrumentation: A Retrospective Review of 705 Adult Degenerative Spine Patients Operated in Minimally Invasive and Open Approaches  
Andrew Cannestra, MD, PhD; Thomas Sweeney, MD; Kees Poelstra, MD; and Samuel Schroerlucke, MD
Paper #2: Robotic-Guided Sacro-Pelvic Fixation using S2 Alar-Iliac Screws: Feasibility and Accuracy
Isador Lieberman, MD, MBA, FRCSC and Xiaobang Hu, PhD

Trong Nguyen, MS; Douglas G. Orndorff, MD; Sue Lynn Myhre, PhD; Kern Singh, MD; and Jim A. Youssef, MD

Paper #4: Comparison of Perioperative Factors during Minimally Invasive Prepsoas Lateral Interbody Fusion of the Lumbar Spine using either Navigation or Conventional Fluoroscopy
Yuehui Zhang, PhD, MD; Ian White, MD; Eric Potts, MD; Jean-Pierre Mobasser, MD; and Dean Chou, MD

Discussion

DEFORMITY

Paper #5: Radiographic and Surgical Outcome Analysis of Adolescent Idiopathic Scoliosis (AIS) Correction - Open vs. Minimally Invasive: 2 Years Follow Up
Matthew Geck, MD; Devender Singh, PhD; Eeric Truumees, MD; and Alexis Harris, PA-C

Paper #6: The Role of Minimally Invasive Anterior Column Reconstruction in Maintaining Sagittal Balance
Jason Paluzzi, MD; Andrew Vivas, MD; Brooks Osburn, MD; Chun-Po Yen, MD; Konrad Bach, MD; Mark Greenberg, MD; Donald Smith, MD; and Juan Uribe, MD

Paper #7: Current MIS Techniques Fail to Optimize Spinopelvic Parameters in Patients with High Pelvic Incidence
Gregory Mundis, Jr, MD; Robert Eastlack, MD; Praveen Mummaneni, MD; David Okonkwo, MD, PhD; Stacie Nguyen, MPH; Adam Kanter, MD; Neel Anand, MD; Paul Park, MD; Pierce Nunley, MD; Juan Uribe, MD; Joseph Zavatsky, MD; Dean Chou, MD; Vedat Deviren, MD; and International Spine Study Group

Paper #8: Clinical and Radiological Fate of the Lumbosacral Junction Following ALIF vs. Axial Lumbar Interbody Fusion at the Bottom of a Long Construct in cMIS treatment of Adult Spinal Deformity
Neel Anand, MD; Ryan Cohen; Jason Cohen; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; and Eli Baron, MD

Discussion
Moderators: A. Telfeian, MD, N. Anand, MD

Paper #9: Does Concave versus Convex Approach Matter When using Lateral Lumbar Interbody Fusion for Adult Scoliosis?
Adam Kanter, MD; Joseph Zavatsky, MD; Gregory Mundis, Jr, MD; Zachary Tempel, MD; Stacie Nguyen, MPH; Dean Chou, MD; Paul Park, MD; Juan Uribe, MD; Michael Wang, MD; Neel Anand, MD; Robert Eastlack, MD; Praveen Mummaneni, MD; David Okonkwo, MD, PhD; and International Spine Study Group

Paper #10: Treatment of the Fractional Curve with Circumferential Minimally Invasive (cMIS) Interbody versus Open Surgery without Interbody Fusion: An Analysis of Surgical Outcomes
Dean Chou, MD; Praveen Mummaneni, MD; Pierce Nunley, MD; Joseph Zavatsky, MD; Robert Eastlack, MD; David Okonkwo, MD, PhD; Michael Wang, MD; Paul Park, MD; Juan Uribe, MD; Neel Anand, MD; Vedat Deviren, MD; Behrooz Akbarnia, MD; Stacie Nguyen, MPH; Gregory Mundis, Jr, MD; and International Spine Study Group

Paper #11: Impact of Multi-Level Interbody Fusion in the Treatment of Severe Adult Scoliosis
(Thoracolumbar Coronal Cobb Angle>50 Degrees)

**Joseph Zavatsky, MD; Michael Wang, MD; Paul Park, MD; Dean Chou, MD; Adam Kanter, MD; Juan Uribe, MD; Pierce Nunley, MD; Robert Eastlack, MD; Behrooz Akbarnia, MD; Neel Anand, MD; Stacie Nguyen, MPH; Praveen Mummaneni, MD; Gregory Mundis, Jr, MD; and International Spine Study Group**

**Paper #12: Single-position Lateral Lumbar Interbody Fusion and Percutaneous Pedicle Screw Fixation Allows for Adequate Correction of Spinal Sagittal Imbalance**

*J. Alex Thomas*

**Discussion**

**DECOMPRESSION**

**Paper #13: Endoscopic Percutaneous Discectomy does not Decrease Complications, Re-admission, or Length of Stay in 522 Patients**

*Gregory Poorman; Preston Grieco; Daniel Erman; Peter Passias; and Michael Gerling*

**Paper #14: Comparison of Results between Percutaneous Transforaminal Endoscopic Discectomy and Posterior Microendoscopic Discectomy for Lumbar Disc Herniation: A Report of over 1000 Cases and up to 4 Years Followup**

*Jian Shen, MD, PhD*

**Discussion**

**Paper #15: Efficacy of an Outpatient Minimally Invasive Decompression Spine Surgery via Laminotomy and Foraminotomy**

*Michael Weiss; Zolton Bereczki; Stefan Prada; Mark Flood; Reginald Davis; Chip Wade*

**Discussion**

**11:45** Paper #12: Single-position Lateral Lumbar Interbody Fusion and Percutaneous Pedicle Screw Fixation Allows for Adequate Correction of Spinal Sagittal Imbalance

*J. Alex Thomas*

**Discussion**

**11:49**

**DECOMPRESSION**

**11:57** Paper #13: Endoscopic Percutaneous Discectomy does not Decrease Complications, Re-admission, or Length of Stay in 522 Patients

*Gregory Poorman; Preston Grieco; Daniel Erman; Peter Passias; and Michael Gerling*

**12:01** Paper #14: Comparison of Results between Percutaneous Transforaminal Endoscopic Discectomy and Posterior Microendoscopic Discectomy for Lumbar Disc Herniation: A Report of over 1000 Cases and up to 4 Years Followup

*Jian Shen, MD, PhD*

**12:05** Paper #15: Efficacy of an Outpatient Minimally Invasive Decompression Spine Surgery via Laminotomy and Foraminotomy

*Michael Weiss; Zolton Bereczki; Stefan Prada; Mark Flood; Reginald Davis; Chip Wade*

**Session 2B: Free Papers**

**Moderators: K. Foley, MD & C. Menezes, MD**

**MATERIALS AND INSTRUMENTATION**

**10:45** Paper #16: Subsistence of PEEK Interbody

*Robert E. Isaacs, MD*

**10:49** Paper #17: Osseointegration and Imaging Performance of Porous PEEK Implants for Intervertebral Body Fusion

*Reginald Knight, MD, MHA; Brennan Torstrick, PhD; Robert Guldberg, PhD; and Ken Gall, PhD*


*James Marino, MD; Robert Eastlack, MD; Evan O'Brien, MD; and James Koziol, PhD*

**10:57** Paper #19: Effectiveness of Interbody Lordotic Cages to Restore Disc Angle and Lumbar Lordosis Through Completely Mini-invasive Trans-psoas and Hybrid Approach

*Giuseppe Barone, MD; Francesco Ciro Tamburrelli, MD; Eugenio Valenzi, MD; Giovanni Noia, MD; Andrea Perno, MD; Ilaria Giannelli, MD; and Luca Proietti, MD*

**11:01** Discussion
TRAUMA & TUMOR

Daniel Cavanaugh, MD; Tristan Weir, BS; Kelley Banagan, MD; Eugene Koh, MD, PhD; Daniel Gelb, MD; Steven Ludwig, MD; and Luke Brown, MD

11:13  Paper #21: Minimally Invasive Percutaneous Screw Osteosynthesis for Traumatic Spondylolisthesis of the Axis
Shuhei Osaki; Yasuo Ito; and Takeshi Kikuchi

Rajeshwar Srivastava, MS; Amar Chandra Sharma, MSc; and Saloni Raj, MBBS

11:21  Paper #23: Role of Stem Cell Intervention on Quality of Life (QOL) in Acute Spinal Cord Injury (ASCI) Subjects - A Longitudinal Cohort Study
Rajeshwar Srivastava, MS; Alka Singh, MSc; Saloni Raj, MBBS; and Nitesh Srivastava, MOT

11:25  Discussion

Moderators: S. Ludwig, MD & P. Park, MD

ECONOMICS & OUTCOMES

11:33  Paper #24: How Do Case Type, Length of Stay, and Comorbidities Affect Medicare DRG Reimbursement for Minimally Invasive Surgery (MIS) for Deformity?
Pierce Nunley, MD; Richard Fessler, MD, PhD; Paul Park, MD; Joseph Zavatsky, MD; Gregory Mundis, Jr, MD; Juan Uribe, MD; Robert Eastlack, MD; Dean Chou, MD; Michael Wang, MD; Neel Anand, MD; Adam Kanter, MD; and Christopher Shaffrey, MD

11:37  Paper #25: Economic Performance of Oblique Lateral Lumbar Interbody Fusion with a Focus on Hospital Throughput Efficiency
Hamid Abbasi, MD PhD FACS FAANS and Christopher Murphy

11:41  Paper #26: Early and Late Reoperation Rates and Etiologies are Similar Between cMIS and HYB techniques for ASD correction
Robert Eastlack, MD; Gregory Mundis, Jr, MD; Stacie Nguyen, MPH; Praveen Mummaneni, MD; David Okonkwo, MD, PhD; Adam Kanter, MD; Neel Anand, MD; Paul Park, MD; Pierce Nunley, MD; Juan Uribe, MD; Joseph Zavatsky, MD; Dean Chou, MD; Vedat Deviren, MD; and International Spine Study Group

11:45  Paper #27: Serious Adverse Events Associated with Readmission through One Year after Two Different Approaches to Vertebral Augmentation
Douglas Beall, MD; John Hornberger, MD; Jeffrey Coe, MD; Mark McIlduff, MBA, MS; Daniel Bloch, PhD; Qianyi Li, MS; Debby Holmes-Higgin, MS, MPH; and Sean Tutton, MD

11:49  Discussion

DEGENERATIVE

11:57  Paper #28: Lateral Lumbar Interbody Fusion without Muscle Relaxants: Early Experience with Adverse Events Technical Considerations
Guy Fogel, MD and Laurence Rosen, MD
12:01 Paper #29: Multimodal versus Patient-Controlled Analgesia following Transforaminal Lumbar Interbody Fusion
   Daniel Bohl, MD, MPH; Dustin Massel, BS; Benjamin Mayo, BA; Phillip Louie, MD; Frank Phillips, MD; Asokumar Buvanendran, MBBS; Kern Singh, MD

12:05 Paper #30: Radiographic Predictors of Clinical Improvement following Extreme Lateral Interbody Fusion: A Multi-institutional Analysis of 101 Consecutive Levels
   Robert Isaacs

   Mohamed Elmekaty, MD; Yoshihisa Kotani, MD, PhD; Emad Elmehy, MD, PhD; Ivan Gonchar, MD; Ryo Fujita, MD; Masanari Hamasaki, MD; Tatsuya Masuko, MD; and Bun Beng Tan, MD

12:13 Discussion

12:20 Lunch; Exhibit Viewing; Meet-the-Experts Sessions

12:40 – 1:00 pm Meet-the-Experts Lunch Sessions

Session 3: Concurrent Sessions

Session 3A: MIS Trauma & Tumor

Moderators: G. Anderson, MD & D. Chou, MD

1:15 TLICS Classification and MIS Techniques - When and How? S. Ludwig, MD
1:25 Percutaneous Pedicle Screws Fixation for Burst Fractures - The Evidence C. Menezes, MD
1:35 Vertebroplasty / Kyphoplasty - State of the Art L. Teixeira, MD
1:45 Q & A

1:55 Mini-open Corpectomy for Trauma - Indications and Limitations A. Kanter, MD
2:05 Applications of MIS Surgery for Spinal Tumors D. Sciubba, MD
2:15 Q & A

2:22 Case Discussions
   Moderators: G. Anderson, MD & D. Chou, MD
   Panel: Drs. Kanter, Ludwig, Menezes, Sciubba, Teixeira
   • Unstable Burst Fracture without Neurological Injury
   • Unstable Burst Fracture with Neurological Deficit

2:45 Refreshment Break; Exhibit Viewing

Session 3B: MIS Deformity

Moderators: G. Mundis, MD & P. Berjano, MD

1:15 Is Perfectly Fixing Pelvic Parameters Always the Goal? R. Eastlack, MD
1:23 Patient Evaluation: MIS, Hybrid, or Open N. Anand, MD
1:31 Q & A
1:37  Role of MIS in Deformity Correction: What is the Evidence Base?  J. Uribe, MD
1:45  Deformity Correction: MIS, Anterior, Posterior Techniques - When and How?  G. Mundis, MD
1:51  Q & A

1:57  Does MIS Correction of Deformity Reduce Adjacent Segment Problems?  P. Park, MD
2:05  The Role for MIS for Pediatric Deformity  P. Cahill, MD
2:13  Q & A

2:20  Case Discussions  
Moderators: G. Mundis, MD & P. Berjano, MD  
Panel: Drs. Anand, Cahill, Eastlack, Park, Uribe

2:45  Refreshment Break; Exhibit Viewing  
Exhibit Hall

**Session 4: Guest Lecture**
3:15  Introduction of Guest Speaker  
F. Phillips, MD
3:18  SKILL: Principles that Surgeons, Athletes, and other Elite Performers use to Achieve Mastery  
Christopher S. Ahmad, MD

**Session 5: Ambulatory Surgery & ERAs**  
Moderators: F. Phillips, MD & G. Anderson, MD

3:45  ASCs: A Financial Win for All Stakeholders (Patients, Surgeons, Payers)?  N. Badlani, MD
3:55  ASCs: Are We Putting Cash over Safety?  S. Qureshi, MD
4:05  Q & A

4:10  Patient Selection for the ASC Environment  W. Smith, MD
4:20  Anesthesia and Analgesia to Make ASC Spine Surgery Work  A. Buvanderen, MD
4:30  The Team Approach to Managing Pain and the ASC  P. Whang, MD
4:40  Q & A

4:45  ASCs: The Future of Spine? What are the Strengths? What are the Concerns?  S. Becker, JD
4:57  Q & A

5:00  Adjourn; Welcome Reception  
Exhibit Hall
-6:00 pm

**Saturday, October 15**
6:45 am Registration

7:30  Non-CME Technology Workshops with Breakfast  
Participants choose which to attend

**Session 6: Part i. MIS TLIF from A-Z**  
Moderators: L. Khoo, MD, & K. Poelstra, MD

8:30  Welcome  JP Mobasser, MD
8:35  MIS TLIF – Key Surgical Anatomy  G. Anderson, MD
8:45  MIS TLIF - State of the Art Technique  J. Schwender, MD
8:55  Q & A
9:00  Providing Lordosis with MIS TLIF  
9:10  MIS TLIF - What are its Limitations? When is it Not a Good Option?  
9:20  Q & A  
9:30  Percutaneous Endoscopic TLIF – Rationale, Technique, and Outcomes  
9:40  Q & A  

Session 6: Part ii. Debates  
Moderators: K. Singh, MD & R. Isaacs, MD  

9:45  Debate: Lateral IF at L4-5  
Too Risky to be Mainstream (5 mins)  
Safe and Effective (5 mins)  
Q & A  

10:00  Debate: Cervical HNP with Radiculopathy  
Posterior MIS is Foraminotomy Effective and Least Invasive (5 mins)  
Anterior Surgery is Tried and True (5 min)  
Q & A  

10:15  Refreshment Break; Exhibit Viewing  

Session 7: Concurrent Free Paper Sessions  
Participants choose Option A or B  

Session 7A: Free Papers  
Mods: Dr. B. Kwon & Dr. L. Teixeira  

DEGENERATIVE  
10:45  Paper #32: Clinical Outcome of Extended Oblique Lateral Interbody Fusion for Thoracic and Thoracolumbar Spinal Disorders  
Takuma Kaibara; Yoshihisa Kotani; Katsuhisa Fujita; Yusuke Kameda; and Hideaki Fukaya  

10:49  Paper #33: Comparison of Minimally Invasive Transforaminal Lumbar Interbody Fusion with Oblique Lumbar Interbody Fusion for L4-5: Clinical and Radiological Outcomes  
Hyun-Jin Jo and Jin-Sung Kim, MD, PhD  

10:53  Paper #34: MIS-TLIF Combined with Contralateral Bridge Fixation of Minimally Invasive Pedicle Screws for Multilevel Lumbar Degenerative Disease  
Yutong Gu, MD, PhD; Jian Dong; Xiaoxing Jiang; and Jian Zhang  

10:57  Paper #35: Interspinous Process Fixation versus Pedicle Screw Fixation in ALIF/LLIF: 2-year Outcomes from a Prospective Randomized Multi-Center Trial  
Kee Kim, MD; Ryan DenHaese, MD; Clint Hill, MD; K. Brandon Strenge, MD; Alexandre de Moura, MD; Peter Passias, MD; Chris Ferry, MS; Brieta Bejin, MS; Kim Martin, PhD; Sarah Martineck, PA; Tom Glorioso, MS; Paul Arnold, MD; and Ripul Panchal, DOUC  

11:01  Discussion  

Nitin Khanna, MD

11:13 Paper #37: Lateral versus Anterior Lumbar Interbody Fusion: 2-Year Outcomes from a Prospective Multi-Center Study
Kee Kim, MD; Ryan DenHaese, MD; Clint Hill, MD; K. Brandon Strenge, MD; Alexandre de Moura, MD; Peter Passias, MD; Chris Ferry, MS; Brieta Bejin, MS; Kim Martin, PhD; Sarah Martineck, PA; Tom Glorioso, MS; Paul Arnold, MD; and Ripul Panchal, DOUC

Jeffrey Coe, MD; Donald Kucharzyk, MD; Kornelis Poelstra, MD, PhD; Joshua Ammerman, MD; and Sandeep Kunwar, MD

11:21 Paper #39: Clinical and Radiographic Analysis of Expandable versus Static Lateral Lumbar Interbody Fusion Devices with 1-Year Follow-up
Richard Frisch; Joseph O’Brien; Daina Brooks; Ingrid Luna; and Gita Joshua

11:25 Discussion
Moderators: J. Coe, MD & S. Qureshi, MD

SPONDYLOLISTHESIS

11:33 Paper #40: Clinical Comparison of Two MIS Fusion Techniques for Lumbar Spondylolysis and Isthmic Spondylolisthesis
Ryo Fujita

11:37 Paper #41: Minimally Invasive Transforaminal Lumbar Interbody Fusion: Comparison of Low versus High-Grade Isthmic Spondylolisthesis
Dustin Massel, BS; Benjamin Mayo, BA; Ankur Narain, BA; Fady Hijji, BS; Krishna Kudaravalli, BS; Kelly Yom, BA; Kern Singh, MD

Yoshihisa Kotani; Katsuhisa Fujita; Takuma Kaibara; Toshiaki Kameda; and Hideaki Fukaya

11:45 Paper #43: Treatment of Grade II Isthmic Spondylolisthesis: Comparison of Minimally Invasive Transforaminal and Anterior Lumbar Interbody Fusion
Benjamin Mayo, BA; Dustin Massel, BS; Fady Hijji, BS; Ankur Narain, BA; Kelly Yom, BA; Krishna Kudaravalli, BS; Kern Singh, MD

11:49 Discussion

SCREWS & CAGES

11:57 Paper #44: Expandable versus Static Cages in Transforaminal Lumbar Interbody Fusion: Radiographic - Comparison of Segmental and Lumbar Sagittal Angles
Timothy Yee; Jacob Joseph, MD; Brandon Smith; and Paul Park

12:01 Paper #45: Low Profile Percutaneous Iliac Fixation
Chun-Po Yen, MD; Puya Alikhani, MD; Andrew Vivas, MD; Jason Paluzzi; Konrad Bach; and Juan Uribe, MD

8 | P a g e
12:05  Paper #46: Radiological Analysis of 300 Consecutive Spine Reconstructions using Cortical Bone Trajectory (CBT) Screws - Comparison between Original and Modified CBT techniques

Katsuhisa Fujita, MD; Yoshihisa Kotani, MD,PhD; Takuma Kaibara, MD; Yusuke Kameda, MD, PhD; And Hideaki Fukaya, MD


Sun-Ren Sheng, MD PhD; Jonathan Harris, MS; Mir Hussain, BS; Hua-Zi Xu, MD; Mariano Titanti, BS; Xin Fu, MD; Brandon Bucklen, PhD; and Bryan Cunningham, PhD

12:13  Discussion

12:20pm Lunch; Exhibit Viewing; Meet-the-Experts Sessions

Session 7B: Free Papers

Moderators: C. Branch, MD & I. Moss, MD

COMPLICATIONS


Jacob Januszewski; Konrad Bach; Andrew Vivas; Jason Paluzzi; Po Yen Chun; and Juan Uribe

10:49  Paper #49: Bowel Complications following Lateral Lumbar Interbody Fusion Surgery

Sean Keem, MD

10:53  Paper #50: Clinical Results and Utility of Extreme Lateral Interbody Fusion System for Revision Spine Surgery

Yukihiro Nakagawa; Munehito Yoshida; Hiroshi Yamada; Hiroshi Hashizume; Akihito Minamide; Hiroshi Iwasaki; Shunji Tsutsui; Masanari Takami; and Shinichi Nakao

10:57  Paper #51: What is the Effect of Open vs. Percutaneous Screws on Complications Among Patients Undergoing Lateral Interbody Fusion for Adult Spinal Deformity?

Khoi Than, MD; Stacie Nguyen, MPH; Paul Park, MD; Dean Chou, MD; Frank La Marca, MD; Juan Uribe, MD; Todd Vogel, MD; Pierce Nunley, MD; Robert Eastlack, MD; Neel Anand, MD; Adam Kanter, MD; Praveen Mummaneni, MD; Gregory Mundis, Jr, MD; and International Spine Study Group

11:01  Discussion

DEFORMITY

11:09  Paper #52: An Analysis of Outcome Predictors with Circumferential Minimally Invasive Surgical Correction (cMIS) of Adult Spinal Deformity (ASD) - A Multivariate Linear Regression Analysis

Neel Anand, MD; Ryan Cohen; Jason Cohen; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; and Eli Baron, MD

11:13  Paper #53: Patients with High Pelvic Tilt Achieve the Same Clinical Success as Those with Low Pelvic Tilt After Minimally Invasive Deformity Surgery

Juan Uribe, MD; Gregory Mundis, Jr, MD; Michael Wang, MD; Neel Anand, MD; David Okonkwo, MD, PhD; Stacie Nguyen, MPH; Praveen Mummaneni, MD; Pierce Nunley, MD; Paul Park, MD; Adam Kanter, MD; Joseph Zavatsky, MD; Robert Eastlack, MD; Behrooz Akbarnia, MD; and International Spine Study Group
11:17 Paper #54: Open Thoracic and Percutaneous Lumbar Fixation in the Treatment of Adult Deformity: Mid-term Clinical and Radiographic Outcomes  
**Antoine Tohmeh, MD; Ashley Proctor; and Ansab Khawaja, BS**

**William Smith, MD and Libby Bergmann, B.S.**

11:25 Discussion  
**Moderators: P. Nunley, MD & R. Eastlack, MD**

**NEW TECHNIQUES**

11:33 Paper #56: Evaluation of Fusion and Patient Outcome After Minimally Invasive Sacroiliac Joint Fusion Surgery with Decortication: 12-month Results  
**William Cross, MD; Arnold Delbridge, MD; and Donald Hales, MD**

11:37 Paper #57: Two-Year Outcomes from a Randomized Controlled Trial of Minimally Invasive Sacroiliac Joint Fusion vs. Non-Surgical Management for Sacroiliac Joint Dysfunction  
**David Polly, MD; John Swofford, DO; Peter Whang, MD; Clay Frank, MD; Charles Harvey, MD; Harry Lockstadt, MD; John Glaser, MD; Robert Limoni, MD; Don Kovalski, MD; Daniel Cher, MD; Kathryn Wine, MPH; and Jonathan Sembrano, MD**

11:41 Paper #58: Minimally Invasive Instrumentation without Fusion during Posterior Thoracic Corpectomies: A Comparison of Percutaneously Instrumented Non-fused Segments with Open Instrumented Fused Segments  
**Darryl Lau, MD and Dean Chou, MD**

11:45 Paper #59: Outcomes of Lumbopelvic Fixation for the Treatment of Adult Deformity with Modified Iliac Screw Starting Point: Single Institution Experience  
**Daniel Gelb; Steven Ludwig, MD; Eugene Koh, MD, PhD; Kelley Banagan, MD; Kunwar Khalsa, MD; Ehsan Jazini, MD; and Tristan Weir**

11:49 Discussion  

**FIXATION**

11:57 Paper #60: The Incidence of Proximal Junctional Kyphosis (PJK) Based on Upper-Instrumented Vertebrae (UIV) in Patients Undergoing Circumferential Minimally Invasive Surgical (cMIS) Correction for Adult Spinal Deformity  
**Neel Anand, MD; Jason Cohen; Ryan Cohen; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; and Eli Baron, MD**

12:01 Paper #61: Clinical Comparison of Two Spinal Reconstruction Techniques for Osteoporotic Vertebral Collapse: Conventional Pedicle Screw vs. Modified CBT Screw  
**Ryo Fujita and Yoshihisa Kotani**

12:05 Discussion  

12:20pm Lunch; Exhibit Viewing; Meet-the-Experts Sessions  
Exhibit Hall

12:40 Meeting-the-Experts Lunch Sessions  
Exhibit Hall
– 1:00 pm

Session 8: Concurrent Sessions

Session 8A: MIS Cervical
Moderators: W. Taylor, MD

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:15</td>
<td>PCMF</td>
<td>L. Khoo, MD</td>
</tr>
<tr>
<td>1:25</td>
<td>Posterior Fusion</td>
<td>D. Laich, MD</td>
</tr>
<tr>
<td>1:35</td>
<td>Tumor Resection</td>
<td>L. Khoo, MD</td>
</tr>
<tr>
<td>1:45</td>
<td>MIS Split Laminectomy Technique</td>
<td>F. Pennings, MD</td>
</tr>
<tr>
<td>1:55</td>
<td>Q &amp; A</td>
<td></td>
</tr>
</tbody>
</table>

Anterior Cervical

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:05</td>
<td>Cervical TDR</td>
<td>H. Bae, MD</td>
</tr>
<tr>
<td>2:15</td>
<td>Anterior Microforaminotomy - Is it Viable?</td>
<td>W. Taylor, MD</td>
</tr>
<tr>
<td>2:25</td>
<td>What Happened to the Trans Corp. Procedure?</td>
<td>A. Araghi, MD</td>
</tr>
<tr>
<td>2:35</td>
<td>Q &amp; A</td>
<td></td>
</tr>
</tbody>
</table>

Session 8B: Endoscopic Techniques
Moderator: D. Laich, MD & J. Shen, MD

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:15</td>
<td>Endoscopic Spine Surgery – the Foundations</td>
<td>A. Telfeian, MD</td>
</tr>
<tr>
<td>1:35</td>
<td>Q &amp; A</td>
<td></td>
</tr>
</tbody>
</table>

Techniques in Endoscopic Spine Surgery

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:40</td>
<td>Intralaminar Decompression Endoscopic Approach</td>
<td>P. Witt, MD</td>
</tr>
<tr>
<td>1:50</td>
<td>Posterior Bony Endoscopic Decompression</td>
<td>A. Telfeian, MD</td>
</tr>
<tr>
<td>2:00</td>
<td>Q &amp; A</td>
<td></td>
</tr>
</tbody>
</table>

2:10 Case Discussions
Moderator: D. Laich, MD
Panel: Drs. Shen, Telfeian & Witt
- L5-S1 Free Fragment
- L4-5 Spondy with Stenosis
- L3-4 Stenosis

2:40 Refreshment Break; Last Chance Exhibit Viewing
Session 9: Part i. Achieving Fusion

Moderators: J. Schwender, MD & L. Teixeira, MD

3:05  Fusion Options
Making Sense of Bone Graft Extenders: What Works Best? (8 mins)  H. Bae, MD

Point / Counterpoint
• rhBMP-2 is the Gold Standard (5 mins)  E. Potts, MD
• Stem Cell Therapy will Become the New Gold Standard (5 mins)  B. Kwon, MD (Vancouver)

3:23  Q & A

3:27  Pre-Operative Factors
How Can We Optimize Patients Pre-operatively who are to Undergo Spinal Fusion?  S. Khairi, MD

3:37  Post-operative Factors
What is the Quality of Evidence re: How Post-op Factors can Affect Lumbar Fusion?
• Brace vs. no Brace (5 mins)  K. Poelstra, MD
• NSAIDs and Activity Level during Early Post-operative Period: Does this Matter? (5 mins)  G. Deol, MD
• Bone Growth Stimulators: Do They Work? What’s the Evidence? (5mins)  K. Foley, MD

3:57  Q & A

Session 9: Part ii: Best Paper Award

4:05  Paper #62: Comparative Analysis of Three Different Surgical Strategies for Adult Spinal Deformity with Moderate Sagittal Imbalance
Junseok Bae; Alexander A. Theologis; Russell Strom; Bobby Tay; Shane Burch; Sigurd Berven; Praveen Mummaneni; Dean Chou; Christoper P. Ames; and Vedat Deviren

4:09  Discussion
4:13  Presentation  F. Phillips, MD
4:15  Raffle Drawing  JP Mobasser, MD & J. Uribe, MD

Session 10: Radiation Reduction and Navigation Update

Moderators: JP Mobasser, MD & E. Potts, MD

4:20  Does 3-Dimensional Intra-operative Navigation Increase Radiation to the Patient? What is the Radiation Exposure to Surgeon and Operative Team?  S. Burch, MD

4:30  Are the Latest Generation Navigation Devices a Major or Minor Improvement? Will Image Enhancement Software Reduce Radiation to the Patient?  R. Isaacs, MD

4:40  Why Do Surgeons Still Believe that Navigation Adds Time to the Length of Surgery? Fact or Fiction?  E. Nottmeier, MD

4:50  Is Robotic Spinal Surgery more than a Marketing Ploy?  I. Lieberman, MD
5:00  Q&A
5:10  Closing Comments
5:15  Adjourn