

Friday Program

Cases and Controversies in Minimally Invasive Spine Surgery

6:45 am	Registration	
7:30	Non-CME Technology Workshops with Breakfast <i>Participants choose which to attend</i>	
	MAZOR X™ Robotic System: Innovations and Evolutions in Spine Surgery <i>John Pollina, MD</i> Supported by: Medtronic	<i>Pompeian I/II</i>
	ExcelsiusGPS® First Clinical Experience <i>Sabino D'Agostino, DO, FAANS, FACS</i> Supported by: Globus Medical	<i>Pompeian III/IV</i>

SESSION 1 | Spinal Deformity *Florentine Ballroom*

MODERATORS: G. Mundis, MD & L. Pimenta, MD

Controversy: Does Every Patient Benefit from “Ideal” Correction?

8:30	Welcome	
8:35	Age Specific Alignment Goals: Give It to Me Straight, What are the Key Goals I Need to Know for Each Case?	S. BERVEN, MD
	DEBATE: Do We Really Need to Get Patients “Aligned” to Have a Good Long-term Outcome?	
8:43	Case: 75 y/o Female with Modest Degenerative Scoliosis	
8:46	Alignment is Overrated	N. ANAND, MD
8:51	Alignment is Critical to Outcome	A. KANTER, MD
8:56	Discussion	
9:00	Audience Response	
9:03	How Do I Decide Whether MIS, Hybrid, or Open is Best for My Patient?	J. URIBE, MD
9:11	Discussion	
	DEBATE: Surgical Approach to Degenerative Deformity: Front, Back, Lateral or All Three?	
9:15	Case: 60 y/o Female, PI/LL 20°, SVA 10°, PT 23°	
9:18	Posterior Only is Ideal for the Patient	M. WANG, MD
9:23	Circumferential MIS Surgery is Best	R. EASTLACK, MD
9:28	Single Position Lateral Surgery Can Accomplish Everything	W. SMITH, MD
9:33	Discussion	
9:36	Audience Response	
	DEBATE: How Best to Treat L5-S1:	
9:38	Case: Adult Degenerative Scoliosis with DDD L5-S1 No Prior Surgery	
9:41	MIS TLIF	S. QURESHI, MD
9:46	ALIF—Direct Anterior	D. OKONKWO, MD
9:51	Discussion	
9:55	Avoiding L5-S1 in Short Segment Degenerative Scoliosis	I. LIEBERMAN, MD

Friday Program, *continued*

10:03	Does Multi-Disciplinary Risk Assessment Lead to Better Outcomes?	R. SETHI, MD
10:11	Discussion	
10:15	PANEL DISCUSSION: Does Minimally Invasive Spine Surgery Lead to More or Less Complications? Alignment Failure; Implant Non-union Failure; Repeat Surgery MODERATORS: G. Mundis, MD & L. Pimenta, MD PANEL: S. Berven, MD; F. Phillips, MD; P. Mummaneni, MD & B. Staub, MD	
10:35	Refreshment Break & Exhibit Viewing	Roman Ballroom

Concurrent Sessions: Free Papers & Young Surgeons' Session

SESSION 2A | Degenerative & Lateral Free Papers Florentine Ballroom

MODERATORS: N. Ashraf, MD & N. Anand, MD

11:05	Paper #1: A Clinical Study to Evaluate Static vs Expandable Lateral Lumbar Interbody Fusion Devices: with One-Year Follow-up <i>Richard Frisch, MD; Ingrid Y Luna, MS; Daina Brooks, BS; Gita Joshua, MA; and Charles Ledonio;</i> Best Paper Award Finalist	
11:09	Paper #2: Static vs Expandable Interbody Devices in Minimally Invasive Transforaminal Lumbar Interbody Fusion: Comparison of Radiographic and Functional Outcomes <i>Benjamin Khechen, BA; Brittany Haws, MD; Dil Patel, BS; Mundeep Bawa; Harmeet Bawa; Jordan Guntin, BS; Kaitlyn Cardinal, BS; Andrew Block, BS; and Kern Singh, MD</i>	
11:13	Paper #3: Immediate Restoration of Lordosis in Single-level Minimally Invasive Transforaminal Lumbar Interbody fusion (MI-TLIF): A Comparison of Expandable and Static Interbody Cages <i>Avani Vaishnav, MBBS; Philip Saville, MD; Steven McAnany, MD; Roger Härtl, MD; Sertac Kirnaz, MD; Rodrigo Navarro-Ramirez, MD, MSc; Catherine Gang, MPH; Sheeraz Qureshi, MD, MBA</i>	
11:17	Paper #4: Do Expandable Cages Lead to a Higher Incidence of Subsidence? Two-year Follow-up of Lateral Lumbar Interbody Fusions <i>Dan Cohen, MD; Joseph O'Brien, MD; William Tally, MD; Thomas Lee, MD; Torrey Shirk, BA; Gita Joshua, MA; and Charles Ledonio, MD</i>	
11:21	Discussion	
11:29	Paper #5: Minimally Invasive Spine Surgery through Lumbar Decompression: Patient-Reported Outcomes from More than 9,000 Cases <i>Stefan Prada, MD; Michael Weiss, DO; Stephen Songhurst, BS; Chip Wade, PhD; and Reginald Davis, MD</i> Best Paper Award Finalist	
11:33	Paper #6: Minimally Invasive Transforaminal Lumbar Interbody Fusion (MI-TLIF) vs Minimally Invasive Lateral Lumbar Interbody Fusion (MI-LLIF): A Comparison of Immediate Post-operative Outcomes for the Assessment of Decompression <i>Sheeraz Qureshi, MD, MBA; Avani Vaishnav, MBBS; Catherine Himo Gang, MPH; Steven McAnany, MD; and Todd Albert, MD</i>	

Friday Program, *continued*

11:37	<p>Paper #7: Employment is Associated with Superior Patient Reported Outcomes following Minimally Invasive Lumbar Spondylolisthesis Surgery: An Analysis of the Quality Outcomes Database <i>Andrew Chan, MD; Erica Bisson, MD, MPH; Mohamad Bydon, MD; Steven Glassman, MD; Kevin Foley, MD; Eric Potts, MD; Christopher Shaffrey, MD; Mark Shaffrey, MD; Domagoj Coric, MD; John Knightly, MD; Paul Park, MD; Michael Wang, MD; Kai-Ming Fu, MD, PhD; Jonathan Slotkin, MD; Anthony Asher, MD; Panagiotis Kerezoudis, MD; Regis Haid, MD; and Praveen Mummaneni, MD</i></p>
11:41	<p>Paper #8: Preoperative Opioid Use Associated with Worsened Outcomes in Patients Undergoing Stand-alone Lateral Lumbar Interbody Fusion for Degenerative Disc Disease <i>David Salvetti, MD; Alp Ozpinar, MD; Nima Alan, MD; David Okonkwo, MD PhD; Adam Kanter, MD; and D. Kojo Hamilton</i></p>
11:45	Discussion
11:53	<p>Paper #9: Systematic Review of Facet Tropism as it Relates to Degenerative Disc Disease in the Lumbar Spine: The Overlooked Synovial Joint <i>Fabio Pencle, MBBS; Moawiah Mustafa; Luai Mustafa; Omar Viqar; Zaid Sheikh; and Kingsley Chin, MD</i></p>
11:57	<p>Paper #10: Influence of Lumbar Stenosis on Concomitant Sacroiliac Joint Pain: Short-Term and Preliminary Long-Term Results <i>Konrad Bach, MD; and Thomas Freeman, MD</i></p>
12:01 pm	<p>Paper #11: Anterior Column Release (ACR) during Lateral Interbody Fusion for Hyperlordotic Segmental Correction <i>Larry Khoo, MD; Roya Gheissari, MS; and Charlie Loeb</i></p>
12:05	<p>Paper #12: Minimally Invasive Multilevel Oblique Lumbar Interbody Fusion (OLIF): An Anatomical Single Position Approach for CMIS Correction of Adult Spinal Deformity (ASD) <i>Neel Anand, MD; Edward Nomoto, MD; Christopher Kong, MD; Babak Khandehroo, MD; and Sheila Kahwaty, PA-C</i></p>
12:09	Discussion
12:17	<p>Paper #13: Impact of Local Steroid Application in a Minimally Invasive Transforaminal Lumbar Interbody Fusion <i>Brittany Haws, MD; Benjamin Khechen, BA; Dil Patel, BS; Junyoung Ahn, MD; Daniel Bohl, MD, MPH; Mundeep Bawa; Harmeet Bawa; Kaitlyn Cardinal, BS; Jordan Guntin, BS; Sailee Karmarkar, BS; and Kern Singh, MD</i></p>
12:21	<p>Paper #14: Clinical Outcome of OLIF with Percutaneous Posterior Fixation in Lateral Position for Degenerative Spondylolisthesis: Comparison between Elderly and Non-elderly Patients <i>Y. Koike; Y. Kotani; H. Terao; Y. Hosokawa; H. Kobayasi; Y. Kameda; and H. Fukaya</i></p>
12:25	<p>Paper #15: Use of Routine Motor-Evoked Potentials (MEPs) is Superior to Routine Running Electromyographic (EMG) and Somatosensory Evoked Potential (SSEP) Monitoring during Lateral Lumbar Interbody Fusion (LLIF) Procedures for Intraoperative Detection of Postoperative Neurological Deficits <i>Larry Khoo, MD; Roya Gheissari; Ji Hyun Lee; and P. Richard Emmanuel, MD</i> Best Paper Award Finalist</p>
12:29	Discussion

Friday Program, *continued*

SESSION 2B | Deformity, Trauma & Cervical Free Papers

Pompeian I-II

MODERATORS: S. McAnany, MD & I. Moss, MD

- 11:05 **Paper #16:** Strategic Selection of Posterior Procedure and Clinical Outcome of Anterior-posterior Combined Correction Surgery with Oblique Lateral Interbody Fusion (OLIF) for Adult Spinal Deformity
Yoshihisa Kotani; Yoshinao Koike; Hidemasa Terao; Yumejiro Nakamura; Hiroyuki Tachi; Yasushi Yabuuchi; and Yusuke Kameda
- 11:09 **Paper #17:** The Impact of Endplate Fracture on the Clinical Efficacy of Minimally Invasive Percutaneous Pedicle Screw Fixation for Treatment of Thoraco-lumbar Vertebra Burst Fractures
Yongxin Ren, MD, PhD and Hui Che, Master
- 11:13 **Paper #18:** Multi-level Cervical Constructs in Clinical Practice Using Integrated Interbody Fusion
Jason Garber, MD, FACS
- 11:17 **Paper #19:** Evaluation of Current Trends in Treatment of Single-level Cervical Radiculopathy
Jung Mok; Evan Sheha, MD; Andre Samuel, MD; Steven McAnany, MD; Avani Vaishnav, MBBS; Todd Albert, MD; Catherine Gang, MPH; and Sheeraz Qureshi, MD, MBA
- 11:21 Discussion
- 11:29 **Paper #20:** Sway and Neuromuscular Activity Changes in Adult Degenerative Scoliosis Patients Pre and Post Surgery Compared to Controls
R. Haddas and I. Lieberman
- 11:33 **Paper #21:** Proximal Fusion Constructs in MIS Scoliosis Surgery are Successful without Interbody or Intertransverse Fusion
S. Burks; J. Godzik; K. Bach; J. Uribe; and M. Wang
- 11:37 **Paper #22:** The MISDEF2 Algorithm: An Updated Algorithm for Patient Selection In Minimally Invasive Deformity Surgery
Kai-ming Fu; Praveen Mummaneni; Paul Park; Michael Wang; Khoi Than; Adam Kanter; Dean Chou; Gregory Mundis; Robert Eastlack; Juan Uribe; Pierce Nunley; Richard Fessler; Neel Anand; and Christopher Shaffrey
- 11:41 **Paper #23:** Clinical and Radiographic Outcomes of Mini Open Correction and Fusion for Adolescent Idiopathic Scoliosis (AIS): 2-5 Years Follow up
D. Singh; M. Geck; E. Truumees; and J. Stokes
- 11:45 Discussion
- 11:53 **Paper #24:** The Relationship of Static Spinopelvic Parameters with Dynamic Biomechanical Parameters Measured by Gait and Balance Analyses in Patients with Adult Degenerative Scoliosis
Ram Haddas and Isador Lieberman, MD
- 11:57 **Paper #25:** Is Achieving Optimal Spinopelvic Parameters Necessary to Obtain Substantial Clinical Benefit: Analysis of Patients who Underwent Circumferential MIS or Hybrid Surgery with Open Posterior Instrumentation
Paul Park, MD; Robert Eastlack, MD; Kai-Ming Fu, MD; Stacie Tran; Gregory Mundis, MD; Juan Uribe, MD; Michael Wang, MD; Khoi Than, MD; David Okonkwo, MD; Adam Kanter, MD; Pierce Nunley, MD; Neel Anand, MD; Richard Fessler, MD; Dean Chou, MD; Praveen Mummaneni, MD; and International Spine Study Group

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12:01 pm	Paper #26: The Role of Pelvic Parameters on S2 Alar-Iliac (S2AI) Screw Trajectory <i>Jamal Shillingford, MD; Joseph Laratta, MD; James Lin, MD; Comron Saifi; Steven Ludwig; Lawrence Lenke, MD; and Ronald Lehman, MD</i>
12:05	Paper #27: Navigated Percutaneous Cervical Pedicle Screw Internal Fixation <i>John Pelozo, MD and Meghan Cingrani</i>
12:09	Discussion
12:17	Paper #28: The Effect of an Expandable Lordotic Interbody Implant to a Fixed Lordotic Interbody Implant in Minimally Invasive Spine Surgery: Its Effect on Sagittal Alignment and Restoration of Disc Height and Foraminal Heights <i>Donald Kucharzyk, DO and Dushan Budimir, BS</i>
12:21	Paper #29: Iliac Screws may not be Necessary in Long Segment Constructs with Lumbosacral ALIF: A Cadaveric Study of Stability and Instrumentation Strain <i>Randall Hlubek, MD; Jakub Godzik, MD; Anna Newcomb, MS; Jennifer Lehrman, MS; Bernardo De Andrada Pereira, MD; Brian Kelly, PhD; and Jay Turner, MD, PhD</i>
12:25	Paper #30: Impact of Lower Thoracic vs. Upper Lumbar UIV in MIS Correction of Adult Spinal Deformity <i>Robert Eastlack, MD; Pierce Nunley, MD; Juan Uribe, MD; Paul Park, MD; Stacie Tran, MPH; Michael Wang, MD; Khoi Than, MD; David Okonkwo, MD; Adam Kanter, MD; Neel Anand, MD; Richard Fessler, MD; Kai Ming Fu, MD; Dean Chou, MD; Praveen Mummaneni, MD; Gregory Mundis, MD; and International Spine Study Group</i>
12:29	Discussion

SESSION 2C | Young Surgeons' Free Papers

Pompeian III-IV
MODERATORS: A. Kanter, MD & E. Yu, MD

11:05	YS Paper #31: Age, Number of Vertebral Levels Fused, and Average Psoas Size All Predict Hospital Length of Stay after Minimally Invasive TLIF and LLIF <i>H. Zakaria; M. Macki; L. Massie; and V. Chang</i>
11:08	YS Paper #32: Maximal Segmental Lordosis can be Achieved when Fixating into One or Both Vertebral Bodies during Anterior Column Realignment: A Cadaveric Study <i>Jakub Godzik, MD; Bernardo de Andrada Pereira, MD; Anna Newcomb, MS; Jennifer Lehrman, MS; Gregory Mundis, MD; Juan Uribe, MD; Brian Kelly, PhD; and Jay Turner, MD, PhD</i>
11:11	YS Paper #33: Optimizing Biomechanics of Anterior Column Realignment (ACR) Constructs: A Cadaveric Study of Rod Strain and Construct Stability <i>Jakub Godzik, MD; Bernardo de Andrada Pereira, MD; Anna Newcomb, MS; Jennifer Lehrman, MS; Gregory Mundis, MD; Randy Hlubek, MD; Juan Uribe, MD; Brian Kelly, PhD; and Jay Turner, MD, PhD</i>
11:14	YS Paper #34: Interbody Fusion Rate In Extreme Lateral Interbody Fusion Surgery: A Proposal of Classification <i>Luca Proietti; Caterina Fumo; Luca Fresta; Andrea Perna; Iliaria Giannelli; Marco Renzi; and Francesco Ciro Tamburrelli</i>
11:17	Discussion
11:22	YS Paper #35: Does Dynamic Surgical Guidance (DSG) Contribute to Safe and Accurate Pedicle Screws, A Retrospective Collection <i>John Starr, MD and David Powell, MD</i>

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11:25	YS Paper #36: Reducing Pedicle Drilling Radiation by using Dynamic Surgical Guidance with a Jamshidi Needle while Maintaining Screw Placement Accuracy: A Cadaver study <i>John Williams, MD; <u>Larry Khoo, MD</u>; Karim Muradian, MD; and John Gaughan, PhD</i>
11:28	YS Paper #37: Comparison of Segmental Lordosis and Global Spinopelvic Alignment after Single-Level Lateral Lumbar Interbody Fusion or Transforaminal Lateral Interbody Fusion <i><u>Y. Saadeh</u>; J. Joseph; B. Smith; M. Kirsch; A. Sabbagh; and P. Park</i>
11:31	YS Paper #38: A Novel, Single Step Technique to Percutaneously Insert Lumbar Pedicle Screws Significantly Reduces Surgical Time and Radiation Exposure to the Patient and the Surgeon <i><u>Steven DeLuca, DO, MS</u></i>
11:34	Discussion
11:39	YS Paper #39: Single-Level Instrumented Lumbar Interbody Fusion: The Impact of Ambulatory Surgical Centers on Evidence-Based Medicine <i>Dwight Tyndall, MD; William Zuke, MD; and <u>Adam Wright-Chisem, BA</u></i>
11:42	YS Paper #40: Minimally Invasive Posterior Fossa Tubular Decompression for the Management of a Chiari 1.5 Malformation: Technical Note, Proof of Concept and Illustrative Case <i>J. Soriano-Sánchez; J. Romero-Rangel; S. Soriano-Solis; M. Soto-Garcia; and P. Trejo-Huerta</i>
11:45	YS Paper #41: MIS TLIF Using A Lordotic Interbody Device That Expands in Both Axial and Sagittal Planes <i>Hani Malone, MD and Richard Fessler, MD, PhD</i>
11:48	YS Paper #42: The Impact of Interbody Location on Segmental Height and Angular Correction in an Expandable Articulating Minimally Invasive Transforaminal Interbody Fusion <i>L. Massie; M. Macki; H. Zakaria; and V. Chang</i>
11:51	Discussion
11:56	YS Paper #43: An Anatomic Shape Guide to MRI Lumbar Foraminal Stenosis <i><u>G Grady McBride, MD</u></i>
11:59	YS Paper #44: The Small Gets Smaller: Feasibility of 14mm Tubular Retractor in the Management of Simple and Complex Cases Of Lumbar Disc Herniations <i><u>Arvind Kulkarni</u></i>
12:02 pm	YS Paper #45: Cost of Lateral Lumbar Interbody Fusion in the Elderly <i><u>Nima Alan</u>; Andrew Faramand; Nitin Agarwal; David J. Salvetti; David K. Hamilton; David O. Okonkwo; and Adam S. Kanter, MD</i>
12:05	YS Paper #46: Fully-endoscopic Bilateral Cervical Laminotomy with Unilateral Approach for Cervical Spinal Stenosis and Myelopathy: A Case Series <i><u>Jian Shen, MD, PhD</u></i>
12:08	Discussion
12:13	PANEL: Career Development and Life Balance <hr/> PANELISTS: G. Anderson, MD; L. Khoo, MD; A. Kumar, MD; L. Robinson, MD & M. Wang, MD

Friday Program, *continued*

12:35	Lunch; Exhibit Viewing	Roman Ballroom
12:50–1:10	Meet-the-Expert Non-CME Session Leading. Expanding. Advancing. Insights to Lateral Procedural Solutions and Technology <i>Adam Kanter, MD</i> Supported by: NuVasive	Roman Ballroom
12:35–1:15	Young Surgeon Non-CME Workshop with Lunch Challenging Cases Debated: MI TLIF vs ALIF <i>Kern Singh, MD & Kornelis Poelstra, MD</i> Supported by: K2M	Pompeian III-IV
CONCURRENT SESSION 3A Cervical Spine and Cervical Arthroplasty		Pompeian I-II
MODERATORS: F. Phillips, MD & P. Nunley, MD		
Controversy: Cervical Arthroplasty is Underutilized.		
1:20	Introduction	
DEBATE: Single Level Middle Aged Patient with Soft Herniated Disc at 5-6 and Unilateral SXS. The Best Option is:		
1:22	Case Example	
1:25	TDR	S. QURESHI, MD
1:30	MIS PCMF	K. FOLEY, MD
1:35	ACDF	H. BAE, MD
1:40	Endoscopic	J. YUE, MD
1:45	Discussion	
1:49	Audience Response	
1:51	CASE PANEL DISCUSSION: 68 y/o Female, with Osteopenia, Loss of Lordosis, Degen. Disc Collapse, 2 level Dz, Bilateral SXS, Mild Long Tract Signs. The Best Option is: Posterior, Multilevel; ACDF; Multi level TDR PANEL: H. Bae, MD; K. Foley, MD; S. Qureshi, MD & J. Yue, MD	
2:06	Audience Response	
2:08	Neuromonitoring in Minimally Invasive Cervical Spine Surgery: What's the Value? When? Why?	K. RADCLIFF, MD
2:14	Are ASCs Suitable for ACDFs / TDRs?	K. FOLEY, MD
2:20	What are the Guidelines for Return to Work or Play after Surgery?	M. OPPENLANDER, MD
2:26	Discussion	
Complications Avoidance and Management:		
2:32	Minimizing Collateral Damage with ACDF	R. HUANG, MD
2:38	Posterior Cervical Spine Surgery	I. MOSS, MD
2:44	Bailout Options for MIS Intra op Instrumentation Failures	G. ANDERSON, MD
2:49	Discussion	
2:55	Refreshment Break; Exhibit Viewing	Roman Ballroom

Friday Program, *continued*

CONCURRENT SESSION 3B | Robotics, Navigation, Image Guidance *Florentine Ballroom*

MODERATORS: A. Kulkarni, MD; G. Mundis, MD & S. Qureshi, MD

Controversy: Is Robotics the Next Lumbar TDR?

1:20	Introduction	
	DEBATE: Putting Pedicle Screws in a Twisted Spine. The Best Technique is:	
	MODERATOR: G. Mundis, MD	
1:22	CASE: Rotary Scoliosis in Elderly, Small Female	
1:25	Real Surgeons Free Hand	B. STAUB, MD
1:30	Navigation for Feel and 3D View	J.P. MOBASSER, MD
1:35	Robots Know Best	I. LIEBERMAN, MD
1:40	Discussion	
1:45	Audience Response	
1:55	Options for Reducing Radiation Exposure in Minimally Invasive Spine Surgery, Even When Budgets are Tight	S. MCANANY, MD
2:03	Principles of Navigation: Review of Current Technologies	B. STAUB, MD
2:11	2D vs. 3D Image Guidance: How Much is Enough?	P. PARK, MD
2:19	Discussion	
2:27	Robotic Spine Surgery: Where are We Today and Where are We heading?	J. ROH, MD
2:37	3D Navigation and Robotics: Complications Avoidance and Management	R. LEHMAN, MD
2:47	Discussion	
2:55	Refreshment Break; Exhibit Viewing	<i>Roman Ballroom</i>

SESSION 4 | Technology Updates—Non-CME Session *Florentine Ballroom*

MODERATORS: K. Radcliff, MD & W. Smith, MD

3:20	Advanced MIS TLIF featuring CD HORIZON™ SOLERA™ VOYAGER Awl-Tap Screw (ATS™) and StealthStation™ S8 Surgical Navigation System <i>Jean Pierre Mobasser, MD</i> Supported by: Medtronic
3:26	NanoLOCK Technology and Clinical Outcomes Update <i>Robert Eastlack, MD</i> Supported by: Titan Spine
3:32	Design Overview and Early Clinical Results of a Novel, Deployable Lateral Device <i>Clint P. Hill, MD</i> Supported by: Spineology
3:38	The Science of Tritanium, More than Surface Supported by: Stryker

Friday Program, *continued*

3:44	ExcelsiusGPS® First Clinical Experience Sabino D'Agostino, DO, FAANS, FACS Supported by: Globus Medical
3:50	UNLEASH™ MIS TLIF Solution: Improve Efficiency and Reduce Cost in MIS Lumbar Fusion John Hall, MD Supported by: DePuy
3:56	Discussion

SESSION 5	Ambulatory Spine Surgery / Multimodal Analgesia Techniques	<i>Florentine Ballroom</i>
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MODERATORS: K. Radcliff, MD & W. Smith, MD

Controversy: Does Ambulatory Surgery Benefit Patient Outcome?

Transitioning Spine Surgery from the Hospital to an Ambulatory Surgery Center:		
4:00	Which Cases Can I Safely Do in an ASC?	N. ASHRAF, MD
4:07	ALIF in Same Day Surgery Setting	J. SCHOEFF, MD
4:14	My Experience and Learning Curve	K. SINGH, MD
4:21	Discussion	
4:26	How to Keep Hospital Administrators Happy While Taking Cases Out of the Hospital	F. PHILLIPS, MD
4:33	Do the Economics of ASCs Make Sense in 2018?	H. BAE, MD
4:40	Discussion	
4:45	Multimodal Analgesia and Anesthesia Techniques for Same Day Discharge Success in Spine Surgery—with Video Demo of TAP Block for ALIF and LLIF	E. SOFFIN, MD
4:55	Use of Opioids in the Ambulatory Setting	G. POLSTON, MD
5:03	Novel Methods for Treating Postoperative Pain Following Spinal Surgery	P. WHANG, MD
5:11	Discussion	

DEBATE: Doing Spine Surgery in an ASC

MODERATOR: W. Taylor, MD

5:16	Is Better for Your Patients	M. WANG, MD
5:22	Is Worse for the Patient (But Good for the Surgeon's Wallet)	G. MUNDIS, MD
5:28	Discussion	
5:33	Audience Response	
5:35–6:35	Adjourn; Welcome Reception	<i>Roman Ballroom</i>

Saturday Program

7:00 am	Registration	
	Non-CME Technology Workshop with Breakfast	
7:45	Minimally Invasive Surgical Correction for Advanced Deformity <i>Neel Anand, MD</i> Supported by: Medtronic	<i>Pompeian I-III</i>
SESSION 6 Degenerative Spine		<i>Florentine Ballroom</i>
MODERATORS: K. Foley, MD & S. Rohidas, MD		
Controversy: Do Standard Degenerative Spine Cases Really Need MIS Approaches?		
8:40	Welcome	
	DEBATE: For a Herniated Disc the Best Approach is:	
8:45	CASE: Free Fragment, L4-5 Disc	
8:48	Tubular Approach (incl. video demo)	A. KUMAR, MD
8:56	Endoscopic Approach (incl. video demo)	C. HOFSTETTER, MD
9:04	Micro-discectomy (incl. video demo)	L. KHOO, MD
9:12	Discussion	
9:16	Audience Response	
	DEBATE: L4-5 Grade 1 Spondylolisthesis / Stenosis. The Best Technique is:	
9:19	Case Example	
9:22	MIS TLIF	J.P. MOBASSER, MD
9:28	Awake Fusion	M. WANG, MD
9:34	Decompression without Fusion	S. RYU, MD
9:40	Indirect Decompression and LLIF	R. AMARAL, MD
9:46	Discussion	
9:52	Audience Response	
	DEBATE: 2-level L4-S1 Decompression and Fusion. The Best Technique is:	
MODERATOR: S. Qureshi, MD		
9:55	Case Example	
9:57	2-level MIS TLIF	B. STAUB, MD
10:03	2-level ALIF with Posterior Fixation	J. URIBE, MD
10:09	OLIF/LLIF	R. LEHMAN, MD
10:15	Discussion	
10:20	Audience Response	
10:23	Presentation of Best Paper Award	
10:30	Refreshment Break; Exhibit Viewing	<i>Roman Ballroom</i>

Saturday Program, *continued*

Concurrent Sessions: Free Papers

SESSION 7A | Emerging Technology, Navigation, & Complications Free Papers

Florentine Ballroom
MODERATORS: R. Lehman, MD & P. Mummaneni, MD

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| 10:55 | <p>Paper #47: A Quantitative Assessment of the Accuracy and Reliability of Robotic Guidance for Lumbar Fusion: A Technique and Application Accuracy
 <i>Cory Hartman, MD, MBA; Jakub Godzik, MD; Corey Walker, MD; Clinton Morgan, MD; Steven Chang, MD; Randall Porter, MD; Laura Snyder, MD; and Juan Uribe, MD</i></p> |
| 10:59 | <p>Paper #48: Accuracy and Efficiency of Robot-Assisted Pedicle and S2AI Screw Cannulation for Adult Thoracolumbar and Lumbar Fusion: Success and Failure in a Single Surgeon's First 110 Cases and 816 Pedicles
 <i>A. Ha</i></p> |
| 11:03 | <p>Paper #49: Robotics in Spine Surgery: The Use of Pre-op Planning to Optimize the Outcome of Spondylolisthesis Reduction
 <i>Isador Lieberman and Xiaobang Hu</i></p> |
| 11:07 | <p>Paper #50: Preliminary Experience of Mazor X Robot-Assisted Spine Surgery—A Single Institution Study
 <i>Terrence Julien, MD</i></p> |
| 11:11 | Discussion |
| 11:19 | <p>Paper #51: Incidence of Fusion Across Total Disc Replacement with Heterotopic Ossification: Are Ball and Socket Disc Replacements Fusing with and without Radiographic Evidence
 <i>Fabio Pencle, MBBS; Moawiah Mustafa; Luai Mustafa; Kathleen Quijada; Jason Seale, MBBS; and Kingsley Chin, MBBS</i></p> |
| 11:23 | <p>Paper #52: The Difference in Surgical Site Infection Rates between Open and Minimally Invasive Spine Surgery for Degenerative Lumbar Pathology: A Retrospective Single Center Experience of 1,442 Cases
 <i>K. Mueller; D. Zhao; O. Johnson; F. Sandhu; and J. Voyadzis</i></p> |
| 11:27 | <p>Paper #53: Avoiding Unnecessary Contamination of Implant-Bone Interface: A Multi-center Study
 <i>Aakash Agarwal, PhD; Boren Lin, PhD; Christian Schultz, MD; Vijay Goel, PhD; Jeffrey Wang, MD; Steve Garfin, MD; Neel Anand, MD; Hossien Elgafy, MD; Dennis McGowan, MD; Chris Karas, MD; and Anand Agarwal, MD</i></p> |
| 11:31 | <p>Paper #54: Management of CSF leakage Occurring During Minimally Invasive Decompressive Spine Surgery in an Ambulatory Surgery Center
 <i>Thomas Francavilla, MD; Michael Weiss, DO; and Reginald Davis, MD</i></p> |
| 11:35 | Discussion |
| 11:43 | <p>Paper #55: Two-Year Outcomes of Patients Treated with BVN Ablation for the Relief of Chronic Low Pain: Results of the SMART Trial
 <i>Jeffrey Fischgrund; Hyun Bae; Rick Sasso; and Alfred Rhyne</i></p> |
| 11:47 | <p>Paper #56: A Prospective Multicenter Trial of an Expandable Graft-Containing Fabric Mesh System for Minimally Invasive Single-Level Lumbar Interbody Stabilization: Updates on the Spineology Clinical Outcomes Trial (SCOUT)
 <i>K. Huang; J. Chi; Z. Moses; M. Krag; P. Nunley; M. Bydon; and S. Lavoie</i></p> |

Saturday Program, *continued*

11:51	Paper #57: Molybdenum Rhenium Alloy provides Superior Biomechanical and Wear Properties for a New Generation of Spine Implants <i>Kornelis Poelstra, MD, PhD; Jorge Isaza, MD; Kee Kim, MD; Raphael Roybal, MD; Cyrus Ghavam, MD; Samuel Joseph, MD; and Matthew McGirt, MD</i>
11:55	Paper #58: A Single Surgeon Experience and Results Between Multi-level Lumbar Laminectomy with Microscopic Tubular Approach and Fully-endoscopic Approach: A Report of Over 1000 Cases and Up to 6 Years Follow-up <i>Jian Shen, MD, PhD</i>
11:59	Discussion
12:07	Paper #59: The Influence of Conflicts of Interest on Outcomes in the Lumbar Disc Arthroplasty Literature <i>Jordan Guntin, BS; Kaitlyn Cardinal, BS; Brittany Haws, MD; Benjamin Khechen, BA; Dil Patel, BS; Simon Lalehzarian, MS; and Kern Singh, MD</i>
12:11	Paper #60: Appropriateness of Elective Outpatient Spine Surgery Referral <i>F. Sourial; B. Woods; G. Schroeder; D. Kaye; C. Kepler; V. Hsu; G. Lee; M. Kurd; J. Rihn; G. Anderson; A. Hilibrand; A. Vaccaro; and K. Radcliff</i>
12:15	Paper #61: Assessing the True Cost of Minimally Invasive TLIF in Patients with Workers' Compensation using Tdabc <i>Daniel Bu; Samuel Overley; Steven McAnany; Todd Albert; and Sheeraz Qureshi</i>
12:19	Discussion
SESSION 7B Asian Perspectives Free Papers <i>Pompeian I-III</i>	
MODERATORS: J.S. Kim, MD; S. Rohidas, MD & S. Ryu, MD	
10:55	Paper #62: Clinical and Radiological Outcome of Mini Modified Open and Open TLIF— A Comparative Study <i>F. Syed</i>
10:59	Paper #63: Comparative Clinical Analysis of OLIF51 and Percutaneous Posterior Fixation in Lateral Position vs MIS-TLIF for Lumbosacral Degenerative Disorders <i>Yoshihisa Kotani; Richard Hynes; Yoshinao Koike; Hidemasa Terao; Yumejiro Nakamura; Hiroyuki Tachi; Yusuke Kameda; and Yasushi Yabuuchi</i>
11:03	Paper #64: Short term Results of Lumbar Interbody Fusion Using Cortical Bone Trajectory Screw Technique <i>D. Choi; J. Kim; H. Lee; M. Shin; and S. Kim</i>
11:07	Paper #65: Surgeon, Staff, and Patient Radiation Exposure in MIS TLIF: Impact of 3D CT-Based Navigation in comparison to Conventional Fluoroscopy Aided Technique <i>Arvind Kulkarni</i>
11:11	Discussion
11:19	Paper #66: Transforaminal Endoscopic Thoracic Discectomy <i>Junseok Bae; Sang-Ha Shin; Sang-Ho Lee; and Han-Joong Keum</i>
11:23	Paper #67: Percutaneous Transforaminal Endoscopic Spine System with Target Technique for Treatment of Lumbar Spinal Disc Herniation in Scoliosis Patients <i>Qingbing Meng and Wensheng Zhang</i>

Saturday Program, *continued*

11:27	Paper #68: Surgical Considerations for Percutaneous Endoscopic Lumbar Discectomy at L5/S1 Level with Quantified Assessment <i>G. Fan</i>
11:31	Paper #69: Risk Factor Analysis of Proximal Junctional Kyphosis after Surgical Treatment with OLIF for Adult Spinal Deformity <i>Yoshinao Koike; Yoshihisa Kotani; Hidemasa Terao; Yoshiaki Hosokawa; Hideyuki Kobayashi; Yusuke Kameda; and Hideaki Fukaya</i>
11:35	Discussion
11:43	Paper #70: Diffusion-weighted MR Neurography for the Preoperative Assessment of Nerve Root Anomaly in Minimally Invasive Spine Surgery <i>Yukihiro Nakagawa, MD, PhD; Hiroshi Yamada, MD, PhD; Mamoru Kawakami, MD, PhD; Hiroshi Iwasaki, MD, PhD; Akihito Minamide, MD, PhD; Masatoshi Teraguchi, MD, PhD; Ryohei Kagotani, MD, PhD; Shunji Tsutsui, MD, PhD; Masanari Takami, MD, PhD; Hiroshi Hashizume, MD, PhD; and Yasutsugu Yukawa, MD, PhD</i>
11:47	Paper #71: Contralateral Radiculopathy after Minimally Invasive Oblique Lumbar Interbody Fusion <i>Amit Jhala, MS DNB</i>
11:51	Paper #72: Indirect Decompression of Neural Foramen after Minimally Invasive Retroperitoneal Anterolateral Interbody Fusion: An MRI Study <i>A. Mahatthanatrakul; V. Kotheeranurak; G. Lin; H. Chung; J. Hur; and J. Kim</i>
11:55	Paper #73: Isthmic Approach for Transforaminal Endoscopic Lumbar Discectomy at the L5-S1 Level <i>Junseok Bae; Sang-Ha Shin; Han-Joong Keum; and Sang-Ho Lee</i>
11:59	Discussion
12:07	Paper #74: A Novel Technique of Spinous Process Splitting Approach in Microscopic Spinal Decompression Surgery for Lumbar Canal Stenosis: An Outcome Study <i>Ashish Jaiswal, FNB, MS; Siva Reddy, MBBS, DNB; and Satish Kumar, MBBS, DNB</i>
12:11	Paper #75: Degenerative Spondylolisthesis: Is It Always Unstable? A New Scoring System to Aid Decision Making and Apply Value Based Spine Care <i>Arvind Kulkarni</i>
12:15	Paper #76: Kyphoplasty with Cranio-Caudal Expandable Implant: An Operative Management for Osteoporotic Fractures in Elderly Patients <i>Ee Pee Su, MD; Anand Kumar, MBBS; and Chor Ngee Tan, MBBS</i>
12:19	Discussion
12:25 pm	Lunch; Last Chance for Exhibit Viewing <i>Roman Ballroom</i>

Saturday Program, *continued*

SESSION 8 | Technology Updates—Non-CME Session Florentine Ballroom

MODERATORS: G. Anderson, MD & M. Oppenlander, MD

1:05	A Novel Mechanism of Action for Bone Formation with a Biomimetic Peptide: Attract, Attach, Activate <i>Jeff Marx, MD</i> Supported by: Cerapedics
1:11	Driving Outcomes Through Patient Engagement in the Continuum of Care <i>Jonelle Juricek</i> Supported by: Orthofix
1:17	PANORAMA® Retractor STACSM MIS Technique <i>Adam Lewis, MD</i> Supported by: SpineCraft
1:26	Discussion

SESSION 9 | New Technology / Interbody Implant Surface Technologies / Fusion Options Florentine Ballroom

MODERATORS: G. Anderson, MD & M. Oppenlander, MD

1:28	Raffle Drawing	
1:30	Porous PEEK and Titanium Coated Interbody Cages—Hype or Not?	M. OPPENLANDER, MD
1:38	Nanotechnology Improves Fusion—Real or Hype?	P. SLOSAR, MD
1:46	Cellular Allograft—As Good As BMP?	C. UPADHYAYA, MD
1:54	Talk on Metallurgy	H. BAE, MD
2:02	Discussion	
2:08	Interspinous Decompression Devices—Do They Have a Role?	P. NUNLEY, MD
2:14	TLIF Expandable Cage—Straight Oblique vs Banana Cage	V. CHANG, MD
2:20	Discussion	
2:27	Lateral Expandable Cage Technology	R. EASTLACK, MD
2:35	Fenestrated Pedicle Screws to Optimize Fixation in Osteoporosis or Tumor	K. THAN, MD
2:43	Endoscopic Fusion	W. TAYLOR, MD
2:51	Discussion	
DEBATE: PEEK vs Titanium: Which is Better?		
MODERATOR: S. Qureshi, MD		
2:56	PEEK Cages are Best to Decrease Subsidence and Obtain Fusion	N. ANAND, MD
3:01	Titanium Cages are Best for Osteointegration	S. BERVEN, MD
3:06	Discussion	
3:11	Audience Response	

Saturday Program, *continued*

SESSION 10 | Complications—Avoidance and Management

Florentine Ballroom

MODERATORS: L. Khoo, MD & L. Pimenta, MD

Review of Common Complications, Methods for Management and Avoidance:

3:14	LLIF	A. KANTER, MD
3:19	OLIF	R. LEHMAN, MD
3:24	MIS TLIF	L. KHOO, MD
3:30	Endoscopic Decompression	J.S. KIM, MD
3:36	Anterior Column Realignment	J. URIBE, MD
3:42	Discussion	
3:45	MIS Strategies to Treat Symptomatic Adjacent Segment Disease	Z. RAY, MD
3:51	Optimizing Management of Osteoporotic Patients who undergo MIS Fusion	L. PIMENTA, MD
3:57	Discussion	
4:05	Adjourn	