

7th Annual International Spinal Deformity Symposium (ISDS)

December 3-4, 2021

New York, NY

Friday, December 3, 2021

7:15 am Registration Convene Level 2 Foyer
Continental Breakfast and Exhibit Viewing

Session 1: 45-degree Adult Degenerative Lumbar Scoliosis with Prior 2-level Decompression with Recurrent Stenosis and Mild Sagittal Malalignment due to distal Lumbar Hypolordosis and Osteopenia: How Best to Manage and How to Avoid Early, Mid-, and Long-term Revision?
Moderator: Frank Schwab, MD Forum Room

8:00 Welcome L. Lenke, MD
8:05 Introduction to Problem and Recent Literature Review J. Smith, MD
8:13 Analysis and Decision-making Based on Clinical and Radiographic Presentation D. Polly, MD
8:21 Discussion

Step-by-step Surgical Treatment:

8:31 Option #1: Decomp. With Limited Fusion P. Angevine, MD
8:39 Option #2: Decomp. With Post. Only Lumbar Fusion & TLIFs H. J. Kim, MD
8:47 Option #3: Indirect Decomp. with Ant. Interbodies and Post. MIS Surgery G. Mundis, MD
8:55 Discussion

9:05 Post-op Considerations, Complications, Return to Normal Function, and Outcomes I. Karikari, MD
9:13 Tips and Pearls F. Schwab, MD
9:21 Case Discussion Mod.: F. Schwab, MD
9:35 Session Discussion
9:50 Refreshment Break and Exhibit Viewing Foyer

Session 2: Young Male with a 100-degree Rigid Adult Scheuermann's Kyphosis with a Low PI: How to Choose UIV and LIV and How Much Correction Should be Obtained?
Moderator: L. Lenke, MD Forum Room

10:20 Recent Literature Review and What I Am Doing Now S. Bess, MD
10:28 Analysis and Decision-making Based on Clinical and Radiographic Presentation M. Kelly, MD
10:36 Discussion

Case-based Discussion:

10:50 PSF with Periapical PCOs B. Alman, MD
10:58 There is still a role for combined ASF/PSF S. Hu, MD
11:06 PSF with Periapical PCOs and Apical VCR J. Lombardi, MD

11:14 What I Tell My Patients: Complications, Return to Normal Function, and Outcomes G. Baum, MD
11:22 Tips and Pearls L. Lenke, MD
11:30 Case Discussion on Selecting UIV/LIV and Correction Method for SK Mod.: L. Lenke, MD
11:55 Session Discussion

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12:05 pm	Walking Break and Boxed Lunch Pick Up	Foyer
Lunch with Non-CME Presentations		Forum Room
<i>Participants are invited to pick up a boxed lunch and attend these presentations in the General Session Room</i>		
12:25	Acuity	
12:55	The Role of aprevo® Patient Specific Interbody Implants Supported by: Carlsmed	G. Mundis, MD & J. Smith, MD
1:25	Surgical Synergy: Bringing it all together Supported by: Medtronic	R. Lehman, MD & J. Osorio, MD, PhD
1:55	Break & Transition to CME Session	
Session 3:	S/P T10-Sac PSF Now with PJK in Lower Thoracic Region in a 70 y/o Female with Osteoporosis. How to Choose the Ultimate UIV with or without Tethers to Minimize Future Problems <i>Moderator: C. Shaffrey, MD</i>	Forum Room
2:00	Introduction to Problem and Recent Literature Review	V. Lafage, PhD
2:08	Analysis and Decision-making Based on Clinical and Radiographic Presentation	
2:16	Discussion	K. Fu, MD
	<i>Step-by-step Surgical Treatment:</i>	
2:26	Option #1: Extension to T2 with Vertebroplasty Augmentation	M. Dryszka, MD
2:34	Option #2: Extension up to T2 with MIS Robotic Screw Placement	R. Lehman, MD
2:42	Option #3: Extension up to T2 with Multi-level Tethering	J. Smith, MD
2:50	Discussion	
3:00	Post-op Considerations, Complications, Return to Normal Function, and Outcomes	Z. Sardar, MD, PhD
3:08	Tips and Pearls	C. Shaffrey, MD
3:16	Case Discussion	Mod. C. Shaffrey, MD
3:30	Session Discussion	
3:45	Refreshment Break and Exhibit Viewing	Foyer
Session 4:	Special Session <i>Moderator: HJ Kim, MD</i>	Forum Room
4:10	Introduction of Keynote Speaker	C. Shaffrey, MD
4:15	Keynote Lecture: Leadership for Spine Surgeons	S. Hu, MD Pres Elect of SRS
4:35	Discussion	
4:45	Development of a BPG for IONM in High-risk Spinal Deformity Surgery?	L. Lenke, MD

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4:53	Improvement of Robotic Technology- Where are we Now and Where will we be in 5 Years?	R. Lehman, MD
5:01	What Can We Learn Regarding Sagittal Alignment for our Patients from the MEANS Study of Asymptomatic Adult Volunteers	Z. Sardar, MD
5:09	Optimal Intraop Anesthesia for Spinal Deformity Surgery in 2021	T. Koski, MD
5:17	Discussion	
5:30 pm	Adjourn	

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Saturday, December 4

7:00 am	Registration Continental Breakfast and Exhibit Viewing	Convene Level 2 Foyer
7:30	<p>Concurrent Breakout Case Discussions <i>Participants are invited to attend the Case Discussion of their choice</i></p> <p>Breakout #1: SCM/Neurologic Complications during TL Deformity Surgery: Avoidance and Treatment Moderator: L. Lenke, MD Panel: Drs. Angevine, Hu, Polly, Karikari, Alman</p> <p>Breakout #2: Getting the Sagittal Plane “Perfect” in TL Deformity Surgery: Preop Planning vs. Technical Execution Moderator: F. Schwab, MD Panel: Drs. Bess, Lewis, Osorio, de Kleuver, Klineberg</p> <p>Breakout #3: Revision Spinal Deformity Surgery in the Elderly: Who to Take On, Keys for Success, and Who to Say No To Moderator: C. Shaffrey, MD Panel: Drs. Kelly, Lehman, Hu, Koski, Fu</p>	<p>Forum Room</p> <p>Hub Two</p> <p>Hub One</p>
8:25	Walking Break to General Session	
Session 5:	<p>Older Adult with Prior Harrington Rod Fusion now with Distal Lumbar Degeneration, Stenosis and Sagittal Malalignment: How best to Correct? <i>Moderator: R. Lehman, MD</i></p>	Forum Room
8:30	Introduction to Problem, Recent Literature Review, and What I Am Doing Now	E. Klineberg, MD
8:38	Analysis and Decision-making Based on Clinical and Radiographic Presentation	P. Passias, MD
8:46	Discussion	
	<i>Step-by-step Surgical Treatment:</i>	
8:55	Option #1: PSF with TLIFs and Patient Specific Rods	Z. Sardar, MD
9:03	Option #2: ASF with PSF and PCOs	J. Smith MD, PhD
9:11	Option #3: PSF with PSO	K. Kebaish, MD
9:19	Discussion	
9:28	Post-op Considerations, Complications, Return to Normal Function, and Outcomes	J. Osorio, MD
9:36	Tips and Pearls	R. Lehman MD
9:44	Case Discussion	Mod.: R. Lehman, MD
9:58	Session Discussion	

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10:12 Intro F. Schwab, MD
 10:15 2nd Keynote Lecture: Instrumenting the Difficult Spine: What If a Pedicle Screw Won't Fit or Won't Do? Marinus de Kleuver, MD, PhD
 SRS Vice President

10:35 Discussion

10:40 Move to Concurrent Sessions

Session 6: Concurrent Free Paper Sessions

Participants are invited to attend the Session of their choice

10:45 – 11:40	Free Paper Break-out Session #6A Forum Room Moderator: M. Kelly, MD	Free Paper Break-out Session #6B Hub One Moderator: J. Smith, MD
10:45	Long-Term Outcomes in Adolescent Patients with High Grade Spondylolisthesis Managed with Posterior Decompression, Posterolateral Fusion and Fibular Dowel Grafts <i>Innocent Njoku MD, Michael Shost BS, Kathleen H. Sadowski BS, Amit Bhandutia MD, Henry Bohlman MD, Christopher G. Furey MD</i>	Triangular Implants (Bedrock) Supplement S2AI Sacropelvic Fixation: A Finite Element Investigation <i>Matteo Panico, Ruchi D. Chande, Derek P. Lindsey, Ali Mesiwala, Tomaso Maria Tobia Villa, Scott A. Yerby, Marco Brayda-Bruno, Fabio Galbusera</i>
10:49	A New Sensitive Radiographic Criteria for Differentiation Between Adult Idiopathic Versus Degenerative Lumbar Scoliosis: Apical Pedicle Diameter Asymmetry <i>James D Lin MD MS, Justin Matthew MD, Nathan Lee MD, Joseph Osorio MD, Gerard Marciano MD, Joseph Lombardi MD, Zeeshan Sardar MD, Ronald Lehman MD, Lawrence Lenke MD</i>	The Influence of Fusion Length on Surgical Correction of Spinopelvic Mismatch and Pelvic Tilt <i>Grégoire P. Chatain, Riza Bayoglu, David O. Okonkwo, Adam S. Kanter, D. Kojo Hamilton, Nima Alan, Jens-Peter Witt</i>
10:53	Case Report: Intradurally Schwannoma on Thoracolumbar Scoliosis <i>Juan Sebastián de la Torre, María José Del Pozo</i>	A Radiographic Analysis of Pelvic Fixation Trajectories <i>Jonathan Scoville, MD, MPH, Evan Joyce, MD, MS, Marcus Mazur, MD</i>
10:57	Discussion	Discussion
11:03	Using The Robot for Adult Spinal Deformity: Are We Improving? A Multicenter Analysis of 141 Patients And 2,421 Screws <i>Nathan J. Lee, Scott L. Zuckerman, Ian A. Buchanan, Venkat Boddapati, Justin Mathew, Paul J. Park, Eric Leung, Avery L Buchholz, John Pollina, Asham Khan, Jeffrey P. Mullin, Ehsan Jazini, Colin Haines, Thomas C. Schuler, Christopher R. Good, Joseph M. Lombardi, Ronald A. Lehman</i>	Upper vs. Lower Lumbar Lordosis Corrections in Relation to Pelvic Tilt – An Essential Element in Surgical Planning for Sagittal Plane Deformity <i>Han Jo Kim, R. Kiran Alluri, Renaud Lafage, Jonathan Elysee, Justin S Smith, Gregory M Mundis, Christopher I Shaffrey, Christopher P Ames, Douglas C Burton, Eric O Klineberg, Shay Bess, Frank Schwab, Munish Gupta, Virginie Lafage, ISSG</i>
11:07	Part 1: A Novel Concept to Aid Accurate Insertion of Pedicle Screws in Patients with Spinal Deformity: A CT Based Study <i>Nirmal D Patil, Martin Estefan, Yuri Arlachov, Arief Abuhassan, Naseer Quraishi</i>	Management of Fixed Cervical Deformity: Do Low-Grade Cervical Osteotomies Outperform High-Grade Cervical Osteotomies? <i>Oluwaseun Adeyemi MBBS PhD, Jonathan N. Sembrano MD</i>
11:11	Influence of the Preoperative Clinical Situation is Greater Than the Radiological	How is Life with a C2-Sacrum Instrumentation and Fusion? Evaluation By Health Related Quality Of Life Metrics

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	Correction in the Outcome in Patients Who Undergo Adult Spinal Deformity Surgery <i>Domingo Lombao Iglesias, Manuel Fernandez Gonzalez, Jesus Betegon Nicolas, Andres Blanco Hortas, Laura Coto Carames, Marta Esteban Blanco, Jose Angel Hernandez Encinas, Ana Lozano Muñoz, Julio Villar Perez</i>	<i>Justin Mathew, Scott L. Zuckerman, Gerard Marciano, Matthew Simhon, Meghan Cerpa, Hannah Lin, Nathan J. Lee, Venkat Boddapati, Ronald A. Lehman, Zeeshan M. Sardar, Marc D. Dyrszka, Joseph M. Lombardi, Lawrence G. Lenke</i>
11:15	Discussion	Discussion
11:21	Are We Getting Better at 3-Column Osteotomy in Terms of Achieving Optimal Realignment, Minimizing Complications, and Clinical Outcomes in Adult Spinal Deformity? <i>Peter G. Passias MD, Oscar Krol BA, Lara Passfall BS, Virginie Lafage PhD, Renaud Lafage MS, Justin S Smith MD PhD, Breton Line BS, Shaleen Vira MD, Alan H. Daniels MD, Bassel Diebo MD, Andrew J. Schoenfeld MD, MSc, Jeffrey Gum MD, Khaled Kebaish MD, Than MD, Han Jo Kim MD, Richard Hostin MD, Manush Gupta MD, Robert Eastlack MD, Douglas Burton MD, Frank J. Schwab MD, Christopher Shaffrey MD, Eric O. Klineberg MD, Shay Bess MD, International Spine Study Group</i>	Management of Anticoagulation/Antiplatelet Medication and Venous Thromboembolism Prophylaxis in Elective Spine Surgery: Concise Clinical Recommendations Based on Delphi Process <i>Scott L. Zuckerman, MD, MPH, Eric Leung, BA, Michael Streiff, MD, Mena Kerolus, MD, Ian A. Buchanan, MD, Alex Ha, MD, Peter Angevine, Christopher Bonfield, Avery Buchholz, Jacob Buchowski, Shane Burch, Clinton Devin, John Dimar, Christopher Good, Jeffrey Gum, Han Jo Kim, Jun Kim, Joseph Lombardi, Christopher Mandigo, Mohamad Bydon, Mark Oppenlander, David Polly, Greg Poulter, Suken Shah, Kern Singh, Khoi Than, Alex C Spyropoulos, Scott Kaatz, Amit Jain, Richard Schutzer, Tina Wang, Derek Mazique, Lawrence G. Lenke, MD, Ronald A. Lehman Jr, MD</i>
11:25	Early Mobilization Can Reduce Length of Stay in Adult Spinal Deformity Surgery: Key Elements for Building an Expedited Clinical Pathway <i>Han Jo Kim, Michael Steinhaus, Ananth Punyala, Sachin Shah, Jonathan Charles Elysee, Renaud Lafage, Sharlynn Tuohy, Sheeraz Qureshi, Michael Urban, Chad Craig, Virginie Lafage, Francis Lovecchio</i>	Discrepancy between DXA and CT Based Assessment of Spine Bone Mineral Density <i>Samuel Davidson, MD, Alison Vecilio MS2, Susan Trost, MD, Ilexa Flagstad, MD, Kenneth J. Holton, MD, David W. Polly Jr., MD</i>
11:29	Increasing Number of Rods (4-, 5-, And 6-) Across a Lumbar PSO: A Finite Element Analysis <i>Niloufar Shekouhi, BS; Ardalan S. Vosoughi, PhD; Joseph M. Zavatsky, MD; Vijay K. Goel, PhD; Alekos A. Theologis</i>	Effect of a Lordotic Expandable Interbody Implant on Intraoperative Surgical Time: A Retrospective Chart-Review <i>Zeshan Hyder, DO</i>
11:35	Discussion	Discussion

11:40 Walking Break and Boxed Lunch Pick Up

Foyer

Lunch with non-CME Presentations

Forum Room

Participants are invited to pick up a boxed lunch and attend these presentations in the General Session Room

11:50 Robotic Assisted Deformity Correction with a Focus on MIS Deformity Correction
Supported by: Globus Medical

S. Iyer, MD

12:20 pm Junctional Strategy for Complex Spine
Supported by: NuVasive

T. Koski, MD

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12:50	TBD	
1:20	Transition into CME Session	
Session 7:	Best Paper & Quick Tips	Forum Room
	<i>Moderator: HJ Kim, MD, J. Smith, MD</i>	
1:22	Best Paper Presentation & Award	
	8-minute Tips	
1:24	AO Comprehensive Evaluation of ASD Patients	M. de Kleuver, MD
1:32	AR and VR- Will It have a Role in ASD Surgery Soon?	R. Härtl, MD
1:40	Use of AI in ASD Surgery: The Future is now!	J. Lombardi, MD
1:48	Discussion	
1:56	Update on Spinal Column Metastatic Tumor Surgery in 2021	P. Reid, MD
2:04	Lessons Learned from the Multicenter Pelvic Fixation Failure Study	D. Polly, MD
2:12	Use of L1PA in predicting Appropriate Lumbar Lordosis in ASD Surgery	M. Kelly, MD
2:20	Discussion	
2:24	Refreshment Break	
Session 8:	Proximal Thoracic Severe Kyphosis in a Patient with Neurofibromatosis, a Bayoneted Spine and Myelopathy with Failed Implants from Surgery 4 Years Ago with Recurrent Kyphosis, Chin on Chest, and Myelopathy: How to Salvage?	
	<i>Moderator: L. Lenke, MD</i>	Forum Room
2:35	Introduction to Problem & Literature Review	HJ Kim MD
2:43	Analysis and Decision-making Based on Clinical and Radiographic Presentation	K. Kebaish MD
2:51	Discussion	
	Step-by-Step Surgical Treatment:	
3:01	Option #1: HGTx. and Rev. PSF	S. Lewis, MD
3:09	Option #2: Rev PSF and ASF with Vascular Graft	S. Hu, MD
3:17	Option #3: Rev. PSF with VCR	B. Alman, MD
3:25	Discussion	
3:35	Tips and Pearls	L. Lenke, MD
3:43	Case Discussion	Mod.: L. Lenke, MD
3:55	Session Discussion	
4:10	Adjourn	