

LSRS 2024 ANNUAL MEETING

CHICAGO - MAY 1-3, 2024

ICL: May 1, 2024 | Annual Meeting: May 2-3, 2024



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2024 LSRS Instructional Course – May 1, 2024 – Chicago, IL

1:00PM **Welcome and Announcements** **Rakesh D. Patel, MD, MBA & Scott Daffner, MD**

Module 1: Motion Preservation in Spine

Moderator: Rakesh D. Patel, MD, MBA

1:05	<i>Case Review</i> The Young Patient with Spinal Disorders DDD 5-1 Debate: ALIF vs Lumbar Disc Arthroplasty	Rakesh D. Patel, MD, MBA
1:10	Speaker 1 ALIF	Paul Park, MD
1:20	Speaker 2 LDA	Jad G. Khalil, MD
1:30	<i>Case Review</i> Spinal Stenosis in Elderly Patient with Grade 1 Spondy Debate: TOPS System vs. TLIF	Rakesh D. Patel, MD, MBA
1:35	Speaker 1 TOPS	Michael P. Steinmetz, MD
1:45	Speaker 2 TLIF	Bilal Butt, MD
1:55	Evolution of interspinous spacers	Victor Chang, MD
2:05 - 2:15	DISCUSSION	

Module 2: Treatment of the Osteoporotic Spine: When optimization is not an option

Moderator: Scott D. Daffner, MD

2:15	The importance of preoperative optimization Challenges to preoperative optimization- insurance, balancing patient disability with bone optimization	Scott D. Daffner, MD
2:25		Paul A. Anderson, MD
2:35	<i>Case Review</i> Considerations in the Degenerative Spine Grade 1 <i>isthmic spondy</i> Debate: Cortical screw/TLIF vs. Lateral interbody/pedicle screws	Scott D. Daffner, MD
2:40 PM	Speaker 1 Cortical screw/TLIF	Osama Kashlan, MD, MPH
2:50	Speaker 2 Lateral interbody/pedicle screws (HA/Cement augmented screws)	Harvey Smith, MD
3:00 - 3:10	Discussion	

3:10 - 3:35 **BREAK**

3:35	<i>Case Review</i> Considerations in Deformity <i>degenerative scoliosis, sagittal and coronal imbalance with foraminal stenosis</i>	Scott D. Daffner, MD
3:40	Segmental treatment of a global problem	John C. France, MD
3:50	Complete vs. Limited Correction	Jason W. Savage, MD
4:00	Surgical techniques for deformity correction in the elderly	Peter Passias, MD
4:10-4:20	Discussion	
4:20	<i>Case Review</i> Considerations in the traumatic spine (A3 fractures) Panel Discussion	Scott D. Daffner, MD
4:25 - 4:45	Panel Discussion: Ilyas Aleem, MD, Matthew Colman, MD, John C. France, MD Nonoperative/Cement Posterior fusion Fusion with corpectomy	
4:45 - 4:55	Discussion	

5:00 **Module 3: Crossover Syndrome** **Moderator: Michael P. Steinmetz, MD**

5:00	Case Review: Hip Spine Syndrome	Rakesh D. Patel, MD, MBA
5:15	Case Review: Pelvic tumor	Matthew Colman, MD
5:30	Case Review: Peroneal nerve injury	Yamaan Saadeh, MD
5:45-5:55	Discussion Closing Remarks	
5:55	Adjourn	

LUMBAR SPINE RESEARCH SOCIETY 17TH ANNUAL MEETING PROGRAM

Thursday, May 2, 2024

Assigned ID	ABSTRACT ID	Abstract Title	Author List
7:00	Intro	Announcements	Andrew T. Dailey, MD and Zorica Buser, PhD, MBA
	Session 1:	Predictive Analytics	
	Moderators:	Dean Chou, MD and Jonathan Grauer, MD	
7:05	Paper 1 225	Machine Learning of MRI Predicts the Outcome and Rate of Resorption of Lumbar Disc Herniations: a Prospective, Multi-Imaging, One-Year Study	Fatima Sabitova, BS; Anastasiia Safronova, MD; Elvina Giyazitdinova, MD; Hanne Albert, PhD; Dino Samartzis, PhD; Alexander Tkachev, MD
7:10	Paper 2 61	Assessing the Impact of Surgical Invasiveness on Postoperative Recovery and Physical Function: A Multi-Center Retrospective Analysis	Thomas Peterson, PhD; Fatemeh Gholi Zadeh Kharrat, PhD ; Jeffrey Lotz, PhD; Kristin Archer, PhD, DPT; Andrew Bishara, MD; Zorica Buser, PhD, MBA; Brook Martin, PhD, MPH; Julie Fritz, PhD
7:15	Paper 3 299	Applying GPT-4 to Automate Patient-Facing Communication of Spine Imaging Reports: A Pilot Study	Rushmin Khazanchi, BA; Austin Ryan Chen, BS ; Matthew Follett, MD; Jacob Staub, BS; Abhinav Balu, BS; Wellington Hsu, MD; Alpesh Patel, MD, MBA; Srikanth Divi, MD
7:20-7:30	DISCUSSION		
	Session 2:	Socioeconomics	
7:30	Moderator:	Cara P. Sedney, MD and Melvin D. Helgeson, MD	
7:30	Paper 4 212	Postoperative Home Health Care Associated with Increased 90-Day Resource Utilization after Lumbar Fusion: An Analysis of Bundled Payment Data	Michael McCurdy, MD; Rajkishen Narayanan, MD ; Yunsoo Lee, MD; Abbey Glover, BS; James Kim, BS; Aryan Gajjar, BS; Jose Canseco, MD, PhD; Alan Hillibrand, MD; Alexander Vaccaro, MD, PhD, MBA; Christopher Kepler, MD, MBA; Gregory Schroeder, MD
7:35	Paper 5 392	Assessing the Variation and Drivers of Cost in 1-Level Lumbar Fusion: A Time-Driven Activity-Based Costing Analysis	David Bernstein, MD; Bradley Hammoor, MD; Chierika Ukogu, MD; Christopher Bono, MD; Stuart Hershman, MD; Daniel Tobert, MD; Thomas Cha, MD; Harold Fogel, MD
7:40	Paper 6 362	Long Term Cost Difference in Surgical vs Nonsurgical Treatment of Lumbar Spondylolisthesis	Travis Philipp, MD ; Jonathan Kark, MD; Won Hyung A. Ryu, MD; Clifford Lin, MD; Jung Yoo, MD
7:45-7:55	DISCUSSION		
	Session 3:	Osteoporosis	
7:55	Moderator:	Jason W. Savage, MD and Srikanth Divi, MD	
7:55	Paper 7 146	The Superiority of Endplate Hounsfield Units Relative to Lumbar Vertebral Hounsfield Units in Predicting Subsidence After Transforaminal Lumbar Interbody Fusion	Hannah Levy, MD ; Adam Magera, BA; Maria Astudillo Potes, BS; Caden Messer, BS; Zachariah Pinter, MD; Abdelrahman Hamouda, BS; Jeremy Fogelson, MD; Mohamad Bydon, MD; Benjamin Elder, MD, PhD; Bradford Currier, MD; Ahmad Nassr, MD; Arjun Sebastian, MD; Brian Karamian, MD; Brett Freedman, MD
8:00	Paper 8 271	Utility of Vertebral Bone Quality Score in Predicting Osteoporosis Related Complications in Long-Segment Fusion Patients	Aamir Kadri, MD ; Rob Yates, BS; Sabryn Kapp, BS
8:05	Paper 9 82	The Impact of CT-based Subsidence Assessment on Radiographic and Clinical Outcomes After Transforaminal Lumbar Interbody Fusion	Hannah Levy, MD ; Zachariah Pinter, MD; Ryder Reed, MD; Joshua Harmer, MD; Jeremy Fogelson, MD; Mohamad Bydon, MD; Benjamin Elder, MD, PhD; Bradford Currier, MD; Ahmad Nassr, MD; Brett Freedman, MD; Brian Karamian, MD; Arjun Sebastian, MD
8:10-8:18	DISCUSSION		
8:18	Symposium 1:	Current Data on Osteobiologics	Moderator: Zorica Buser, PhD, MBA
8:19-8:30		Drivers of lumbar spine fusion: graft or instrumentation	Sigurd H. Berven, MD
8:30-8:41		Patient graft optimization: what comorbidities are critical to consider?	Nicholas Spina, MD
8:41-8:52		Cage surface modification and graft interactions– what do we need to know?	Wellington K. Hsu, MD
8:52-9:03		Old and new evidence in osteobiologic space	Jeffrey Wang, MD
9:03 - 9:15		DISCUSSION	
	Session 4:	Rapid Fire Presentations 1	
9:15	Moderator:	Leo Spector, MD, MBA and Daniel Yanni, MD	

LUMBAR SPINE RESEARCH SOCIETY 17TH ANNUAL MEETING PROGRAM

Thursday, May 2, 2024

Assigned ID	ABSTRACT ID	Abstract Title	Author List
9:16	RF01 355	Immediate Postoperative Changes in Global Lordosis Following Placement of TOPS Predicts 2-year Changes in Global Lordosis Correlating with Improved Pain, Disability, and Quality of Life by PROs	Seth Meade, BS ; Michael Shost, BS; Michael Steinmetz, MD
9:18	RF02 370	Assessment of the Change in Degree of Segmental and Global Lordosis in Prone and Lateral Decubitus Patient Positioning in Lateral Interbody Fusion Techniques: A Systematic Review of Literature and Meta-Analysis	Geoffrey O'Malley, BS ; Drew Sturgill, BS; Timothy Blajda, BS; Syed Sarwar, BS; Saurav Boparai, BS; Ira Goldstein, MD
9:20	RF03 410	ALIFs in Revision Surgery: Assessment of Sagittal Parameters	Omar Zakieh, MBBS ; Andrew Croft, MD; William Waddell, MD; Julian Lugo-Pico, MD; Raymond Gardocki, MD; Scott Zuckerman, MD,MPH; Byron Stephens, MD; Amir Abtahi, MD
9:22	RF04 223	Impact of Decompression Location in MIS Decompression Alone: Focusing on Severe Degenerative Scoliosis with Cobb Angles Above 20 Degrees	Tomoyuki Asada, MD ; Chad Simon, BS; Nishtha Singh, MBBS; Annika Heuer, MD; Tejas Subramanian, BE; Olivia Tuma, BS; Kasra Araghi, BS; Atahan Durbas, MD; Joshua Zhang, BS; Max Korsun, BS; Amy Lu, BS; Eric Mai, BS; Cole Kwas, BS; Myles Allen, MBChB; Avani Vaishnav, MBBS; James Dowdell, MD; Evan Sheha, MD; Sheeraz Qureshi, MD; Sravisht Iyer, MD
9:24	RF05 233	Do Obese Patients Benefit as Much as Non-Obese Patients After Lumbar Surgery for Grade II Spondylolisthesis? A QOD Study	Abraham Dada, BA ; Irene Say, MD; Domagoj Coric, MD; Michael Virk, MD, PhD; Christopher Shaffrey, MD; Oren Gottfried, MD; Eric Potts, MD; Mohamad Bydon, MD; Paul Park, MD; Steven Glassman, MD; Praveen Mummaneni, MD,MBA; Dean Chou, MD; Mark Shaffrey, MD; Erica Bisson, MD,MPH
9:26	RF06 306	The Impact of Ketorolac Utilization on Outcomes in Spine Surgery: A Systematic Review and Meta-Analysis of Randomized Controlled Trials	Anthony Baumann, DPT; Andrew Fiorentino, MS; Katelyn Sidloski, MS; Jay Fiechter, BS; Mathias Uhler; Tyler Calton, MD ; Cassandra Hoffman, MD; Jacob Hoffmann, MD
9:28 - 9:40	DISCUSSION		
9:40-10:00	B R E A K		
	Session 5:	Surgical Anatomy	
	Moderator:	Michael J. Lee, MD and Ashish Patel, MD	
10:00	Paper 10 130	Anatomic Variation with Supine to Prone Positioning: Implications for Prone Transposas Single-Position Lumbar Fusion	Andy Ton, BS ; Brandon Gettleman, BS; Ryan Palmer, BS; Marc Abdou, BS; Emily Mills, MD; Michael Safaee, MD; Jeffrey Wang, MD; Raymond Hah, MD; Ram Alluri, MD
10:05	Paper 11 424	Leg length discrepancy is associated with lumbar disc disease : A study of 350 postmortem specimens	Bryce T. Ahn, Amit Bhandutia, MD, Mitchell Ng, MD, Nicholas Ahn, MD
10:10	Paper 12 178	Does Paraspinal Muscle Mass Predict Lumbar Lordosis after Decompression for Degenerative Spinal Stenosis?	Teeto Ezeonu, BS; Rajkishen Narayanan, MD; Yunsoo Lee, MD; Alec Kellish, MD; Michael McCurdy, MD; Sydney Somers, BS; Sebastian Fras, BS; Anthony Labarbiera, BS; Akshay Khanna, BS; Jose Canseco, MD, PhD; Alan Hillibrand, MD; Alexander Vaccaro, MD, PhD, MBA; Christopher Kepler, MD, MBA; Gregory Schroeder, MD
10:15	Paper 13 227	Relationship between Facet Joint Osteoarthritis and Lumbar Paraspinal Muscle Atrophy – a Cross-sectional Study	Ali Guven, MD ; Lukas Schonntagel, MD; Gaston Camino-Willhuber, MD; Erika Chiapparelli, MD; Krizia Amoroso, MD; Jiaqi Zhu, MS; Soji Tani, MD; Thomas Caffard, MD; Artine Arzani, MD; Arman Zadeh, BS; Jennifer Shue, MS; Ek Tsoon Tan, MD; Andrew Sama, MD; Federico Girardi, MD; Frank Cammisa, MD; Alexander Hughes, MD
10:20-10:29	DISCUSSION		
	AWARDS AND GRANTS		Moderators: Michael P. Steinmetz, MD and Peter G. Passias, MD
10:30	Best Paper Award Scholarships		Michael P. Steinmetz, MD Peter G. Passias, MD
10:35	2023 LSRS Cerapedics Research Grant Update		
	The impact of electronic cigarette vaping extracts on lumbar fusion		Romie Gibly, PhD, MD

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Assigned ID	ABSTRACT ID	Abstract Title	Author List
10:42	2023 LSRS Young Investigator Grant Report*		
		The effect of fluoxetine and duloxetine in a rodent model	Yunsoo Lee, MD
10:50	2024 LSRS Cerapedics Research Grant Award Winner		Wilson Zachary Ray, MD, MBA
10:52	2024 LSRS Young Investigator Research Grant Award Winner		Ahilan Sivaganesan, MD
10:54-11:00	DISCUSSION		
11:00	Symposium 2:	Spine Leadership Roundtable	Moderator: Wellington K. Hsu, MD
		Faculty Panel: Thomas A. Zdeblick, MD, Paul A. Anderson, MD, Jeffrey Wang, MD Robert F. Heary, MD Darrel S. Brodke, MD Todd Albert, MD	
12:00	Attendees Luncheon Members Business Luncheon		Paris Foyer Cannes/LeBar
1:00	Announcements		
1:05	Session 6:	Opioid Management 1	
	Moderator:	Andrew J. Pugely, MD and James Bernatz, MD	
1:05	Paper 14 391	Higher Opiate Prescribing at Discharge is Associated with Chronic Opioid Usage in Lumbar Decompression Spine Surgery: A MSSIC Study	Dheeraj Kagithala, BS; Anisse N. Chaker, MD; Edvin Telemi, MD; Nachiket Deshpande, BS; Tarek Mansour, MD; Enoch Kim, BS; Anneliese Rademacher, BS; Jianhui Hu, PhD; Lonni Schultz, PhD; Jason Schwalb, MD; Muwaffak Abdulhak, MD; Victor Chang, MD
1:10	Paper 15 398	Genotype-Guided Opioid Therapy in Patients Undergoing Lumbar Spine Surgery Results in Lower Rates of Delirium and Superior Pain Control: A Single Institutional Feasibility Study	Owoicho Adogwa, MD; Xu Tao, BS
1:15	Paper 16 32	Long Term Feasibility Study: Opiate Reduction Protocol for Common Outpatient Neurosurgical and Spine Procedures - A Single-Center Experience	Nicholas Eley, PA-C; Aiyush Bansal, MD; Murad Alostaz, BS; Rakesh Kumar, MD; Jean-Christophe Leveque, MD; Philip Louie, MD
1:20 - 1:30		DISCUSSION	
1:30	Session 7:	Rapid Fire Presentations 2	
	Moderator:	Rakesh D. Patel, MD, MBA and Jad G. Khalil, MD	
1:30	RF07 350	Utilization Trends and Outcomes in Treatment of Recurrent Lumbar Disc Herniation: Revision Microdiscectomy Versus Spinal Fusion	Mayilone Sathialingam, BS; Ishan Shah, BS; Andy Ton, BS; Jeffrey Wang, MD; Raymond Hah, MD; Ram Alluri, MD
1:32	RF08 314	Risk Factors Associated with Minimal Response to Erector Spinae Plane Block Following Minimally Invasive Lumbar Fusion	Eric Mai, BS; Joshua Zhang, BS; Amy Lu, BS; Patawut Bovonratwet, MD; Eric Kim, BS; Chad Simon, BS; Cole Kwas, BS; Myles Allen, MBChB; Olivia Tuma, BS; Avani Vaishnav, MBBS; Annika Heuer, MD; Nishtha Singh, MBBS; Ashley Yeo Eun Kim, BS; Max Korsun, BS; Kasra Araghi, BS; Tomoyuki Asada, MD; Sheeraz Qureshi, MD; Sravisht Iyer, MD
1:34	RF09 41	Bertolotti's Syndrome: An evidence-based approach to diagnosis and treatment	Arthur Jenkins, MD; John O'Donnell, BS; Camryn Harvie, BS; Richard Chung, BS

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1:36	RF10 167	Patient Reported Expectations in Elective Lumbar Spine Surgery: Preliminary Results of a Prospective Study	Jacob Staub, BS ; Erik Gerlach, MD; Matthew Follett, MD; Nicholas Arpey, MD; Srikanth Divi, MD; Geoffrey Stricsek, MD; Wellington Hsu, MD; Alpesh Patel, MD, MBA
1:38	RF11 25	Venous Thromboembolism Chemoprophylaxis Is Not Supported Following Spine Surgery: A Meta-Analysis of Randomized Controlled Trials	Aditya Muralidharan, MD; Anthony Baumann, DPT; Joshua Piche, MD; Davin Gong, MD ; Kempland Walley, MD; Osama Kashlan, MD; Rakesh Patel, MD; Ilyas Aleem, MD
1:40	RF12 145	Incidental Peritoneal Opening during Anterior Lumbar Interbody Fusion (ALIF) Not Associated with Increased Peri-operative Morbidity	Santiago Quevedo, BS; Donald Reed, MD; Joseph Chavarría, MD ; Ioannis Avramis, MD; James Rizkalla, MD
1:42 - 1:50	DISCUSSION		
	Session 8:	Surgical Outcomes	
1:50	Moderator:	Paul M. Arnold, MD and Ankit I. Mehta, MD	
1:50	Paper 17 366	Risk Factors for Total Hip Arthroplasty Following Lumbar Fusion Surgery: A Large Propensity Matched Study	Joshua Weiner, BS ; Parshva Sanghvi, BS; Seth Meade, BS; Michael Shost, BS; Michael Steinmetz, MD
1:55	Paper 18 89	Effect of Preoperative Motor Weakness on Postoperative Clinical Outcomes in Patients Undergoing Lumbar Decompression	Srinath Medakkar, BS , Andrea Roca, MS, Fatima Anwar, BS; James Nie, BS; Timothy Hartman, MD; ; Alexandra Loya, BS; Keith MacGregor, BS; Omolabake Oyetayo, BS; Eileen Zheng, BS; Vincent Federico, MD; Gregory Lopez, MD; Arash Sayari, MD; Kern Singh, MD
2:00	Paper 19 95	A Comparison of Post-Operative Pain Management Following Lumbar Laminectomy Fusions Utilizing TLIP or Intra-operative Local Anesthesia Block	Lauren Eberhardt, BS ; Philip Zakko, MD; Karen Childers, MS,BS,MA; Daniel Park, MD
2:05	Paper 20 150	The Impact of Lumbar Spine Sagittal Alignment on clinical outcomes following ACDF	Tomoyuki Asada, MD ; Samuel Adida, BS; Myles Allen, MBChB; Chad Simon, BS; Nishtha Singh, MBBS; Olivia Tuma, BS; Kasra Araghi, BS; Joshua Zhang, BS; Max Korsun, BS; Eric Mai, BS; Cole Kwas, BS; Annika Heuer, MD; Avani Vaishnav, MBBS; James Dowdell, MD; Sheeraz Qureshi, MD; Sravisht Iyer, MD; Evan Sheha, MD; Francis Lovecchio, MD
2:10 - 2:20	DISCUSSION		
	Session 09:	Complications	
	Moderator:	Jeremy D. Shaw, MD	
2:20	Paper 21 129	Classification of Robotic-Assisted Pedicle Screw Errors	Diwas Gautam, BS ; Sheela Vivekanandan, MD; Marcus Mazur, MD
2:25	Paper 22 28	Do Preoperative Lumbar Transforaminal Steroid Injections Increase the Risk of Infection After Lumbar Decompression Surgery?	Paul Minetos, MD,MBA ; Brandon Petrone, DO; Graham Beutler, MD; Joash Suryavanshi, MD; David Foley, MD; Barrett Boody, MD; Rick Sasso, MD; Michael McCarthy, MD
2:30	Paper 23 128	Skin Closure Using Skin Staples May Have Higher Risk for Wound Infection Compared to Running Subcuticular Stitch with Absorbable Suture in Posterior Lumbar	Saechin Kim, MD,PhD ; Amanda Schillinger, BS; Serafin Zotter, BS
2:35-2:45	DISCUSSION		
2:45-3:04	B R E A K		
	Session 10:	Deformity	
3:04	Moderator:	Clifford B. Tribus, MD	

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Assigned ID	ABSTRACT ID	Abstract Title	Author List
3:05 Paper 24	194	Iatrogenic Posterior Translation of the Construct at the UIV is Associated with an Increase in Revision for Alignment and Instrumentation Complications	Bassel Diebo, MD ; Alan Daniels, MD; Renaud Lafage, MS; Mariah Balmaceno-Criss, BS; Mohammad Daher, BS; D. Hamilton, MD; Justin Smith, MD; Robert Eastlack, MD; Richard Fessler, MD, PhD; Jeffrey Gum, MD; Munish Gupta, MD; Richard Hostin, MD; Khaled Kebaish, MD; Han Jo Kim, MD; Eric Klineberg, MD; Breton Line, BS; Pierce Nunley, MD; Gregory Mundis, Jr., MD; Peter Passias, MD; Themistocles Protopsaltis, MD; Thomas Buell, MD; Justin Scheer, BS; Jeffrey Mullin, MD; Lawrence Lenke, MD; Shay Bess, MD; Christopher Shaffrey, MD; Frank Schwab, MD; Virginie Lafage, PhD; Christopher Ames, MD; Douglas Burton, MD
3:10 Paper 25	379	Cost-Benefit of Enhanced Recovery After Surgery Protocols in Adult Spine Deformity surgery	Oluwatobi Onafowokan, BMBS; Ankita Das, BS; Jamshaid Mir, MD; Peter Tretiakov, BS; Stephane Owusu-Sarpong, MD; Jordan Lebovic, MD; Zorica Buser, PhD, MBA; Nathan Lorentz, MD; Matthew Galetta, MD; Peter Passias, MD
3:15 Paper 26	199	Surgical Correction of the Lumbosacral Hemicurve in Adult Scoliosis	Michael Czulinski, MD ; Bradley Spence, MD; Jason Haselhuhn, DO; Dustin Kress, MA; Kristen Jones, MD; Christopher Martin, MD; Jonathan Sembrano, MD; Nathan Hendrickson, MD, MS; David Polly, Jr., MD
3:20 - 3:28	DISCUSSION		
	Session 11:	Surgical Techniques 1	
3:28	Moderator:	Douglas Orndorff, MD	
3:30 Paper 27	141	Novel Posterolateral Vertebral Tethering Combined with Limited Apical Fusion Decreased the Number of Fusion Levels and Preserved Lumbar Range of Motion	Saechin Kim, MD, PhD ; Hao-Hua Wu, MD; Philip Hanna, MBBS
3:35 Paper 28	215	The Use of Cranial Aneurysm Clips for Repair of Incidental Lumbar Durotomy	Arpan Patel, MD ; Mark Davison, MD; Daniel Lilly, MD; Michael Shost, BS; Seth Meade, BS; Ghaith Habboub, MD; Ajit Krishnaney, MD
3:40 Paper 29	396	Evidence-Based Medicine: Does Data Support the “20-Minute Rule”?	Michael McDermott, DO; Chester Tyson, BS; Robert Prior, DO; Alex Thomas, MD; Aaron Buckland, MD; Christiano Menezes, MD; Ashish Patel, MD
3:45 - 3:55	DISCUSSION		
3:55	Symposium 3:	Evolving Role of Advanced Practice Providers (APPs)	Moderator: Jean-Christophe Leveque, MD
3:55		How to utilize APPs in an academic practice with residents and fellows	Harold Fogel, MD
4:05		Example 1: The pros and cons of APPs in private practice-cost, flow, and patient satisfaction impact	Michael C. Gerling, MD
4:15		Example 2: The pros and cons of APPs in private practice-cost, flow, and patient satisfaction impact	Michael McCarthy, MD, MPH
4:25		Can APPs provide more than just a clinical role?	Jeremy D. Shaw, MD
3:35		In their own words - an APP perspective	Nicholas Eley, PA-C
4:45-4:55	DISCUSSION		
5:00	ADJOURN		

LUMBAR SPINE RESEARCH SOCIETY 17TH ANNUAL MEETING PROGRAM

Friday, May 3, 2024

Assigned	Abstract ID	Abstract Title	Author List
7:00		Announcements: Andrew T. Dailey, MD and Zorica Buser, PhD, MBA	
		Session 12: Surgical Techniques 2	
		Moderator: Nicholas Spina, MD and Marcus Mazur, MD	
7:05	Paper 30	403 Prone Lateral Interbody Fusion Outperforms TLIF for Achieving L4-5 Segmental Alignment Goals.	Ashish Patel, MD; Michael McDermott, DO; Robert Prior, DO; Michael Rogers, BS
7:10	Paper 31	122 Outcomes Comparison between Novel Hydroxyapatite Enhanced PEEK and Titanium Implants after Anterior Lumbar Interbody Fusion	Lindsay Orosz, MS,PA-C; Ehsan Jazini, MD; Peter Passias, MD; Rita Roy, MD; Colin Haines, MD
7:15	Paper 32	395 Perioperative Infection Prophylaxis with Vancomycin is a Significant Risk Factor for Deep Surgical Site Infection in Spine Surgery	Gregory Kazarian, MD; Jung Mok, MD; Yusef Jordan, MD; Takashi Hirase, MD; Han Jo Kim, MD
7:20	Paper 33	318 ISOVUE Contrast for Intraoperative Assessment of Discectomy Quality in TLIF	Rajko Vucicevic, BS; Athan Zavras, MD; Vincent Federico, MD; Luis Salazar, MD; Devin Asher, BS; Ian Hermanns, BS; Tyler Goldsmith, BS; Kayvon Yazdanbakhsh, BS,MPH; Matthew Colman, MD
7:25-7:35		DISCUSSION	
		Session 13: Preoperative Optimization	
7:35		Moderator: Scott D. Daffner, MD	
7:35	Paper 34	134 The Impact of Serum Albumin Levels on Postoperative Outcomes in Lumbar Spine Surgery: A MSSIC study	Anisse N. Chaker, MD; Anneliese Rademacher, BS; Edvin Telemi, MD; Tarek Mansour, MD; Enoch Kim, BS; Matthew Brennan, BS; Dheeraj Kagithala, BS; Lonni Schultz, PhD; Juinhui Hu, PhD; Muwaffak Abdulhak, MD; Jason Schwalb, MD; Victor Chang, MD
7:40	Paper 35	37 Focused Perioperative Nutritional Supplementation Reduces Wound Complications in Patients Undergoing Spinal Fusion Surgery	Joshua Setliff, BA; Christopher Como, MD; Yunting Tang, MD; Anthony Oyekan, MD; Michael Spitnale, MD; Jonathan Dalton, MD; Richard Wawrose, MD; Joon Lee, MD; Jeremy Shaw, MD, MS
7:45	Paper 36	203 Cannabis May Reduce Pain Medication Dosage and Improve Patient Satisfaction with Pain Care in Patients with Chronic Back Pain	Cara Sedney, MD; Patricia Dekeseredy, RN; Treah Haggerty, MD; Johnnie Hodge, MD,PhD; Toni Rudisill, PhD
7:50 - 8:00		DISCUSSION	
		Session 14: Rapid Fire Presentations 3	
8:00		Moderator: D. Kojo Hamilton	
8:00	RF13	166 Can You Perform an Adequate Discectomy During a Transforaminal Lumbar Interbody Fusion Approach Using an Endoscopic Technique? A Cadaveric Study Comparing Minimally Invasive Versus Endoscopic Approaches	Sohrab Virk, MD
8:02	RF14	182 Influence of formal mental health diagnosis on immediate post-surgical outcomes in elective lumbar spine fusion	Brendan Stewart, MD; Regina Kostyun, MS; Heeren Makanji, MD; Sean Esmende, MD; Matthew Solomito, PhD
8:04	RF15	252 Three-column Fractures in the Ankylosed Spine: A Systematic Approach to Imaging and Assessment	Ryder Reed, MD; Zachariah Pinter, MD; Ahmad Nassr, MD; Arjun Sebastian, MD; Benjamin Elder, MD, PhD; Brett Freedman, MD
8:06	RF16	280 Is MIS-ATP lumbosacral fusion safe in patients with aortoiliac calcification?	Hayley Denwood, BS; Rehan Khan, BS; Rutvin Kyada, MA; Aziz Saade, MD; Tony Tannoury, MD; Chadi Tannoury, MD
8:08	RF17	284 The Utility of the Validated Intraoperative Bleeding Scale in Thoracolumbar Spine Surgery: A Single-Center Prospective Study	Ryan Smith, BS; Tyler Pease, BS; Anthony Chiu, BS; Brian Shear, MD; Mario Sahlani, MD; Amit Ratanpal, BS; Ivan Ye, MD; Alexandra Thomson, MD; Louis Bivona, MD; Julio Jauregui, MD; Kenneth Crandall, MD; Charles Sansur, MD; Daniel Cavanaugh, MD; Eugene Koh, MD, PhD; Steven Ludwig, MD

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Assigned	Abstract ID	Abstract Title	Author List
8:10-8:20		DISCUSSION	
	Session 15:	Patient Reported Outcomes	
8:20	Moderator:	Bartosz Wojewnik, MD and Ashley Rogerson, MD	
8:20	Paper 37	184 PROMIS 10 Global Mental Health T Score: An independent predictor of immediate post-surgical outcomes following single level elective lumbar fusion	Heeren Makanji, MD; Matthew Solomito, PhD; Christopher Antonacci, MD ; Francine Zeng, MD; Sean Esmende, MD
8:25	Paper 38	77 Predominant Back versus Leg Pain for PROMIS Outcomes Following Lumbar Decompression	Andrea Roca, MS ; Fatima Anwar, BS; James Nie, BS; Timothy Hartman, MD; Srinath Medakkar, BS; Alexandra Loya, BS; Keith MacGregor, BS; Omolabake Oyetayo, BS; Eileen Zheng, BS; Vincent Federico, MD; Arash Sayari, MD; Kern Singh, MD
8:30	Paper 39	200 Preoperative Resilience and Improvement in Patient-Reported Outcomes After Lumbar Spinal Fusion	Mohammad Daher, BS ; Daniel Alsoof, MBBS; Mariah Balmaceno-Criss, BS; Sarah Criddle, MD; Bassel Diebo, MD; Alan Daniels, MD
8:35	Paper 40	187 Determination of Substantial Clinical Benefit (SCB) and Patient Acceptable Symptomatic State (PASS) in Lumbar Spine Surgery	Heeren Makanji, MD; Matthew Solomito, PhD; Christopher Antonacci, MD ; Francine Zeng, MD; Sean Esmende, MD
8:40-8:50		DISCUSSION	
8:50		Symposium 4: Pre-operative optimization of the lumbar spine surgery patient	Moderator: Andrew T. Dailey, MD
8:50		Pre-operative management of opioids	Andrew J. Pugely, MD, MHCDS
9:00		Optimization of bone health	Jason W. Savage, MD
9:10		Optimization of metabolic parameters (Hgb, A1c, albumin, etc)	Marcus Mazur, MD
9:20		Is prehabilitation beneficial and worthwhile	Michael J. Lee, MD
9:30		DISCUSSION	
	Session 16:	Opioid Management 2	
	Moderator:	Ira Goldstein, MD	
9:40	Paper 41	114 Cannabinoid Use Impact and Post-Lumbar Surgery Pain Management in Opioid Naïve Patients	Hania Shahzad, MD,MBBS; Gerardo Rodriguez, BS ; Nasir Hussain, MD; Elizabeth Yu, MD; Varun Singh, MD
9:45	Paper 42	342 Preoperative Opioid Use is a Robust Predictor of Increased Healthcare Utilization Following 1- and 2-Level Elective Lumbar Spine Surgery	Shyam Chandrasekar, BS ; Jacob Staub, BS; Giancarlo Riccobono, BS; Pranav Bajaj, BA; Wellington Hsu, MD; Alpesh Patel, MD, MBA; Srikanth Divi, MD
9:50	Paper 43	263 The Effect of NSAID contraindications on pre and postoperative opioid use among patients undergoing lumbar fusion	Michael Carter, BS ; Rajkishen Narayanan, MD; Gregory Toci, BS; Yunsoo Lee, MD; Waqaas Hassan, MD, MPH; Nick Tewell, BA; Matthew Sabitsky, BS; Sebastian Fras, BS; Grace Bowen, BS; Allison Toth, BS; Max Von Suskil, BS; Jose Canseco, MD, PhD; Alexander Vaccaro, MD, PhD, MBA; Alan Hilibrand, MD; Christopher Kepler, MD, MBA; Gregory Schroeder, MD
9:55-10:05		DISCUSSION	
10:05-10:30		BREAK	

LUMBAR SPINE RESEARCH SOCIETY 17TH ANNUAL MEETING PROGRAM

Friday, May 3, 2024

Assigned	Abstract ID	Abstract Title	Author List
10:30		Transfer of Presidents <i>Tribute to President Plaque Ceremony</i>	Moderator: Bruce V. Darden, II, MD
10:40		Presidential Address: <i>When does the Mentee become the Mentor?</i>	Wellington K. Hsu, MD
11:05		Incoming President <i>Pin Ceremony</i>	Wellington K. Hsu, MD // Jason W. Savage, MD
11:10		Session 17: Spondylolisthesis Moderator: Addisu Mesfin, MD	
11:10	Paper 44	255 Lumbar Facet Arthroplasty for Degenerative Spondylolisthesis with Stenosis: Interim Analysis of Three-Year Outcomes from a Prospective Randomized Clinical Trial*	Zachariah Pinter, MD; Michael Steinmetz, MD; Ahmad Nassr, MD; Brett Freedman, MD; Arjun Sebastian, MD; Eric Potts, MD; Paul Arnold, MD; Domagoj Coric, MD
11:15	Paper 45	11 Long-term Outcomes of Lumbar Facet Arthroplasty versus Spinal Fusion in Young (<65 years) and Old (>65 years) Patients for the Treatment of Degenerative Spondylolisthesis and Stenosis	Annabelle Shaffer, MS; Alexander Yu, MD, MS; Graham Huesmann, MD, PhD; Paul Arnold, MD
11:20	Paper 46	49 Clinical Utility of an Intervertebral Motion Metric for Deciding on the Addition of Instrumented Fusion in Degenerative Spondylolisthesis.	Job van Susante, MD, PhD; Joey Reijmer, MD; Diederik Kempen, MD, PhD; Mark Arts, MD, PhD; Lex de Jong, PhD
11:25	Paper 47	177 What Factors Predict the Best Outcomes for Elderly Patients Operated for Grade 1 Degenerative Lumbar Spondylolisthesis? A Machine Learning Analysis from the Quality Outcomes Database	Andrew Chan, MD; Eunice Yang, BS; Praveen Mummaneni, MD, MBA; Mohamad Bydon, MD; Erica Bisson, MD, MPH; Christopher Shaffrey, MD; Steven Glassman, MD; Eric Potts, MD; Mark Shaffrey, MD; Domagoj Coric, MD; John Knightly, MD; Paul Park, MD; Michael Virk, MD, PhD; Giorgos Michalopoulos, MD; Regis Haid, MD; Dean Chou, MD
11:30-11:40		DISCUSSION	
			*Award for Best Paper
		Session 18: Trauma/Tumor Moderator: Matthew Colman, MD	
11:40	Paper 48	250 Nonoperative Management of Three-column Ankylosed Spine Fractures: Is it Possible?	Zachariah Pinter, MD; Ahmad Nassr, MD; Arjun Sebastian, MD; Benjamin Elder, MD, PhD; Brett Freedman, MD
11:45	Paper 49	406 Predictors of Reoperation in Thoracolumbar Burst Fractures	Omar Zakieh, MBBS; Benjamin Wong, BS; Logan Locascio, BS; Akhil Rekulapelli, BS; Curtis Bakle, BS; Andrew Croft, MD; Derick Zhang, BS; Raymond Gardocki, MD; Julian Lugo-Pico, MD; Scott Zuckerman, MD, MPH; Byron Stephens, MD; Amir Abtahi, MD
11:50	Paper 50	253 The Modified Spinal Instability Neoplastic Score (mSINS): An Updated Classification for Identifying Patients with Spinal Instability in the Setting of Metastatic Disease	Zachariah Pinter, MD; Mikaela Sullivan, MD; Brandon McMaster, MD; Breydan Wright, MD; Brian Goh, MD; James Bernatz, MD; Brett Freedman, MD; Benjamin Elder, MD, PhD; Arjun Sebastian, MD; Ahmad Nassr, MD; Bradford Currier, MD
11:55		DISCUSSION	
12:05		ADJOURN	

LSRS Poster Exhibit Annual Meeting 2024

Thursday May 2 through Friday May 3, 2024

Poster #	Abstract	Poster Title	Poster Author
Poster 01	13	Performance Comparison between Hounsfield Units and DEXA in Predicting Lumbar Interbody Cage Subsidence after Circumferential Lumbar Fusion	Kirsten Schuler, BS; Lindsay Orosz, MS,PA-C; Tarek Yamout, MD,BS; Brandon Allen, None; Wondwossen Lerebo, PhD; Rita Roy, MD; Thomas Schuler, MD; Christopher Good, MD; Colin Haines, MD; Ehsan Jazini, MD
Poster 02	27	Combined Anterior-Posterior versus Posterior Only Approach for Surgical Management of Adult Spinal Deformity: A Systematic Review and Meta-Analysis of Comparative Studies	Anthony Baumann, DPT; Davin Gong, MD; Bshara Sleem, BS; Neal Kapoor, MD; Grayson Talaski, BS; Albert Anastasio, MD; R. Garrett Yoder, MD ; Jacob Hoffmann, MD
Poster 03	42	Gender Differences in Preoperative Symptom Severity for Patients Undergoing Lumbar Decompression	Alexandra Loya, BS; Andrea Roca, MS; Fatima Anwar, BS; Srinath Medakkar, BS ; Jacob Wolf, BS; Aayush Kaul, BS; Arash Sayari, MD; Kern Singh, MD
Poster 04	47	Perioperative Change in Bone Quality After Long Segment Thoracolumbar Fusion and Its Effects on Postoperative Outcomes	Hannah Levy, MD ; Caden Messer, BS; Tissiana Vallecillo, BS; Zachariah Pinter, MD; Anthony Mikula, MD; Tyler Allen, MD; Jeremy Fogelson, MD; Mohamad Bydon, MD; Benjamin Elder, MD,PhD; Bradford Currier, MD; Ahmad Nassr, MD; Brett Freedman, MD; Brian Karamian, MD; Arjun Sebastian, MD
Poster 05	50	How Do Functional Comorbidities Affect PROMIS-PF Scores Following Lumbar Fusion Surgery?	Joshua Mizels, MD ; Brook Martin, PhD,MPH; Brian Karamian, MD; W. Ryan Spiker, MD; Brandon Lawrence, MD; Darrel Brodke, MD; Nicholas Spina, MD
Poster 06	105	New-Onset Depression Following Posterior Lumbar Fusion: National Trends and Risk Factors	Wesley Day, BS ; Michael Gouzoulis, BS; Justin Zhu, BS; Anthony Seddio, BS; Jonathan Grauer, MD
Poster 07	120	Renal Transplant Patients have Significantly Increase Odds of Perioperative Adverse Events Following Lumbar Laminotomy/Discectomy	Michael Gouzoulis, BS ; Anthony Seddio, BS; Justin Zhu, BS; Jonathan Grauer, MD
Poster 08	124	Results of Biphasic Calcium Phosphate Bone Graft with Submicron Needle-Shaped Surface Topography as Standalone Alternative to Autograft are Favorable in a Prospective, Multi-Center, Randomized, Intra-Patient Controlled Trial	Casey Butrico, PhD ; Diyar Delawi, MD,PhD; Eric Hoebink, MD; Diederik Kempen, MD,PhD; Job van Susante, MD,PhD; Moyo Kruijt Kruijt, MD,PhD
Poster 09	131	Risk Factors for Mortality Following Surgical Treatment of Thoracolumbar Burst Fractures	Omar Zakieh, MBBS ; Logan Locascio, BS; Curtis Bakle, BS; Benjamin Wong, BS; Derick Zhang, BS; Akhil Rekulapelli, BS; Andrew Croft, MD; Julian Lugo-Pico, MD; Raymond Gardocki, MD; Scott Zuckerman, MD,MPH; Byron Stephens, MD; Amir Abtahi, MD
Poster 10	138	“Time Is Spine”: The Impact of Indirect Versus Direct Transfer On Mortality and Non-Neurological Outcomes For Patients With Traumatic Thoracolumbar And Lumbar Spine Injuries	Sabrina Zeller, MD; Bridget Nolan, BS; Eris Spirollari, BA; Matthew Merckling, BA; Kevin Clare, BE; Sima Vazquez, MS; Ilya Frid, MD; Merritt Kinon, MD; Kartik Prabhakaran, MD; John Wainwright, MD
Poster 11		WITHDRAWN	
Poster 12	152	Utilization Trends of Pedicle Subtraction Osteotomy in Adult Spinal Deformity: An Analysis of a Large Insurance Claims Database from 2010-2021	Hannah Shelby, BS ; Tara Shelby, BS; Jacob Ball, MD; Michael Kim, BS; Jeffrey Wang, MD; Ram Alluri, MD; Raymond Hah, MD

Poster 13	165	Increase in 90-Day Postoperative Adverse Outcomes in Patients With Fibromyalgia Following Lumbar Discectomy	Albert Rancu, BS; Joshua Sanchez, BS; Anshu Jonnalagadda, BS; Beatrice Katsnelson, BA; Rajiv Vasudevan, MD; Jonathan Grauer, MD
Poster 14	168	Kinetic Analysis of Structural Parameters in Degenerative Lumbar Spondylolisthesis	Andy Ton, BS; Avinash Iyer, BS; Nicole Hang, BS; Marc Abdou, BS; Raymond Hah, MD; Jeffrey Wang, MD; Ram Alluri, MD
Poster 15	173	Extent of Fatty Infiltration of Lumbar Paraspinal Muscles as a Proxy for Frailty and its Relationship with Perioperative Outcomes in Patients Undergoing Elective Spinal Surgery	Ronit Kulkarni, BS; Melanie Bertolino, BS; Gabriella Rivas, MD; John Glaser, MD; Charles Reitman, MD; James Lawrence, MD, MBA; Robert Ravinsky, FRCS(C), MCDM, MPH
Poster 16	185	Spinopelvic Fixation Failure in the Adult Spinal Deformity Population: Systematic Review and Meta-Analysis	Kari Odland, DAT, ATC, LAT; Scott Zuckerman, MD, MPH; David Polly, Jr., MD
Poster 17	193	Elective Lumbar Fusion Patients show minimal change in ODI score after 3 months	Heeren Makanji, MD; Matthew Solomito, PhD; Francine Zeng, MD; Christopher Antonacci, MD; Sean Esmende, MD
Poster 18	230	Osteoporotic Rabbit Vertebroplasty Model Development for Vertebral Compression Fracture Repair Materials Evaluation	August Hemmerla, BS; Abigail Grisolano, None; Austin Kimes, BS; John Wray, BS; Ji-Hey Lim, PhD, DVM; Bret Ulery, PhD; Don Moore, MD
Poster 19	232	Clinical Outcomes of the Prone Transposas Lumbar Interbody Fusion Technique: One Year Outcomes	Hardeep Singh, MD; Ian Wellington, MD; Francine Zeng, MD; Christopher Antonacci, MD; Michael Mancini, MD; Mirghani Mohamed, BS; Scott Mallozzi, MD; Joellen Broska, MPH; Isaac Moss, MD, MS, FRCS(C)
Poster 20	235	A Scoring System to Predict Motor Deficit in Ballistic Lumbosacral Spine Fractures	Christopher Johnson, MD, PhD; Anudariya Batbold, MD, PhD; Michael Lee, MD; Mostafa El DaFrawy, MBBCh
Poster 21	242	The Impact of Lumbar Bracing on Patient-Reported Outcomes In Short Lumbar Fusion	Olivia Opara, BS; Rajkishen Narayanan, MD; Adam Kohring, DO; Yunsoo Lee, MD; Preston Carey, BS; Quinn Kirkpatrick, BS; Jose Canseco, MD, PhD; Alan Hilibrand, MD; Alexander Vaccaro, MD, PhD, MBA; Christopher Kepler, MD, MBA; Gregory Schroeder, MD
Poster 22	256	The Role of L1PA in Patient Reported Outcomes in Patients Undergoing Single Level Lumbar Fusion for Degenerative Spondylolisthesis	Michael Carter, BS; Rajkishen Narayanan, MD; Gregory Toci, BS; Yunsoo Lee, MD; Michael McCurdy, MD; Conor Dougherty, BS; Henley Spracklen, BS; Jake Costantino, BS; Sebastian Fras, BS; Christopher Kepler, MD, MBA; Alan Hilibrand, MD; Gregory Schroeder, MD; Alexander Vaccaro, MD, PhD, MBA; Jose Canseco, MD, PhD; Joseph Lee, MD
Poster 23	260	ChatGPT in Clinical Diagnosis and Management of Degenerative Lumbar Spondylolisthesis: A Comparison With NASS Guidelines	Xu Tao, BS; Julia Garcia-Vargas, MS; Janesh Karnati, BA; Sachin Shankar, MS; Ahmed Ashraf, BA; Andrew Wu, BS; Nana Agyeman, BS; Kelly Childress, BS; Rebecca Garner, MD; Sruthi Ranganathan, MBBS; Nicholas Van Halm-Lutterodt, MD; Joseph Cheng, MD; Owoicho Adogwa, MD
Poster 24	274	Comparison of Sarcopenia, Frailty, and Area Deprivation Index for Predicting Mortality and Adverse Events in Thoracolumbar Trauma	Brian Shear, MD; Anthony Chiu, BS; Adam Stompler, BS; Sabrina Bustos, BS; Amit Ratanpal, BS; Mario Sahlani, MD; Alexandra Lutz, MD; Alexander Ruditsky, MD; Tyler Pease, BS; Ryan Smith, BS; Jay Karri, MD; Louis Bivona, MD; Julio Jauregui, MD; Daniel Cavanaugh, MD; Eugene Koh, MD, PhD; Steven Ludwig, MD
Poster 25	287	Predictors and Postoperative Complication Risks for Revision Discectomies Following Primary Lumbar Microdiscectomy	Andy Ton, BS; Jane Han, BS; Kevin Mertz, MD; Henry Avetisian, BS; Nicole Hang, BS; Emily Mills, MD; Jeffrey Wang, MD; Raymond Hah, MD; Ram Alluri, MD

Poster 26	290	Evaluation of Perioperative Care and Drivers of Cost in Geriatric Thoraco-Lumbar Fractures	Omar Tarawneh, MS ; Rajkishen Narayanan, MD; Michael McCurdy, MD; Tariq Issa, BS; Yunsoo Lee, MD; Olivia Opara, BS; Nicholas Pohl, MS; Alexa Tomlak, BS; Matthew Sherman, BS; Jose Canseco, MD, PhD; Alan Hilibrand, MD; Alexander Vaccaro, MD, PhD, MBA; Gregory Schroeder, MD; Christopher Kepler, MD, MBA
Poster 27	299	Applying GPT-4 to Automate Patient-Facing Communication of Spine Imaging Reports: A Pilot Study	Rushmin Khazanchi, BA; Austin Ryan Chen, BS ; Matthew Follett, MD; Jacob Staub, BS; Abhinav Balu, BS; Wellington Hsu, MD; Alpesh Patel, MD, MBA; Srikanth Divi, MD
Poster 28	303	Is Transforaminal Lumbar Interbody Fusion or Posterior Lumbar Decompression and Fusion Superior for Different Grades of Degenerative Spondylolisthesis? An Analysis of 1-Year Clinical Outcomes	Teeto Ezeonu, BS; Alec Giakas, MD; Rajkishen Narayanan, MD; Yunsoo Lee, MD; Michael Carter, BS; Catherine Alvaro, BS; Alexander Christianson, BS; Jose Pena, BS; Nathan Thomas, BS; Jose Canseco, MD, PhD; Alan Hilibrand, MD; Alexander Vaccaro, MD, PhD, MBA; Gregory Schroeder, MD ; Christopher Kepler, MD, MBA
Poster 29	382	Risk Factors for Prolonged Opioid Use in Opioid-Naïve Patients Following Lumbar Spine Surgery: A MSSIC study	Anisse N. Chaker, MD ; Dheeraj Kagithala, BS; Edwin Telemi, MD; Anneliese Rademacher, BS; Lonni Schultz, PhD; Jianhui Hu, PhD; Jason M. Schwalb, MD; Muwaffak Abdulhak, MD; Victor Chang, MD
Poster 30	414	Combined ACR with Smith-Peterson Osteotomy for Larger Correction of Sagittal Malalignment	Michael McDermott, DO ; Jonathon Garrett, BS; Kyle Barner, DO; Ronak Parmar, BS; Ashish Patel, MD
Poster 31	420	Diabetes Increases Risk of Lumbar Spinal Fusion Complications; Association with Altered Structure of Newly Formed Bone at the Fusion Site	Hossein Elgafy, MD, FRCS(C) ; Beata Lecka-Czernik, PhD
Poster 32	424	Leg length discrepancy is associated with lumbar disc disease : A study of 350 postmortem specimens	Bryce T. Ahn; Amit Bhandutia, MD, Mitchell Ng, MD, Nicholas Ahn, MD

