

Scientific Program

Thursday, October 1, 2015

Session 1: Adolescent Idiopathic Scoliosis

Room: Minneapolis Ballroom

Session Time: 7:55 – 9:49 AM

Session Moderators: Lawrence G. Lenke, MD & Peter O. Newton, MD

- 7:55 – 8:00 AM **Welcome & Announcements**
- 8:00 – 8:04 AM **1. Intervertebral Disc Degeneration 35 Years After Surgery for Adolescent Idiopathic Scoliosis: Long-Term MRI Follow Up**
Tsutomu Akazawa; Toshiaki Kotani, MD, PhD; Tsuyoshi Sakuma, MD, PhD; Masaru Sonoda; Mika Fujiwara; Mitoshi Ishino; Takehide Katougi; Shohei Minami, MD, PhD
- 8:04 – 8:08 AM **2. Incidence of Cancer and Infertility in AIS Patients Treated 25 Years Prior**
Ane Simony, MD; Karl Erik Jensen, MD, DMSc; Steen Bach Christensen, MD; Leah Yacat Carreon, MD, MS; Mikkel Osterbeden Andersen, MD
- 8:08 – 8:12 AM **3. Health-Related Quality of Life in Adolescent Idiopathic Scoliosis Patients 25 Years After Treatment**
Ane Simony, MD; Leah Yacat Carreon, MD, MS; Steen Bach Christensen, MD; Mikkel Osterbeden Andersen, MD
- 8:12 – 8:21 AM **Discussion**
- 8:22 – 8:26 AM **4. Does Symmetry Matter in Selecting Fusion Levels in Lenke 1 AIS?**
David H. Clements; Randal R. Betz, MD; Peter O. Newton, MD; Michelle Claire Marks, PT, MA; Tracey Bastrom, BS, MS; Harms Study Group
- 8:26 – 8:30 AM **5. SRS 22r Scores in Non-Operated AIS Patients with Curves less than 40 degrees**
W. Timothy Ward, MD; James W. Roach, MD; Nicole Friel, MD; Tanya S Kenkre, PhD; Maria Mori Brooks, PhD
- 8:30 – 8:34 AM **6. National Trends in Operations for Idiopathic Scoliosis: Analysis of 61,840 Children from the National Inpatient Sample Over a 13-Year Time Period**
Alexander Theologis; David C. Sing, BS; Mohammad Diab, MD
- 8:34 – 8:43 AM **Discussion**
- 8:44 – 8:48 AM **7. Reduced Pulmonary Function in AIS Patients with Hypokyphosis: Mean 30-Year Follow Up**
A. Noelle Larson, MD; William J. Shaughnessy, MD; Clayton Cowl, MD; Charles Ledonio, MD; David W. Polly, Jr., MD; Michael J. Yaszemski
- 8:48 – 8:52 AM **8. Adolescent Idiopathic Scoliosis Patients Are at Increased Risk for Pulmonary Hypertension Which Reverses After Scoliosis Surgery**
Vishal Sarwabi, MD; Sarika Kalantre; Marina Moguevitch; Rachel Claire Gecelter, BS; Dan Wang, MS; Terry D. Amaral, MD; Kathleen Maguire, MD
- 8:52 – 8:56 AM **9. A Predictive Model of Progression for Adolescent Idiopathic Scoliosis Based on 3D Spine Parameters of First and Second Visit**
Wenzhen Zuo; Marie-Lyne Nault, MD, PhD, FRCSC; Marjolaine Roy-Beaudry, MS; Jean-Marc Mac-Thiong; Jacques de Guise, PhD; Hubert Labelle, MD; Stefan Parent, MD, PhD
- 8:56 – 9:05 AM **Discussion**
- 9:06 – 9:10 AM **10. Preventing DJK by Applying the Stable Sagittal Vertebra Concept to Selective Thoracic Fusion in AIS**
Alexander Broom, BA; Lindsay M. Andras, MD; Andrew G Georgiadis, MD; Kody K Barrett, BA; John M. Flynn, MD; David L. Skaggs, MD, MMM
- 9:10 – 9:14 AM **11. Curve Progression in Adolescent Idiopathic Scoliosis with a Minimum of Two-Years Follow Up After Completed Brace Weaning with Reference to the SRS Standardized Criteria**
Benglong Shi, MD; Tsz Ping Lam, MD; Jack C.Y. Cheng, MD; Saihu Mao, MD; Fiona Wai Ping Yu, MPH; Kwong Man Lee; Bobby Kinwah Ng, MD; Ze-zhang Zhu, MD; Yong Qiu, MD
- 9:14 – 9:18 AM **12. The Deformity Angular Ratio: Can It Predict High Risk Cases for Potential Spinal Cord Monitoring Alerts in Pediatric Three-Column Thoracic Spinal Deformity Corrective Surgery?**
Noah D. Lewis, BS; Sam G. Keshen, BS; Lawrence G. Lenke, MD; Michael Zywiak, MD; David L. Skaggs, MD, MMM; Taylor Elizabeth Dear, BS; Samuel Strantzas, MS, D ABNM; Stephen J. Lewis, MD, FRCSC, MS
- 9:18 – 9:27 AM **Discussion**

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- 9:28 – 9:32 AM 13. Relationship Between Cervical Sagittal Alignment and Health Related Quality of Life in Adolescent Idiopathic Scoliosis
Jung Sub Lee, MD, PhD; Jong Ki Shin, MD; Tae Sik Goh, MD
- 9:32 – 9:36 AM 14. Thoracic Sagittal Plane Variations Between Patients with Moderate Thoracic Adolescent Idiopathic Scoliosis and Healthy Adolescents
Alberto Nuñez-Medina, MD; Javier Pizones, MD, PhD; Felisa Sánchez-Mariscal, MD, PhD; Lorenzo Zuñiga Gomez, PhD; Cristina Ruiz Juretschke; Enrique Izquierdo, MD, PhD
- 9:36 – 9:40 AM 15. Preoperative MRSA Screening in Pediatric Spine Surgery: A Helpful Tool or a Waste of Time and Money?
June C. Smith, MPH; Scott John Lubmann
- 9:40– 9:49 AM Discussion

Break

Room: Level 3 Foyer

9:50 – 10:05 AM

Supported, in part, by a grant from Medtronic.

Session 2: Quality, Safety and Value

Room: Minneapolis Ballroom

Session Times: 10:06 AM – 12:30 PM

Session Moderators: Daniel S. Brodke, MD & Henry H. Halm, MD

- 10:06 – 10:10 AM 16. Different Dose Regimens of Tranexamic Acid Reduces Perioperative Blood Loss and Blood Transfusion in Adolescent Idiopathic Scoliosis Patients: A Prospective, Randomized Control Study
Tao Li; Jingming Xie; Yingsong Wang; Ying Zhang, PhD; Ni Bi; Zhi Zhao; Zhiyue Shi
- 10:10 – 10:14 AM 17. Gelatine Matrix with Human Thrombin Decreases Blood Loss in Adolescents Undergoing Posterior Spinal Fusion for Idiopathic Scoliosis: A Randomized Clinical Trial
Ilkka J. Helenius; Heli Keskinen, MD; Johanna Syvänen, MD; Mikko Mattila, MD; Jarmo Väilipakka, MD; Olli Pajulo, MD
- 10:14 – 10:18 AM 18. Antifibrinolytic Therapy in Surgery for Adolescent Idiopathic Scoliosis: Does the Level 1 Evidence Translate to Practice?
Baron S. Lonner; Yuan Ren, PhD; Jabangir K. Asghar, MD; Suken A. Shah, MD; Amer F. Samdani, MD; Peter O. Newton, MD
- 10:18 – 10:27 AM Discussion
- 10:28 – 10:32 AM 19. Operative Treatment of Adult Spinal Deformity (ASD) Improves Health Related Quality of Life (HRQOL) for All Deformity Types, While Patients Treated Nonoperatively Demonstrate No Change at Minimum Two Years Follow Up
Shay Bess, MD; Breton Line, BS; Michael P. Kelly, MD, MS; Christopher P. Ames, MD; Douglas C. Burton, MD; Robert A. Hart, MD; Richard Hostin, MD; Jeffrey L. Gum, MD; Kai-Ming Gregory Fu; Eric O. Klineberg, MD; Virginie Lafage, PhD; Frank J. Schwab, MD; Christopher I. Shaffrey, MD; Justin S. Smith, MD, PhD; International Spine Study Group
- 10:32 – 10:36 AM 20. Development of a Validated Computer Based Preoperative Predictive Model for Reaching ODI MCID for Adult Spinal Deformity (ASD) Patients
Justin K. Scheer, BS; Justin S. Smith, MD, PhD; Frank J. Schwab, MD; Frank J. Schwab, MD; Robert A. Hart, MD; Richard Hostin, MD; Virginie Lafage, PhD; Amit Jain, MD; Douglas C. Burton, MD; Shay Bess, MD; Tamir Ailon, MD, FRCSC, MPH; Themistocles S. Protopsaltis, MD; Eric O. Klineberg, MD; Christopher I. Shaffrey, MD; Christopher P. Ames, MD; International Spine Study Group
- 10:36 – 10:40 AM 21. Low Fusion Grade Does Not Impact Two-Year Health-Related Quality of Life Unless Rod Fracture Occurs for Adult Spinal Deformity
Tamir Ailon, MD, FRCSC, MPH; D.Kojo Hamilton, MD; Robert A. Hart, MD; Eric O. Klineberg, MD; Virginie Lafage, PhD; Shay Bess, MD; Douglas C. Burton, MD; MunishChandna Gupta, MD; Justin S. Smith, MD, PhD; Christopher I. Shaffrey, MD; International Spine Study Group
- 10:40 – 10:49 AM Discussion

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- 10:50 – 10:54 AM 22. Sagittal Spinal Alignment in 600 Healthy Volunteers: Gender Difference and Changes with Aging
Yasutsugu Yukawa, MD; Fumihiko Kato, MD
- 10:54 – 10:58 AM 23. Proper Responding Strategies to Neuromonitoring Alerts During Correction Step in Posterior Vertebral Column Resection Patients with Severe Rigid Deformities Can Reduce Postoperative Neurologic Deficits
Jingming Xie; Yingsong Wang; Zhiyue Shi; Tao Li; Ying Zhang, PhD; Ni Bi; Zhi Zhao
- 10:58 – 11:02 AM 24. Global Tilt: A Single Parameter Incorporating the Spinal and Pelvic Parameters Correlates with Health-Related Quality of Life Parameters
Caglar Yilgor, MD; Meric Enercan, MD; Azmi Hamzaoglu, MD; Ferran Pellisé, MD; Francisco Javier Sanchez Perez-Grueso, MD; Emre R. Acaroglu, MD; Ibrahim Obeid, MD; Frank Kleinstück, MD; Ahmet Alanay, MD; European Spine Study Group
- 11:02 – 11:06 AM 25. Negative Sagittal Imbalance Following Spinal Fusion for Kyphoscoliosis
Ian Thomas McNeill; Branko Skovrlj, MD; John M. Caridi, MD; Samuel K. Cho, MD
- 11:06 – 11:17 AM Discussion
- 11:18 – 11:22 AM 26. Extent of Proximal Fusion Correlates with Worse Clinical Outcomes in Cervical to Pelvis Fusions
Han Jo Kim, MD; Sravisht Iyer, MD; Alexander Theologis, MD; Todd J. Albert, MD; Lawrence G. Lenke, MD; Vedat Deviren, MD; Venu M Nemani, MD, PhD; Oheneba Boachie-Adjei, MD; Shane Burch, MD; Jun Mizutani, MD, PhD; Eric O. Klineberg, MD; Themistocles S. Protopsaltis, MD; Justin S. Smith, MD, PhD; Justin K Scheer, BS; Christopher P. Ames, MD
- 11:22 – 11:26 AM 27. Accuracy of the SRS MM Database in Adolescent Idiopathic Scoliosis: Comparison Between the SRS, NIS and KID Databases
Javier Guzman, BS; Branko Skovrlj; Nathan J. Lee, BS; Christopher T. Martin, MD; Andrew J. Pugely, MD; Yubo Gao, PhD; John M. Caridi, MD; Sergio A. Mendoza-Lattes, MD; Samuel K. Cho, MD
- 11:26 – 11:30 AM 28. Significant Intraoperative Neuromonitoring Alerts in Patients Undergoing Fusion for AIS: What Are the Outcomes of Surgery?
Amer F. Samdani; Robert J. Ames, MD; Jahangir K. Asghar, MD; Giuseppe Orlando, MD; Joshua M. Pabys, MD; Burt Yaszay, MD; Firoz Miyanji, MD, FRCSC; Baron S. Lonner, MD; Ronald A. Lehman, MD; Peter O. Newton, MD; Patrick J. Cahill, MD; Randal R. Betz, MD
- 11:30 – 11:34 AM 29. Two-Year Follow Up in Spine Clinical Research: An Adequate Benchmark?
Firoz Miyanji, MD, FRCSC; Sameer Desai, BS; Amer F. Samdani, MD; Suken A. Shah, MD; Jahangir K. Asghar, MD; Burt Yaszay, MD; Harry L. Shufflebarger, MD; Randal R. Betz, MD; Peter O. Newton, MD
- 11:34 – 11:44 AM Discussion
- 11:45 – 11:50 AM Harrington Lecture Introduction
John Dormans, MD
- 11:50 AM – 12:10 PM Harrington Lecture—Correcting Scoliosis: The Genealogy of Ideas and Their Surgical Application
Dennis R. Wenger, MD
- 12:10 – 12:30 PM Presentation of the Lifetime Achievement Awards
*Behrooz A. Akbarnia, MD
Randal R. Betz, MD*

Networking Lunch

Open to all Half-Day Course Participants, Tickets Required

Room: Level 3 Foyer

12:30 – 1:30 PM

New Member & Prospective Member Lunch and Information Session

Open to all Half-Day Course Participants

Room: Symphony Ballroom

12:30 – 1:30 PM

Scientific Program

Half-Day Courses

(See pages 87-94)

1:30 – 4:30 PM

Making Spinal Deformity Surgery Sustainable

Room: Symphony Ballroom

Sagittal Alignment—Evaluation and Applications

Room: Minneapolis Ballroom

Spondy Smackdown! Head-to-Head Match-Ups on the Controversies in Pediatric Spondylolisthesis

Room: Marquette Ballroom

Friday, October 2, 2015

Session 3A: Hibbs Basic Research Award Nominees

Room: Minneapolis Ballroom

Session Times: 7:55 – 8:41 AM

Session Moderators: Stefan Parent, MD, PhD & Justin S. Smith, MD, PhD

7:55 – 8:00 AM

Welcome & Announcements

8:00 – 8:04 AM

30. Estrogen Receptor Gene Polymorphism in Patients with Degenerative Lumbar Scoliosis

Jung Sub Lee, MD, PhD; Jong Ki Shin, MD; Tae Sik Goh, MD

8:04 – 8:08 AM

31. Three-Year Dashboard Reporting and Performance Improvement Modules (PIMs) Significantly Improved Blood Loss and Operative Time in Adolescent Idiopathic Scoliosis

Ronald A. Lehman, MD; Harry L. Shufflebarger, MD; Michelle Claire Marks, PT, MA; John M. Flynn, MD; Lawrence G. Lenke, MD; Suken A. Shah, MD; Vidyadhar V. Upasani, MD; Peter O. Newton, MD

8:08 – 8:12 AM

32. Pedicle Screw Safety: How Much Anterior Breach Is Safe? A Cadaveric and CT-Based Study

Vishal Sarwahi, MD; Dan Wang, MS; Terry D. Amaral, MD; Beverly Thornhill; Rachel Claire Gecelter, BS; Monica Payares, MD; Ajay Lall, MD

8:12 – 8:20 AM

Discussion

8:21 – 8:25 AM

33. Retrieval Analysis of Traditional Distraction-Based Growing Rod Constructs for Early Onset Scoliosis

Genevieve Hill, PhD Candidate; Srinidhi Nagaraja, PhD; Behrooz A. Akbarnia, MD; Paul D. Sponseller, MD; Peter F. Sturm, MD; John B. Emans, MD; Jeff B. Pawelek; Growing Spine Study Group; Maureen Dreher, PhD

8:25 – 8:29 AM

34. Evaluation of Spinal Reconstruction Following Pedicle Subtraction Osteotomy: Effect of Four Rods and Interbody Support on Resulting Rod Strain

Dennis Hallager Nielsen, MD; Martin Gehrchen, MD, PhD; Benny T. Dahl, MD, PhD; Jonathan Andrew Harris, MS; Manasa Gudipally, MS; Sean Jenkins, BS; Ai-Min Wu, MD; Brandon Bucklen, PhD

8:29 – 8:33 AM

35. Normal Human Spine Growth and Prediction of Final Spine Height Developed from a Longitudinal Cohort of Children Followed Through Their Growth Until Completion

James O. Sanders, MD; Lauren Karbach, MD; Thomas Osinski, BS; Raymond Liu, MD; Xing Qiu, PhD; Daniel Cooperman, MD

8:33 – 8:41 AM

Discussion

Session 3B: Hibbs Clinical Research Award Nominees

Room: Minneapolis Ballroom

Session Times: 8:42 – 9:43 AM

Session Moderators: Oheneba Boachie-Adjei, MD & Ronald A. Lehman, Jr., MD

8:42 – 8:46 AM

36. Operative Management of Adult Spinal Deformity Results in Significant Increases in QALYs Gained Compared to Nonoperative Management: Analysis of 479 Patients with Minimum Two-Year Follow Up

Justin K. Scheer, BS; Richard Hostin, MD; Frank J. Schwab, MD; Chessie Robinson, MS; Virginie Lafage, PhD; Douglas C. Burton, MD; Robert A. Hart, MD; Michael P. Kelly, MD, MS; Malla Kate Keefe, BS; David W. Polly, Jr., MD; Shay Bess, MD; Christopher I. Shaffrey, MD; Justin S. Smith, MD, PhD; Christopher P. Ames, MD; International Spine Study Group

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- 8:46 – 8:50 AM 37. The Deformity Angular Ratio Describes the Severity of Spinal Deformity and Predicts the Risk of Neurologic Deficit in Posterior Vertebral Column Resection Surgery
Xiaobin Wang, MD; Lawrence G. Lenke, MD; Earl Thuet, BS, CNIM; Kathy M. Blanke; Linda Koester; Michael Roth, BS, CNIM
- 8:50 – 8:54 AM 38. Cervical Spine Disease Common After Pediatric Treatment of AIS at Mean 30-Year Follow Up
Ernest Y. Young, MD; Bradford Currier, MD; Michael J. Yaszemski; A. Noelle Larson, MD
- 8:54 – 9:02 AM Discussion
- 9:03 – 9:07 AM 39. Selective Thoracic Fusion for AIS: Long-Term Radiographic and Functional Outcomes
John E. Lonstein
- 9:07 – 9:11 AM 40. Evolution of Adolescent Idiopathic Scoliosis: Results of a 20-Year Follow-Up Study
Sébastien Pesenti; Benjamin Blondel, MD, PhD; Emilie Peltier, MD; Christian Morin, MD; Jérôme Sales de Gauzy, MD; Stéphane Wolff, MD; Antoine Chalopin, MD; Jean-Luc Jouve, MD
- 9:11 – 9:15 AM 41. Repeat Surgical Intervention Following Definitive Instrumentation and Fusion for Adolescent Idiopathic Scoliosis: A 25-Year Update
Megan E. Mignemi, MD; Brandon A. Ramo, MD; Dong-Phuong Tran, MS; B. Stephens Richards, MD
- 9:15 – 9:23 AM Discussion
- 9:24 – 9:28 AM 42. Influence of Wear Time on Outcome: Results from the Bracing in Adolescent Idiopathic Scoliosis Trial (BrAIST)
Lori Dolan, PhD; Stuart L. Weinstein, MD
- 9:28 – 9:32 AM 43. Long-Term Influence of Posterior Spinal Fusion on Distal Unfused Segments in Patients with Lenke Type 1 or 2 AIS
Ayato Nohara, MD; Noriaki Kawakami, MD; Taichi Tsuji, MD; Tetsuya Ohara, MD; Yoshitaka Suzuki, MD; Toshiki Saito, MD; Ryoji Tauchi, MD; Kazuki Kawakami, B.Kin.
- 9:32 – 9:36 AM 44. Multicenter, Randomized Placebo-Controlled Clinical Trial to Evaluate the Effect of Perioperative Use of Tranexamic Acid on Transfusion Requirements and Surgical Bleeding in Major Spine Surgery
Maria José Colomina, PhD; Juan Bago, MD, PhD; Frederic Font, PhD; Javier Pizones, MD, PhD; Salvador Fuster, MD, PhD; Ferran Pellisé, MD
- 9:36 – 9:43 AM Discussion

Break

Room: Level 3 Foyer

9:43 – 10:03 AM

Supported, in part, by a grant from Medtronic.

Sesesion 4: Spinal Osteotomies, PJK and Complications

Room: Minneapolis Ballroom

Session Times: 10:04 – 11:45AM

Session Moderators: Benny T. Dahl, MD, PhD, DMSci & Stephen J. Lewis, MD, MSc, FRCSC

- 10:04 – 10:08 AM 45. Outcomes and Complications of Posterior Vertebral Column Resection for Severe Rigid Deformity Correction: Comparison of Pediatric, Adolescent and Adult Groups
Jingming Xie; Yingsong Wang; Tao Li; Ying Zhang, PhD; Zhi Zhao; Ni Bi; Zhiyue Shi
- 10:08 – 10:12 AM 46. Reducing Rod Breakage and Nonunion in Pedicle Subtraction Osteotomy: The Importance of Rod Number and Configuration in 264 Patients with Two-Year Follow Up
Munish Chandra Gupta, MD; Jensen K. Henry, BA; Virginie Lafage, PhD; Frank J. Schwab, MD; Christopher P. Ames, MD; Eric O. Klineberg, MD; Justin S. Smith, MD, PhD; Vedat Deviren, MD; Christopher I. Shaffrey, MD; Robert A. Hart, MD; Richard Hostin, MD; Gregory M. Mundis, MD; Han Jo Kim, MD; Douglas C. Burton, MD; International Spine Study Group
- 10:12 – 10:16 AM 47. Clinical and Radiographic Outcomes After Posterior Vertebral Column Resection with Five-Year Follow Up
Todd M. Chapman, MD; Lawrence G. Lenke, MD; Daniel G. Kang, MD; Jamal McClendon, MD; Lionel Nicholas Metz, MD; Brenda A. Sides; Kathy M. Blanke, RN

Scientific Program

10:16 – 10:24 AM	Discussion
10:25 – 10:29 AM	48. Comparison of Single Level versus Multi-Level Vertebral Column Resection Surgery for Pediatric Patients with Severe Spinal Deformities <i>Chang Ju Hwang; Lawrence G. Lenke, MD; Brenda A. Sides; Kathy M. Blanke</i>
10:29 – 10:33 AM	49. Posterior Vertebral Column Resection in Pediatric Deformity: The Advantages of Staging <i>Firoz Miyanji, MD, FRCSC; Siddesh Doddabasappa, MS, MBBS; Sameer Desai, BS</i>
10:33 – 10:37 AM	50. Long-Term Experience with Simultaneous Prone Video-Assisted Thoracoscopic Anterior Spinal Release (VATSR) and Posterior Spinal Fusion (PSF) in Severe Rigid Pediatric Spinal Deformities <i>Chirag A Berry, MD; Viral V. Jain, MD; Alvin H Crawford, MD; Peter F. Sturm, MD</i>
10:37 – 10:46 AM	Discussion
10:47 – 10:51 AM	51. Acute Proximal Junctional Failure: A T10 UIV May Not Be as Safe as Thought <i>Nicholas Spina; Prokopis Annis, MD; Brandon Douglas Lawrence, MD; William Ryan Spiker, MD; Jonathan Belding, MD, MS; Michael D. Daubs, MD; Darrel S. Brodke, MD</i>
10:51 – 10:55 AM	52. Post-Surgical Predictors of Proximal Junctional Kyphosis in Adolescent Idiopathic Scoliosis <i>Benjamin Todd Bjerke, MD, MS; Rehan Saiyed, BS; Zoe Beatrice Cheung, BS, MS; Grant D. Shifflett, MD; Evan David Sheba, BS, MD; Matthew E. Cunningham</i>
10:55 – 10:59 AM	53. The Economic Impact of Revision Surgery for Proximal Junctional Failure After Adult Spinal Deformity Surgery: A Cost Analysis of 70 Operations in 10 Years at a Major Deformity Center <i>Alexander Theologis; Matt Callahan, BS, MS; Darryl Lau, MD; Corinna Zygourakis, BS, MD; Justin K. Scheer, BS; Shane Burch, MD; Murat Pekmezci, MD; Dean Chou, MD; Bobby Tay, MD; Praveen V. Mumaneni, MD; Sigurd H. Berven, MD; Vedat Deviren, MD; Christopher P. Ames, MD</i>
10:59 – 11:08 AM	Discussion
11:09 – 11:12 AM	2016 IMAST Preview <i>Ronald A. Lehman, Jr., MD</i>
11:12 – 11:15 AM	2016 Annual Meeting Preview <i>Martin Repko, MD, PhD</i>
11:15 – 11:18 AM	Worldwide Course Preview <i>Marinus de Kleuver, MD, PhD</i>
11:18 – 11:25 AM	Introduction of the President <i>David W. Polly, Jr., MD</i> <i>President-Elect</i>
11:25 – 11:45 AM	Presidential Address <i>John Dormans, MD</i>

Lunch Break

Lunch Available in Level 3 Foyer and Level 2 Foyer

11:45 AM – 12:00 PM

Lunchtime Symposia

See pages 57-94

12:00 – 1:00 PM

50-Year Evolution of the Treatment of Early Onset Scoliosis

Room: Minneapolis Ballroom

Research Grant Outcomes

Room: Symphony Ballroom

3D Management of Adolescent Idiopathic Scoliosis

Room: Marquette Ballroom

1:00 – 1:15 PM

Walking Break

Scientific Program

Session 5: Tumor, Basic Research and Miscellaneous (*Runs Concurrently with Session 6*)

Room: Minneapolis Ballroom

Session Times: 1:15 – 3:04 PM

Session Moderators: Lawrence L. Haber, MD & Hee-Kit Wong, MD

- 1:15 – 1:19 PM **54. Prognostic Significance of T Gene SNP Rs2305089 in Individuals with Spinal Column Chordoma**
Peter Pal Varga, MD; Ziya L. Gokaslan, MD; Charles Fisher, BS, MD, FRCSC, MHSc; Stefano Boriani, MD; Wei-Lien Wang, MD; Aron Lazary, PhD; Niccole Germscheid, MS; Chetan Bettegowda, MD, PhD; Stephen Yip, MD, PhD; Laurence D. Rhines, MD
- 1:19 – 1:23 PM **55. Blood Loss in Spinal Tumour Surgery: Evaluation of Influencing Factors**
Naresh Kumar; Aye Sandar Zaw, MBBS, MPH
- 1:23 – 1:27 PM **56. A Modification of the Tokuehashi Revised Score Improves Prognostic Ability in Patients with Metastatic Spinal Cord Compression.**
Soren Schmidt Morgen, MD, PhD; Martin Gehrchen, MD, PhD; Sebastian Bjørck, MD; Claus Falck Larsen, MD; Benny T. Dahl, MD, PhD; Sudsel Fruergaard
- 1:27 – 1:36 PM **Discussion**
- 1:37 – 1:41 PM **57. Deep Surgical Site Infection (SSI) Following Pediatric Cervical Spine Surgery**
Daniel J. Hedequist; John B. Emans, MD; Michael T. Hresko, MD; Michael P. Glotzbecker, MD
- 1:41 – 1:45 PM **58. The Local Application of Vancomycin in Spine Surgery Does Not Result in Increased Vancomycin Resistant Bacteria**
Frank Valone; Serena S. Hu, MD
- 1:45 – 1:49 PM **59. Risk Factors of Surgical Site Infection in Degenerative Lumbar Scoliosis: Detection and Management Based on Serial Procalcitonin Measurements: An Open-Label Randomised Trial**
En Xie; Dingjun Hao, MD, PhD
- 1:49 – 1:58 PM **Discussion**
- 1:59 – 2:03 PM **60. The Effect of Posterior Tethers on the Biomechanics of Proximal Junctional Kyphosis: A Finite Element Analysis**
Jeffrey E. Harris; Shay Bess, MD; Frank J. Schwab, MD; Christopher I. Shaffrey, MD; Regis W. Haid, MD; Justin S. Smith, MD, PhD; Virginia Lafage, PhD; Alexander William Turner, PhD
- 2:03 – 2:07 PM **61. Characterization of the Adherence Patterns and Biofilm Density of Commonly Encountered Bacterial Pathogens to Spinal Instrumentation of Differing Compositions**
Dioscaris Garcia; Alan H Daniels, MD; Alexandra M. Zega; David G. Deckey; Ayano Kondo, BS; John D. Jarrell, PhD; Craig P. Ebersson, MD; Andrew Green, MD; Roman Hayda, MD; Christopher T Born, MD
- 2:07 – 2:11 PM **62. Exome Sequencing Reveals New Variants of POC5 Gene in Adolescent Idiopathic Scoliosis in French Canadian Families**
Florina Moldovan, MD, PhD; Shunmoogum Patten; Julie Couillard, PhD; Soraya Barchi, BS; Julie Joncas, BS, RN; Stefan Parent, MD, PhD
- 2:11 – 2:20 PM **Discussion**
- 2:21 – 2:25 PM **63. A New Porcine Experimental Model of Severe Progressive Thoracic Scoliosis Induced by Interpedicular Bent Rigid Temporary Tethering: A Pilot Study**
Carlos Barrios; Borja Maruenda, MD; Juan Alonso, MD; Jesus Burgos Flores; Rafael Llombart, MD; Luis Gil-Santos, MD; José M Lloris, MD; Viviana Bisbal, DVM
- 2:25 – 2:29 PM **64. Hemostasis and Safety of a Novel Fibrin Dressing versus Standard Gauze in Bleeding Cancellous Bone in a Caprine Spine Surgery Model**
Charles Timothy Floyd, MD
- 2:29 – 2:33 PM **65. Investigation of a DNA-Based Prognostic Test Revealing New Predisposition Genes for Adolescent Idiopathic Scoliosis**
Lei-lei Xu, MD; Saihu Mao, MD; Jun Qiao, MD; Bangping Qian, MD; Ze-zhang ZHU, MD; Yong Qiu, MD
- 2:33 – 2:42 PM **Discussion**

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- 2:43 – 2:47 PM 66. Comparison of Two Segment Combined Spinal Fusion Versus Three Segment Posterior Spinal Fusion in Thoracolumbar Burst Fractures: A Randomized Clinical Trial with 10- Years Follow Up
Cihangir Islam; Gurkan Gumussuyu, MD; Ozkan Kose; Mutlu Gungor, MD
- 2:47 – 2:51 PM 67. The Effect of Smoking Cessation on Short-Term Morbidity Risk in Lumbar Spine Surgery
Christopher T. Martin, MD; Yubo Gao, PhD; Kyle R. Duchman, MD; Andrew J. Pugely, MD
- 2:51 – 2:55 PM 68. Atlantoaxial Rotatory Fixed Dislocation: Report on a Series of 32 Pediatric Cases
Peter G. Passias; Shenglin Wang, MD; Nancy Worley, MS; Cyrus Jalai, BA; Chao Wang, MD
- 2:55 – 3:04 PM Discussion

Session 6: Early Onset, Congenital and Neuromuscular (Runs Concurrently with Session 5)

Room: Marquette Ballroom

Session Times: 1:15 – 3:04 PM

Session Moderators: Suken A. Shah, MD & Daniel J. Sucato, MD, MS

- 1:15 – 1:19 PM 69. Utilizing the “Stable to Be Vertebra” Saves Motion Segments in Growing Rods Treatment for Early Onset Scoliosis
Ozgur Dede; Gokhan Halil Demirkiran, MD; Senol Bekmez, MD; Peter F. Sturm, MD; Muharrem Yazici, MD
- 1:19 – 1:23 PM 70. Changing Trends in Pediatric Spine Surgery in the United States: 1997-2012
Jeffrey R. Sawyer, MD; Lawson Copley, MD; Derek M. Kelly, MD; William C. Warner, MD
- 1:23 – 1:27 PM 71. Mortality and Causes of Death in Patients Requiring Rib-Based Distraction Surgery
John T. Smith, MD; John A Heflin, MD; Michael G. Vitale, MD, MPH; Amer F. Samdani, MD; Jessica V Morgan, BS
- 1:27 – 1:36 PM Discussion
- 1:37 – 1:41 PM 72. Magnetically-Controlled Growing Rod Achieves Estimated Cost Savings Compared to Traditional Growth Rods Over Five Years
Alvin W. Su, MD, PhD; Todd Milbrandt; A. Noelle Larson
- 1:41 – 1:45 PM 73. Growth Guidance Growing Rods at Less Than Five Years: Curve and Implant Characteristics
Richard E. McCarthy, MD; John Wilkinson, MD; Chad Songy, MD; Frances McCullough, RN
- 1:45 – 1:49 PM 74. Magnetically-Controlled Growing Rods: Does the Law of Diminishing Returns Apply?
Jason Pui Yin Cheung, MBBS, MMedSc, FRCS; Cora Hingyee Bow; Dino Samartzis, PhD; Kenny Kwan, BM BCh; Kenneth M.C. Cheung, MD
- 1:49 – 1:58 PM Discussion
- 1:59 – 2:03 PM 75. Middle-Aged Patients with Idiopathic Scoliosis with Onset Before Age 10 Years Who Have Reduced Pulmonary Function: Are They at Risk for Rapid Decline?
Aina J. Danielsson, MD, PhD; Kerstin Birgitta Löfdahl Hällerman, MD, PhD
- 2:03 – 2:07 PM 76. Pulmonary Function in Children with Congenital Scoliosis and Rib Deformities: A Retrospective Study of 203 Patients
Jun Cao, MD; Nanfang Xu, MD; David Price Roye, MD; Lin Sun, MD; Xuejun Zhang, MD
- 2:07 – 2:11 PM 77. Posterior Spinal Fusion with Ponte Osteotomies for Complex Congenital Scoliosis: A Single Institution's Experience
Jahangir K. Asghar; Harry L. Shufflebarger, MD
- 2:11 – 2:20 PM Discussion
- 2:21 – 2:25 PM 78. Safety and Efficacy of One-Stage Spinal Osteotomy for Severe and Rigid Congenital Scoliosis Associated with Split Spinal Cord Malformation
Hui-Ren Tao, MD, PhD; Michael S. Chang, MD
- 2:25 – 2:29 PM 79. Local Epiphyseal Growth Modulation for the Early Treatment of Adolescent Idiopathic Scoliosis: Experimental Validation Using a Porcine Model
Bahe Hachem, BS; Stefan Parent, MD, PhD; Carl-Eric Aubin, PhD, P.Eng.

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- 2:29 – 2:33 PM **80. Factors Predicting Postoperative Complications Following Spinal Fusions in Children with Cerebral Palsy Scoliosis**
Julianne Patricia Sees, MD; Freeman Miller, MD; Kenneth Rogers, PhD; Kirk Dabney, MD; Tristan Nishnianidze, MD, PhD; Ilhan Bayhan, MD; Oussama Abousamra, MD
- 2:33 – 2:42 PM **Discussion**
- 2:43 – 2:47 PM **81. National Trends in the Surgical Management of Duchenne Muscular Dystrophy: 2001 to 2012**
Addisu Mesfin, MD; Caroline P. Thirukumanan, MBBS, MHA; Brandon Raudenbush, DO; James O. Sanders, MD; Paul T. Rubery, MD
- 2:47 – 2:51 PM **82. Neuromotor Sub-Classification of GMFCS -5 Predicts Complications and HRQoL in Patients with Cerebral Palsy After Spine Fusion**
Amit Jain, MD; Paul D. Sponseller, MD; Patrick J. Cahill, MD; Burt Yaszay, MD; Amer F. Samdani, MD; Dolores Njoku, MD; Mark F. Abel, MD; Joshua M. Pahys, MD; Randal R. Betz, MD; Suken A. Shah, MD; Peter O. Newton, MD; Michelle Claire Marks, PT, MA
- 2:51 – 2:55 PM **83. Sacral Alar Iliac (SAI) Screws Fail 75 Percent Less Frequently Than Iliac Bolts in Neuromuscular Scoliosis**
Lior Shabtai, MD; Lindsay M. Andras, MD; Mark Portman, BS; David L. Skaggs, MD, MMM
- 2:55 – 3:04 PM **Discussion**
- 3:05 – 3:15 PM **Walking Break**

Session 7: Adult Deformity

Room: Minneapolis Ballroom

Session Times: 3:15 – 5:03PM

Session Moderators: Serena S. Hu, MD & Mark Weidenbaum, MD

- 3:15 – 3:19 PM **84. The Effects of Adult Spinal Deformity Surgery on Total Hip Arthroplasty Acetabular Component Position**
Altug Yucekul, MD; Jeff Barry, MD; Alexander Theologis, MD; Gokhan Halil Demirkan, MD; Murat Sakir Eksi, MD; Jun Mizutani, MD, PhD; Munat Pekmezci, MD; Christopher P. Ames, MD; Vedat Deviren, MD; UCSF Spine Center
- 3:19 – 3:23 PM **85. Correlation Between Lumbopelvic and Sagittal Parameters and Health-Related Quality of Life in Adults with Lumbosacral Spondylolisthesis.**
Yazeed M. Gussous, MD; Alexander Theologis, MD; Joshua Brian Demb, BS, MPH; Sigurd H. Berven, MD
- 3:23 – 3:27 PM **86. Site Variability in Surgical Technique and Outcomes in Adult Spinal Deformity**
Thomas Cheriyan, MD; Frank J. Schwab, MD; Khaled M. Kebaish, MD; Munish Chandra Gupta, MD; Christopher P. Ames, MD; Christopher I. Shaffrey, MD; Elizabeth M. Tanzi, BS, MS; Michael P. Kelly, MD, MS; Justin S. Smith, MD, PhD; Shay Bess, MD; Robert A. Hart, MD; Richard Hostin, MD; Thomas J. Errico, MD; Virginie Lafage, PhD; International Spine Study Group
- 3:27 – 3:36 PM **Discussion**
- 3:37 – 3:41 PM **87. Posterior Column Reconstruction Improves Fusion Rates at the Level of the Osteotomy in Three Column Posterior Based Osteotomies**
Stephen J. Lewis, MD, FRCSC, MS; Sofia P. Magana, BS; Chandan Mohanty, MD
- 3:41 – 3:45 PM **88. Teriparatide versus Bisphosphonates Following Surgery for Adult Spinal Deformity in Patients with Osteoporosis**
Shoji Seki, MD, PhD; Yoshiharu Kawaguchi, MD, PhD; Takatoshi Yasuda, MD, PhD; Kayo Suzuki, MD, PhD; Hiroto Makino, MD; Tomoatsu Kimura, MD, PhD
- 3:45 – 3:49 PM **89. Do All Adult Spinal Deformity Patients with Probable Pseudarthrosis at a Minimum Five-Year Follow Up Need Revision Surgery?**
Yong-Chan Kim, PhD; Lawrence G. Lenke, MD; Michael P. Kelly, MD, MS; Keith H. Bridwell, MD; Ki-Han You, MD; Sirichai Wilarttratsami, MD; Linda Koester; Kathy M. Blanke
- 3:49 – 3:58 PM **Discussion**

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- 3:59 – 4:03 PM **90. Regional Thoracic and Lumbar Sagittal Cobb Angle Changes and UIV Determine Evolution of Cervical Alignment After ASD Surgery: Series of 171 Patients with Two-Year Follow Up**
Brian James Neuman, MD; Amit Jain, MD; Daniel M. Sciubba, MD; Eric O. Klineberg, MD; Han Jo Kim, MD; Lukas P. Zebala, MD; Gregory M. Mundis, MD; Virginie Lafage, PhD; Peter G. Passias, MD; Renaud Lafage, MS; Themistocles S. Protopsaltis, MD; D.Kojo Hamilton, MD; Justin K. Scheer, BS; Christopher P. Ames, MD; International Spine Study Group
- 4:03 – 4:07 PM **91. Ratio of Disability to Deformity Burden in 264 Adult Spinal Deformity Patients with Two-Year Follow-Up: Novel Insight Into Drivers of Disability**
Justin K. Scheer, BS; Jeffrey L. Gum, MD; Michael P. Kelly, MD, MS; Frank J. Schwab, MD; Richard Hostin, MD; Virginie Lafage, PhD; Shay Bess, MD; Themistocles S. Protopsaltis, MD; Douglas C. Burton, MD; Munish Chandra Gupta, MD; Robert A. Hart, MD; Gregory M. Mundis, MD; Justin S. Smith, MD, PhD; Christopher P. Ames, MD; International Spine Study Group
- 4:07 – 4:11 PM **92. The Effect of Fusion Level on the Radiologic and Functional Outcomes in the Surgical Treatment of Adult Deformity in Patients Older Than 65 Years Old.**
Sinan Yilar, MD; Erden Erturer, MD; Meric Enercan, MD; Bahadir Gokcen, MD; Sinan Kabraman, MD; Mutlu Cobanoglu, MD; Amjad Alnashdan, MD; Tunay Sanli, MA; Mercan Sarier, MD; Cagatay Ozturk, MD; Azmi Hamzaoglu, MD
- 4:11 – 4:20 PM **Discussion**
- 4:21 – 4:25 PM **93. Proximal Junctional Angle Predicts Need for Revision but Not Deterioration in Sagittal Radiographic Parameters after Adult Spinal Deformity Surgery**
Tamir Ailon, MD, FRCSC, MPH; Justin K. Scheer, BS; Christopher P. Ames, MD; Robert A. Hart, MD; Eric O. Klineberg, MD; Virginie Lafage, PhD; Shay Bess, MD; Douglas C. Burton, MD; Munish Chandra Gupta, MD; Themistocles S. Protopsaltis, MD; Richard Hostin, MD; Frank J. Schwab, MD; Justin S. Smith, MD, PhD; Christopher I. Shaffrey, MD; International Spine Study Group
- 4:25 – 4:29 PM **94. Does the Preoperative SRS Mental Health Domain Predict Clinical Outcomes in Adult Spinal Deformity Surgery?**
Xiaobin Wang, MD; Lawrence G. Lenke, MD; Keith H. Bridwell, MD; Jacob M. Buchowski; Linda Koester; Kathy M. Blanke
- 4:29 – 4:33 PM **95. When Does Compensation for Lumbar Stenosis Become a Deformity?**
Aaron James Buckland, MBBS, FRACS; Shaleen Vira, MD; Jonathan H. Oren, MD; Renaud Lafage, MS; Bradley Yates Harris, JD; Matthew Adam Spiegel, BS; Bassel G. Diebo, MD; Barthelemy Liabaud, MD; Themistocles S. Protopsaltis, MD; Frank J. Schwab, MD; Virginie Lafage, PhD; Thomas J. Errico, MD; John A. Bendo, MD
- 4:33 – 4:41 PM **Discussion**
- 4:42 – 4:46 PM **96. Development of New Onset Cervical Deformity in Non-Operative ASD Patients with Three-Year Follow Up**
Peter G. Passias, MD; Cyrus Jalai, BA; Nancy Worley, MS; Justin K. Scheer, BS; Alex Soroceanu, MD, MPH FRCSC; Themistocles S. Protopsaltis, MD; Eric O. Klineberg, MD; Daniel M. Sciubba, MD; Brian James Neuman, MD; Han Jo Kim, MD; D.Kojo Hamilton, MD; Justin S. Smith, MD, PhD; Virginie Lafage, PhD; Christopher P. Ames, MD; International Spine Study Group
- 4:46– 4:50 PM **97. Cervical Kyphosis Does Not Imply Cervical Deformity: Predicting Cervical Curvature Required for Horizontal Gaze Based on Spinal Global Alignment and Thoracic Kyphosis**
Bassel G. Diebo, MD; Jonathan H. Oren, MD; Matthew Adam Spiegel, BS; Shaleen Vira, MD; Elizabeth M Tanzi, BS, MS; Barthelemy Liabaud, MD; Renaud Lafage, MS; Jensen K Henry, BA; Themistocles S. Protopsaltis, MD; Thomas J. Errico, MD; Frank J. Schwab, MD; Virginie Lafage, PhD
- 4:50 – 4:54 PM **98. Is the C7 Sagittal Vertical Axis (SVA) the Best Radiographic Measure to Predict Clinical Outcomes in Adult Spinal Deformity?**
Yong-Chan Kim, PhD; Lawrence G. Lenke, MD; Jeffrey L. Gum, MD; Ho-Guen Chang; Cheol-Jung Yang; Sirichai Wilartatsami, MD; Linda Koester; Kathy M. Blanke
- 4:54 – 5:03 PM **Discussion**

Scientific Program

Saturday, October 3, 2015

Session 8: Bracing, Circulation and Sagittal Plane Abnormalities

Room: Minneapolis Ballroom

Session Times: 7:55 – 9:56 AM

Session Moderators: Jahangir K. Asghar, MD & Jean-Marc Mac-Thiong, MD, PhD

- 7:55 – 8:00 AM **Welcome & Announcements**
- 8:00 – 8:04 AM **99. The Effectiveness of the SpineCor Brace for the Conservative Treatment of AIS: Comparison with the Boston Brace**
Gabriel Gurman, MD; Mathieu Benoit; Julie Joncas, BS, RN; Marie Beauséjour, PhD; Hubert Labelle, MD; Soraya Barchi, BS; Stefan Parent, MD, PhD; Jean-Marc Mac-Thiong
- 8:04 – 8:08 AM **100. Results of Bracing for Juvenile Idiopathic Scoliosis (JIS)**
Nanjundappa S. Harshavardhana; John E. Lonstein, MD
- 8:08 – 8:12 AM **101. Scoliosis School Screening: Analysis of the Cincinnati Metropolitan Statistical Area**
Charles T. Mehlman; Alexandria J. Greenler, BS; Kaitlyn Brennan, MPH; Progga Das, MPH
- 8:12 – 8:21 AM **Discussion**
- 8:22 – 8:26 AM **102. New Imaging Protocol Allows a 50-Fold Reduction in Radiation Exposure for Scoliosis Patients**
Peter O. Newton, MD; Yash Khandwala, BS; Carrie E. Bartley, MA; Fredrick G. Reighard, MPH; Tracey Bastrom, BS, MS; Burt Yaszay, MD
- 8:26 – 8:30 AM **103. Cardiopulmonary Exercise Testing in Scoliosis Patients**
Jianxiong Shen; Jinmei Luo; Youxi Lin; Ning Tang; Zheng Li, MD
- 8:30 – 8:34 AM **104. Anterior Vertebral Body Tethering for Immature Idiopathic Scoliosis: Results of Patients Reaching Skeletal Maturity**
Amer F. Samdani; Robert J. Ames, MD; Joshua M. Pahys, MD; Jeff S. Kimball; Harsh Grewal, MD; Glenn J. Pelletier, MD; Randal R. Betz, MD
- 8:34 – 8:42 AM **Discussion**
- 8:43 – 8:47 AM **105. Prevalence and Factors Affecting Cervical Deformity in Adolescent Idiopathic Scoliosis Patients**
Xiaobang Hu; Isador H. Lieberman, MD, MBA FRCSC
- 8:47 – 8:51 AM **106. Long-Term Results of Selective Anterior Thoracolumbar/lumbar Fusion for Adolescent Idiopathic Scoliosis More Than Seven-Years Follow Up in a Single Center**
Zhang Jianguo
- 8:51 – 8:55 AM **107. Results of AIS Surgery at a Minimum of 10 Years Using Modern Implant Systems: Are Patients Troubled by Symptoms and a High Reoperation Rate?**
Daniel J. Sucato, MD, MS; Kaitlyn Elizabeth Brown, BS; Anna M. McClung, RN, BSN
- 8:55 – 9:04 AM **Discussion**
- 9:05 – 9:09 AM **108. How Does Patient Radiation Exposure Compare for Low Dose CT-Guided Navigation versus Fluoroscopy for Pedicle Screw Placement in Idiopathic Scoliosis?**
Alvin W. Su, MD, PhD; Amy L. McIntosh, MD; Karl E. Rathjen, MD; Beth Schueler, PhD; Anthony A. Stans, MD; A. Noelle Larson
- 9:09 – 9:13 AM **109. Age-Related Shape Characterization of the Pediatric Thoracic Spine Using Generalized Procrustes Analysis**
James Peters, BS; Evan Bisirri; Robert M. Campbell, MD; Sriram Balasubramanian, BS, PhD, MS
- 9:13 – 9:17 AM **110. Comparison of Scheuermann's Kyphosis Correction by Combined Anterior-Posterior Fusion Versus Posterior-Only Procedure**
Mohammadreza Etemadifar, MD; Abdolali Hadi, MD
- 9:17 – 9:21 AM **111. Rib Penetration in Children with Neurofibromatosis and Scoliosis**
Scott Patrick Kaiser, MD; Sunitha Kaiser, MD; Patricia Parkin, MD, FRCSC; Reinhard D. Zeller
- 9:21 – 9:30 AM **Discussion**

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- 9:31 – 9:35 AM **112. Prospective FDA IDE Clinical Safety Trial of a Scoliosis Growth Modulation Clip/Screw Device: Two-Year Results**
Eric J. Wall, MD; Joseph E. Reynolds, BS, MBA; Viral V. Jain, MD; Donita I. Bylski-Austrow; George H. Thompson, MD; Paul Samuels, MD; Sean Jeffrey Barnett, BS, MD, MS; Alvin H Crawford, MD
- 9:35 – 9:39 AM **113. Unique Device Specific Complications (DSC) of Magnet Driven Growing Rods (MdGR) Used for Early-Onset Scoliosis (EOS) and Lessons Learnt from World's First Three MdGR Graduates**
Nanjundappa S. Harshavardhana; Amr Fahmy, BS, MD, MSc; Hilali H. Noordeen
- 9:39 – 9:43 AM **114. Is Implant Material Related to Late Postoperative Infection in AIS?**
Scott Jacob Schoenleber, MD; Paul D. Sponseller, MD; Harry L. Shufflebarger, MD; Baron S. Lonner, MD; Geraldine Neiss, PhD; Petya Yorgova, MS; Tracey Bastrom, BS, MS; Suken A. Shah, MD
- 9:43 – 9:47 AM **115. A Randomized Double-Blinded Clinical Trial to Evaluate the Safety and Efficacy of Super-Elastic Memory Alloy Spinal Rod Versus a Standard Titanium Spinal Rod in Patients with Adolescent Idiopathic Scoliosis: Five-Year Follow Up**
Jason Pui Yin Cheung, MBBS, MMedSc, FRCS; Kelvin Yeung; Dino Samartzis, PhD; Michael To; Kenny Kwan, BM BCh; Keith D K Luk, MD; Kenneth M.C. Cheung, MD
- 9:47 – 9:59 AM **Discussion**

Transfer of Presidency

10:00 – 10:10 AM

John Dormans, MD & David W. Polly, Jr. MD

Awards Presentations

10:10 – 10:25 AM

Russell A. Hibbs Awards

Louis A. Goldstein Award

John H. Moe Award

Ronald A. Lehman, Jr., MD, Program Committee Chair

Break

10:25 – 10:50 AM

Room: Level 3 Foyer

Session 9: Kyphosis, Sagittal Plane, Spondy and Cost

Room: Minneapolis Ballroom

Session Times: 10:50 AM – 12:45 PM

Session Moderators: John R. Dimar, II, MD & Christopher I. Shaffrey, MD

- 10:50 – 10:54 AM **116. Prospective Multicenter Assessment of Intraoperative and Perioperative Complication Rates Associated with Adult Spinal Deformity (ASD) Surgery in 558 Patients**
Eric O. Klineberg, MD; Justin S. Smith, MD, PhD; Virginie Lafage, PhD; Christopher I. Shaffrey, MD; Shay Bess, MD; Frank J. Schwab, MD; Munish Chandra Gupta, MD; Robert A. Hart, MD; Themistocles S. Protosaltis, MD; Gregory M. Mundis, MD; Han Jo Kim, MD; Douglas C. Burton, MD; Justin K. Scheer, BS; Christopher P. Ames, MD; International Spine Study Group
- 10:54 – 10:58 AM **117. Reciprocal Changes in Sagittal Alignment with Operative Treatment of Adolescent Scheuermann's Kyphosis: Prospective Evaluation of 96 Patients**
Baron S. Lonner; Yuan Ren, PhD; Suken A. Shah, MD; Paul D. Sponseller, MD; Burt Yaszay, MD; Amer F. Samdani, MD; Patrick J. Cahill, MD; Joshua M. Pahys, MD; Stefan Parent, MD, PhD; Harry L. Shufflebarger, MD; Peter O. Newton, MD
- 10:58 – 11:02 AM **118. Sagittal Alignment of the Cervical Spine Following Correction of Scheuermann's Kyphosis**
Luigi Aurelio Nasto, MD; A.B. Perez Romera, MD; Saggah Tarek Shalabi, BS; Hossein Mehdian, MD

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- 11:02 – 11:11 AM **Discussion**
- 11:12 – 11:16 AM **119. Insitu Fusion and Reduction Achieve Identical Improvement in Sagittal Parameters with L5 as the New Sacrum: A Comparative Study in 26 Cases of High-Grade Spondylolisthesis**
S. Rajasekaran, PhD, MS; Gurudip Das, MS; T. Arief Dian, MD; Ajoy Prasad Shetty, MS; Rishi Kanna, MS
- 11:16 – 11:20 AM **120. High-Grade Lumbosacral Spondylolisthesis in Children and Adolescent: Long-Term Clinical and Radiological Results of a Non-Instrumented Circumferential Fusion Technique**
Alexandra Alves; Thierry A. Odent, MD, PhD; Lotfi Miladi, MD; Christophe Glorion, MD, PhD
- 11:20 – 11:24 AM **121. Utility of Flexion-Extension Radiographs in Lumbar Spondylolisthesis: A Prospective Cohort Study with Consecutive Cases**
Kirkham B. Wood
- 11:24 – 11:33 AM **Discussion**
- 11:34 – 11:38 AM **122. Development of Validated Computer Based Preoperative Predictive Model for Proximal Junction Failure (PJF) or Clinically Significant PJK with 86 Percent Accuracy Based on 510 ASD Patients with Two-Year Follow Up**
Justin K. Scheer, BS; Justin S. Smith, MD, PhD; Frank J. Schwab, MD; Virginie Lafage, PhD; Robert A. Hart, MD; Shay Bess, MD; Breton Line, BS; Bassel G. Diebo, MD; Themistocles S. Protopsaltis, MD; Amit Jain, MD; Tamir Ailon, MD, FRCSC, MPH; Douglas C. Burton, MD; Eric O. Klineberg, MD; Christopher P. Ames, MD; International Spine Study Group
- 11:38 – 11:42 AM **123. Global Sagittal Angle (GSA): A Step Toward Full Body Assessment for Spinal Deformity**
Bassel G. Diebo, MD; Jonathan H. Oren, MD; Shaleen Vira, MD; Matthew Adam Spiegel, BS; Bradley Yates Harris, JD; Renaud Lafage, MS; Barthelémy Liabaud, MD; Jensen K. Henry, BA; Themistocles S. Protopsaltis, MD; Thomas J. Errico, MD; Frank J. Schwab, MD; Virginie Lafage, PhD
- 11:42 – 11:46 AM **124. Minimum Detectable Change (MDC) for Health-Related Quality of Life (HRQL) Measures Varies According Age and Disability in Adult Spinal Deformity (ASD): Implications for Calculating Minimal Clinically Important Difference (MCID)**
Michael P. Kelly, MD, MS; Shay Bess, MD; Christopher P. Ames, MD; Douglas C. Burton, MD; Leah Yacat Carreon, MD, MS; David W. Polly, Jr., MD; Richard Hostin, MD; Amit Jain, MD; Jeffrey L. Gum, MD; Virginie Lafage, PhD; Frank J. Schwab, MD; Christopher I. Shaffrey, MD; Justin S. Smith, MD, PhD; Han Jo Kim, MD; International Spine Study Group
- 11:46 – 11:55 AM **Discussion**
- 11:56 AM – 12:00 PM **125. Influence of Gender on Outcomes After Deformity Spine Surgery**
Parth A. Kothari, BS; Jeremy Steinberger, MD; John I. Shin, BS; Nathan J. Lee, BS; Javier Guzman, BS; Branko Skovrlj, MD; Dante M Leven, DO; John M. Caridi, MD; Samuel K. Cho, MD
- 12:00 – 12:04 PM **126. Impact of Cost Valuation on Cost Effectiveness in Adult Spine Deformity Surgery**
Jeffrey L. Gum, MD; Richard Hostin, MD; Chessie Robinson, MS; Michael P. Kelly, MD, MS; Leah Yacat Carreon, MD, MS; David W. Polly, Jr., MD; Shay Bess, MD; Douglas C. Burton, MD; Christopher I. Shaffrey, MD; Justin S. Smith, MD, PhD; Virginie Lafage, PhD; Frank J. Schwab, MD; Christopher P. Ames, MD; Steven D. Glassman, MD; International Spine Study Group
- 12:04 – 12:08 PM **127. An Analysis of the Seattle Spine Team Approach for Adult Spinal Deformity from a Health Services and Payor Perspective: Significant Reduction of Post Surgical Harms Leading to Readmission Achieved Within the First 30 Days**
Rajiv K. Sethi, MD; Jean-Christophe A. Leveque, MD; Theodore A. Wagner, MD; Karen Wernli, PhD
- 12:08 – 12:17 AM **Discussion**
- 12:18 – 12:22 PM **128. Cell Saver for Adult Spinal Deformity Surgery Minimizes Cost**
Jeffrey L. Gum, MD; Leah Yacat Carreon, MD, MS; Michael P. Kelly, MD, MS; Richard Hostin, MD; Chessie Robinson, MS; Douglas C. Burton, MD; David W. Polly, Jr., MD; Christopher I. Shaffrey, MD; Virginie Lafage, PhD; Frank J. Schwab, MD; Christopher P. Ames, MD; Han Jo Kim, MD; Justin S. Smith, MD, PhD; Shay Bess, MD; International Spine Study Group

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- 12:22 – 12:26 PM **129. Baseline Patient Reported Outcomes Do Not Correlate with Radiographic Parameters: A Multi-Center, Prospective NIH Adult Spinal Deformity Study of 286 Patients**
Todd M. Chapman, MD; Lukas P. Zebala, MD; Christine R. Baldus; Michael P. Kelly, MD, MS; Daniel G. Kang, MD; Jamal McClendon, MD; Lionel Nicholas Metz, MD; Christopher I. Shaffrey, MD; Frank J. Schwab, MD; Lawrence G. Lenke, MD; Jacob M. Buchowski; Oheneba Boachie-Adjei, MD, DSc; Steven D. Glassman, MD; Keith H. Bridwell, MD
- 12:26 – 12:30 PM **130. What Is the Most Expensive Cause for Readmission Following Adult Spinal Deformity Surgery?**
Richard Hostin, MD; Chessie Robinson, MS; Jeffrey L. Gum, MD; Michael P. Kelly, MD, MS; David W. Polly, Jr., MD; Shay Bess, MD; Christopher P. Ames, MD; Douglas C. Burton, MD; Munish Chandra Gupta, MD; Frank J. Schwab, MD; Justin S. Smith, MD, PhD; Michael F. O'Brien, MD; International Spine Study Group
- 12:30 – 12:34 PM **131. Radiographic Variability Among Scheuermann's Kyphosis Patients: Appreciating the Individual Differences of the Deformity**
David B. Bumpass, MD; Lawrence G. Lenke, MD; Michael P. Kelly, MD, MS; Kathy M. Blanke, RN; Randal R. Betz, MD; David H. Clements, MD; Hubert Labelle, MD; Ronald A. Lehman, MD; Baron S. Lonner, MD; Scott John Luhmann, MD; Peter O. Newton, MD; Joshua M. Pahys, MD; Stefan Parent, MD, PhD; Amer F. Samdani, MD; Suken A. Shah, MD; Paul D. Sponseller, MD; Daniel J. Sucato, MD, MS
- 12:34 – 12:45 PM **Discussion**
- 12:45 PM **Adjourn**