

At the Pediatric Spine Foundation Our Heroes are Standing



While 2020 had its share of challenges, uncertainty, and change, there were many moments of simple greatness to be celebrated. In these moments, the heroic spirit of our patients, our staff, and our clinicians shone through.

Following last year's merger of two study groups, our researchers were well positioned to answer the hardest questions about the growing spine. While our in-person collaboration was limited, Research Interest Groups continued to Zoom regularly,



developing a record number of research projects to pursue. In the educational arena, the annual International Congress of Early Onset Education (ICEOS) was held virtually, with many of our Pediatric Spine members receiving honors and awards!

Lastly, we are also excited to announce our new name - the Pediatric Spine Foundation. While the name is a small change, it reflects a momentous milestone for us. With over 153 participating clinicians at 72 sites around the world, our registry has grown to almost 9,000 patients. We are proud to be the largest spine deformity research organization in the world and the largest organization dedicated to better outcomes for patients with spine deformity.

Sincerely,

Ron El-Hawary, MD





An ordinary individual who finds strength to persevere and endure in spite of overwhelming obstacles.

Sim

- Christopher Reeve



FINANCIALS

RESEARCH INTEREST GROUPS

Research Interest Groups (RIGs) are small teams of interested clinicians with similar research interests. RIGs aim to be collaborative, innovative, and inclusive. In 2020, there were 12 active groups with over 80 participating investigators, resulting in 60 new research projects. These groups aim to cover a wide variety of topics, some of which include surgical techniques, nonoperative care, complications, graduates, neuromuscular scoliosis, and growth modulation.





In November 2020, the International Congress of Early Onset Scoliosis, was virtually attended by 131 clinicians from around the world. Hosted by PSSG, the conference aims to share knowledge, experience, and research among peers with the overriding goal to improve care for children with early onset scoliosis.

2020



Determination of Best MCGR Implementation Strategy using Distraction Intervals Drs. Kenneth Cheung & Michael Vitale

This study is a hospital-based, cluster stratified randomized control trial. With 22 participating sites and 20 patients currently enrolled, we are looking at the effect of a 6-week lengthening interval compared to a 16-week lengthening interval for EOS patients between 5 & 9 years old. These patients must have a major coronal curve measuring over 50 degrees and will be followed for three years.

Long Term Quality of Life Dr. Jeff Sawyer

We are obtaining quality of life data from early onset scoliosis patients that have now completed treatment and are moving into adulthood. It is hypothesized that adult EOS patients who have undergone surgical intervention have differences from age-matched peers in social function and quality of life. There are currently 80 enrolled participants in this study from 9 different institutions.





Bracing versus Casting in the Treatment of Idiopathic Early Onset Scoliosis Drs. Stuart Weinstein & Lori Dolan

With 440 patients to be enrolled and 41 participating sites, we hope to evaluate the immediate outcomes of casting and bracing in IEOS. We will do this by using a multi-center, partially randomized, patient preference design by comparing the risk of curve resolution in subjects treated with serial casting to those treated with bracing.

Genetics of Idiopathic EOS Dr. Carol Wise

The etiology of idiopathic EOS (iEOS) is a mystery. It is unknown why scoliosis occurs in these children when the risk in families is low and the kids are otherwise healthy. The goal of this study is to discover the genetic basis of iEOS. With our enrollment goal of 100 PSSG patients, we hope to form the foundation of future multi-center investigations to better understand the origins of iEOS and its disease mechanisms.







Through our Families-In-Need program, many patients across the United States can apply and be granted assistance for access to medical care. This program helps to remove some of the challenges that families face as they seek out treatment, allowing them to find hope and answers through their scoliosis journey.

In addition to managing 4 prospective studies, PSSG launched the surgeon-specific quality dashboard. This allows registry participants to compare their performance for common items such as OR time and infection rate to others in the registry. Ultimately, this will result in improved patient outcomes.





The education of our peers and our patients is of utmost importance. In addition to the annual ICEOS meeting, we have updated our website to include patient and physician education. Here, the latest Study Group research is summarized, allowing interested individuals to easily access our knowledge and experience in the form of quality research.

Academic Productivity 2020

Publications

- Anari JB, Flynn JM, Cahill PJ, Vitale MG, Smith JT, Gomez JA, Garg S, Baldwin KD; Children's Spine Study Group. Unplanned return to OR (UPROR) for children with early onset scoliosis (EOS): a comprehensive evaluation of all diagnoses and instrumentation strategies. Spine Deform. 2020 Apr;8(2):295-302.
- Clement RC, Yaszay B, McClung A, Bartley CE, Nabizadeh N, Skaggs DL, Thompson GH, Boachie-Adjei O, Sponseller PD, Shah SA, Sanders JO, Pawelek J, Mundis GM, Akbarnia BA; Growing Spine Study Group. Growth-preserving instrumentation in early-onset scoliosis patients with multi-level congenital anomalies. Spine Deform. 2020 Oct;8(5):1117-1130.
- De Mendonça RGM, Bergamascki LM, Silva KCMD, Letaif OB, Marcon R, Cristante AF, Matsumoto H, Vitale MG, Meves R. Validation of the Brazilian Portuguese Version of the 24-Item Early-Onset Scoliosis Questionnaire. Global Spine J. 2020 Jun 19.

Du JY, Poe-Kochert C, Thompson GH, Hardesty CK, Pawelek JB, Flynn JM, Emans JB; Pediatric Spine Study Group. Risk Factors for Reoperation Following Final Fusion After the Treatment of Early-Onset Scoliosis with Traditional Growing Rods. J Bone Joint Surg Am. 2020 Oct 7;102(19):1672-1678.

- El-Bromboly, Y, Hurry, J, Johnston, C, McClung, AM, Samdani, A, Glotzbecker, MP, Hilaire, TS, Flynn, T, El-Hawary, R; Pediatric Spine Group. Can distraction-based surgeries achieve minimum 18 cm thoracic height for patients with early onset scoliosis? Spine Deform. 2020.
- El-Hawary R, Chukwunyerenwa CK, Gauthier LE, Spurway AJ, Hilaire TS, McClung AM, El-Bromboly Y, Johnston CE; Children's Spine Study Group. Distraction-based surgeries increase thoracic sagittal spine length after ten lengthening surgeries for patients with idiopathic early-onset scoliosis. Spine Deform. 2020 Apr;8(2):303-309.
- Gomez JA, Kubat O, Tovar Castro MA, Hanstein R, Flynn T, Lafage V, Hurry JK, Soroceanu A, Schwab F, Skaggs DL, El-Hawary R; Pediatric Spine Study Group (PSSG). The Effect of Spinopelvic Parameters on the Development of Proximal Junctional Kyphosis in Early Onset: Mean 4.5-Year Follow-up. J Pediatr Orthop. 2020 Feb 6.
- Harris L, Andras LM, Mundis GM, Sponseller PD, Emans JB; Growing Spine Study Group, Skaggs DL. Five or more proximal anchors and including upper end vertebra protects against reoperation in distraction-based growing rods. Spine Deform. 2020 Aug;8(4):781-786.
- Klyce W, Mitchell SL, Pawelek J, Skaggs DL, Sanders JO, Shah SA, McCarthy RE, Luhmann SJ, Sturm PF, Flynn JM, Smith JT, Akbarnia BA, Sponseller PD. Characterizing Use of Growth-friendly Implants for Early-onset Scoliosis: A 10-Year Update. J Pediatr Orthop. 2020 Sep;40(8):e740-e746.
- LaValva S, Adams A, MacAlpine E, Gupta P, Hammerberg K, Thompson GH, Sturm P, Garg S, Anari J, Sponseller P, Flynn J, Cahill PJ; Pediatric Spine Study Group. Serial Casting in Neuromuscular and Syndromic Early-onset Scoliosis (EOS) Can Delay Surgery Over 2 Years. J Pediatr Orthop. 2020 Sep;40(8).
- LaValva SM, MacAlpine EM, Kawakami N, Gandhi JS, Morishita K, Sturm PF, Garg S, Glotzbecker MP, Anari JB, Flynn JM; Pediatric Spine Study Group, Cahill PJ. Awake serial body casting for the management of infantile idiopathic scoliosis: is general anesthesia necessary? Spine Deform. 2020 Oct;8(5):1109-1115.

- Li Y, Swallow J, Gagnier J, Thompson GH, Sturm PF, Emans JB, Sponseller PD, Glotzbecker MP; Pediatric Spine Study Group. A report of two conservative approaches to early onset scoliosis: serial casting and bracing. Spine Deform. 2020 Sep 28.
- Matsumoto H, Mueller J, Konigsberg M, Ball J, St Hilaire T, Pawelek J, Roye DP, Cahill P, Sturm P, Smith J, Thompson G, Sponseller P, Skaggs D, Vitale MG. Improvement of Pulmonary Function Measured by Patientreported Outcomes in Patients With Spinal Muscular Atrophy After Growth-friendly Instrumentation. J Pediatr Orthop. 2020 Aug 14.
- Matsumoto H, Marciano G, Redding G, Ha J, Luhmann S, Garg S, Roye D, White K; Pediatric Spine Study Group. Association between health-related quality of life outcomes and pulmonary function testing. Spine Deform. 2020 Aug 26.
- Matsumoto H, Skaggs DL, Akbarnia BA, Pawelek JB, Hilaire TS, Levine S, Sturm P, Perez-Grueso FJS, Luhmann SJ, Sponseller PD, Smith JT, White KK, Vitale MG; Pediatric Spine Study Group. Comparing health-related quality of life and burden of care between early-onset scoliosis patients treated with magnetically controlled growing rods and traditional growing rods: a multicenter study. Spine Deform. 2020 Aug 26.
- Matsumoto H, Fields MW, Roye BD, Roye DP, Skaggs D, Akbarnia BA, Vitale MG. Complications in the treatment of EOS: Is there a difference between rib vs. spine-based proximal anchors? Spine Deform. 2020 Sep 21.
- Matsumoto H, Auran E, Fields MVV, Hung CVV, Hilaire TS, Roye B, Sturm P, Garg S, Sanders J, Oetgen M, Levine S, Roye D, Vitale M; Pediatric Spine Study Group. Serial casting for early onset scoliosis and its effects on health-related quality of life during and after discontinuation of treatment. Spine Deform. 2020 Dec;8(6):1361-1367.
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- Murphy RF, Barfield WR, Emans JB, Akbarnia B, Thompson G, Sponseller P, Skaggs D, Marks D, Smith JT, Flynn J, Presson A, Sawyer JR, Johnston C; Pediatric Spine Study Group. Minimum 5-Year Follow-up on Graduates of Growing Spine Surgery for Early Onset Scoliosis. J Pediatr Orthop. 2020 Nov/Dec;40(10):e942-e946.
- Nazareth A, Skaggs DL, Illingworth KD, Parent S, Shah SA, Sanders JO, Andras LM; Growing Spine Study Group. Growth guidance constructs with apical fusion and sliding pedicle screws (SHILLA) results in approximately 1/3rd of normal T1-S1 growth. Spine Deform. 2020 Jun;8(3):531-535.
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- Roye BD, Fields MW, Matsumoto H, Sponseller P, Pérez-Grueso FJS, Boachie-Adjei O, Hammerberg K, Welborn MC, Vitale MG; Pediatric Spine Study Group (PSSG). The Association Between the Utilization of Traction and Postoperative Complications Following Growing Rod Instrumentation for Early-onset Scoliosis. J Pediatr Orthop. 2020 Oct;40(9):e798-e804.
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- Swarup I, MacAlpine EM, Mayer OH, Lark RK, Smith JT, Vitale MG, Flynn JM, Anari JB; Pediatric Spine Study Group, Cahill PJ. Impact of growth friendly interventions on spine and pulmonary outcomes of patients with spinal muscular atrophy. Eur Spine J. 2020 Aug 18.
- Verhofste BP, Glotzbecker MP, Marks DS, Birch CM, McClung AM, Emans JB; Pediatric Spine Study Group. Spinal Deformity in Sotos Syndrome: First Results of Growth-friendly Spine Surgery. J Pediatr Orthop. 2020 Oct;40(9):453-461.
- Williams BA, McClung A, Blakemore LC, Shah SA, Pawelek JB, Sponseller PD, Parent S, Emans JB, Sturm PF, Yaszay B, Akbarnia BA; Pediatric Spine Study Group. MRI utilization and rates of abnormal pretreatment MRI findings in early-onset scoliosis: review of a global cohort. Spine Deform. 2020 Oct;8(5):1099-1107.

Presentations

- Abdullah A, Smit K, Murphy J, Skaggs DL, Parent S, Gupta P, Miyanji F, Vitale M, Ouellet J, Saran N, Cho R, El-Hawary R. Low Rates of Early Complication Following Anterior Vertebral Body Tethering for Idiopathic Scoliosis. Presented at the Canadian Orthopaedic Association (COA) Annual Meeting, Virtual.
- Abdullah A, Parent S, Miyanji F, Smit K, Murphy J, Skaggs D, Gupta P, Vitale M, Ouellet J, Saran N, Cho R, El-Hawary R, Pediatric Spine Study Group. Risk of Early Complication Following Anterior Vertebral Body Tethering for Idiopathic Scoliosis. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Bonsignore-Opp L, Ball J, Simhon M, Matsumoto H, Sturm P, Pahys JM, Vitale M, Larson AN, Roye B, Pediatric Spine Study Group. Exposure and Variability of Anesthesia During Mehta Casting Procedures in Early Onset Scoliosis (EOS). Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Bowker R, Morash K, Yazsay B, Andras L, Sturm P, Sponseller P, Thompson G, El-Hawary R, Pediatric Spine Study Group. Scoliosis Flexibility Correlate with Post-Operative Outcomes Following Growth Friendly Surgery. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Brooks JT, Murphy R, El-Hawary R, McDonald TC, Sponseller PD, Vitale MG, Oetgen M, Wright P, Fitzgerald R, Cahill P, Pediatric Spine Study Group, Sukkarieha H. Quantity vs. Quality of Distal Fixation in Early Onset Neuromuscular Scoliosis: Does it Matter? Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Buckler N, Sun M, Al Nouri M, Vaughan M, St. Hilaire T, Matsumoto H, Sponseller P, Smith J, Thompson GH, Howard J, El-Hawary R, Pediatric Spine Study Group. Health-Related Quality of Life in Cerebral Palsy Patients Treated with Growth-Friendly Surgery for Early-Onset Scoliosis. Poster presented at the Canadian Orthopaedic Association (COA) Annual Meeting, Virtual.

- Cahill P, Swarup I, Macalpine E, Mayer O, Flynn J, Anari J, Children's Spine Study Group, Lark R, Smith J, Vitale M. Impact of Growth Friendly Interventions on Spine and Pulmonary Outcomes of Patients with Spinal Muscular Atrophy. Poster presented at the American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, Virtual.
- Compton E, Gupta P, Gomez JA, Illingworth KD, Skaggs DL, Sponseller PD, Samdani A, Hwang SW, Oetgen ME, Schottler J, Thompson GH, Vitale MG, Smith JT, Andras LM, Pediatric Spine Study Group. Implant Density Did Not Impact Outcomes in Growing Construct Conversion to Posterior Spinal Fusion for Early Onset Scoliosis. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Du J, Poe-Kochert C, Thompson GH, Hardesty C, Pawelek J, Flynn J, Emans J, Pediatric Spine Study Group. Reoperation Risk Factors following Final Fusion for Traditional Growing Rod Treatment in Early Onset Scoliosis. Presented at the Canadian Orthopaedic Association (COA) Annual Meeting, Virtual.
- Du J, Poe-Kochert C, Thompson GH, Hardesty C, Pawelek J, Flynn J, Emans J, Pediatric Spine Study Group. Reoperation Risk Factors following Final Fusion for Traditional Growing Rod Treatment in Early Onset Scoliosis. E-Poster presented at the International Meeting on Advance Spine Techniques (IMAST) Annual Meeting, Virtual.
- Du J, Dumaine A, Parent S, Sturm P, Sponseller P, Glotzbecker M, Pediatric Spine Study Group. Use of Vancomycin Powder in Guided Growth Procedures for Early Onset Scoliosis is Associated with Different Microbiology Cultures after Surgical Site Infection. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Fields M, Matsumoto H, Sponseller P, Sanchez Perez Grueso F, Boachi-Adjei O, Hammerberg K, Welborn M, Roye B. Utilization of Intraoperative Cranial Traction Protects Non-Idiopathic Patients from Unplanned Return to the Operating Room following Growing Rod Instrumentation. E-Poster presented at the Scoliosis Research Society (SRS) Annual Meeting, Virtual.
- Gomez J, Mackey C, Hanstein R, Vaughan M, St. Hilaire T, Luhman S, Vitale M, Glotzbecker M, Samdani A, Parent S, Pediatric Spine Study Group. Early Outcomes of MCGR Vs PSF Vs VBT in Older EOS Patients. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Hardesty C, Murphy R, Akbarnia B, Johnston C, Emans J, St. Hilaire T, Glotzbecker M, Pediatric Spine Study Group. Defining an Early Onset Scoliosis Graduate – the Pediatric Spine Study Group Experience. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Hariharan A, Shah S, Pargas C, Petfield J, Baldwin M, Sponseller P, Yaszay B, Glotzbecker M, Cahill P, Bastrom T, Pediatric Spine Study Group, Harms Study Group. Definitive Fusions are Better than Growth Friendly Procedures for Juvenile Patients with Cerebral Palsy and Scoliosis: A Prospective Comparative Cohort Study. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Hariharan A, Shah S, Pargas C, Petfield J, Baldwin M, Sponseller P, Yaszay B, Glotzbecker M, Cahill P, Bastrom T, Pediatric Spine Study Group, Harms Study Group. Definitive Fusions are Better than Growth Friendly Procedures for Juvenile Patients with Cerebral Palsy and Scoliosis: A Prospective Comparative Cohort Study. E-Poster presented at the Scoliosis Research Society (SRS) Annual Meeting, Virtual.
- Kwan K, Tang C, Parent S, El Hawary R, Miyanji F, Cheung K, Pediatric Spine Study Group. Identifying the optimal instrumented level: Prospective case series of 102 patients treated by vertebral body tethering (VBT) with 2-year follow up. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.

- Levine SB, Hammoor BT, Morris A, Arora S, Boby AZ, Matsumoto H, Oetgen M, St. Hilaire T, Vitale MG, Skaggs D, Pediatric Spine Study Group. Looking Under the Hood: Factors that Drive Successful Study Group Participation and Publications in Pediatric Spine Programs. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Li Y, Swallow J, Gagnier J, Cahill P, Sponseller P, Garg S, Thompson G, Ramo B, Pediatric Spine Study Group. What's it Worth? Growth-Friendly Surgery Results in More Growth but a Higher Complication and UPROR Rate Compared to Single Fusion in Juvenile Neuromuscular Scoliosis. Presented at the Pediatric Orthopaedic Society of North America (POSNA) Annual Meeting, Virtual.
- Li Y, St. Hilaire T, Anderson, J, Erickson M, McIntosh A, Sturm P, Skaggs D, Vitale M, El-Hawary R, Pediatric Spine Study Group. Actuator End Cap Separation in Magnetically Controlled Growing Rods (MCGR). Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Li Y, Swallow J, Gagnier J, Smith JT, Murphy RF, Cahill P, Sponseller PD, Pediatric Spine Study Group. When is pelvic fixation necessary in children with cerebral palsy scoliosis treated with growing rods? Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Luhmann S, Skaggs DL, Johnston C, Pahys J, Smith J, Samdani A, El Hawary R, Pediatric Spine Study Group. Presented at the Pediatric Orthopaedic Society of North America (POSNA) Annual Meeting, Virtual.
- Marrache M, Gomez J, Sanders JO, Farley FA, Luhmann S, Sponseller PD, Pediatric Spine Study Group. Deep Surgical Site Infections in Magnetically Controlled Growing Rods for Early Onset Scoliosis. E-Poster presented at the International Meeting on Advance Spine Techniques (IMAST) Annual Meeting, Virtual.
- Marrache M, White KK, Larson AN, St. Hilaire T, Woon R, Vaughan M, Sponseller PD. Does the Law of Diminishing Returns Exist in Early Onset Scoliosis with Connective Tissue Disorders? E-Poster presented at the International Meeting on Advance Spine Techniques (IMAST) Annual Meeting, Virtual.
- Marrache M, White KK, Larson AN, St. Hilaire T, Woon R, Vaughan M, Sponseller PD. Does the Law of Diminishing Returns Exist in Early Onset Scoliosis with Connective Tissue Disorders? Presented at the Scoliosis Research Society (SRS) Annual Meeting, Virtual.
- Matsumoto H, Ball J, Roye BD, Garg S, Erickson M, Samdani A, Skaggs DL, Roye DP, Vitale MG, Pediatric Spine Study Group. Uncorrected Pelvic Obliquity is Associated with Lower EOSQ-24 Scores in Ambulatory but not in Non-Ambulatory Patients After Surgical Treatment of EOS. E-Poster presented at the Pediatric Orthopaedic Society of North America (POSNA) Annual Meeting, Virtual.
- Mehta N, Magee L, Nocka H, Sturm P, Pahys J, Garg S, Murphy R, Pediatric Spine Study Group, Cahill P. Mental Health Consequences of Serial Mehta Casting: Negative Correlation with Behavioral Development. Presented at the Scoliosis Research Society (SRS) Annual Meeting, Virtual.
- Mishreky A, Parent S, Miyanji F, Murphy J, El-Hawary R, Pediatric Spine Study Group. How Does BMI Affect post-op VBT outcomes? Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Miyanji F, Rushton P, Turgeon I, Nasto L, Pawelek J, Parent S. Anterior Vertebral Body Tethering in Idiopathic Scoliosis: A Prospective, Multicenter Analysis. Presented at the Scoliosis Research Society (SRS) Annual Meeting, Virtual.

- Murphy R, Barfield W, Johnston C, Sawyer J, Emans J, Akbarnia B, St Hilaire T, Smith J, Flynn J, Thompson G, Sponseller P, Skaggs DL, Marks D, Pediatric Spine Study Group. Late Revision after "Definitive" Treatment Following Growth Friendly Surgery for Early Onset Scoliosis. E-Poster presented at the International Meeting on Advance Spine Techniques (IMAST) Annual Meeting, Virtual.
- Murphy J, Skaggs DL, Parent S, Betz R, El-Hawary R, Blakemore L, Samdani A, Gupta P, Miyanji F, Vitale MG, Pediatric Spine Study Group. Shoulder Balance Following Anterior Vertebral Body Tethering of the Spine for Idiopathic Scoliosis. Poster presented at the Canadian Orthopaedic Association (COA) Annual Meeting, Virtual.
- Murphy R, Barfield W, Johnston C, Sawyer J, Emans J, Akbarnia B, St Hilaire T, Smith J, Flynn J, Thompson G, Sponseller P, Skaggs DL, Marks D, Pediatric Spine Study Group. Five Year Radiographic Outcomes Following Discontinuation of Growth Friendly Surgery for Early Onset Scoliosis. E-Poster presented at the International Meeting on Advance Spine Techniques (IMAST) Annual Meeting, Virtual.
- Murphy R, Emans J, Sponseller P, Marks D, Skaggs DL, Thompson G, Flynn J, Akbarnia B, Smith J, Sawyer J, Pediatric Spine Study Group. Revision Rates of 5-year Minimum Graduates of Growing Surgery for Early Onset Scoliosis. Presented at the Scoliosis Research Society (SRS) Annual Meeting, Virtual.
- Murphy R, Emans J, SawyerJ, Flynn T, Flynn J, Pediatric Spine Study Group. Changing Practice in Early Onset Scoliosis Surgery. E-Poster presented at the Scoliosis Research Society (SRS) Annual Meeting, Virtual.
- Murphy J, Fields M, Matsumoto H, Miyanji F, Parent S, El-Hawary R, Skaggs D, Vitale MG, Pediatric Spine Study Group. Shoulder Balance in Lenke Type 1 and 2 Idiopathic Scoliosis Following Anterior Vertebral Body Tethering of the Spine. Presented at the Scoliosis Research Society (SRS) Annual Meeting, Virtual.
- Oetgen M, Smith J, Heflin J, Vitale M, Flynn J. Predicting Unplanned Return to the OR with MCGR. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Ramírez N, Fitzgerald R, Olivella G, Smith J, Sturm P, Sponseller PD, Karlin L, Luhmann S, St. Hilaire T, Pediatric Spine Study Group. Is Growth-Friendly Surgery Adequate for the Treatment of Non-ambulatory Early-onset Scoliosis Myelomeningocele Patients? E-Poster presented at the Pediatric Orthopaedic Society of North America (POSNA) Annual Meeting, Virtual.
- Roye BD, Fields MW, Matsumoto H, Sponseller P, Sánchez Pérez-Grueso FJ, Boachie-Adjei O, Hammerberg K, Welborn MC, Vitale MG, Pediatric Spine Study Group. Utilization of Traction Protects Patients from Complications following Growing Rod Instrumentation. Poster presented at the American Academy of Pediatrics (AAP) Annual Meeting, Virtual.
- Roye BD, Fields M, Matsumoto H, Sponseller P, Sánchez Pérez-Grueso FJ, Boachie-Adjei O, Hammerberg K, Welborn M, Vitale MG, Pediatric Spine Study Group. The Association between the Utilization of Traction and Postoperative Complications following Growing Rod Instrumentation. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Saarinen A, Sponseller P, Andras L, Skaggs D, Emans J, Thompson G, Helenius I, Pediatric Spine Study Group. Outcomes of Magnetically Controlled Growing Rods in Severe Early Onset Scoliosis. Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.
- Sun M, Buckler N, Al Nouri M, Vaughan M, St. Hilaire T, Matsumoto H, Sponseller PD, Smith JT, Thompson G, Howard J, El-Hawary R, Pediatric Spine Study Group. Analysis of Health-Related Quality of Life in Cerebral Palsy Patients Treated with Growth-Friendly Surgery for Early-Onset Scoliosis. E-Poster presented at the International Meeting on Advance Spine Techniques (IMAST) Annual Meeting, Virtual.

- Sun M, Buckler N, Al Nouri M, Vaughan M, St. Hilaire T, Matsumoto H, Sponseller PD, Smith JT, Thompson G, Howard J, El-Hawary R, Pediatric Spine Study Group. Treatment with Magnetically Controlled Growing Rods Results in Improved Scoliosis Correction and a Trend Towards Fewer Unplanned Reoperations as Compared to Traditional Growth Friendly Surgery for Children with Cerebral Palsy. E-Poster presented at the International Meeting on Advance Spine Techniques (IMAST) Annual Meeting, Virtual.
- Sun M, Buckler N, Al Nouri M, Vaughan M, St. Hilaire T, Sponseller P, Smith J, Thompson GH, Howard J, El-Hawary R, Pediatric Spine Study Group. Comparison of Traditional Growth Friendly Surgeries and Magnetically Controlled Growing Rods for the Treatment of Early Onset Scoliosis in Patients with Cerebral Palsy. Presented at the Canadian Orthopaedic Association (COA) Annual Meeting, Virtual.
- Sun M, Buckler N, Al Nouri M, Vaughan M, St. Hilaire T, Sponseller PD, Smith JT, Thompson G, Howard J, El-Hawary R, Pediatric Spine Study Group. Comparison of Traditional Growth Friendly Surgeries and Magnetically Controlled Growing Rods for the Treatment of Early Onset Scoliosis in Patients with Cerebral Palsy. Presented at the Pediatric Orthopaedic Society of North America (POSNA) Annual Meeting, Virtual.
- Verhofste B, Emans J, Miller P, Thompson G, Samdani A, Perez-Grueso FS, McClung A, Pediatric Spine Study Group, Glotzbecker M. Is Growth-Friendly Surgery Effective for the Treatment of Spinal Deformity in Patients with Arthrogryposis Multiplex Congenita? Presented at the Pediatric Orthopaedic Society of North America (POSNA) Annual Meeting, Virtual.
- Verhofste B, Emans J, Miller P, Thompson G, Samdani A, Perez-Grueso F, McClung A, Glotzbecker M, Pediatric Spine Study Group. Is Growth Friendly Surgery Effective for the Treatment of Spinal Deformity in Patients with Arthrogryposis Multiplex Congenita? E-Poster presented at the Scoliosis Research Society (SRS) Annual Meeting, Virtual.
- White K, Redding G, Snyder B, Roye DP, Mayer O, Cahill PJ, Ramirez-Lluch N, Sturm PF. Does the use of growth friendly instrumentation reduce need for positive pressure ventilation in non-neuromuscular scoliosis? Presented at the International Congress on Early Onset Scoliosis (ICEOS) Annual Meeting, Virtual.



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The Pediatric Spine Foundation would like to thank you for all of your heroic efforts throughout this year. Because of you we have been able to fulfill our mission of helping children with spine problems to live longer, more fulfilling lives.



Contact Us

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