2.1, 95% CI: 1.2-3.7, p=0.007). Use of PJK prophylaxis techniques did not have a significant effect on risk of developing PJK/F (p=0.307). Factors associated with increased risk of developing PJK/F were significant baseline deformity (OR 1.02, 95% CI: 1.01-1.03, p=0.026), peripheral vascular disease (OR 5.5, 1.3-23.6, p=0.023), undergoing an osteotomy (OR 1.7, 1.1-2.8, p=0.017) and age >60 (OR 1.1, 1.1-1.2, p=0.026) and hypertension (OR 2.01, 1.04-3.87, p=0.038). Diabetes was associated with lower odds for developing PJK/F+ (OR: 0.3, 95% CI: 0.1-0.8, p=0.018).
CONCLUSIONS: Proximal junctional kyphosis/failure remains a significant postoperative concern in the ASD population. With currently known risk factors, we are still unable to fully quantify and predict a patient's total risk for developing postoperative PJK/F. Further work is needed to delineate contributing factors that are yet to be determined.
FDA DEVICE/DRUG STATUS: This abstract does not discuss or include any applicable devices or drugs.

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P162. Radiographic and clinical outcome analysis of custom vs surgeon contoured rods for adolescent idiopathic scoliosis deformity correction at 12 months postoperative

Matthew J. Geck, MD[1], Devender Singh, PhD[1], Ashley Duncan, MBA, RN, CNOR[1], John Stokes, MD[2], Eeric Truumees, MD[1]; [1] Ascension Texas Spine and Scoliosis, Austin, TX, US; [2] Seton Spine and Scoliosis, Austin, TX, US

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P163. Radiographic and clinical outcome analysis of custom vs surgeon contoured rods for adult deformity correction at 12 months postoperative

Devender Singh, PhD[1], Matthew J. Geck, MD[1], Ashley Duncan, MBA, RN, CNOR[1], Eeric Truumees, MD[1], John Stokes, MD[2]; [1] Ascension Texas Spine and Scoliosis Center, Austin, TX, US; [2] Seton Spine and Scoliosis, Austin, TX, US

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P164. Rapid response during spinal deformity surgery can successfully save spinal cord function using intraoperative monitoring.

Alexander Antonios Theologis, MD[1], Munish C Gupta, MD, MBA[2], Ganesh Swamy, MD[3], Go Yoshida, MD[4], Michael P. Kelly, MD[5], Samuel Strantzas, MSN[6], Saumyajit Basu, MD, FRCS[7], Kenny Kwan, FRCSEd[8], Justin S. Smith, MD, PhD[9], Ferran Pellise, MD, PhD[10], So Kato, MD[11], Zeeshan Sardar, MD, MSc[12], Christopher P. Ames, MD[13], Kristen E. Jones, MD[14], Anastasios Charalampidis, MD, PhD[15], Brett Rocos, MD, MBChB, FRCS (Tr & Orth)[16], Lawrence G. Lenke, MD[17], Stephen J. Lewis, MD[18]; [1] UCSF Spine Center, San Francisco, CA, US; [2] Washington University School of Medicine, St. Louis, MO, US; [3] Calgary, AB, CA; [4] Department of Orthopaedic Surgery, Hamamatsu University School of Medicine, Shizuoka, JP; [5] Rady Children's Hospital, San Diego, CA, US; [6] Toronto, ON, CA; [7] Kothari Medical Center, Kolkata, IN; [8] The University of Hong Kong, Hong Kong, CN; [9] UVA Health System, Charlottesville, VA, US; [10] Barcelona Spine Institute, Barcelona, ES; [11] University of Tokyo, Tokyo, JP; [12] Columbia University, New York, NY, US; [13] University of California, San Francisco, San Francisco, CA, US; [14] University of Minnesota Department of Neurosurgery, Minneapolis, MN, US; [15] Karolinska, Stockholm, SE; [16] Duke University Health System, Durham, NC, US; [17] Columbia University Department of Orthopedic Surgery, New York, NY, US; [18] Toronto Western Hospital, Toronto, ON, CA

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P165. Risk factors for mortality after 3-column vertebral osteotomy

Amit Ratanpal, BS[1], Anthony Chiu, BS[1], John J. Carbone, BS[1], Rohan Suresh, BS[1], Brian Shear, MD[1], Alexander Ruditsky, MD[1], Sennay Ghenbot, BS[1], Louis Bivona, MD[1], Julio J Jauregui, MD[1], Dan Cavanaugh, MD[1], Eugene Young Koh, MD, PhD[1], Steven C. Ludwig, MD[1]; [1] University of Maryland Medical Center, Baltimore, MD, US

BACKGROUND CONTEXT: Three-column osteotomies (3COs) include pedicle subtraction osteotomy (PSO) and vertebral column resection (VCR), which are used to halt deformity progression and surgically correct rigid adult spinal deformity (ASD). Although 3COs are a powerful tool in treating complex ASD, the extensive osseous resection and resultant spinal destabilization leads to a high risk of complications including neurologic deficit. Despite this, there remains a paucity of research into analyzing risk factors for mortality following 3CO.
PURPOSE: The purpose of this study was to identify risk factors for mortality after 3CO procedures.
STUDY DESIGN/SETTING: Retrospective analysis of the National Surgical Quality Improvement Program (NSQIP) database.
PATIENT SAMPLE: Patients age 18 years or older undergoing primary or revision three-column osteotomy procedures, including pedicle subtraction osteotomy and vertebral column resection.
OUTCOME MEASURES: The primary outcome of interest was 30-day postoperative mortality.
METHODS: A retrospective analysis was conducted using the National Surgical Quality Improvement Program (NSQIP) database. Patients undergoing 3CO were identified via CPT codes (22206, 22207, and 22208). The analysis consisted of chi-squared tests and student t-tests for univariate analysis, followed by multivariable logistic regression controlling for age, sex, and body mass index (BMI). All statistical operations were conducted using R software.
RESULTS: The analysis included 1,441 patients, of which 1,300 underwent primary 3CO and 141 underwent revision surgery. Among these patients, 446 had thoracic osteotomies, 996 patients had lumbar osteotomies, and 226 had multilevel osteotomies. The overall 30-day mortality rate was 1.2% (18 patients). On univariate analysis, mortality was more likely in patients with diabetes (2.8% vs 1.0%, P=0.029) and chronic obstructive pulmonary disease (7.0% vs 1.0%, P<0.001). Further, mortality was associated with higher 5-factor modified frailty index (P=0.004) and undergoing revision surgery (2.1% vs 1.2%, P=0.006). After controlling for age, sex, and BMI, multivariable analysis revealed that mortality rates were independently associated with longer operative times