



A New Custom-made Option for Complex Metadiaphyseal Bone Defect Reconstruction in Knee Revision Surgery - Award Winner

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Abstract: Femoral and/or tibial massive bone defects (ie, Anderson Orthopaedic Research Institute type F2B to F3/T2B to T3) are commonly seen when total knee arthroplasties are revised because of infection or in cases in which a second or third revision is performed. Different surgical techniques have been described in the literature to manage difficult cases. Our video shows a new, custom-made option for use in cases of complex metadiaphyseal bone defects. We also explain our rationale about how those cases should be approached, along with the clinical and radiologic results achieved to date using this new system. Management of major bone defects in revision total knee arthroplasty continues to be challenging; however, we feel that the new approach we describe could help improve clinical outcomes and patient satisfaction when managing the most challenging cases. Watch the video trailer: <http://links.lww.com/JAAOS/A119>.



Upper Thoracic Vertebral Column Resection for Progressive Cervical Deformity - Honorable Mention

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Abstract: Vertebral column resection (VCR) is the most powerful tool in the spine surgeon's armamentarium for deformity correction. Originally described in 1922 by MacLennan, the technique has evolved from a combined anterior-posterior, staged procedure to a single-stage posterior-only technique when applicable. In patients with severe, rigid spinal deformity, in which traditional osteotomies cannot achieve adequate correction without complication, VCR may be indicated. The posterior technique was popularized by Suk in 2002. Since then, 17 major articles have been published describing the outcomes of VCR. In our video, we present a unique case in which proximal junctional kyphosis developed after a T4 VCR and T1-T10 instrumented fusion and the patient subsequently underwent a second VCR at T2 with extension of the fusion construct to restore sagittal alignment. The patient of the video is a 57-year-old woman who underwent a scoliosis correction with Harrington rods as a child and who initially presented with severe neck pain with radiation to her forearms bilaterally and intermittent numbness in her hands bilaterally. She was indicated for a T4 VCR and posterior spinal fusion from T1-T10. Postoperatively, she did well; however, after several months, she began to feel as if her head was falling forward, and by the end of the day, her head felt heavy. She was unable to attain a horizontal gaze. Nonsurgical treatment, including physical therapy and bracing, was unsuccessful, and she was indicated for a T2 VCR and posterior spinal fusion from C2-T3 with instrumentation from C2-T10. We review the preoperative history and imaging and then present the technique for performing a posterior VCR. Postoperative imaging revealed adequate restoration of sagittal balance. The patient reported that both she and her family noticed notable improvement in her clinical alignment. She was able to stand upright and attain a horizontal gaze. Full strength and sensation throughout were elicited on physical examination. VCR is a powerful tool for correcting severe, rigid spinal deformity when corrective osteotomy will not suffice. Our patient's proximal junctional kyphosis was corrected with a VCR, which allowed her to stand straight with improved clinical alignment. Watch the video trailer: <http://links.lww.com/JAAOS/A120>.

