



## The Double Cup Construct: A Novel Treatment Strategy for the Management of Paprosky IIIA and IIIB Acetabular Defects

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**Notes** 

Introduction: Treatment of massive acetabular bone loss in revision total hip arthroplasty is complex and various treatment strategies have been described for reconstruction of these difficult cases. We describe a novel technique of using a second Trabecular Metal<sup>TM</sup> revision shell as a "Double Cup" buttress augment instead of using custom triflanges or cup-cage constructs for Paprosky IIIA and IIIB acetabular defects.

**Methods:** We retrospectively reviewed a continuous case series of double cup constructs performed at our institution between 2005 and 2014. Preoperative co-mobidities and postoperative complications were assessed. Radiographic signs of loosening were evaluated by two observers and hip center of rotation was noted preoperatively and at most recent follow-up. Pre- and postoperative modified Harris Hip Scores (HHS) and Merle d'Aubigne-Postel pain and walking scores were evaluated.

**Results:** Twenty patients were included in our series at an average 2.3-year follow-up. There were no failures for acetabular loosening for a 100% survival for aseptic loosening. Hip center of rotation was restored to an average 22.5mm of the interteardrop line. We observed a 25% dislocation with rate within 1 year with most of these seen in single component revisions. Average HHS improved from 28.2 to 68.7 (p<0.001) and Merle d'Aubigne-Postel pain and walking improved from 2.7 to 5.1 and 2.4 to 4 respectively (p<0.001).

**Conclusions:** The double cup construct provides stable reconstruction of complex Paprosky type IIIA and IIIB acetabular defects without evidence of radiographic failure at average 2-year follow-up. Clinical outcome measures were improved postoperatively and remained improved at most recent follow-up.