Bridging Massive Acetabular Defects with the Triflange Cup: 10- to 28-Year Results
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INTRODUCTION: Massive acetabular bone loss, encountered in the failed total hip arthroplasty or complex primary total hip arthroplasty, remains a reconstructive challenge. The custom triflange cup reliably achieves both early fixation against host bone and durable long-term stability. This study presents the long-term three-surgeon follow up of massive acetabular defects managed with a custom triflange component.

METHODS: All patients who underwent custom triflange acetabular component implantation from January 1992 to December 2009 were identified. Demographic information, implant data, outcomes, and reoperations were collected and analyzed. Bone defects in all cases were Paprosky type II A, II B, or IV.

RESULTS: A total of 233 patients (241 hips) underwent implantation of a custom triflange during the study period. Eighty-eight patients (92 hips) died prior to minimum follow up. Ninety-one patients (95 hips) had minimum follow up of 10 years with a mean follow up of 15.2 years (range, 10-28 years) or failure prior to 10 years. Postoperative complications requiring additional surgery occurred in 46 hips (48%). There were 8 revisions for failure (8.4%). Three were due to recurrent infection and revised to a new triflange. Three failed secondary to aseptic loosening and were also revised to a new triflange. One was revised for recurrent dislocations to a new triflange with amended cup-face orientation. Lastly, one low-demand patient was revised for infection to a bipolar hemiprosthesis due to a healed discontinuity.

DISCUSSION AND CONCLUSION: The triflange cup reliably achieves stable fixation in cases of massive acetabular bone loss in revision and complex primary total hip arthroplasty. This study represents the largest cohort and longest follow up in the current literature and demonstrates excellent survivorship and clinical results at an average of 15 years follow up. The results presented here compare favorably with the best results of other reconstructive methods used for massive acetabular bone loss in THA.