

## **A Consecutive Series of Chronic Periprosthetic Joint Infections of the Hip and Knee Treated with a One-Stage Revision Arthroplasty Protocol**

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### **INTRODUCTION:**

The success of one-stage revision in chronic prosthetic joint infection (PJI) is variable. We report the 1) outcomes of one-stage revision in consecutive cases of chronic PJI and 2) risk factors for reinfection and rerevision. We hypothesize that one-stage revision with limited exclusion criteria is a viable treatment for chronic PJI.

### **METHODS:**

This is a retrospective review of 177 consecutive patients who underwent one-stage revision for chronic PJI between 2009-2020. 105 patients (59%) with chronic PJI and 2-year follow up (89 patients, 58% female, 43 hips, 46 knees) or mortality within 2 years (16 patients, 15%) were included. The primary outcome was treatment success using Delphi criteria. Secondary outcomes included survival without and risk factors for: reinfection according to Musculoskeletal Infection Society (MSIS) criteria and rerevision for chronic PJI.

### **RESULTS:**

Treatment success of chronic PJI at 2 years was 85%. Survival without reinfection and rerevision at 2 years was 85% and 84%, respectively. Separate Cox's regression models identified the following independent risk factors for reinfection: rheumatoid arthritis (RA) (HR 5.15, 95% CI 1.51-17.60), virulent organism (HR 4.60, 95% CI 1.26-16.83), and sinus tract (HR 3.59, 95% CI 1.15-11.15); and, the following independent risk factors for rerevision: tobacco use (HR 4.22, 95% CI 1.92-9.27), host type B (HR 4.03, 95% CI 1.57-10.35) or C (HR 4.68, 95% CI 1.44-15.28), RA (HR 3.09, 95% CI 1.24-7.71), virulent organism (HR 2.80, 95% CI 0.96-8.14), and sinus tract (HR 2.93, 95% CI 1.12-7.66).

### **DISCUSSION AND CONCLUSION:**

One-stage revision with limited exclusion criteria is a viable treatment for chronic PJI of the hip and knee. Larger cohort and randomized studies are needed to further refine risk factors for failure.