## Paper #42

## Early Outcomes of Revision Surgery for Head-Neck Taper Corrosion of Metal-on-Polyethylene THA with Pseudotumors in 43 Patients

**Notes** 

John MacAuliffe, MS, Yun Peng, PhD, Paul G. Arauz, PhD, Young-Min Kwon, MD, PhD

Introduction: Recently, adverse local tissue reactions (pseudotumors) due to tribocorrosion of head-neck taper junctions in contemporary THA are emerging as an important reason for failure requiring revision surgery. The purpose of this study was to report early complication rates and outcome of revision surgery for head-neck taper corrosion in patients with metal-on-polyethylene (MoP) THA.

**Methods:** A total of 44 revision surgeries in 43 patients (M:18, F:25) with MoP THA with an average age of 68.2 years were evaluated. The time between index surgery and revision surgery was 77 months (range: 7-264). The follow-up period after revision was a minimum of 12 months (range: 12-45). The index femoral head size was 28mm (4), 32mm (15), 36mm (19), 40mm (5), and 46mm (1). The indication for revision surgery was the presence of symptomatic pseudotumours on MRI with elevated metal ion levels.

**Results:** At mean follow up of 13 months, at least one complication had occurred in 6 patients of the 44 revisions (14%): recurrent dislocations, acetabular component aseptic loosening, and infections. The overall re-operation rate was 7% (3 of 44 hips). The mean serum levels of cobalt decreased from 7.7 µg/L (2–56.1 µg/L) pre-revision to 3.0 µg/L (0.2–14.0 µg/L) post-revision. The mean serum levels of chromium were at similar levels with 2.0 µg/L (0.2–16.4 µg/L) pre-revision and 2.0 µg/L (0.2–8.3 µg/L) post revision.

Conclusion: The current study is one of the largest cohorts follow-up to date on the clinical outcomes of revision due to head-neck taper corrosion in MoP THA. A high rate of early complications (14%) and re-revisions (7%) was observed after revision of pseudotumour associated with head-neck taper corrosion. This information provides clinically useful information for pre-operative counseling of THA patients undergoing revision surgery for head-neck taper corrosion.