

# Paper #29

## High Rate of Failure Following Revision of a Constrained Liner

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**Introduction:** Revision to a constrained liner is one option for managing the unstable total hip arthroplasty. Little is known, however, about the results of revision surgery for a failed constrained liner. The purpose of this study was to examine the outcomes of repeat revision following failure of a constrained liner.

**Methods:** We reviewed 1,212 consecutive revisions and identified 74 (6%) performed for a failed constrained liner in 46 patients. The cohort consisted of 34 women and 12 men with a mean age of 65 years old. The most common reasons for revision of a constrained liner were recurrent instability (64.9%) and infection (25.7%). The mean number of previous hip surgeries was 3.6 (range, 3 to 7). Sixteen patients had abductor insufficiency (34.8%). Patient and procedural characteristics associated with failure were tested using bivariate Cox-regression analysis. A p-value of 0.05 was considered significant; 0.004 with Bonferroni correction.

**Results:** At a mean of 35 months (range, 1 to 87 months) 42 of the 74 hips (57%) required repeat revision. KM estimated revision free survival was 43% at 5 years (95%CI, 29–56%) and 24% at 10 years (95%CI, 10–39%). Thirty-two of the 74 revisions (43%) had a dislocation event after the index revision. KM estimated cumulative dislocation-free survival was 49% at 5 years (95%CI, 34–63%) and 43% at 10 years (95%CI, 27–59%). There was a higher failure rate among the 34 patients with abductor deficiency (HR 1.90, 95%CI, 1.06–3.43; p=0.032). With the numbers available, no revision strategy, including conversion to a large diameter femoral head or dual-mobility construct, conferred a significant reduction in the failure rate.

**Conclusion:** Patients undergoing revision of a failed constrained liner have a very high likelihood of recurrent dislocation and repeat revision surgery. Additional studies are needed to identify optimal management strategies for this complicated subset of patients.

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