

## **A Multicenter Prospective Investigation on Patient Physical and Mental Health After Girdlestone Resection Arthroplasty**

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### **INTRODUCTION:**

Girdlestone resection arthroplasty is a salvage procedure for hip periprosthetic joint infection. Although effective at controlling infection and reducing chronic pain, it results in limited post-operative joint function. The aim of this study was to assess physical function and mental health after Girdlestone resection arthroplasty performed for PJI.

### **METHODS:**

This is a multicenter, prospective study conducted at three academic tertiary referral centers. Patients treated with Girdlestone resection arthroplasty for any indication between 1995 and 2021 were eligible to participate. Patient reported outcomes were assessed post-operatively with the Prosthesis Evaluation Questionnaire (PEQ) and PROMIS Global Physical Health and Mental Health surveys. The PEQ consists of four scales (ambulation, frustration, perceived response, social burden) with scores ranging from 0 to 10. The PROMIS measures provide raw scores that generate T scores (mean: 50, SD:10) to enable comparisons to the US general population. Statistical analysis was performed using Excel.

### **RESULTS:**

Thirty-five patients underwent girdlestone resection arthroplasty and completed all surveys. The average time from procedure to survey completion was 6.0 years (range 1.1-20.0). The median scores for the ambulation, frustration, perceived response, and social burden scales of the PEQ were 0.0 [IQR: 0-4.1], 6.0 [3.0-9.3], 9.0 [7.2-10.0], and 7.5 [4.3-9.5]. The median raw scores of the PROMIS Global Physical Health and Mental Health were 11.91 [IQR: 9-14] and 14.0 [IQR: 10.0-16.0]. These corresponded to average T-scores of 39.7 (SE: 4.3) for physical health and 46.1 (SE: 3.8) for mental health, which were 10.3 points and 3.9 points below the average score in the US general population, respectively.

### **DISCUSSION AND CONCLUSION:**

Girdlestone resection arthroplasty can have a substantial negative impact on physical function; however, mental health and social interaction may be only moderately affected. These outcomes can be used to guide patient expectation, as this procedure may be necessary in certain salvage scenarios.