

# When Does Hip dysfunction and Osteoarthritis Outcome Score for Joint Replacement (HOOS, JR) Peak after Primary Total Hip Arthroplasty (THA)?

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INTRODUCTION: The HOOS, JR metric has been increasingly utilized to evaluate pain and function following THA; however, less is known about when these scores reach a maximum. The purpose of this study was to determine when HOOS, JR scores peak and surpass established clinical thresholds.

METHODS: A cloud-based patient engagement platform was queried for all HOOS, JR responses before and after elective primary THA at our institution. This resulted in a total of 8,615 responses from 1,866 THAs collected between December 2019 and March 2024. Procedures included in the study were performed between January 2011 and March 2024. Surveys were collected preoperatively, at 4 weeks, 4 months, 1-, 2-, 5-, and 10-years postoperatively. Primary outcomes included the timepoints when HOOS, JR peaked, and clinically important improvements were achieved. Survey responses were analyzed to compare recovery times for specific pain and function parameters.

RESULTS: Statistically significant ( $P<.05$ ) increases in HOOS, JR scores occurred through 1-year follow-up, although mean scores continued to increase incrementally through 10 years ( $P>.05$ ). Substantial clinical benefits (SCB, +22) from baseline ( $53.4\pm14.1$ ) and the patient acceptable symptom state (PASS, 76.7) were both achieved between 4 weeks (73.6) and 4 months (84.5) postoperatively. After 4 months, no additional clinically meaningful improvements occurred. At 1 year, the greatest subjective limitation was bending to the floor to pick up an object, with 62.7% of responses indicating no difficulty; however, this improved to 74.4% by 5-year follow-up. Responses indicating no pain with stairs grew from 55.5% at 4 months to 80.7% by 2-year follow-up.

DISCUSSION AND CONCLUSION: The statistical peak in HOOS, JR scores after primary THA occurred around 1 year follow-up, and most clinically meaningful improvements occurred by 4 months. Improvements in positive patient responses continued beyond 1 year for activities of daily living that required greater balance and range of motion.

Figure 1. Mean HOOS, JR scores reached their statistical peak around one year follow-up.

