

CASE SERIES

A SIX-WEEK SUPERVISED EXERCISE AND EDUCATIONAL INTERVENTION AFTER TOTAL HIP ARTHROPLASTY: A CASE SERIES

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ABSTRACT

Background and Purpose: Most rehabilitation interventions after total hip arthroplasty (THA) are not designed to return patients to high-levels of physical activity and, thus, low levels of physical activity and residual weakness are common. The purpose of this case series was to describe the feasibility and preliminary efficacy of an exercise and education intervention for patients after THA who have already completed formal outpatient physical therapy.

Study Design: Case series

Case Description: Two participants underwent unilateral THA seven (case A) or eight (case B) months prior to the intervention. Individuals participated in 18 treatment sessions that included progressive aerobic and strengthening exercises and meetings with a health coach. Change in function, strength, and self-reported physical activity were measured. Outcomes 12 months after surgery were compared to a historical cohort of patients after THA.

Outcome: There were no adverse events during the intervention. At the end of the intervention, hip and knee strength on the surgical side increased approximately 30% compared to baseline in both cases. Activity level, and recreational performance, including walking up stairs and hiking uphill (case A), and running and golfing (case B), improved by the end of the intervention. Most changes were maintained at follow-up, although hip strength for case B decreased 27% after discharge from the intervention. Outcomes for both cases exceeded historical averages for patients 12 months after THA, with the exception of strength in case B.

Discussion: The exercise intervention was well tolerated and without negative effects in two participants. Both participants increased their ability to complete demanding recreational and sports-related activities, physical activity, and demonstrated improved hip abductor and knee extensor strength. Further research is needed to evaluate the implementation and effectiveness of similar interventions after THA.

Level of Evidence: Level 4

Key words: Aerobic exercises, activity level, lower limb strengthening, total hip arthroplasty

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