

# Hospital Inpatient versus HHome-based rehabilitation after knee arthroplasty (the HIHO study): preliminary results of a randomised controlled trial

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## Background

Although commonly utilised as a treatment alternative following joint arthroplasty, no study has been done which establishes whether inpatient rehabilitation provides superior recovery of functional mobility when compared to a home based program. It is a significant cost to the Australian healthcare system, with a discrepancy of utilisation across Australia.

## Method

A two-arm parallel randomised controlled trial aimed to compare the effectiveness of inpatient to home-based rehabilitation following total knee arthroplasty. Persons recruited from two centres had undergone a primary total knee arthroplasty. Once cleared for discharge from acute care, participants were randomly allocated to either 10 days of inpatient rehabilitation followed by usual care (a 6-week hybrid home program) or usual care. Potential participants unwilling to undergo randomisation were invited to participate in an observational group receiving usual care.

The primary outcome measured was the 6-minute walk test. Secondary outcomes included the 15-metre walk test, Oxford Knee Score and EQ-5D.

## Results

419 patients were recruited, with 81 randomised to inpatient rehabilitation, 84 randomised to a home program, and 80 included in an observational group. Preliminary results were analysed at 10 and 26 weeks after surgery for 150 participants. No significant differences between the groups were shown in unadjusted and adjusted analyses. Between groups, the mean difference (with a 95% confidence interval) for the measured outcomes were: 6-minute walk test: 0.4m (-34 to 35); 15-metre walk test: 0.3sec (-1.1 to 1.7); Oxford Knee Score: 2.2 (-0.7 to 5.1); and EQ-5D visual analogue scale: 2.1 (-8.2 to 4.0).

## Discussion

Inpatient rehabilitation does not provide participants with a superior level of recovery across a range of outcomes following total knee arthroplasty when compared to a home program. Given the increasing demand for total knee arthroplasty and limited resources, considerations for cost-effective alternatives should be explored for future practice.