

# COMPARISON OF OUTCOME IN HOME BASED REHABILITATION VERSUS SUPERVISED PHYSIOTHERAPY REHABILITATION POST ANTERIOR CRUCIATE LIGAMENT (ACL) RECONSTRUCTION

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## INTRODUCTION:

Home-based (HB) rehabilitation is an alternative method of physiotherapy after anterior cruciate ligament (ACL) reconstruction to regain pre injury state level.

## METHODS:

This was a prospective interventional study conducted over 1 year. 34 patients with ACL injury were randomized either into a HB or supervised physiotherapy (SP) program. 27 patients successfully completed rehabilitation, 15 of them were in the SP group while 12 were in the HB group. Patients were given an explanation, an instructional video CD and equipments to perform the HB rehabilitation. They were reviewed at 6 weeks, 3 months and 6 months post ACL reconstruction for evaluation. Knee motion, muscle strength and power, knee stability, and functional outcomes were assessed to investigate the comparison between both groups.

## RESULTS:

The mean age for both groups was almost similar. 20 of the 27 patients were male. All patients achieved the targeted range of motion except a patient in SP group. Functional outcome scores improved at 6 months, but statistically insignificant (P value 0.652 at 3 month and 0.323 at 6 month). Knee laxity did not show any significant difference at 6 months (p: 0.371). Muscle strengths that were measured at 2 different speeds (180° and 300°/s) showed no significant difference as well as knee power after 6 months home-based physiotherapy.

Table 1: Showing comparison of outcome between HB and SP post ACL recons

Outcomes	p-value
Functional Outcome:- At 3 month	0.652
At 6 month	0.323
Knee range of Motion	0.362
Knee Strength	

a) at 180 degree/s	
Flexion Extension	0.845
b) at 300 degree/s	0.961
Flexion Extension	0.883
	0.660

### Knee Power

a) at 180 degree/s	
Flexion Extension	0.807
b) at 300 degree/s	0.732
Flexion Extension	0.961
	0.883

### Knee Laxity

0.371

## DISCUSSIONS:

Rehabilitation post ACL reconstruction is imperative to strengthen the muscles around the knee and ultimately to improve control against load to ensure a successful return to pre injury activity level [1]. This HB rehabilitation protocol is based on similar principle as variety of available protocol. Our hypothesis of HB rehabilitation program could be as effective as SP program was proven in this study. Our findings were similar with previous studies in term of functional outcome, knee range of motion, graft laxity and muscle strenghts [2]. Our study also evaluate a comparison on knee power between both group which is never mention in other studies.

## CONCLUSION:

HB rehabilitation was as effective as supervised physiotherapy in terms of functional outcome scores, knee range of motion, knee laxity, and muscle strength and knee power for the first 6 months after ACL reconstruction surgery.

## REFERENCES:

- Grant JA, et al. Comparison of home versus physical therapy-supervised rehabilitation programs after anterior cruciate ligament reconstruction. The American journal of sports medicine. 2005 Sep;33(9):1288-97.
- Beard DJ et al.Home or supervised rehabilitation following anterior cruciate ligament reconstruction: a randomized controlled trial. Journal of Orthopaedic & Sports Physical Therapy. 1998 Feb;27(2):134-43.