

# The Functional Outcome Of Anterior Cruciate Ligament (ACL) Reconstruction Using Hamstring Tendon Performed Within 1 Year And After 1 Year Of Injury

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## INTRODUCTION:

Surgery is the typical treatment following anterior cruciate (ACL) tear especially for younger athletes or those with physically demanding occupational since it restores stability and limits the potential for progressive degeneration and long-term instability of the knee. However the timing of surgery with good functional outcome is debatable. The purpose of this study was to evaluate the functional outcome of the ACL reconstruction when it is performed within 1 year of injury and after 1 year.

## OBJECTIVE:

To study the functional outcome of ACL reconstruction surgery performed within 1 year of injury and after 1 year.

## METHODS:

We performed a retrospective prospective cohort study. Patients' pre injury level of activity and functional outcome after ACL reconstruction were evaluated. They were divided into two groups i.e those who underwent ACL reconstruction before and after 1 year of injury. The outcome was measured after 1 year of surgery using Lysholm score and single hoop for distance Limb Symmetry Index (LSI).

## RESULTS:

66 patients underwent ACL reconstruction. 36 patients had the reconstruction within 1 year of injury and 30 patients had reconstruction 1 year after the injury. The mean Lysholm score at 1-year post surgery was 90 and 87.5 respectively. All patients had LSI of not less than 85 percent except four patients who were from the group where surgery was performed after 1 year of injury.

Table 1 showing Comparison mean different between outcome and duration two level group (n=66) by using independent t test

Variable (mm)	Duration < 1 yr. Mean(SD)	Duration > 1 yr. Mean(SD)	Mean difference (95% CI)	t stat (df)	p value
LSBO	68.28(6.37)	66.70(6.91)	1.58(-1.69,4.85)	0.96 (64)	0.573
LSAO	90(3.16)	87.50(2.54)	2.50(1.07,3.93)	3.49 (64)	0.223
LSI	95.31(5.75)	86.17(5.54)	9.14(6.35,11.93)	6.54(64)	<0.001*

LSBO- LYSHOLM score before the operation, LSAO-Lysholm after the operation, LSI- Limb Symmetry index \*p-value <0.005

## DISCUSSIONS:

The LSI of 85 percent and more is considered good outcome following ACL reconstruction. Despite the delay of surgery more than one year following injury, majority of our patient achieved good LSI and Lysholm score at one-year evaluation.

However in term of the LSI, the group operated less than 1 year had significantly higher LSI which correlate with other study.(Grindem *et al.*, 2011) Pre injury activity level did not seem to affect the outcome of surgery. Associated injury such as meniscal or degenerative lesion could have contribute to less superior result in those who underwent late surgery.(Church and Keating, 2005)

## CONCLUSION:

The outcome of ACL reconstruction when it is performed within or after one year of injury is comparable base on Lysholm score.

LSI is good in both groups but demonstrate better index when the surgery is performed within one year.

## REFERENCES:

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