

## Anterior Cruciate Ligament Reconstruction using Hamstrings Tendon - Single vs Double Route Technique -

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### Introduction

There are two representative anterior cruciate ligament (ACL) reconstruction techniques using multi-strand hamstrings tendon with Endobuttons. One is one-bundle reconstruction technique (Single) using semitendinosus tendon described by Rosenberg in 1995, another is two-bundle (Double) reported by Muneta in 1999. However, there are few comparative reports concerning the results between these two reconstruction procedures. Moreover, no consensus regarding the merit of these operative techniques have been reached. Aim of this study is comparing the clinical results between the two types of ACL reconstruction techniques in our institute.

### Material and Methods

The clinical outcomes 2 years postoperatively of 153 (94 of Single, 59 of Double) consecutive patients were reported. Lysholm Score, Lachman test, Pivot-shift test, KT 1000 measurement, Second-look arthroscopic findings (at one year), Range of motion, Muscle strengthening, and Patient's satisfaction were analyzed.

### Result

Subjectively, the Lysholm score was not different among the two operative procedures. The results of Lachman test, Pivot-shift test, Second-look arthroscopic findings, Range of motion, Muscle strengthening, and Patient's satisfaction were not different between the groups. Mean anterior laxity determined by KT1000 was not different; however, KT measurements at manual maximum showed more patients with more than 5 mm differences in the Single group than in the Double group ( $p < 0.05$ ).

### Conclusion

The results of this study suggest that both operative procedures produce good clinical results. However, more reliable improvement of anterior knee laxity was found in Double route procedure.

**Key word:** Anterior cruciate ligament, Reconstruction, Operation technique

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