

## Tensioning of Remnant Posterior Cruciate Ligament and Reconstruction of Anterolateral Bundle in Chronic PCL Injury

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### Introduction

Posterior cruciate ligament (PCL) injuries have potential for intrinsic healing and several MRI studies reported that PCLs healed with continuity but also with residual laxity. The goal of our study was to investigate the outcome of tensioning of the remnant PCL and reconstruction of the anterolateral (AL) bundle of the PCL using modified inlay technique.

### Material and Methods

Thirty seven patients who underwent tensioning of remnant PCL and reconstruction of the AL bundle of the PCL were evaluated at average 39.7 months (24~70) after operation. Tensioning was performed by distal transfer of tibial attachment. The AL bundle of the PCL was reconstructed by posteromedial approach in supine position using modified inlay technique. Stability was assessed by stress radiographs with Telos<sup>®</sup> device and maximal manual test with KT-1000 arthrometer, and the clinical results by IKDC and OAK scores. Physical examination was done using posterior drawer test, varus stress test, posterolateral drawer test and dial test in 30° and 90° flexion.

### Result

Average side to side difference of posterior tibial translation in posterior stress radiographs decreased from  $10.01 \pm 2.5$  mm to  $2.2 \pm 1.2$  mm. Average side to side difference in maximal manual test with KT-1000 arthrometer also decreased from  $7.3 \pm 1.8$  mm to  $2.0 \pm 1.1$  mm. Final IKDC score was A in four (10.8%), B in twenty eight (75.7%) and C in five (13.5%) patients. Average OAK score improved from  $63.1 \pm 9$  to  $90.6 \pm 8.3$ .

### Conclusion

By tensioning of remnant PCL and reconstruction of the AL bundle in chronic PCL injuries, we can expect good stability and satisfactory clinical results. In combined PCL, PLRI and varus instability patients, PCL surgery, lateral collateral ligament reconstruction and PLCS should be recommended.

**Key word:** Posterior cruciate ligament, Anterolateral bundle, Tensioning, Anterolateral bundle reconstruction