

Endoscopic Single- Bundle Posterior Cruciate Ligament Reconstruction: Results at Minimum 10-Year Follow-up

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INTRODUCTION

Thus far, no studies have been reported evaluating the long term results of endoscopic PCL reconstruction. Although data about radiographic degenerative changes is available in the midterm, the development of osteoarthritis in the long term is still unknown. In this study we prospectively studied a group of 30 patients with isolated PCL laxity who failed conservative treatment at a minimum of 10 years post surgery. All the operations were performed by the same surgeon using a single-bundle technique (with retention of the PCL remnant), hamstring tendon autograft and interference screw fixation.

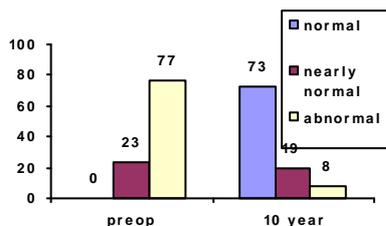
METHODOLOGY

Between 1994 and 1996, 30 patients underwent arthroscopic reconstruction for chronic (>3 months) isolated PCL laxity under the care of the senior author (LAP). All patients had failed conservative treatment. The median time from injury to reconstructive surgery was 9 months (range 4 to 120 months). At a minimum of 10 years after surgery, patients were assessed with the IKDC Evaluation, Lysholm knee score, radiographs and KT-1000 instrumented testing.

RESULTS:

Before surgery, the mean Lysholm knee score was 64. No patient rated knee function as normal, and all patients showed at least grade 2 posterior drawer laxity. At review, the mean Lysholm knee score was 91, mean subjective IKDC score was 90, and only one patient was found to exhibit grade 2 laxity on posterior drawer testing. Before injury, 94% of patients participated in moderate or strenuous activity. This figure fell to 26% after injury and had increased to 75% at 10-year review.

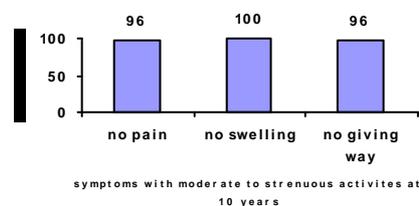
On radiographic assessment at 10 years 67%



of patients had no or minimal degenerative changes. Patients who had undergone a meniscectomy had a significantly higher rate of radiographic degenerative change (p=0.008). Grade 2 or 3 changes were seen in all 4 patients (100%) who had undergone meniscectomy compared to 4 of the 18 (22%) who had no meniscal resection.

10 yr Postoperative results

Lysholm Knee Score mean	90
IKDC Knee function normal or nearly normal (%)	92
IKDC activity level Moderate to strenuous actives (%)	88
IKDC subjective knee score mean	87
Posterior drawer (%) Grade 0 Grade 1 Grade 2	36 55 9
Instrumented testing Mean (mm) <3mm side to side difference (%)	1.1 86
Range of motion <3° extension loss (%) < than 5° flexion loss (%)	96 91
Single leg hop >90% of contralateral limb (%)	82
Radiological degeneration No/minute degenerative change (%) Definite osteophytes with unimpaired joint space (%) Moderate joint space narrowing (%)	64 18 18



CONCLUSION:

Successful endoscopic PCL reconstruction can be achieved in patients who fail to respond to non-operative treatment. At 10 years post-operatively they can expect a well functioning stable knee that allows them to participate in moderate to strenuous activities. Osteoarthritis is observed in some patients with 18% showing some loss of joint space. These rates are better than those previously observed in non-operatively managed isolated PCL injuries, and reconstruction may protect these knees in the even longer term.

Presented at:

- BASK Meeting, Bournemouth, United Kingdom, April 2008.

Published:

- British Journal of Bone and Joint Surgery 90(10) 2008 p 1328-1333