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Treatment of Posterior Cruciate Ligament Tear Combined with Postero-Lateral Instability in Skeletal Immature Children.

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Summary:
This study evaluate clinical outcome after combined PCL and PLC reconstruction in three skeletal immature patients. Our data suggest variable results following surgery and a risk of growth disorder in these patients.

Abstract:
INTRODUCTION
Tear of the posterior cruciate ligament (PCL) in combination with instability of the postero-lateral corner (PLC) is a very uncommon finding in children with open growth plates. We present follow-up results of three patients with open physes treated with PCL and PLC reconstruction.

OBJECTIVE
To evaluate clinical outcome after combined PCL and PLC reconstruction in three skeletal immature patients.

MATERIALS & METHODS
Between July 2004 and December 2010 three skeletal immature patients were treated with combined PCL and PLC reconstruction. Age at time of surgery was 7, 7 and 9 years. At follow-up the three patients were 16, 15 and 13 years respectively. Outcome was evaluated by KOOS and Tegner scores, Instrumented knee laxity and radiologic long axis leg length measurements.

RESULTS
KOOS scores at follow up for patient# 1, regarding symptoms, pain, ADL, Sport, and QOL were 61, 64, 66, 15 and 38. Patient# 2 scores were 86, 100, 100, 100 and 100, whereas patient#3 scored 96, 94, 100, 95 and 81 respectively. Tegner score was 6, 9 and 6 for the three patients. Laxity measurement was only performed for patient#1 and patient#2 at follow-up. Side to side difference in laxity using KT1000 was 0 and 2 mm at 25 degrees of flexion and 1 and 8 mm at 70 degrees of flexion. Side to side difference in knee flexion was 15, 5 and 5 degrees. No difference in knee extension was found. At follow-up all three patients had returned to sports at a recreational level. Leg length discrepancy was found to be 11, 16 and 5 mm, the index knee being the longer in all three patients.

CONCLUSION
Combined PCL and PLC reconstruction seems to result in variable clinical outcome in skeletal immature children and our data suggest a risk of growth disorder in these patients.