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Posterior Cruciate Ligament Reconstruction in Skeletal Immature Children; A Case Series of Six Patients.

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Summary:
This study evaluate clinical outcome after PCL reconstruction in six skeletal immature patients. Our data suggest fair to good results after surgery in these patients.

Abstract:
INTRODUCTION
Rupture of the posterior cruciate ligament (PCL) is a rare knee injury in childen with open growth plates. So far only case studies have been reported in the literature. We present follow-up results of six patients with open physes treated with PCL reconstruction.

OBJECTIVE
To evaluate clinical outcome after PCL reconstruction in six skeletal immature patients.

MATERIAL & METHODS
Between August 2006 and October 2010 six skeletal immature patients (one girl and five boys) were treated with PCL reconstruction. In 5 cases hamstring tendons autografts were used. One patient was reconstructed with use of a tibialis anterior tendon allograft. At time of surgery median age was 9 years (range 6 – 14). Median follow-up time after surgery was 50 months (range 41 – 90). Outcome was evaluated by KOOS and Tegner scores, Instrumented knee laxity and radiologic long axis leg length measurements.

RESULTS
Median KOOS score at follow up regarding symptoms, pain, ADL, Sport, and QOL were 79 (range 43 – 100), 89 (range 41 – 100), 99 (range 66 – 100), 70 (range 5 – 100), and 81 (range 19 – 94) respectively. Median Tegner score was 6 (range 4 – 7). Median side to side difference in laxity using KT1000 was 2 mm (range 1 – 5) at 25 degrees of flexion and 3 mm (range 3 – 6) at 70 degrees of flexion. No side to side difference in knee extension was found. In contrast a median difference of 8 degrees of flexion decrease was found . All but one patient had returned to sports at follow-up. One patient had a leg length discrepancy of 16 mm, the index knee being the longer.

CONCLUSION
PCL reconstruction resulted in fair to good clinical outcome in skeletal immature children.