Physeal-sparing reconstruction of anterior cruciate ligament tears in children

Results of 57 cases using patellar tendon

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Abstract:
This study evaluated the results of a physeal-sparing technique of intra-articular anterior cruciate ligament (ACL) reconstruction in skeletally immature patients, with particular reference to growth disturbance. Between 1992 and 2007, 57 children with a mean age of 12.2 years (6.8 to 14.5) underwent ACL reconstruction using the same technique. At a mean of 5.5 years (2 to 14) after surgery, 56 patients underwent clinical and radiological evaluation. At that time, 49 patients (87.5%) had reached bony maturity and 53 (95%) achieved A or B according to the IKDC 2000 classification. Four patients had stopped participation in sports because of knee symptoms, and three patients (5.4%) had a subsequent recurrent ACL injury. There was no clinical or radiological evidence of growth disturbance after a mean growth in stature of 20.0 cm (3 to 38).

This study demonstrates that ACL reconstruction sparing the physis in children is a safe technique protecting against meniscal tears and giving better results than reconstruction in adults, without causing significant growth disturbance.