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Primary treatment of patellar dislocation should be treated non-operatively in most skeletally immature patients

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Ling et al. identified age and skeletal immaturity as risk factors for recurrence after lateral patellar dislocation (LPD) and conclude that optimizing the management will improve disability and reduce patellofemoral arthritis. We are concerned about the increasing trend of surgery for first LPD in children, although cost benefit analyses have suggested that early surgery might be advantageous by reducing redislocation. Not only redislocation, but also patient reported outcomes and function of the knee, should be considered. Children with LPD often present with predisposing factors, i.e., trochlear dysplasia, valgus knees, weak muscles or rapid skeletal growth (1).

Three RCTs comparing non-surgical and surgical treatment in skeletally immature patients exist (1-3). Two reported a reduced risk of redislocation after surgery, (1,3) while the one with long-term follow-up did not (2). None of these studies showed improved patient reported outcomes with surgery. In one study, non-operatively treated patients had better patient reported outcome and functional outcome than operated children (1). An ideal RCT comparing these treatment options is difficult, as a single procedure is not amenable to every scenario.

Avoiding/postponing surgery in children has benefits. It is difficult to address the bony risk factors with

open growth plates. Initial treatment of LPD should focus on restoring and improving muscle power and function. Possible complications of early surgery can be avoided with non-operative treatment, which results in similar subjective and functional outcomes in many adolescents. Tailor-made surgery, preferably near or after skeletal maturity, can be offered to patients with disabling recurrent instability.

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References

1. Askenberger M, Bengtsson Moström E, Ekström W, et al. Operative Repair of Medial Patellofemoral Ligament Injury Versus Knee Brace in Children With an Acute First-Time Traumatic Patellar Dislocation: A Randomized Controlled Trial. *Am J Sports Med.* 2018;46:2328-2340.
2. Palmu S, Kallio PE, Donell ST, et al. Acute patellar dislocation in children and adolescents: a randomized clinical trial. *J Bone Joint Surg* 2008;90:463-70.
3. Regalado G, Lintula H, Kokki H, et al. Six-year outcome after non-surgical versus surgical treatment of acute primary patellar dislocation in adolescents: a prospective randomized trial. *KSSTA* 2016;24:6-11.

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