5

EFFECT OF EXERCISE IN THE ACL CONSERVATIVE TREATMENT

Snyder-Mackler L

University of Delaware, Newark, DE, USA

Anterior Cruciate Ligament (ACL) reconstruction continues to be the gold standard treatment of ACL injuries in the young athletic population.
A survey of American Academy of Orthopedic Surgeons reported 98% of surgeons would recommend surgery if a patient wishes to return to sport, with 79% believing ACL deficient patients are unable to return to all recreational sporting activities without reconstruction.
Revisiting the successful outcomes criterion after ACL injury, a successful outcome is considered no re-injury or recurrent giving way, no joint effusion, quadriceps strength symmetry, restored activity level and function, and returning to pre-injury sports (1).
After reviewing the current literature looking at these criterions, counseling athletes to undergo early reconstruction after ACL injury may not be in the athlete's best interests. Undergoing reconstruction does not guarantee athletes return to their pre-injury sport, and return to the pre-injury competitive level of sport is unlikely. The risk of a second injury is high in young athletes returning to sport, especially in the near-term. Risk of secondary injury increases for the contralateral limb in females, or the ipsilateral limb in males (Figure 1). The risk for developing osteoarthritis is high in the long-term regardless of surgical intervention, and even higher if a revision procedure is required.
A Cochrane Review found that there was insufficient evidence to recommend ACL reconstruction compared to non-operative treatment, and recent randomized control trials have found no difference between those who had ACL reconstruction and those treated non-operatively with regards to knee function, health status, and return to pre-injury activity level/sport after two and five years in young, active individuals (2, 3) (Smith et al. Knee 2014; 21: 462-470), with no differences in outcomes between early reconstruction, delayed reconstruction, and no surgery at all, counseling should start by considering non-operative management.

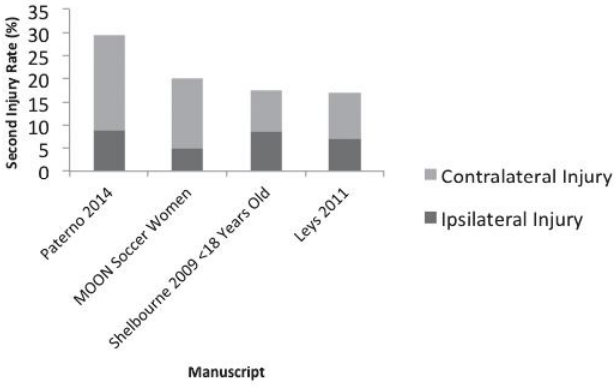

Figure 1: second ACL injury rates after ACL reconstruction.

Eitzen et al. (J Orthop Sports Phys Ther 2010; 40(11): 705-721) found a 5 week progressive exercise program after ACL injury led to significantly improved knee function before deciding to undergo reconstruction or remain non-operatively managed. The authors reported good compliance with few adverse events during training.
Non-operative management is a viable evidence based option after ACL injury, allowing some athletes to return to sport despite being ACL deficient, with equivalent functional outcomes to those after ACL reconstruction.
Given there is no evidence in outcomes to undergo early ACL reconstruction, non-operative management should be a first line of treatment choice in athletes after ACL injury.

References

1. Lynch AD, Logerstedt DS, Grindem H, Eitzen I, Hicks GE, Axe MJ, Engebretsen L, Risberg MA, Snyder-Mackler L. Consensus criteria for defining "successful outcome" after ACL injury and reconstruction: a Delaware-Oslo ACL cohort investigation. Br J Sports Med. 2013:1–9. doi:10.1136/bjsports-2013-092299
2. Grindem H, Eitzen I, Engebretsen L, Snyder-Mackler L, Risberg MA. Nonsurgical or Surgical Treatment of ACL Injuries: Knee Function, Sports Participation, and Knee Reinjury: The Delaware-Oslo ACL Cohort Study. J Bone Joint Surg Am 2014; 96(15): 1233-1241
3. Frobell RB, Roos HP, Roos EM, Roemer FW, Ranstam J, Lohmander LS. Treatment for acute anterior cruciate ligament tear: five year outcome of randomised trial. Br Med J. 2013; 232: 1-12