

**Smith TO, Postle K, et al. Is reconstruction the best management strategy for anterior cruciate ligament rupture? A systematic review and meta-analysis comparing anterior cruciate ligament reconstruction versus non-operative treatment. Knee 2014;21:462-470.**

Design: systematic review of randomized and nonrandomized clinical trials

Reasons not to cite as evidence:

- Although the review informative in some ways, it found only a single randomized trial which has already been reviewed; all other studies are observational and at high risk of bias
- It is informative in including studies with a variety of nonoperative comparison interventions, including bracing, cycling, swimming, hamstring strengthening, and other forms of exercise
  - o However, the authors report that often the description of the nonoperative intervention was not clear
- The review is informative in reporting that the observational literature appears to confirm what was reported in the randomized trial
  - o Tests of tibiofemoral stability, such as the pivot shift test, the anterior drawer test, and the KT-1000, show an advantage of ACL reconstruction over nonoperative treatment
  - o Functional outcomes do not appear to show a clinically significant advantage of repair over nonoperative treatment
  - o The Knee Osteoarthritis Outcome Score (KOOS) had a statistically significant advantage of surgery among 223 patients who had this outcome measurement, but the effect size was 1.89 points, which is less than the 7 points considered to be the minimal important change for the KOOS
  - o There was no difference in the numbers of patients who returned to pre-injury levels of activity
  - o There was a borderline increased likelihood of developing osteoarthritis at 10 years in the operated group among 361 patients, with an odds ratio of 1.56 and a 95% confidence interval from 1.00 to 2.44
  - o There was a greater likelihood of reduced flexion knee range of motion (<100°) at 1 to 4 years in the operated group among 181 patients, with an odds ratio of 5.22 and a 95% confidence interval from 1.8 to 15.08
- Only one Frobell study was identified as a randomized trial, but Frobell published two articles, one a two-year followup and one with a five year followup; only the five-year followup was included, perhaps because the authors had an interest in long term results

Assessment: Useful for information that patients who undergo early ligament reconstruction for ACL rupture are more likely to have tibiofemoral stability on clinical testing, knee function does

not appear to be greater, and there is no evidence that early reconstruction either increases return to pre-injury levels of activity or prevents later development of osteoarthritis