Cryotherapy after ACL reconstruction: a meta-analysis

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Cryotherapy is a common treatment modality after orthopedic surgery procedures. Single institutional randomized clinical trials have evaluated the efficacy of cryotherapy after arthroscopically-assisted anterior cruciate ligament (ACL) reconstruction. Most of these studies were, however, underpowered to detect clinically relevant outcomes differences. This meta-analysis assessed the combined scientific evidence of studies evaluating the effectiveness of cryotherapy after arthroscopically-assisted ACL reconstruction. Electronic databases and bibliographic references of relevant articles were used to identify all relevant randomized clinical trials comparing cryotherapy to a placebo group after ACL reconstruction. Outcomes under investigation were postoperative drainage, range of motion, and pain. Random-effects models were used to combine the findings of the randomized controlled trials. Seven randomized clinical trials were included in the meta-analysis. Postoperative drainage (P=.23) and range of motion (P=.25) were not significantly different between cryotherapy and control group. However, cryotherapy was associated with significantly lower postoperative pain (P=.02). This meta-analysis showed that cryotherapy has a statistically significant benefit in postoperative pain control, while no improvement in postoperative range of motion or drainage was found.

As the cryotherapy apparatus is fairly inexpensive, easy to use, has a high level of patient satisfaction, and is rarely associated with adverse events, we believe that cryotherapy is justified in the postoperative management of knee surgery.

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