

## The Effect of Pregabalin on Postoperative Pain after Anterior Cruciate Ligament Reconstruction: A Systematic Review of Randomized Clinical Trials

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**Abstract :** Background: Despite the enormous success of anterior cruciate ligament (ACL) reconstruction, acute neuropathic pain can develop postoperatively and is both distressing and difficult to treat once established. Pregabalin, as an anticonvulsant agent that selectively affects the nociceptive process, has been used as a pain relief agent. The purpose of this systematic review of randomized controlled trials (RCTs) was to evaluate the pain control effect of pregabalin versus placebo after ACL reconstruction. Method: A search of the literature was performed from inception to June 2022, using PubMed, Scopus, Google Scholar, Web of Science, Cochrane, and EBSCO. Studies considered for inclusion were RCTs that reported relevant outcomes (postoperative pain scores, or cumulative opioid consumption, adverse events) following the administration of pregabalin in patients undergoing ACL reconstruction. Result: Five placebo-controlled RCTs involving 272 participants met the inclusion criteria. 75 mg and 150 mg of oral pregabalin were used in included trials. Two studies used a single dose of pregabalin one hour before anesthesia induction. Two studies used pregabalin 1 hour before anesthesia induction and 12 hours after. One study used daily pregabalin 7 days before and 7 days after surgery. Out of five papers, three papers found significantly lower pain intensity and cumulative opioid consumption in the pregabalin group compared with the placebo group. However, a decrease in pain scores was found in all trials. Pregabalin administration was associated with dizziness and nausea. Conclusion: The use of pregabalin may be a valuable asset in pain management after ACL reconstruction. However, future studies with larger sample sizes and longer follow-up periods are required.

**Keywords :** pregabalin, anterior cruciate ligament, postoperative pain, clinical trial

**Conference Title :** ICCTOS 2023 : International Conference on Current Trends in Orthopaedic Surgery

**Conference Location :** Toronto, Canada

**Conference Dates :** July 10-11, 2023