



## Blood flow restriction in the postoperative of anterior cruciate ligament reconstruction

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Blood flow restriction is a physical therapy technique that consists of promoting increased strength and muscle hypertrophy, similar to protocols with high loads. It can be used in the prevention and rehabilitation of injuries, health promotion and improvement in sports performance, as in the postoperative period of anterior cruciate ligament reconstruction, accelerating functional recovery. To identify the effects of blood flow restriction in patients undergoing anterior cruciate ligament reconstruction. Through a systematic review of the literature, randomized clinical trials were selected according to the highest PEDro score. The search involved the PEDro database, PubMed, using the following terms: *blood flow restriction, anterior cruciate ligament, anterior cruciate ligament injury and BFR exercise*, published between 2000 and 2021. Six RCTs were selected: three did not demonstrate benefits in relation to atrophy, strength, volume and activation of the quadriceps muscle during blood flow restriction, when used through isometric, concentric and eccentric exercises, with progressive loads or without loads. In two other RCTs, there were positive results in relation to the aforementioned parameters, where free exercises were performed, with body resistance and sessions with occlusive stimuli and occlusion release. Finally, one of the RCTs showed equal improvement in both groups in quadriceps hypertrophy and strength; and regarding the use of flow restriction in one of the groups, there was a reduction in joint pain and effusion. Blood flow restriction has shown contradictory results in relation to atrophy, decreased pain, effusion and asymmetry of the quadriceps muscle in patients undergoing anterior cruciate ligament reconstruction.

**Keyword:** Blood flow restriction. Anterior cruciate ligament. Anterior cruciate ligament injury and BFR exercise.

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