

Do we have sufficient evidence of return-to-sports timing after anterior cruciate ligament reconstruction?

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Most of the anterior cruciate ligament (ACL) injuries occur when people do sport or exercise. Surgical treatment is recommended for athletes who want to return to functional activities including pivoting and cutting. Arthroscopic treatments are standardized in the surgical treatment of intraarticular pathologies of the knee, and the surgical treatment in ACL rupture is arthroscopy-supported reconstruction. An indication that reconstruction is successful is the patient's return-to-sports (RTS) activity before the injury [1-3].

Regardless of which surgical technique is used, a postoperative rehabilitation program is required in all patients. When it comes to the patient's ability to return to sports, it is a common method to make decisions by applying return tests to sports. Using these tests: Can the patient return to sports? How much sport activity can you do? Can it reach the level before the injury? Or can it reach an even better level? Answers to these questions are sought. The main purpose of the RTS tests is to determine the patient's ability to safely RTS activities without causing a new anterior cross-ligament damage. These tests also measure the patient's current functional capacity.

The most important factor in the decision to return to sports is the risk of re-injury. Systematic reviews and meta-analyses report that the risk of re-injury is 15% (7% on the ipsilateral side and 8% on the contralateral side). Many factors affect the risk of re-injury, including age, sex, activity level, graft placement, graft type, time after surgery, and neuromuscular and biomechanical deficits of the lower limbs. Strong evidence suggests that younger and more active athletes are at particularly high risk of a second ACL injury, and this risk is the highest in the first 2 years following ACL reconstruction. However, still, no confirmed criterion is available for determining a safe RTS after ACL reconstruction [4-6].

Despite a lot of work on RTS tests, the available evidence is limited, and no consensus exists on this issue. Interestingly, unlike previous studies, only a quarter of patients were able to pass RTS tests in a recent meta-analysis. However, most athletes returned to sports and continue safely. When the levels of participation in sports after surgery were examined, 81% of individuals returned to a kind of sport after the surgery; 65% of them stated that they could reach the pre-injury level, and 55% were able to do heavy sports. This discrepancy between successful functional results and the percentage of athletes returning to sports suggests other factors affecting the results. For example, ACL rupture is also a psychological trauma for the patient. Rehabilitation after injury focuses on treating the physical problem, and often the psychological aspects of the event are neglected. It is also known that young people have a higher risk of ACL damage than older people. In previous studies, the rate of passing RTS tests was found to be higher in young people than in older people. Another interesting recent evidence is that the risk of rupture in that knee decreased recently, while the risk of ACL damage to the patient's opposite knee increased. Another study showed that when patients who met the criteria for returning to sports returned to sports in the 9th month, the risk of damage to both the operated knee and the opposite knee significantly reduced. All these data indicated that perhaps RTS tests should be diversified with different factors [1, 7, 8].

The available data show that an operated patient meeting the RTS criteria does not mean that no new ACL damage will occur in any directory after return to the sport. Clinicians should use rehabilitation protocols and RTS tests to reduce the risk of the patient experiencing additional ACL damage after the surgery or to ensure that they experience less damage if an ACL injury develops.

As a result, published studies provide a lot of data, but some of them are contradictory. A patient's return to sports should be decided based on available evidence and taking into account the results of the RTS test. Care should be taken when advising the patient about returning to sports and the risk of a new ACL injury. We still do not know the optimal time for a return to sports following ACL reconstruction.

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