

## **Abstract**

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**Title:** Analysis of Objective Criteria in Rehabilitation After ACL Rupture Based on a Literature Review

**Objectives:** The aim of this thesis was to identify objective criteria used in return-to-sport decision-making after anterior cruciate ligament reconstruction (ACLR) based on a literature review, and to evaluate their influence on the incidence of secondary injuries.

**Methods:** This thesis was conducted as a literature review. Based on predetermined inclusion criteria, 9 relevant studies were selected. Where data were available, secondary statistical analysis was performed. Using MedCalc software, risk ratios, 95% confidence intervals, and p-values were calculated. In cases where calculation was not possible, results were summarized descriptively.

**Results:** Most studies suggest a reduced risk of secondary ACL injury when return-to-sport test batteries are passed, particularly when they include a combination of strength and functional tests assessed both quantitatively and qualitatively. A rehabilitation duration longer than 9 months is associated with a lower injury risk. Psychological readiness also proved to influence the incidence of reruptures, especially among younger athletes. A rapid increase in psychological readiness in the early rehabilitation phase may lead to earlier return and thus a higher risk of injury, while in the later phase, high psychological readiness appears to be a significant protective factor.

**Conclusion:** The findings suggest a protective effect of RTS testing against subsequent knee injuries. The variability in outcomes and statistical significance across studies highlights the need for an individualized approach not only in rehabilitation but also in the design and interpretation of test batteries and criteria. A multifactorial and comprehensive RTS approach is essential, including strength assessment, functional tests (e.g., hopping or agility drills), and psychological readiness evaluation.

**Keywords:** ACL, return to sport, objective criteria, secondary injury, rerupture, contralateral rupture, rehabilitation