

## **Thresholds for Patient-Acceptable Symptom State on the Lysholm Knee Scoring Scale in Individuals Undergoing ACL Reconstruction**

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**INTRODUCTION:** Patient-reported outcome measures (PROMs) are used to evaluate functional status and assess the effectiveness of medical interventions. In the context of anterior cruciate ligament (ACL) reconstruction, the Lysholm Knee Scoring Scale is among the most commonly used PROMs. The Patient Acceptable Symptom State (PASS) defines a threshold score on a PROM above which patients consider their condition satisfactory. However, the PASS threshold for the Lysholm scale in patients undergoing ACL reconstruction has not yet been established in the literature. Therefore, the aim of this study is to determine the PASS thresholds for the Lysholm scale in patients who have undergone ACL reconstruction, with a follow-up period of two to five years.

**METHODS:** Patients who underwent isolated ACL reconstruction completed a survey at their most recent follow-up visit, which included the Lysholm Knee Scoring Scale. As part of the assessment, all patients were asked to rate their satisfaction with their current health status by responding to the following question: "Considering all the activities you perform as part of your normal daily life, your level of pain, and your degree of difficulty, if you were to remain in your current condition over the next few months, would you consider your current health state satisfactory?" Preoperative, intraoperative, and postoperative variables were analyzed, and cutoff values for the Lysholm scale were determined to identify the PASS using receiver operating characteristic (ROC) curve analysis.

**RESULTS:** A total of 378 patients who underwent isolated ACL reconstruction were evaluated, with a mean follow-up of  $35.8 \pm 12.6$  months. Of these, 43 patients (11.4%) reported dissatisfaction with their current condition (PASS–No), while 335 patients (88.6%) reported satisfaction (PASS–Yes). Receiver operating characteristic (ROC) curve analysis identified a Lysholm scale cutoff score of 85.0 points for defining the PASS, with a sensitivity of 79.1% and a specificity of 90.7%. Factors associated with failure to achieve the PASS threshold included greater preoperative knee hyperextension, presence of postoperative residual pivot shift, new knee injuries, and the need for subsequent ACL revision or meniscal surgeries on the operated knee.

**DISCUSSION AND CONCLUSION:** The PASS threshold for the Lysholm scale was determined to be 85.0 points in patients who underwent ACL reconstruction, with a mean follow-up of three years. By establishing this threshold, the study offers valuable insights to support the interpretation of Lysholm scores in clinical practice, helping ACL surgeons better assess patient satisfaction and surgical outcomes.