

# Self-efficacy of knee function

## in patients with an Anterior Cruciate Ligament injury

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**The overall purpose** of this thesis was to investigate the clinical relevance of *perceived self-efficacy of knee function* among patients with an Anterior Cruciate Ligament (ACL) injury.

**Material and methods:** An instrument was developed for measuring perceived self-efficacy of knee function (K-SES) in patients with an ACL injury. A total of 210 patients with an ACL injury participated in the study on construction of the K-SES. Items were generated, analysed and the final K-SES was tested for reliability as well as for validity. Perceived self-efficacy of knee function was described prospectively up to one year after ACL injury/surgery. The influence of symptoms, gender, age and physical activity on the patients' perceived self-efficacy of knee function was described. Thirty patients with a recent ACL injury and 33 patients with an ACL reconstruction participated in a one year prospective study. Physical and psychological measures believed to determine patients' perceived self-efficacy of knee function in the rehabilitation of patients with an ACL injury was explored. One year after ACL injury or reconstructive surgery, 116 patients were tested for their self-efficacy of knee function and for 15 outcome measures. A stepwise linear regression analysis was conducted on the K-SES to detect the strongest model describing self-efficacy of knee function. The potential of K-SES to predict outcome one year after an ACL reconstruction was explored. Thirty-eight patients scheduled for an ACL reconstruction, were evaluated pre-operatively using the K-SES. One year after surgery, patients were evaluated using outcome measures for present physical activity, knee symptoms and knee muscle function.

**Results:** K-SES was found to be a reliable, valid and responsive instrument to be used for assessing self-efficacy of knee function in patients with an ACL injury. A factor analysis revealed two factors; how the patients perceived their *present* physical performance/function (K-SES<sub>Present</sub>) and how the patients perceived their *future* physical performance/prognosis of their knee (K-SES<sub>Future</sub>). The perceived self-efficacy of knee function changed significantly during the course of rehabilitation. A significant difference in self-efficacy of knee function was observed early in the rehabilitation process, between men and women, younger and older, and patients with a low and high pre-injury physical activity level. The Lysholm score, KOOS<sub>Sports/Recreation</sub>, Internal Locus of Control and Locus of Control by Chance explained 40% of the variance in the complete K-SES as well as 41% of the variance for K-SES<sub>Present</sub>. For K-SES<sub>Future</sub>, the strongest model was the Lysholm score, KOOS<sub>Sports/Recreation</sub>, Tegner<sub>Present</sub> level and Internal Locus of Control explain 38% of the variance. K-SES<sub>Present</sub> and K-SES<sub>Future</sub> were found to be significant pre-operative predictors for present physical activity, knee symptoms and knee muscle function one year after reconstruction surgery, when adjusted for age, gender and pre-injury physical activity level.

**In conclusion** a new reliable, valid and responsive instrument (K-SES) to access perceived self-efficacy of knee function in patients with an ACL injury was constructed. Symptoms during sports and recreation and internal health locus of control were found to be determinants i.e. factors that are important and have a major impact on patients' perceived self-efficacy of knee function. K-SES could possibly be used to predict the outcome after ACL surgery and rehabilitation. Clinicians may use K-SES together with other outcome measures to provide better selection and strategies for treatment of patients with an ACL injury.

**Key words:** self-efficacy of knee function, K-SES, anterior cruciate ligament injury, test instrument construction, validity, reliability, responsiveness, determinant, predictor

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