

## **Postoperative Knee Function based on Concomitant Treatment of Lateral Meniscal Injury in the Setting of Primary Anterior Cruciate Ligament Reconstruction**

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**INTRODUCTION:** Concomitant lateral meniscus (LM) injuries are common in acute anterior cruciate ligament (ACL) ruptures. However, the effect of addressing these injuries with various treatment methods during primary ACL reconstruction (ACLR) on patient-reported outcomes (PROs) is unknown. Therefore, the purpose of this study was to compare postoperative Knee injury and Osteoarthritis Outcome Score (KOOS) at 2-, 5-, and 10-years after isolated primary ACLR to primary ACLR with various treatment methods to address concomitant LM injury.

### **METHODS:**

This study was based on data from the Swedish National Knee Ligament Registry. Patients  $\geq 15$  years with data on postoperative KOOS who underwent primary ACLR between the years 2005 and 2018 were included in this study. The study population was divided into five groups: 1) Isolated ACLR, 2) ACLR + LM repair, 3) ACLR + LM resection, 4) ACLR+LM injury left in situ, and 5) ACLR + LM repair + LM resection. Patients with concomitant medial meniscus or other surgically treated ligament injuries were excluded.

**RESULTS:** Of 31,819 included patients, 24% had LM injury. After post hoc comparisons, significantly lower scores were found for the KOOS Symptoms subscale in ACLR+LM repair group compared to isolated ACLR (76.0 vs. 78.3,  $p=0.0080$ ) and ACLR+LM injury left in situ groups (76.0 vs. 78.3,  $p=0.024$ ) at 2-year follow up. However, at 10-year follow up, no differences were found between ACLR + LM repair and isolated ACLR, but ACLR + LM resection resulted in significantly lower KOOS Symptoms scores compared to isolated ACLR (80.4 vs. 82.3,  $p=0.02$ ).

**DISCUSSION AND CONCLUSION:** The results of this study suggest that LM injury during ACLR is associated with lower KOOS scores, particularly in the Symptoms subscale, at short- and long-term follow up. Further randomized studies are needed to better understand the effects of various treatments for LM on clinical outcomes.