

## CHARACTERIZATION AND PREVALENCE OF PEDIATRIC RAMP LESIONS AFTER ANTERIOR CRUCIATE LIGAMENT TEARS

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**Background:** Ramp lesions correspond to posterior meniscocapsular tears of the medial meniscus and are common with anterior cruciate ligament (ACL) tears. They cannot be recognized easily on preoperative magnetic resonance imaging (MRI) scans and are difficult to visualize even using standard arthroscopic approaches. We aim to (1) characterize and evaluate the prevalence of ramp lesions in pediatric patients at a major tertiary children's hospital, providing important insights into demographics, diagnosis, treatment and functional disability and (2) evaluate the efficacy of MRI in its diagnosis.

**Materials/Methods:** We retrospectively reviewed patients under 21 years old undergoing posterior medial meniscal injuries and anterior cruciate ligament ruptures with arthroscopic examination and positive ramp lesions from 2018 to 2021. Patient demographics (including gender and age), initial presentation, physical examination findings, mechanism of injury, pre-operative radiologic findings and treatment were collected and reviewed via electronic medical record. Exclusion criteria included patients over 18 years old, patients that did not have an MRI, and patients that were not treated surgically.

**Results:** There were 117 patients that met inclusion criteria out of 690 patients. The mean age at diagnosis was  $15.6 \pm 1.6$  years and mean BMI was  $26.7 \pm 6.4$ . 83% of injuries occurred secondary to sporting activities. Ramp lesions were only detected on preoperative MRI in 63% of cases, suspected in 3%, and not detected in 33%. The sensitivity of MRI was 63%.

**Conclusions:** Ramp lesions were found in 117/690 (16.9%) of patients undergoing ACL reconstruction. MRI had a low sensitivity rate at 63%. During ACL reconstruction, careful review of the posteromedial compartment is important to recognize less obvious trauma. Lack of treatment may lead to continued instability and risk of complications in these patients.

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