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EFFECTIVENESS AND SAFETY OF THE BASKET-WEAVE TECHNIQUE FOR MPFL LIGAMENT RECONSTRUCTION IN A POPULATION OF 24 GROWING SUBJECTS

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- None of the authors received payments or services, either directly or indirectly (i.e., via his or her institution), from a third party in support of any aspect of this work.
- None of the authors, or their institution(s), have had any financial relationship, in the six-twelve months prior to submission of this work, with any entity in the biomedical area that could be perceived to influence or have the potential to influence what is written in this work.
- All the authors have never had relationships, or has engaged in any other activities, that could be perceived to influence or have the potential to influence what is written in this work.



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INTRODUCTION AND PURPOSE:

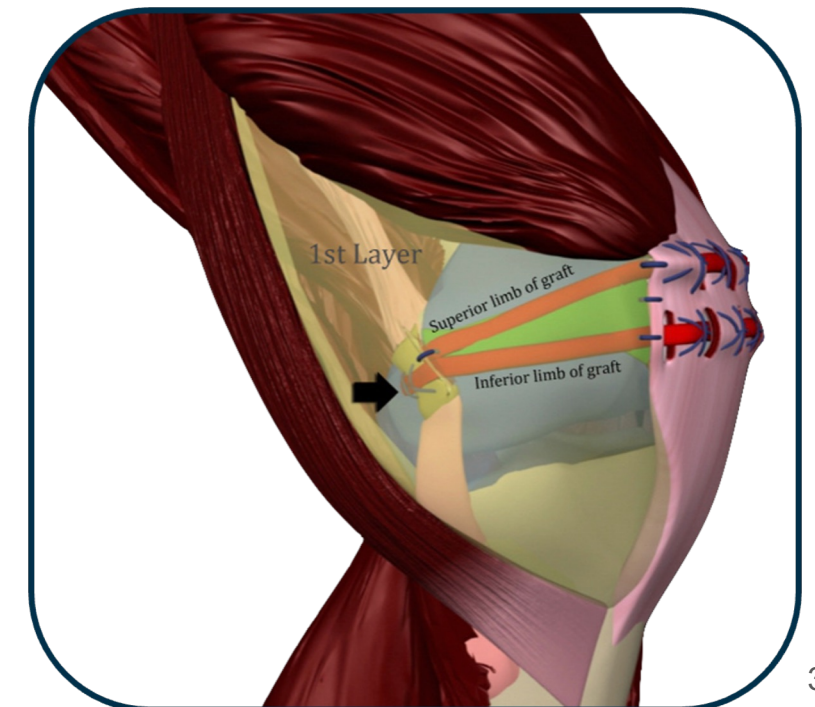
Patellar instability with patellofemoral ligament (MPFL) injury is a common problem especially in young active population.

Treatment for first-time patella dislocations is typically nonoperative and includes bracing, early range of motion, and physical therapy. For those patients who progress to recurrent instability, further investigation into the predisposing factors is required. The MPFL has been shown biomechanically to be the primary restraint among the medial patellar stabilizers.

Different techniques are described in literatures for the reconstruction of MPFL but often they involve the use of bone tunnels or fixation systems which can bring stiffness and compromising the clinical results especially in patients with immature skeletons.

A peculiar MPFL reconstruction technique was tested to achieve optimal graft fixation with minimal suture knots: Basket-Weave technique for medial patellofemoral ligament reconstruction.

The aim of this study is to evaluate the effectiveness of the Basket-Weave technique which does not involve the use of bone tunnels and is completely implant free.



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MATERIAL & METHODS

24 patients (16 men and 8 women) with a mean age of $15 \pm 3,5$ years (range, 12 to 19 years) who suffered of recurrent lateral patellar dislocation (at least 3 times) not responding to conservative treatment were treated using Basket-Weave technique from February 2018 to May 2021.

All patients underwent to arthroscopy to perform any needed accessory gestures such as loose body removal, chondroplasty, etc.

Pre-op planning was performed with MRI and CT-scan. All patients were, also, classified using The Dejour Classification of Trochlear Dysplasia. Type C and D according to Dejour Classification were excluded because they would have required accessory gestures on bone such as transposition of the anterior tibial tuberosity.

MRI evaluations were achieved at 12 months follow-up.

At 12-, 24- and 36-months clinical evaluation were analyzed with IKDC score, Tegner and Kujala score.



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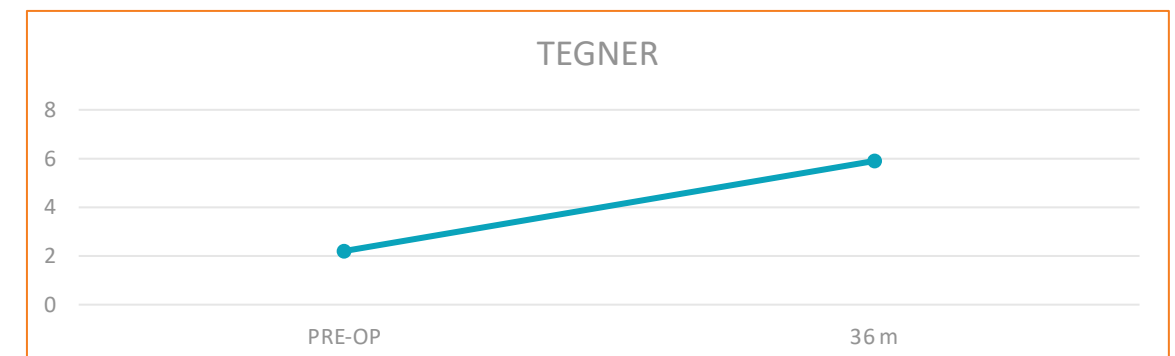
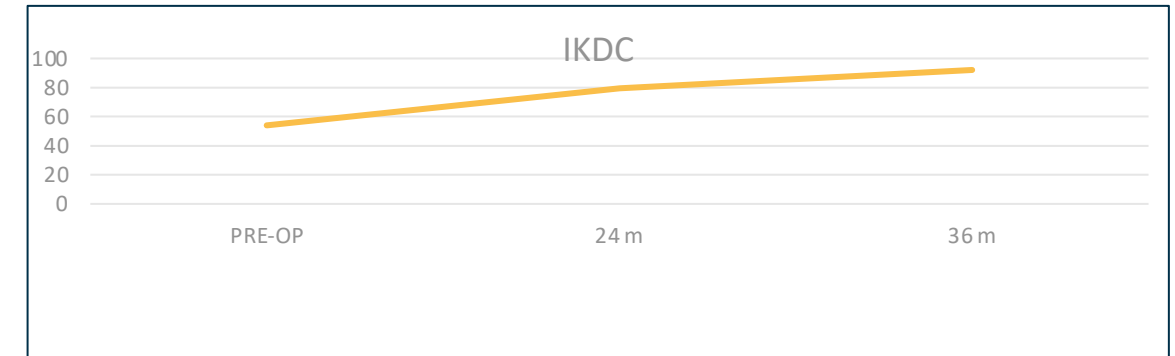
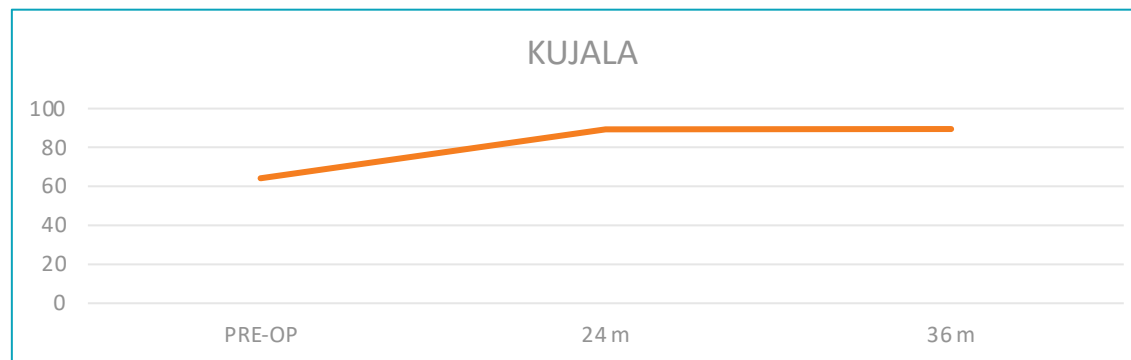
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RESULTS

The preoperative clinical evaluation was as follows: Kujala P-F Scale 64.2 ± 5.3 , IKDC 54.0 ± 4.2 , Tegner 2.2 ± 1.6 points.

The Kujala P-F Scale score and IKDC score at 24 months were 89.2 ± 1.6 and 79.6 ± 8.7 points, respectively.

At the final check-up, the clinical evaluation obtained the following results: Kujala P-F Scale 89.5 ± 2.9 , IKDC score 92.1 ± 5.4 and Tegner score 5.9 ± 1.2 .



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CONCLUSIONS

Basket-Weave reconstruction technique guaranteed safety and excellent results, avoiding complications related to the creation of bone tunnels and the use of implants, in particular in growing subjects with open-physes. According to our results it represents an effective and reproducible technique.



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CLINICAL CASE



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