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Regarding “Primary Medial Patellofemoral Ligament Repair Versus Reconstruction: Rates and Risk Factors for Instability Recurrence in a Young, Active Patient Population”



Studies comparing outcomes of different treatments are always intriguing, so I read the article by Puzzitiello et al. with interest.¹ Based on telephonic mean follow-up of approximately 5 years, the authors found greater rate of re-dislocation following medial patellofemoral ligament (MPFL) repair/imbrication in 19 knees as compared with reconstruction using hamstring autograft, hamstring allograft, or tibialis anterior allograft in 32 knees. The authors are to be congratulated for undertaking this retrospective review, but I did not find where follow-up duration was analyzed between the repair and reconstructed groups, so I would like to see that comparison.

Furthermore, although their low percentage of surgical failure following MPFL reconstruction (6.3%) is quite in line with my personal experience with this procedure, their patellar re-dislocation rate of 36.9% following repair/imbrication is much greater than what I've seen in practice (my median surgical age = 18 years), as well as what's reported in 2 articles not referenced by these authors, when treating recurrent patellar dislocations with medial patellar retinacular imbrication. Nam and Karzel² in 2005 reported less than 5% re-dislocation at about 4-year average follow-up of 23 knees after medial retinacular imbrication for recurrent patellar dislocations. The average age at surgery in that investigation was 23 years, very similar to the cohorts in the study of Puzzitiello et al.¹ Almost a decade later, Boddula et al.³ reported similar, very low recurrent instability at mean follow-up of about 12 years in 20 knees following medial retinacular imbrication.

What could account for the difference? First, it seems 37% of the knees undergoing repair/imbrication by Puzzitiello et al. suffered just a single patellar dislocation before surgery and so were not recurrent dislocators. Many knee surgeons take a less aggressive approach, reserving surgical intervention until after a second episode, unless there's compelling reason for surgery following initial dislocation. Indeed, a very recent meta-analysis of randomized controlled trials showed similar

results at long-term follow-up for surgical versus nonsurgical treatment of initial patellar dislocation.⁴ Not going straight to surgery following initial dislocation may allow for some healing of injured stabilizing structures, making subsequent imbrication, if necessary, more effective. In fact, imbrication was done on just some of the knees in the repair group by Puzzitiello et al.¹ I also wonder if their using a no. 0 suture for imbrication, rather than the no. 2 that I've always used, might have also contributed to a greater failure rate. Although some investigators have reported good results using a no. 0 suture for medial retinacular imbrication,³ others advocate using no. 2.² In addition, Puzzitiello et al.¹ used the same postoperative protocol following repair or reconstruction. However, such accelerated rehabilitation may be better tolerated by tendon grafts firmly fixated compared with sutured soft tissues. Therefore, perhaps a combination of patient selection, surgical technique, and rehabilitation differences may account for the greater failure rate in Puzzitiello et al.'s repair/imbrication group.¹

Although there may be growing consensus about the superiority of MPFL reconstruction over imbrication, consensus can be wrong. Indeed, there have been instances—just during my career—where accepted consensus, at least in North America, was called into question on further analysis. Just 2 such examples are: consensus that extra-articular procedures are of no benefit for anterior cruciate ligament reconstruction and consensus that bone augmentation is of little benefit for surgical treatment of recurrent anterior shoulder dislocations. For restoring patellar stability, it's crucial to separate repair procedures from imbrication, although the 2 are often conflated, leading to confusion in the literature, as well as in the minds of clinicians.

The goals of medial retinacular imbrication are to improve patellar stability while maintaining anatomy—especially attachment points—of the medial static stabilizers, and avoid overly stiffening these stabilizers so as not to unduly increase articular compressive forces. In contrast, reconstruction using hamstring tendon graft, which has been shown to be significantly stiffer than the MPFL itself, can result in patellofemoral joint pressure several times greater than the native state, especially if such grafts are secured to bone on both sides, which is very concerning for the long-term health and longevity of knee joints.⁵⁻⁷ Given that insertion of the MPFL on the extensor mechanism has been shown in cadaveric investigation to be both rather broad and variable, and is not readily ascertainable for any given knee without extensive dissection, approximating native anatomy would appear to be far more likely with medial retinacular imbrication as opposed to MPFL reconstruction.⁸ I look forward to the authors' reply and also future interesting investigations from this well-respected group.

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Author Reply to “Regarding “Primary Medial Patellofemoral Ligament Repair Versus Reconstruction: Rates and Risk Factors for Instability Recurrence in a Young, Active Patient Population”



First and foremost, we would like to thank Dr. Ilahi for his thoughtful commentary on our recent publication.¹ Our referenced study comparatively analyzed the outcomes of 32 medial patellofemoral ligament (MPFL)