

Return to Sport Following Isolated Medial Patellofemoral Ligament Repair: A Retrospective Review of 128 Patients

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Disclosures:

Introduction: The purpose of this study was to set appropriate expectations and correlate pre-operative imaging measurements and patient reported scores to return to sport (RTS) for patients undergoing isolated MPFL reconstruction.

Methods: A retrospective review of patients who underwent isolated MPFL reconstruction with available RTS data from 2015-2022 was performed. Patients who underwent subsequent surgery on their contralateral knee within a year of their index MPFL reconstruction were excluded. Pre-operative MRI, examination under anesthesia, and patient reported outcome was collected and analyzed.

Results: This study included 128 patients. The mean age was 20.75 ± 8.76 with a mean BMI of 25.08 ± 4.95 and 63% were female. In this cohort, 86.7% (111/128) of patients had successful RTS after their procedure. Mean time to RTS was 6.52 ± 2.92 months (range: 3 – 24 months). On pre-op MRI, lower sTT-TG (sagittal Tibial Tubercle-Trochlear Groove) measurements and greater trochlear depth measured from the medial (MFC) and lateral femoral condyles (LFC) to the center of the trochlea were associated with successful RTS (Table 1). Additionally, patients who did RTS exhibited less medial patella displacement during exam under anesthesia. Lower pre-op HADS depression and HADS anxiety scores, and higher pre-op Kujala scores were found in patients who did RTS. Pre-op KOOS JR scores were not significantly different between cohorts, however 6-month and 1-year KOOS JR scores were higher in patients who did RTS.

Discussion: Reconstruction of the MPFL is associated with high success rate in returning patients to their previous sport. Pre-operative measurements and examination including sTT-TG, trochlear depth, and patellar displacement may differentiate patients who are able to successfully RTS. Psychometric and patient reported outcome scores may also be a useful indicator of patients who will be able to return to sport after surgery.

Significance/Clinical Relevance: This study identified risk factors associated with failure to return to sport after MPFL reconstruction. This information is valuable to orthopedic surgeons in managing athletes with patellar instability.

Table 1. Variables in patients with and without successful return to sport

	Return to Sport: No/Yes	N	Mean	Std Dev.	P-value
Age	No	17	22.23	9.87	0.455
	Yes	102	20.50	8.63	
BMI	No	17	23.69	3.82	0.444
	Yes	78	25.20	5.07	
sTT-TG	No	16	9.11	5.02	0.017
	Yes	79	5.95	4.67	
Trochlear Depth (LFC)	No	16	3.49	1.60	0.030
	Yes	85	4.66	2.01	
Trochlear Depth (MFC)	No	16	1.54	0.84	< 0.001
	Yes	85	2.65	1.69	
Medial Displacement Quadrants	No	12	3.00	0.43	< 0.001
	Yes	86	2.26	0.75	
Pre-op HADS Depression	No	12	6.00	5.63	0.040
	Yes	48	2.17	2.49	
Pre-op HADS Anxiety	No	12	8.50	5.28	0.002
	Yes	48	4.21	3.74	
Pre-op Kujala	No	16	53.13	17.10	0.033
	Yes	101	63.79	18.55	
Pre-op KOOS JR	No	17	63.60	11.05	0.054
	Yes	103	69.83	15.77	
6 mo KOOS JR	No	15	76.07	13.88	0.016
	Yes	84	85.25	13.33	
1 yr KOOS JR	No	6	81.91	11.23	0.029
	Yes	65	92.33	10.91	