

# MPFL Reconstruction (Allograft)



Name: \_\_\_\_\_

Dr: Dr. Chris LaPrade

Date: \_\_\_\_\_

● = Do exercise for that week

**Week**

Initial Exercises	1	2	3	4	5	6	7	8	9	10	12	16	20	24
Ankle Pumps	●	●	●	●	●	●	●	●						
Calf stretch with belt	●	●	●	●	●	●	●	●						
Patella/Tendon mobilization	●	●	●	●	●	●	●	●						
Seated heel slide knee flexion	●	●	●	●	●	●	●	●						
ROM Goals	Full extension by week 2 Flexion: ≈90° by 4 weeks, ≈120° by 8 wks, Full ROM by 12 wks)													
Quad strength progressions	0° ISO, SLR, TKE			ISOs in flexion, 90-40° arc PRE				Full arc PRE (per tolerance)						
Quad strength goals	SLR x 20 with no lag			Tolerate PRE				Progress toward 90% LSI						
Hamstring strength progressions	ISOs			Hip-based & Knee-based resisted arc PRE										
Straight leg raise – ABD, ADD, Ext	Side lying or standing with band-resistance													
Bridges in extension –calves over ball	Over ball – knees extended							Classic bridge progressions						
<b>Cardiovascular Exercises</b>	1	2	3	4	5	6	7	8	9	10	12	16	20	24
Stationary bike	NO		ROM only			Gradually progress intensity								
Swimming – flutter kick						●	●	●	●	●	●	●	●	●
Elliptical trainer or treadmill walking						●	●	●	●	●	●	●	●	●
<b>*NOTE FOR CARDIO</b>	Must tolerate daily walking with no limp & no significant increase in pain/swelling prior to initiating WB cardio (walk, elliptical, stepper)													
<b>Weight Bearing Strength</b>	1	2	3	4	5	6	7	8	9	10	12	16	20	24
Crutch weaning	●	●	●											
Calf raises		●	●	●	●	●	●	●	●	●	●			
Marching into brief SLS		●	●	●	●	●	●	●	●	●	●			
2 leg squats/Leg press			●	●	●	●	●	●	●	●	●			
SLS balance progressions			●	●	●	●	●	●	●	●	●	●	●	●
Single leg ISO lunge/step hold				●	●	●	●	●	●	●	●	●	●	●
Dynamic step-up/down				●	●	●	●	●	●	●	●	●	●	●
Squat/lunge loaded progressions					●	●	●	●	●	●	●	●	●	●
Band-resisted directional stepping								●	●	●	●	●	●	●
<b>Agility Exercises</b>	1	2	3	4	5	6	7	8	9	10	12	16	20	24
Running progression	≥12 weeks post-op, YBT-Anterior ≤8 cm SSD, walk ≥1 mile no limp/no pain, Quad strength ≥70% LSI, ≥60% peak torque/BW													
Initial – single plane agility											●	●	●	●
Advance – multi directional agility												●	●	●
Sport Performance (TRAC) Test	Baseline test: 4 months, follow-up tests 7 & 10 months (prn)													
<b>High Level Activities</b>	1	2	3	4	5	6	7	8	9	10	12	16	20	24
Outdoor recreational activities													●	●
Return to sport progressions														●

**\*\*NMES & BFR encouraged (per any contraindications)\*\***

**ROM RESTRICTIONS**  
AAROM 0-90° x 2 weeks then full ROM  
  
\*Low amplitude patellar mobilizations only\*

**BRACE SETTINGS**  
Immobilizer until able to perform SLR x 20 reps with NO extensor lag

**Weight Bearing status**  
WBAT

**TIME LINES**  
Week 1(1-7POD)  
Week 2(8-14POD)  
Week 3(15-21POD)  
Week 4(22-28POD)

ABBREVIATIONS	ISO = isometric, KF = knee flexion, LAQ = long arc quad, PRE = progressive resistance exercise, SLR = straight leg raise, TKE = band-resisted terminal knee extension
PRECAUTIONS	*Avoid quad strength through 45-0° arc until week 8+ post-op

**POST-KNEE SURGERY RETURN TO ACTIVITY GUIDELINES/CRITERIA**

Return to run guidelines	≥12 weeks post-op, YBT-Anterior ≤8 cm SSD, walk ≥1 mile no limp/no pain, Quad strength ≥70% LSI, ≥60% peak torque/BW
Return to jump guidelines	≥16 weeks post-op, YBT(A) ≤4 cm SSD, Quad strength ≥80% LSI, ≥80% peak torque/BW, tolerate hopping/skipping drills with no increased soreness/swelling, tolerate lunge/squat/step single leg training progressions
Return to sport guidelines	In addition to TRAC testing goals (listed below), patient must achieve the following: >6 months post-op 12+ weeks progressive strength training 8+ weeks neuromotor training program 6+ weeks within-sport practice progression (per MD/PT team clearance) 3+ weeks graduated return to competition (per MD/PT team clearance)

**POST-KNEE SURGERY "TRAC" PHYSICAL PERFORMANCE TESTING - TIMELINES & GOALS**

*(Will be performed at TCO/Training HAUS in Eagan, MN)*

TRAC Test Activity	4 Month Goals	7 Month Goals	10 Month Goals
Knee Extension ROM	≤5° SSD	≤0° SSD	≤0° SSD
Knee Flexion ROM	≤10° SSD	≤5° SSD	≤0° SSD
YBT(A) Squat SSD	≤8 cm SSD	≤4 cm SSD	≤4 cm SSD
<i>Max YBT(A) squat depth relative to LL</i>	≥55% of LL	≥70% of LL	≥70% of LL
Repeated single leg squat (one leg rise test)	25 reps to 60° KF	25 reps to 90° KF	25 reps to 90° KF
2 leg squat symmetry (over force plates)	≤10% off-shift	≤5% off-shift	≤5% off-shift
Hip ABD strength LSI	≥80% LSI	≥90% LSI	≥90% LSI
<i>Hip ABD strength relative to BW</i>	≥20% of BW	≥25% of BW	≥30% of BW
Quad strength LSI	≥70% LSI	≥80% LSI	≥90% LSI
<i>Quad strength relative to BW</i>	≥70% of BW	≥80% of BW	≥90% of BW
Hamstring strength LSI		≥75% LSI	≥90% LSI
Single leg hop (SLH) test LSI		≥80% LSI	≥90% LSI
<i>SLH distance relative to LL (norm comparison)</i>		≥80% of norms	≥90% of norms
Triple hop test LSI		≥80% LSI	≥90% LSI
<i>Triple hop distance (norm comparison)</i>		≥80% of norms	≥90% of norms
2 leg jump (off shift at take-off/landing)		≤20% off shift	≤10% off shift
Peak knee flexion angle SSD with hop landing		≤20° SSD	≤10° SSD

*Abbreviations for both tables above: (ABD) abduction, (BW) body weight, (ISO) isometric, (LL) leg length, (LSI) limb symmetry index, (norm) age & sex-matched normative data, (PRE) progressive resistance exercise, (ROM) range of motion, (SLR) straight leg raise, (SSD) side to side difference, (TRAC) testing to return to athletic competition, (UE) upper extremity, (YBT(A)) Y-balance test anterior reach*