

Dr. Brian Chilelli

Patellar/Trochlear - MACI/Autologous Allogeneic Cartilage Repair

Post-op	Restrictions/Precautions	Rehabilitation Guidelines
Post-op Weeks 0-6	Commonly done concurrently with TTO - follow TTO restrictions listed when warranted! TTO Weight Bearing: Weeks 0-4 TTWB, then progressive for 2-3 weeks Brace: with brace locked at 0 deg for 4 weeks, then unlock pending quad control Strengthening: Supine SLR – hold x 4 weeks, then standing only until 6 weeks PO; active knee ext – hold x 6 weeks; CKC – hold x 6 weeks MACI/AAC Only Weight Bearing: WBAT T-scope: locked at 0 deg for 4 weeks, then unlock pending quad control Strengthening: hold OKC & CKC until 6 weeks PO	Patient Education: surgical restrictions/precautions, symptom management, ACE wrap for swelling management, wound care Wound Care: remove post-operative bandages/dressing after 72 hours; can shower at 72 hours; submerge at 2 weeks PO CPM: >/= 6 hours per day for 6 weeks 0-30° weeks 0-2 0-60° weeks 2-4 0-90° weeks 4-6 Manual Therapy: multi-directional patellar mobilization, PROM, local STM as needed PROM: full/progress as tolerated without forceful overpressure Goal: 90 deg by 3 weeks PO; 110 deg by 6 weeks PO Stretching: Calf & hamstring Neuromuscular Control: Quad sets (w/ NMES and/or biofeedback), gait training (weight shifting), bilateral balance/proprioception Strengthening: Weeks 0-2 Ankle progressive resistive exercises (PRE's) Quad sets (w/ NMES and/or biofeedback) SLR Flexion (MACI/AAC only) SLR Abd, Add, Ext Weeks 2-6 Continue all exercises from weeks 0-2 Glute/Hamstring isometrics Multi-angle quad isometrics Multi-angle quad isometrics SLR flexion (begin at 4 weeks PO for TTO – Standing only) Bilateral calf raises Clamshells (once adequate PROM is obtained)
		• Clamshells (once adequate PROM is obtained) Cont. on next page



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Weeks 0-6 cont.		Straight Leg Bridge on Stability Ball → Standard Bridge (with or without resistance band for big about the BROM is abtained).		
Cont.		hip abduction; once adequate PROM is obtained)		
		BFR: consider as early as 2 weeks PO		
		Stationary Bike: at 4 weeks PO once 90° is obtained; no resistance		
		<u>Modalities:</u> as needed – consider NMES/TENS, biofeedback, vasopneumatic compression		
Weeks 6-12	T-scope: d/c pending quad control	<u>Patient Education:</u> surgical restrictions/precautions, weight bearing progression, brace &crutch progression		
	Strengthening:	Manual Therapy: multi-directional patellar mobilization, PROM, local STM as needed		
	 No active OKC KE 40-70° 	PROM: Full		
	 Avoid repetitive CKC KF 40-70° 	Stretching: as needed		
	, were repeated events in 10 70	Neuromuscular Control: gait training, standard and retro walking on treadmill/alter-G, balance and		
		proprioceptive training – double leg → single leg within 0-40 deg knee flexion		
		Strengthening: continue necessary strengthening from prior stage		
		OKC		
		SLR flexion supine for TTO		
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		Knee Extensions – BEGIN AT WEEK 9; 0-30 deg		
		 Hamstring curls to tolerance – ankle weights/bands → weight machine 		
		 MAH machine – surgical leg NWB → surgical leg WB 		
		CKC		
		Clamshell progression		
		Bridge progression		
		TKE w/ resistance		
		Wall sits (40 deg)		
		 Leg Press (0-40 deg) – bilateral > eccentric 		
		Box squats (0-40 deg) Box stuff		
		Deadlift		
		 Forward step up – 4" starting height 		
		 Lateral step down – 4" starting height 		
		Cont. on next page		
		Lateral/Monster walks		
		BFR: continue until standard strengthening program is well tolerated		
		Modalities: as needed		
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Months 3-6	Strengthening:	Cardiovascular: low-impact cardio including treadmill, elliptical and stationary biking	
	 No active OKC KE 40-70° 	Strengthening:	
	 Avoid repetitive CKC KF 40-70° 	Single Leg Deadlift	
		Single Leg Press (0-40 deg)	
		Single Leg Hamstring Curl	
		Small Step up with weight	
		Neuromuscular Control: higher level balance and proprioceptive training within 0-40 deg knee	
		flexion ROM	
		Modalities: as needed	
Month 6-12	Avoid:	Cardiovascular: continue low-impact cardio including treadmill, elliptical and stationary biking;	
	 Heavy loaded OKC knee ext 	begin running once RTP criteria for stage 2 is achieved	
	(hold long-term – utilize quad	Strengthening:	
	strengthening through CKC	 Continuation of strengthening as needed – patient specific 	
	exercise)	 Progress all CKC exercises to 70 deg knee flexion 	
	 High Impact activity until 6-12 	Neuromuscular Control: higher level balance and proprioceptive training within 0-70 deg knee	
	months pending RTP testing	flexion ROM	
	and MD recommendations	<u>Isokinetic strength testing:</u> initiate at 6 months and progress per LE RTP guidelines	
Month 12-18	Note: Activities that generate high	Cardiovascular: per patient preference including running once RTP criteria for stage 2 is achieved	
	compression, shear and rotational	Strengthening: continue as needed – patient specific	
	loads may need to be avoided until 12-	Neuromuscular Control: higher level balance and proprioceptive training within 0-90 deg knee	
	18 months PO, or as directed by the	flexion ROM	
	MD	<u>Isokinetic strength testing:</u> Continue testing as needed to determine readiness to progress to next	
		stage of RTP guidelines	