Combined Patellofemoral / Tibiofemoral Cartilage Restoration Rehabilitation Protocol

Jacob Mikula MD | Orthopedic Sports Medicine

This protocol provides general guidelines for rehabilitation following combined patellofemoral / tibiofemoral cartilage restoration. Progression should be individualized based on the procedure, healing, and patient response, with modifications as directed by the surgeon. Patellar facet and femoral condyle.

Phase	Goals	Precautions / Restrictions	Treatment
Weeks 0-6	● **Protect surgical site** ● Manage swelling and pain ● Achieve and maintain good quadriceps activation ● Reduce muscle atrophy	● TWB with knee brace locked in extension with crutches ● ROM as tolerated (**Do not force)**	**General guidelines** ● PRICE ● Quadriceps activation and strength should be emphasized ● Knee flexion and terminal extension ROM ● Gentle stretching of hamstrings, calf to tolerance ● Ankle strengthening ● OKC straight leg raises all planes (locked in extension) ● Initiate stationary biking without resistance (within ROM limitations) ● Modalities as indicated **Initial Visit** ● FOTO, LEFS
Weeks 6-8	● Progressive ROM ● Reduce effusion to knee ● Minimize muscle atrophy ● Ambulate community distances by 12 weeks	● WBAT progressing to WBAT in brace ● Progressive range of motion (**Do not force)** ● **No impact (running, cutting, pivoting)** ● **Avoid excessive patellar loading (avoid deep knee flexion, knees over toes)**	**General guidelines** ● Begin CKC strengthening (**avoid anterior knee pain)** ● Limit loaded knee flexion angle to **30 degrees** or less ● **Normalize calf, hamstring, quadriceps mobility** ● Modalities as indicated **Week 6** ● FOTO, LEFS
Weeks 8-12	● Achieve full ROM by 12 weeks ● Achieve full weight bearing by 12 weeks ● Wean fully from crutches ● **No effusion to knee** ● Restoring strength of quadriceps, hamstrings, hips	● Discontinue knee brace when quad control achieved ● **No impact (running, cutting, pivoting)**	**General guidelines** ● Progress CKC into greater ROM (<90), single leg, multi-planar, and with resistance as tolerated ● Initiate proprioceptive training ● Initiate bike/elliptical for cardio fitness **Week 12** ● FOTO, LEFS
Weeks 12-24	● Preparation for more advanced exercise/activity	● Loaded range of motion **<90 degrees**)	**General guidelines** ● Progress strength, endurance, and proprioception

Phase	Goals	Precautions / Restrictions	Treatment

	● Initiation of sport specific drills (**per MD)**
	● Ready to begin impact by 6-9 months (**per MD)**
	● **Normalize asymmetries**
		● Proper exercise form and control during exercise performance	● Advance cardiovascular conditioning
			Week 24
			● Testing
			  ● Y- balance
			  ● Body weight single leg press
			  ● Humac testing (**90/180 deg**/sec)
			  ● FOTO, LEFS

Weeks 24+	● Begin impact training once cleared by MD (jumping, running etc.)
	● Unrestricted return to activity (Months 9-12)
		● **Avoid running/jumping on a painful or swollen knee**
		● Proper form and control during exercise performance
			General guidelines
			● Advance progressive exercises in all planes
			● Initiate plyometric activity
			● Jumping progression (double to single leg)
			● Return to run program (walk/jog)
			Anticipated final visit
			● Testing
			  ● Y- balance
			  ● Humac testing (**90/180 deg**/sec)
			  ● Single leg vertical jump
			  ● Single leg jump for distance
			  ● Single leg triple jump
			  ● FOTO, LEFS