

Autologous Chondrocyte Implantation (MACI) of Patella/Trochlea Rehabilitation Protocol

NO knee motion for the first 48 hours after surgery (DO NOT BEND THE KNEE). During this time, you must wear the brace locked in extension 24/7.

	Weight-bearing	Brace	Range of Motion	Exercises
Phase 1 0-4 weeks	Weeks 0-2: Toe touch for balance Weeks 3-4: As tolerated with crutches*	0-1 week: Locked in full extension for ambulation and sleeping 1-4 weeks: Unlocked for ambulation, remove for sleeping**	NO MOTION first 48 hours postop. As tolerated, goal 90° @ first post-op visit 2-4 weeks: Main full extension and progressive flexion	NO knee motion for the first 48 hours after surgery (DO NOT BEND THE KNEE). During this time, you must wear the brace locked in extension 24/7. Heel slides, quad/hamstring sets, patellar mobilization, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag
Phase 2 4-12 weeks	Full, progressing to normal gait pattern	Discontinue at day 28 if patient has no extension lag	Main full extension and progressive flexion	Progress Phase I Begin toe raises, closed chain quads, balance exercises, hamstring curls, stationary bike, step-ups, front and side planks, hip/glute/core, pool
Phase 3 12-16 weeks	Full with a normalized gait pattern	None	Gain full and pain-free	Advance closed chain strengthening, progress proprioception activities Begin stairmaster, elliptical and running straight ahead
Phase 4 16 weeks – 6 months	Full	None	Full	16 wks: Begin jumping 20 wks: Advance running to sprinting, backward running, cutting/pivoting/changing direction, initiate plyometric program and sport-specific drills 22 wks: Advance as tolerated FSA completed at 22 wks***
Phase 5 6-12 months	Full	None	Full	Gradual return to sports participation after completion of FSA Maintenance program based on FSA

SLR – Straight-leg raise;

*Modified with concomitantly performed meniscus repair/transplantation or articular cartilage procedure

**Brace may be removed for sleeping after first post-operative visit (day 7-10)

***Completion of FSA (Functional Sports Assessment) not mandatory, but recommended at approximately 22 wks post-op for competitive athletes returning to play after rehab