

Autologous Chondrocyte Implantation (MACI) of Femoral Condyle Rehabilitation Protocol

	Weight-bearing	Brace	Range of Motion	Exercises
Phase 1 0-6 weeks	No weight-bearing	0-2 weeks: Locked in full extension at all times Off for CPM and exercise only Discontinue at 2 wks assuming quads can control SLR w/o extension lag	0-6 weeks: Use CPM for 6 hours/day, beginning at 0-40°; advance 5-10° daily as tolerated	0-2 weeks: Quad tightening, SLR, calf pumps, passive leg hangs to 90° at home 2-6 weeks: PROM/AAROM to tolerance, patella and tibiofibular joint mobilization, quad, hamstring, and gluteal sets, SLR, side-lying hip and core
Phase 2 6-8 weeks	Advance 25% weekly until full	None	Full	Advance Phase I exercises
Phase 3 8-12 weeks	Full	None	Full	Gait training, begin closed chain activities: wall sits, shuttle, mini-squats, toe raises Begin unilateral stance activities, balance training
Phase 4 12 weeks – 6 months	Full	None	Full	Advance Phase III exercises; maximize core/glutes, pelvic stability work, eccentric hamstrings May advance to elliptical, bike, pool as tolerated
Phase 5 6-12 months	Full	None	Full	Advance functional activity Return to sport-specific activity and impact when cleared by MD after 8 months

CPM – continuous passive motion machine; SLR – Straight-leg raise; PROM – passive range of motion; AAROM – active assist range of motion