

# Anteromedialization & Tibital Tubercle Osteotomy (AMZ-TTO) with Patellar/trochlear autologous chondrocyte implantation (MACI) and Medial Patellofemoral Ligament (MPFL) Reconstruction Rehabilitation Protocol

	<b>Weight-bearing</b>	<b>Brace</b>	<b>Range of Motion</b>	<b>Exercises</b>
<b>Phase 1</b> 0-2 weeks	Heel touch only	Locked in full extension at all times  Off for hygiene and home exercise only	Gentle passive 0-45°  CPM 0-30°	Calf pumps, quadriceps tightening sets and SLR in <b>brace</b> , modalities
<b>Phase 2</b> 2-8 weeks	<b>2-6 weeks:</b> Heel touch only  <b>6-8 weeks:</b> Advance 25% weekly and progress to full with normalized gait pattern	<b>2-4 weeks:</b> Unlocked 0-45°  <b>4-6 weeks:</b> Unlocked 0-90°  Discontinue brace at 6 weeks	<b>2-4 weeks:</b> CPM 0-60°  <b>4-6 weeks:</b> CPM 0-90°  Advance ROM as tolerated when non-weight-bearing	Progress non-weight-bearing flexibility  Begin floor-based core, hip and gluteal strengthening  Advance quadriceps strengthening, patellar mobilization and SLR
<b>Phase 3</b> 8-12 weeks	Full	None	Full	Progress closed chain activities.  Advance hamstring exercises, proprioception & balance exercises  Advance core work with hip, gluteal and core strengthening  Begin Stationary Bike at 10 weeks
<b>Phase 4</b> 3-6 months	Full	None	Full	Progress Phase III exercises and functional activities: walking lunges, planks, bridges, Swiss ball, half-Bosu exercises  Advance core work with hip, gluteal and core strengthening
<b>Phase 5</b> 6-12 months	Full	None	Full	Advance non-impact activity. No running, jumping, pivoting, or sports participation unless cleared by MD

CPM – continuous passive motion machine; SLR – Straight-leg raise;

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