

Supplementary Table 2: MeTeOR Physical Therapy Intervention Protocol

Phase I-Acute Phase (1-10 days post-op)			
Goals: Decrease inflammation, Restore A/PROM, Neuromuscular re-education of quadriceps			
Perform at least 8 exercises, 12-15 repetitions, 1-2 sets of the following types of exercises:			
Decrease Inflammation: Retrograde Massage, Cryotherapy E-Stim: NMES or IFC	Manual Therapy: Joint Mobilization Soft Tissue Mobilization Stretching LE Muscles	Open Chain Exercises: Quad Sets SAQ/LAQ/HS Curls Hip-4 way	Closed Chain Exercises: Bicycle, Elliptical, Treadmill, Leg Press, Balance/Proprioception
Progression Criteria to Phase II			
Patient must meet 3 of the 4 criteria: Knee A/PROM ≥ 115 degrees, Moderate to minimal effusion, Knee Pain $\leq 4/10$, Muscle Strength $\geq 3/5$			
Phase II-Subacute Phase (10 days-4 weeks post-op)			
Goals: Restore muscle strength and endurance, re-establish full and pain free AROM, gradual return to functional activities, minimize gait deviations			
Perform at least 8 exercises, 12-15 repetitions, 1-2 sets of the following types of exercises:			
Decrease Inflammation: Retrograde Massage Cryotherapy E-Stim: NMES or IFC	Manual Therapy: Joint Mobilization Soft Tissue Mobilization Stretching LE Muscles	Open Chain Exercises: Add more Concentric/Eccentric Hip/Knee progressive resistive exercises, ROM	Closed Chain Exercises: Resisted terminal knee extension, modified mini squats, step up/down progressions, toe raises, functional and agility training
Progression Criteria to Phase III			
Patient must meet 4 of the 5 criteria: Knee A/PROM ≥ 125 degrees, Normal Joint Play, Minimal effusion, Knee Pain $\leq 2/10$, Muscle Strength $\geq 5/5$			
Phase III-Advanced Activity Phase (4-7 weeks post-op)			
Goals: Enhance Muscle Strength and Endurance, Maintain full ROM, Return to sports/functional activities			
Perform at least 8 exercises, 12-15 repetitions, 1-2 sets of the following types of exercises:			
Continued stretching program	Continued PRE therapeutic exercises program	Emphasis on closed chain program with progression to dynamic single leg stance, plyometrics, running, and sport specificity training	

A/PROM: Active/Passive range of motion

NMES: Neuromuscular electrical stimulation

IFC: Interferential current

SAQ/LAQ/HS: Short arc quadriceps/ Long arc quadriceps/Hamstrings

E-Stim: Electrical stimulation

LE: Lower extremity