

Rehabilitation Protocol for Arthroscopic Partial Meniscectomy

This protocol is intended to guide clinicians through the post-operative course for Arthroscopy Partial Meniscectomy. This protocol is time based (dependent on tissue healing) as well as criterion based. Specific intervention should be based on the needs of the individual and should consider exam findings and clinical decision making. The timeframes for expected outcomes contained within this guideline may vary based on surgeon's preference, additional procedures performed, and/or complications. If a clinician requires assistance in the progression of a post-operative patient, they should consult with the referring surgeon.

The interventions included within this protocol are not intended to be an inclusive list. Therapeutic interventions should be included and modified based on the progress of the patient and under the discretion of the clinician.

Post-operative considerations

Post-operative considerations If you develop a fever, intense calf pain, excessive drainage from the incision, uncontrolled pain or any other symptoms you have concerns about you should call your doctor.

PHASE I: IMMEDIATE POST-OP (Day 0-7 AFTER SURGERY)

Rehabilitation	Reduce swelling, minimize pain
Goals	Restore knee range of motion (ROM)
	Re-establish quadriceps activation
	Patient Education:
	o Keep your knee straight and elevated when sitting or laying down. Do not rest with a
	towel placed under the knee
	 Avoid painful activities
	Limit excessive walking
Weight Bearing	Walking
	Weight bearing as tolerated with crutches
	Weaning from crutches may occur in the first several days depending on appropriate resolution
	of edema, achievement of excellent quad activation (evidenced by ability to perform SLR), and
	proper gait pattern under the guidance of the physical therapist
	When climbing stairs, lead with non-surgical limb and when going down the stairs, lead with the
	surgical limb
Interventions	Swelling Management
	Ice, compression, elevation
	Ankle pumps
	Retrograde massage
	Range of motion/Mobility
	Patella mobilizations: superior/inferior and medial/lateral
	Heel slides with towel
	Low intensity, long duration extension stretches: <u>prone hang</u> , <u>heel prop</u>
	Supine passive hamstring stretch
	<u>Stationary bike</u>
	Strengthening
	• <u>Calf raises</u>
	• Quad sets
	Hip abduction
	Straight leg raise
	Sidelying Clamshell

	NMES high intensity (2500 Hz, 75 bursts), with quad sets and functional exercises as appropriate. Consider home unit distributed immediate post op if poor quad activation
Criteria to	Knee ROM of 0->90 deg
Progress	Ability to perform SLR (straight leg raise) with appropriate quadriceps activation

PHASE II: INTERMEDIATE POST-OP (Day 8 - WEEK 2 AFTER SURGERY)

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Rehabilitation	Achieve full pain free ROM
Goals	Restore muscular strength and endurance
	Gradual return to functional activities while monitoring symptoms response
	Restore normal gait without assistive device
	Improve balance and proprioception
Weight Bearing	Weight bearing as tolerated
	 Goal to discharge assistive devices
Additional	Range of motion/Mobility
Interventions	• Stretching of all muscle groups including: <u>prone quad stretch</u> , <u>standing quad stretch</u> , <u>standing</u>
*Continue with	hip flexor stretch, Supine active hamstring stretch
Phase I	
Interventions	Strengthening
	Standing hamstring curls
	Step ups and step ups with march
	Ball squats, wall slides, mini squats from 0-60 deg
	• Lumbopelvic strengthening: <u>bridge & unilateral bridge</u> , <u>bridges on physioball</u> , <u>bridge on</u>
	physioball with roll-in, bridge on physioball alternating
	Balance/proprioception
	<u>Single leg standing balance</u> (knee slightly flexed) static progressed to unsteady surface
Criteria to	Full and pain free knee ROM
Progress	No swelling (Modified Stroke Test)
	Symmetrical, non-antalgic gait pattern without assistive device

PHASE III: LATE POST-OP (2-8 WEEKS AFTER SURGERY)

Rehabilitation	Maintain full and pain free knee ROM
Goals	Enhance muscle strength and endurance
	Avoid post exercise pain/swelling
	Promote proper movement patterns
Weight Bearing	Full Weight Bearing
Additional	Cardio
Interventions	• 4-6 weeks, as tolerated: Elliptical, stair climber, flutter kick swimming, pool jogging
*Continue with	
Phase I-II	Strengthening
Interventions	Gym equipment: <u>leg press machine</u> , <u>seated hamstring curl machine</u> , <u>hip abductor and adductor machine</u> , <u>hip extension machine</u> , <u>roman chair</u> , <u>seated calf machine</u>
	**The following exercises to focus on proper control with emphasis on good proximal stability. • Squat to chair • Lateral lunges
	Romanian deadlift and single leg deadlift
	Single leg progression: <u>single leg press</u> , slide board lunges: <u>retro</u> and <u>lateral slide board lunge</u> , <u>split squats</u> , <u>lateral step-ups</u> , <u>step downs</u> , <u>single leg wall slides</u> , <u>single leg squats</u>
	Progress intensity (strength) and duration (endurance) of exercises as appropriate
	Balance/proprioception

	Progress single limb balance including perturbation training
	• Lower quarter reaches (Y-Balance and Star drill)
	**When Quadriceps index > 80% strength:
	Interval running program
	o <u>Return to Running Program</u>
	Progress to plyometric and agility program
	o <u>Jump and Plyometric Progression</u>
	 Phase I Plyometrics and Agility and Phase II Plyometrics and Agility
Criteria to	No swelling/pain after exercise
Progress	Ability to perform ADLs pain free
	**If patient is returning to impact activities:
	10 repetitions single leg squat proper form through at least 60 deg knee flexion
	Drop vertical jump with good control
	Completion of jog/run program without pain/swelling
	Functional Assessment
	 Quadriceps index >80%; HHD mean preferred (isokinetic testing if available)
	 Hamstring, glute med, glute max index ≥80%; HHD mean preferred (isokinetic testing for
	HS if available)
	 Single leg hop test ≥75% compared to contra lateral side

PHASE IV: UNRESTRICTED RETURN TO SPORT (9-12 WEEKS AFTER SURGERY)

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Rehabilitation	Maintain full ROM
Goals	Safely progress strengthening
	Promote proper movement patterns
	Avoid post exercise pain/swelling
	 Return to all necessary and desired functional activities, work duties, and athletic activities
Additional	Multi-plane sport specific plyometrics and agility program
Interventions	o Phase III Plyomtrics and Agility Program
*Continue with	 Include hard cutting and pivoting depending on the individuals' goals
Phase I-III	 Include dual-task activities including cognitive dual-task activities
Interventions	
Criteria for	Last stage, no additional criteria
Discharge	
Return-to-Sport	<u>Functional Assessment</u>
	 Quadriceps index >95%; HHD mean preferred (isokinetic testing if available)
	o Hamstring, glut med, glut max index ≥95%; HHD mean preferred (isokinetic testing for HS if
	available)
	 Single leg hop test ≥95% compared to contra lateral side with proper landing mechanics
	• <u>KOOS-sports questionnaire</u> >90%, or other PRO as indicated

Revised 2/2024

Contact	Please email MGHSportsPhysicalTherapy@partners.org with questions specific to this protocol

References:

- 1. Brelin AM, Rue JP. Return to Play Following Meniscus Surgery. Clin Sports Med. 2016;35(4):669–678. doi:10.1016/j.csm.2016.05.010. https://www.clinicalkey.com/#!/content/playContent/1-s2.0-S0278591916300254?returnurl=null&referrer=null
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- 3. Hall M, Hinman RS, Wrigley TV, et al. The effects of neuromuscular exercise on medial knee joint load post-arthroscopic partial medial meniscectomy: 'SCOPEX', a randomised control trial protocol. BMC Musculoskelet Disord. 2012;13:233. Published 2012 Nov 27. doi:10.1186/1471-2474-13-233.

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