

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 Goals	<ul style="list-style-type: none"> • Reduce swelling, minimize pain • Restore knee range of motion (ROM) • Re-establish quadriceps activation • Patient Education: <ul style="list-style-type: none"> ○ 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	<p><i>Walking</i></p> <ul style="list-style-type: none"> • 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	<p><i>Swelling Management</i></p> <ul style="list-style-type: none"> • Ice, compression, elevation • Ankle pumps • Retrograde massage <p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> • Patella mobilizations: superior/inferior and medial/lateral • Heel slides with towel • Low intensity, long duration extension stretches: prone hang, heel prop • Seated gastrocnemius and hamstring stretch • Stationary bike <p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Calf raises • Quad sets • Hip abduction • Straight leg raise • Sidelying Clamshell

	<ul style="list-style-type: none"> • Include NMES as needed: NMES high intensity (2500 Hz, 75 bursts) supine knee extended 10 sec/50 sec, 10 contractions, 2x/week during sessions—use of clinical stimulator during session, consider home units distributed immediate post op, can also include functionally into above
Criteria to Progress	<ul style="list-style-type: none"> • Knee ROM of 0->90 deg • Ability to perform SLR (straight leg raise) with appropriate quadriceps activation

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

Rehabilitation Goals	<ul style="list-style-type: none"> • Achieve full pain free ROM • 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	<ul style="list-style-type: none"> • Weight bearing as tolerated <ul style="list-style-type: none"> ○ Goal to discharge assistive devices
Additional Intervention <i>*Continue with Phase I interventions</i>	<p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> • Stretching of all muscle groups: prone quad stretch, standing quad stretch, standing hip flexor stretch <p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Standing hamstring curls • Step ups and step ups with march • Partial squats • Wall slides, ball squats • Lumbopelvic strengthening: bridge & unilateral bridge, bridges on physioball, bridges on physioball with roll-in • Heel raises • Leg press/shuttle press machine <p><i>Balance/proprioception</i></p> <ul style="list-style-type: none"> • Single leg standing balance (knee slightly flexed) static progressed to unsteady surface
Criteria to Progress	<ul style="list-style-type: none"> • Full and pain free knee ROM • No swelling (Modified Stroke Test) • Symmetrical, non-antalgic gait pattern without assistive device

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

Rehabilitation Goals	<ul style="list-style-type: none"> • Maintain full and pain free knee ROM • Enhance muscle strength and endurance • Avoid post exercise pain/swelling • Promote proper movement patterns
Weight Bearing	FWB
Additional Intervention <i>*Continue with Phase I-II Interventions</i>	<p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> • Patella mobilizations: superior/inferior and medial/lateral • Stretching of all muscle groups: prone quad stretch, standing quad stretch, standing hip flexor stretch • Stationary Bicycle <p><i>Cardio</i></p> <ul style="list-style-type: none"> • 4-6 weeks, as tolerated: Elliptical, stair climber, flutter kick swimming, pool jogging <p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Gym Machine usage: Leg press, seated hamstring curl machine, hip abductor and adductor machine, and seated calf machine

	<ul style="list-style-type: none"> Progress intensity (strength) and duration (endurance) of exercises <p>**The following exercises to focus on proper control with emphasis on good proximal stability</p> <ul style="list-style-type: none"> Lateral step down Squat to chair Lateral lunges Romanian deadlift and Single leg deadlift Single leg progression: partial weight bearing single leg press, slide board lunges: retro and lateral, step ups and step ups with march, split squats, lateral step-ups, step downs, single leg squats, single leg wall slides <p><i>Balance/proprioception</i></p> <ul style="list-style-type: none"> Progress single limb balance including perturbation training Lower quarter reaches (Y-Balance and Star drill) <p>**When Quadriceps index > 80% strength:</p> <ul style="list-style-type: none"> Interval running program <ul style="list-style-type: none"> Return to Running Program Progress to plyometric and agility program <ul style="list-style-type: none"> Agility and Plyometric Program
Criteria to Progress	<ul style="list-style-type: none"> No swelling/pain after exercise Ability to perform ADLs pain free <p>**If patient is returning to impact activities:</p> <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Quadriceps index >80%; HHD mean preferred (isokinetic testing if available) Hamstring, glut med, glut 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)

Rehabilitation Goals	<ul style="list-style-type: none"> Maintain full ROM 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 Interventions as applicable to athlete <i>*Continue with Phase I-III interventions</i>	<ul style="list-style-type: none"> Multi-plane sport specific plyometrics program Multi-plane sport specific agility program Include hard cutting and pivoting depending on the individuals' goals
Criteria for Discharge	<ul style="list-style-type: none"> Last stage, no additional criteria
Return-to-Sport	<ul style="list-style-type: none"> Functional Assessment <ul style="list-style-type: none"> Quadriceps index >95%; HHD mean preferred (isokinetic testing if available) 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 KOOS-sports questionnaire >90%, or other PRO as indicated

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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>
2. Dias JM, Mazuquin BF, Mostagi FQ, et al. The effectiveness of postoperative physical therapy treatment in patients who have undergone arthroscopic partial meniscectomy: systematic review with meta-analysis. *J Orthop Sports Phys Ther.* 2013;43(8):560–576. <https://www.jospt.org/doi/10.2519/jospt.2013.4255>
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. https://pubmed.ncbi.nlm.nih.gov/23181415/?from_term=arthroscopic+meniscectomy+rehabilitation&from_filter=years.2003-2020&from_page=12&from_pos=9
4. Herrlin S, Hallander M, Wange P, Weidenhielm L, Werner S. Arthroscopic or conservative treatment of degenerative medial meniscal tears: a prospective randomized trial. *Knee Surg Sports Traumatol Arthrosc.* 2007;15(4):393-401. <https://link.springer.com/article/10.1007/s00167-006-0243-2>