Partial Meniscectomy/ Plica Excision / Chondroplasty Protocol

Phase 1: Immediate Post-op (Weeks 0–1)	
Rehabilitation Goals	• Decreased joint effusion • Avoid overload of healing tissues • Knee ext ROM>/= 0 • Gradually improve knee flexion ROM • Quad set with visible quad activity and superior patellar glide • Non-antalgic gait pattern
Precautions and Edu	• No precautions, activity as tolerated • Do not avoid knee ext while at rest (discourage placing a pillow or towel under knee for comfort)
Interventions	• **Modalities:** cryo pneumatic compression (game ready), IFC/Premod • **MT/PROM:** STM/edema massage, flx/ext with overpressure, patellar mobs (teach self) • **ROM/mobility:** Heel slides, hamstring stretch, gastroc stretch, LLLD heel prop, bike rocking • **Gait:** Step through pattern regardless of AD • **Neuromotor:** Quad set, multiangle knee ext isometrics, SLR, LAQ, heel raises, weight shifting/narrow stance/tandem stance • **NMES:** Daily, Biphasic or Russian (consider home unit) • **BFR:** in the absence of significant effusion/edema, bruising, concern for DVT (use with NMES)
Criteria to Progress	• </=3+ knee joint effusion via stroke test • Knee extension ROM: 0 degrees • Knee flexion ROM: 90 degrees • Normal patellar mobility, superior glide with quad contraction • Pt ambulating with least restrictive AD (gait will be abnormal until brace is unlocked) • SLR with min quad lag at most

Phase 2: Early Rehab (Weeks 2–4)	
Rehabilitation Goals	• Continue to avoid joint overload with activity progressions • Continue to decrease joint effusion • Progress active and passive TKE • Progress knee flexion ROM • No quad lag during SLR/LAQ • Discharge AD • Normalize gait
Interventions	**Modalities/MT-** per patient need, minimize effusion/ecchymosis **Gait/balance:** • Circle/cone/hurdle walking, light sled push (bend and extend), side stepping, turning • Tandem walk, SLS, foam beams, foam pad, SL RDL **Therex:** • Bike retro revs > full, prone quad stretch, wall heel slides, manual OP emphasis on extension • Quad set towel under heel, TKE strap stretch, TKE ball wal > w/strap, standing TKE band resistance • Band resisted 4-way SLR (standing > table), multi-hip machine all planes, SL heel raises • Wall squat/sit, high box squat, step up ant/lat, lat heel tap > ant, SL heel raises, LAQ/hamstring w/BFR • Straight leg bridge, bridge, clamshell, hollow body holds, front plank > alt hip ext, banded side steps • Multitasking/reaction: catch/throw during LE activity, cognitive challenges • Conditioning: UBE or arms only Aerodyne
Criteria to Progress	• <2+ knee joint effusion via stroke test • Knee extension PROM >/= 0 • Knee flexion ROM >/= 110 degrees • Minimal gait deviations without AD or brace • Consistent SLR/LAQ without quad lag • Min-mod pain/limitations with functional activities/Pt interventions

Phase 3: (Weeks 4–6)	
Rehabilitation Goals	• Monitor response to activity progression • Knee flexion nearing normal limits • Normalize Gait pattern and reciprocal stair ambulation • Assess quad/hamstring strength • Assess closed chain DF • Assess closed chain movement patterns
Interventions	**Mobility/MT:** per patient need, encourage less reliance on cryotherapy and other passive modalities **Gait/Balance:** • Walking w/catch+pass or dribble, high hurdles, hurdles on foam beam, hurdles/beam with catch+pass • Bosu balance > mini squat > step up, foam pad 3-way hip, SL RDL cone tap, SL RDL on pad **Therex:** • Kneel flx stretch, quadruped/prayer stretch variations, kneeling on pad, half kneeling DF stretch • Box squat, air squat, kickstand squat, single leg wall squat, leg press, single leg press, weighted step ups, ant heel taps, sled pull, bridge hamstring curl, BFR leg press/weight bearing exercise if indicated • Hip hinge, RDL, dead lift from box • Plank on bosu/physioball, dead bug variations, monster walks, paloff press/cable chop variations
Criteria to Progress	• </=1+ knee joint effusion with progressions made • Passive knee ext WNL, active TKE nearing normal • Flexion ROM>/= 90% contralateral limb • Quad/hamstring strength>/= 3+/5 • No gait deviations • Min difficulty/pain with ADLs (including stairs)

Phase 4: (Weeks 6–10)	
Rehabilitation Goals	• Collaborate with orthopedic team if significant ROM deficits/joint effusion persists • Progress quad/hamstring strengthening • Progress aerobic conditioning • Involve gym program/strength and conditioning specialist • Progress to controlled frontal/transverse/multiplanar loading • Introduce impact activities
Discharge Planning	• Pending progress and pt confidence, d/c to self-management appropriate in this phase • Pt with goals of return to higher level activity will require lengthier episode of care
Interventions	**Mobility/MT:** majority of passive modalities should be discontinued by this phase **Therex:** • Half kneeling hip flexor/adductor stretch, standing quad stretch, inch worms, light walking stretches • Machine resisted hamstring/quadriceps, ¼ split squat > retro slider lunge > split squat > 4-way slider lunge > curtsy step up > 4-way lunge > RFE split squat > 4-way heel tap, single leg squat to box > shrimp squat > unsupported single leg squat • Dead lift from ground, lift and carry, farmer's carry, chaos carry, waiter's carry • SL bridge hamstring curl eccentric > full, side plank, adductor side plank
Interventions	**Stability/speed prep:** • Bosu lunge (forward/lateral), bosu med ball catch and pass, bosu med ball slams, bosu SL RDL, foam beam med ball slams, SLS unstable surface catch and pass • Shuttle kick back (slow>fast), med ball slam to mini squat (BL/UL), Split squat med ball slam, SL RDL row (slow>fast), SL RDL med ball throw **Aerobic conditioning:** • road bike, swimming, elliptical, stair master. Low impact, long duration
Criteria to Progress	• Trace knee joint effusion with progressions made • Normalize PROM flx/ext • Normalize TKE AROM • Quad/hamstring strength >/=4/5 (LSI>/= 70%) • No difficulty with ADLs (including stairs)

Phase 5: (Weeks 10–16)	
Rehabilitation Goals	• Continue to progress quadriceps/hamstring strength • Introduce sagittal plane plyometrics • Introduce jogging/running • Initiate jump/hop testing • Prepare patient for interval running program
Criteria for Plyometrics	• ROM WNL • Trace effusion at most • Min anterior knee pain with loading • Strength- Symmetrical squat/lunge, 10x shrimp squats to at least 60 degrees, 10x ant heel tap on 6-8" with minimal compensatory patterns
PWB Plyometrics	• Single plane and PWB (on shuttle or with band assistance) • </= 100 foot contacts initially • 1-2 sessions per week, 5-10% progression of foot contacts per week
Sagittal Plyometrics	• PWB > box jump up > box jump down > 2 to 1 box jump > in place jumps > scissor hops > in place jog > line jumps > line hops > single leg box jumps > squat jumps > sagittal plane ladder drills > jogging
Frontal Plane Plyometrics	• PWB > lateral box jumps > single leg lateral box jumps > lateral line jumps > lateral line hops > Frontal plane ladder drills > lateral shuffling
Hop Testing	• Single hop for distance, triple hop for distance, crossover hop for distance, 6m hop for time
Progression Criteria	• No effusion with progressions made • Good tolerance and performance of plyometric activities • Good tolerance and performance of jogging/running • >/= 70% hop testing LSI • Quad/hamstring strength>/= 4+/5 (LSI>/=80%)

Phase 6: (4–6 months)	
Rehabilitation Goals	• Continue to progress quadriceps/hamstring strength • Initiate interval running program • Initiate cutting/pivoting/agility • Initiate sprinting • Complete return to sport testing • Transition to self-management/strength and conditioning
Return to Run	• 1 mile ~1500 foot contacts, initiate interval program once pt demonstrates tolerance to this foot contact volume as well as 30-minute walk without pain/effusion • Further clearance via metronome set to 60-90BPM, complete heel tap to this cadence • Cue against asymmetrical running pattern due to decreased load acceptance (decreased knee flexion angle) on affected limb • See return to run protocol for volume progression
Agility	• Change of direction, multiplanar movements, cutting, pivoting • Progress to multiplanar ladder drills and cone drills • Reaction activities, buddy exercises, sport specific drills • Track progress with T-drill and 5-10-5
Sprinting	• See return to sprinting protocol
Return to sport criteria	• Quadriceps/hamstring strength LSI 90-100% • Hop testing LSI 90-100% • ACL RSI>/= 70% (or other return to sport index) • Restore pre-injury conditioning/performance • Return to sport specific activities- non-contact practice, full practice, full play