Routine Meniscal Repair

Weeks One To Four	Weeks Five To Eight
Evaluate	**Evaluate**
➢ Range of motion ➢ Joint hemarthrosis ➢ Ability to contract quad/vmo ➢ Gait: WBAT with hinged brace locked in extension ➢ Patella Mobility ➢ Inspect for infection/signs of DVT ➢ Assess RTW and sport expectations	➢ Range of Motion ➢ Ability to contract quad/vmo ➢ Gait ➢ Patella mobility ➢ Foot position/discuss footwear to optimize foot and ankle biomechanics
Patient Education	**Patient Education**
➢ Support Physician prescribed meds ➢ Ensure compliance w/ pre-op hep ➢ Reinforce use of brace and assistive device **PRECAUTIONS** ➢ **No flexion beyond 90 degrees x 4 weeks** ➢ **WBAT in extension only** ➢ **If medial repair, no HS PRE x 4 weeks** ➢ Discuss frequency and duration of treatment (2-3x/wk is expected for 8-12 weeks)	➢ Progress flexion ROM as tolerated beyond 90 degrees ➢ DC brace if good quad contraction ➢ **No weight bearing activities beyond 90 degrees of flexion**
Therapeutic Exercise	**Therapeutic Exercise**
➢ May complete AROM and Isometrics within surgical precautions (heel slides 0-90, AAKE, heel raises, supine or sitting hangs/heel prop, quad sets, leg raises, towel stretch) ➢ Closed chain aquatics: Gait training forward, backwards, side-ways. Emphasis on equal WB and quad control. 4-way hip, heel raises, marching, G/S and hamstring stretching .Balance: SLS, narrow BOS. ***WB in extension only** ➢ Open chain aquatics: Gentle bicycle, jumping jacks and cross-country skiers *Focus on duration of each exercise versus repetitions (30-45 seconds, progress to 60-90 seconds)	➢ Initiate bicycle (do not force flexion) ➢ Begin closed chain exercises limited knee flexion 0-90 degrees. (leg press, step up) ➢ Progress balance exercises, Single leg: stable, double leg: unstable ➢ Initiate HS PRE ➢ Closed chain aquatics: Continue gait training, Initiate shallow squats, 4-way hip, heel raises, step-ups 4" and lunges. ➢ Open Chain aquatics: Initiate stretching of quads and hip flexors as indicated. (Use of floatation cuffs or stair lunges. Balance: SLS, kickboard balance. Eyes open, eyes closed *Progress exercises using resistance fin(s) or hydrocuff(s)
Manual Techniques	**Manual Techniques**
➢ Patella mobilization as needed ➢ PROM as tolerated (focus on extension) ➢ Incision mobilization week 2	➢ Patella mobilization as needed ➢ Posterior capsule mobilization (if needed) ➢ Incision mobilization
Modalities	**Modalities**
➢ NMES / Interferential/Biofeedback ➢ Ice	➢ Modalities may be used as needed
Goals	**Goals**
➢ Control pain/Reduce joint hemarthrosis ➢ Restore quad contraction/Full knee extension ➢ Independence with post-op precautions ➢ 0-90 degrees ROM	➢ Normal gait pattern without brace or assistive device ➢ Normal ROM by week 8 ➢ Quad strength to 4/5 by week 6

Weeks Eight To Twelve	Weeks Twelve To Discharge
Evaluate	**Evaluate**
➢ Gait ➢ ROM ➢ Balance	➢ Address any deficits that may limit return to work or sport. ➢ HEP compliance ➢ Functional testing for LE comparison provided upon physician request
Patient Education	**Patient Education**
➢ No impact, deep squats, squats with heavy lifting, or crossed legged sitting until 12 weeks post-op	➢ No impact, deep squats, squats with heavy lifting, crossed legged sitting until 12 weeks post op.
Therapeutic Exercise	**Therapeutic Exercise**
➢ Progress closed chain and isotonic exercises to include multiple planes and single leg activity ➢ Progress HS strengthening ➢ Single leg dynamic balance activity and unstable surfaces ➢ May begin CFA at 8 weeks with physician approval ➢ May initiate cardiovascular training at 10 weeks (Bike, Swim, and elliptical) ➢ Transition to land based exercise unless continued aquatics indicated for progressive strengthening and edema control	➢ Continue strength and conditioning ➢ Encourage participation in CFA ➢ May initiate light/straight plane running activity with full motion, strength, and physician approval at 12 weeks (No cutting, pivoting, or jumping) ➢ Agility and plyometrics at 14-16 weeks given good tolerance of straight plane running and pre-running activity
Manual Techniques	**Manual Techniques**
➢ Patella mobilization as needed ➢ PROM and posterior capsule stretch as indicated	➢ Any as indicated
Modalities	**Modalities**
➢ Any as indicated	➢ Any as indicated
Goals	**Goals**
➢ 4+/5 strength with manual testing by week 10 ➢ Good stability at the hip and knee joints particularly with single leg balance and control of terminal knee extension ➢ May complete independent HEP and intermittent appointments when above criteria is met	➢ Minimal to no pain ➢ 5/5 muscle strength ➢ Discharge to full work or sport

References

1. Patrick McCulloch, Hugh L. Jones, Kendall Hamilton, Michael Hogen, Jonathan Gold, Philip Noble.Does simulated walking cause gapping of meniscal repairs? Journal of Experimental Orthopaedics (2016) 3:11
2. VanderHave, K.L., Perkins, C., Le, M. Weight Bearing Versus Non-weight bearing After Meniscal Repair. *Sports Health* 2015; 7(5).
3. Stuart, A.R., Doble, J., Presson, A.P., Kubiak, E.N. Anatomic landmarks facilitate predictable partial lower limb loading during aquatic weight bearing. *Current Orthopeadic Practice*. 2015 ; 26(4): 414–419.

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