



ORTHOPEDICS & SPORTS MEDICINE

BAYCARE CLINIC®

Dr. John Awowale

Meniscal Root Repair Protocol

Phase 1 – Maximum Protection Phase (0-6 weeks)

Goals for Phase 1

- Protect repair
- Minimize effusion
- ROM per guidelines listed, emphasis on extension
- Encourage quadriceps function
- Scar tissue mobility

Precautions

- Avoid knee hyperextension during this phase
- No isolated resistance knee flexion for 6 weeks due to semi-membranous attachment to medial meniscus and popliteus to the lateral meniscus

Immobilization/Weight Bearing

- 25% weight bearing with crutches and brace from 0-90° for 6 weeks

Range of Motion

- **0-6 weeks:** 0-90° PROM, emphasis on full extension

Brace

- **0-6 weeks:** brace opened from 0-90° and to be worn at all times unless performing physical therapy or for hygiene. Keep brace locked at 0° for ambulation.

Manual Therapy

- Patellar mobility (superior, medial, lateral)
- Scar massage when incisions closed
- Gentle flexibility using deep tissue mobilization or the “Stick” – hamstring, quadriceps, gastroc-soleus, ITB
- PROM knee flexion to 90°, strong emphasis on full knee extension
- Quadriceps setting
- NMES if needed to promote quadriceps contraction
- Avoid knee hyperextension with quadriceps setting

Strengthening

- Hip strengthening
 - Multi-plane open kinetic chain SLR with brace on if needed for quad lag
- Core strengthening

Modalities

- Vaso pneumatic compression for edema management 2-3x/week
- Cryotherapy, 3x/day for 20 minutes each with knee elevated above heart
- NMES for quadriceps function if quad lag present



Phase 2 – Moderate Protection Phase (6-8 weeks)

Goals for Phase 2

- Minimize effusion
- Gently increase ROM
- Normalize gait with heel-toe pattern
- Discharge brace
- Closed kinetic chain strengthening program

Precautions

- No kicking in pool for 12 weeks
- Avoid closed kinetic chain knee flexion past 90°
- Avoid twisting and pivoting for 12 weeks

Immobilization/Weight bearing

- Slow progression back to FWB with BW% increasing by 25% every 3-4 days if patient has controlled effusion and appropriate knee control

Range of Motion

- Gradually progress toward full range of motion

Brace

- Begin progression of opening brace from 0-30° if able to demonstrate good quad control during ambulation with brace being further opened every 3-4 days until 90° is reached.
- Expectation of 0-90° while weight-bearing for 3-4 days without crutches before discharge or brace

Manual Therapy

- Gentle flexibility – hamstring, quad, gastroc-soleus, ITB

Strengthening

- Stationary bike with light resistance (seat height=less than a 120° knee angle through entire revolution on upright bike)
- Bilateral gym strengthening program (mini squats, leg press, 4-way hip strengthening, step-ups, bridging, calf raises)
- Initiate knee AROM with CKC strengthening
- Core strengthening

Aquatics

- Initiate aquatic therapy program when incisions are closed

Neuromuscular Control

- Proprioception on stable surface

Modalities

- Vaso pneumatic compression for edema measurement 2x/week
- Cryotherapy, 2x/day for 20 minutes each with knee elevated above the heart
- NMES for quadriceps function if quad lag present with SLR



Phase 3 – Advanced Strengthening Phase (8-12 weeks)

Goals for Phase 3

- Progress muscle strength, endurance, and balance

Range of Motion

- Restore full ROM

Strengthening

- Stationary bike or elliptical for warm-up
- Bilateral gym strengthening with progression to unilateral as able (leg press, step-ups, hamstring curls, side-stepping, single leg squat, multi-directional lunges)
- Hamstring strengthening with progression to OKC
- Core strengthening

Precautions

- No kicking in pool for 12 weeks
- Avoid twisting and pivoting for 12 weeks
- Avoid deep squatting for 4 months
- Avoidance of impact activity until able to pass functional testing

Neuromuscular Control

- Advanced proprioception on unstable surfaces
- Add dual tasking and sport specific balance as able

Modalities

- Cryotherapy after activity

Testing to Advance to Phase 4 of Protocol

- Functional testing to be scheduled before 12 week follow-up with MD. Appointment must be scheduled with Aurora BayCare Sports Physical Therapy at the 1110 Kepler location. Please contact physician office if unable to make this arrangement for alternative testing.
- Y-Balance testing within 6 cm of involved LE
- Isometric quadriceps testing (<25% difference)
- Single leg squat without display of knee valgus



Phase 4 – Strengthening and Plyometric Phase (12-20 weeks)

Goals for Phase 4

- Progress single leg muscle strength, endurance, and balance
- Initiate impact activity
- Sport or work specific tasks

Manual Therapy

- Restore flexibility – hamstring, quad, gastroc-soleus, ITB

Strengthening

- Stationary bike or elliptical
- Unilateral gym strengthening program (single leg squats, eccentric leg press, lateral step-downs, advanced bridging, multi-directional lunges, CKC hamstring curls)
- Initiate impact activities
- **12-14 weeks:** sub-maximal body weight impact exercise (pool, GTS, plyo-press, AlterG)
- **14+ weeks:** sagittal plane running, agility drills, sub-maximal plyometrics
- **16+ weeks:** Advance to multi-directional
- Core strengthening

Neuromuscular Control

- Advanced proprioception on un-stable surfaces with perturbations and/or dual tasking, add sport specific balance tasks as able

Modalities

- Cryotherapy after activity

Return to Function Testing: Aurora BayCare return to function for the lower extremity protocol to be used

- **Week 24: Return to function testing** per MD approval. Appointment must be scheduled with Aurora BayCare Sports Physical Therapy at the 1110 Kepler location. Please contact physician office if unable to make this arrangement for alternative testing.
- Criteria: pain-free, full ROM, minimal joint effusion, isokinetic strength and functional testing at 90% compared to uninvolved, adequate knee control with sport and/or work specific tasks

This protocol was reviewed and updated by John Awowale, MD and the Ortho Therapy Committee on August 6, 2026.