

Meniscus Repair Rehabilitation

This rehabilitation protocol was developed for patients who have isolated meniscal repairs. Meniscal repairs located in the vascular zones of the periphery or outer third of the meniscus are progressed more rapidly than those repairs that are more complex and located in the avascular zone of the meniscus. Dependent upon the location of the repair, weight bearing status post-operatively as well as the intensity and time frame of initiation of functional activities will vary. The protocol is divided into phases. Each phase is adaptable based on the individual patients and special circumstances.

The **overall goals** of the repair and rehabilitation are to:

- Control pain, swelling, and hemarthrosis
- Regain normal knee range of motion
- Regain a normal gait pattern and neuromuscular stability for ambulation
- Regain normal lower extremity strength
- Regain normal proprioception, balance, and coordination for daily activities
- Achieve the level of function based on the orthopedic and patient goals

The physical therapy should be initiated within 3 to 5 days post-op. It is extremely important for the supervised rehabilitation to be supplemented by a home fitness program where the patient performs the given exercises at home or at a gym facility. **Important post-op signs** to monitor:

- Swelling of the knee or surrounding soft tissue
- Abnormal pain response, hypersensitive
- Abnormal gait pattern, with or without assistive device
- Limited range of motion
- Weakness in the lower extremity musculature (quadriceps, hamstring)
- Insufficient lower extremity flexibility

Return to activity requires both time and clinic evaluation. To safely and most efficiently return to normal or high level functional activity, the patient requires adequate strength, flexibility, and endurance. Isokinetic testing and functional evaluation are both methods of evaluating a patient's readiness to return to activity. Return to intense activities such as impact loading, jogging, deep knee flexion, or pivoting and shifting early post-operatively may increase the overall chance of a repeat meniscal tear and symptoms of pain, swelling, or instability should be closely monitored by the patient.

**Phase 1: Weeks 1-2
 Meniscal Repair**

WEEK	EXERCISE	GOAL
1-2	ROM Passive, 0-90° Patellar mobilizations Ankle pumps Gastoc/soleus stretch Hamstring/ITB stretch Prone hangs to facilitate extension STRENGTH Quad sets with E-stim/biofeedback SLR in 4 planes SAQ Multi-hip machine in 4 planes Hip flexion-seated Multi-angle isometrics (0-60°) WEIGHT BEARING Toe touch weight bearing in post-op brace with crutches unless otherwise instructed MODALITIES E-stim/biofeedback as needed Ice 15-20 minutes with 0° knee ext BRACE (may or may NOT be used depending on the case) Remove brace to perform ROM activities Post-op brace with crutches Brace locked at 0° ext to protect repair	0-90°

GOALS OF PHASE:

- Control pain, inflammation, and effusion
- Adequate quad/VMO contraction
- Independent in HEP
- TDWB to PWB as instructed

**Phase 2: Weeks 2-4
 Meniscal Repair**

WEEK	EXERCISE	GOAL
2-4	ROM Passive, 0-120° Patellar mobs Gastoc/soleus stretch Hamstring/quad/ITB stretch Prone hang as needed Heel/wall slides to reach goal STRENGTH Quad sets with biofeedback SLR in 4 planes with ankle weight Multi-angle isometrics (0-60°) Knee extension (90-30°) Heel raises/Toe raises Leg Press (110-40°) Wall squats BALANCE TRAINING Weight shift (side/side, fwd/bkwd) Single leg balance Cup walk/Hesitation walk WEIGHT BEARING PWB to FWB PWB to FWB with crutches as tolerated As instructed (case-dependent) BICYCLE May initiate bike when 110° flex is reached DO NOT use bike to increase flexion MODALITIES Biofeedback as needed Ice 15-20 minutes BRACE Post-op brace with crutches as indicated Opened to 90° at wk 2 Opened to full ROM at wk 3-4 Discontinue week 4	0-120°

GOALS OF PHASE:

- ROM 0-120°
- Adequate quad/VMO contraction
- Control pain, inflammation, and effusion
- PWB to FWB with quad control

**Phase 3: Weeks 4-12
 Meniscal Repair**

WEEK	EXERCISE	GOAL
4-12	ROM Passive, 0-135° (full) Gastroc/soleus stretch Hamstring/quad/ITB stretch Prone hang to reach goal as needed Patellar mobs STRENGTH Bicycle/EFX SLR in 4 planes with ankle weight/tubing Mini-squats/Wall squats Knee extension (90-30°) Hamstring curl (0-90°) Leg Press-single legged eccentric Smith Press-double legged Isokinetic training at high speeds (180-360°/sec) Multi-hip machine in 4 planes Lateral/Forward step-up/down Heel raise/Toe raise Lunges-knee not to migrate over toe BALANCE TRAINING Single leg balance with plyotoss Sports cord agility work Wobble board work ½ Foam roller work WEIGHT BEARING FWB BRACE Discontinue MODALITIES Ice 15-20 minutes as needed	0-135°

GOALS OF PHASE:

- ROM 0-135°
- Full weight bearing
- Control pain, inflammation, effusion
- Increase lower extremity strength and endurance
- Enhance proprioception, balance, and coordination
- Complete readiness for sport specific activity

Phase 4: Weeks 12-36
Meniscal Repair

WEEK	EXERCISE
12-36	ROM Continue all stretching activities
	STRENGTH Continue all exercises from previous phases
	RUNNING PROGRAM Water walking Swimming (kicking) Backward run
	CUTTING PROGRAM Lateral shuffle Carioca, figure 8's
	FUNCTIONAL TRAINING Initiate light plyometric program box hops, level, double-leg Sport specific drills
	MODALITIES Ice 15-20 minutes as needed

GOALS OF PHASE:

- Enhance neuromuscular control
- Progress skill training
- Perform selected sports specific activity-unrestricted sporting activity
- Achieve maximal strength and endurance

Advanced weight training and sports specific drills are advised to maintain a higher level of competition. Isokinetic testing at 6 and 12 months may be recommended to guarantee maintenance of strength and endurance.