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 that 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 (quadriiceps, 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 1-2**

**EXERCISE GOAL**

- **ROM 0-90°**
  - Passive, 0-90°
  - Patellar mobs
  - 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 I-ROM with crutches

**MODALITIES**

- E-stim/biofeedback as needed
- Ice 15-20 minutes with 0° knee ext

**BRACE**

- Remove brace to perform ROM activities
- I-ROM with crutches
- Brace locked at 0° ext to protect repair

**GOALS OF PHASE:**

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

Phase 2-Weeks 2-4
Meniscal Repair

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<tr>
<th>WEEK</th>
<th>EXERCISE GOAL</th>
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<tr>
<td>2-4</td>
<td>ROM 0-120°</td>
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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

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 Discharge wk 4
I-ROM with crutches
Opened to 90° at wk 2
Opened to full ROM at wk 3-4

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

<table>
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<th>WEEK</th>
<th>EXERCISE GOAL</th>
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<td>4-12</td>
<td><strong>ROM 0-135°</strong></td>
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- 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
- FWB by wk 4

### BRACE
- Discharge
- As needed wk 4

### MODALITIES
- Ice 15-20 minutes as needed

### 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  ROM
12-36  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.