

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 (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

Exercise

- **ROM - Goal: 0-120°**
 - Passive, 0-90°
 - Patellar mobs
 - Ankle pumps
 - Gastrocnemius/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

MENISCUS REPAIR REHABILITATION

- 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 by Dr. Verdugo

Phase 2: Weeks 2-4

Meniscal Repair

Exercise

- **ROM**
 - Passive, 0-120°
 - Patellar mobs
 - Gastroc/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 - Goal: PWB to FWB**
 - Dependent upon Dr. Verdugo
- **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 - GOAL: DISCHARGE WK 4**
 - I-ROM with crutches

Goals of Phase

- ROM 0-120°
- Opened to 90° at wk 2
- Opened to full ROM at wk 3-4
- Adequate quad/VMO contraction
- Control pain, inflammation, and effusion
- PWB to FWB with quad control

Phase 3: Weeks 4-12

Meniscal Repair

Exercise

- **ROM**
 - Passive, 0-135° (full)
 - Gastroc/soleus stretch
 - Hamstring/quad/ITB stretch

MENISCUS REPAIR REHABILITATION

- 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
 - 1/2 Foam roller work
- **WEIGHT BEARING - Goal: FWB**
 - FWB by wk 4
- **BRACE - Goal: Discharge wk 4**
 - As needed
- **MODALITIES**
 - Ice 15-20 minutes as needed
- Enhance proprioception, balance, and coordination
- Complete readiness for sport specific activity

Goals of Phase

- ROM 0-135°
- Ice 15-20 minutes as needed
- Full weight bearing
- Control pain, inflammation, effusion
- Increase lower extremity strength and endurance