

# REHABILITATION GUIDELINES AFTER MENISCAL TRANSPLANT

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*The intent of this protocol is to provide the therapist with guidelines of the post-operative rehabilitation course after a meniscal transplant. It should not be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam findings, individual progress, and/or the presence of post-operative complications. The therapist should consult the referring physician with any questions or concerns.*

**FREQUENCY:** Weeks 0-4: 3x/week. Weeks 4-24: 2x/week. Weeks 24-36: 1x/week. Weeks 36-52: 1x/2 weeks.

## **INDIVIDUAL CONSIDERATIONS:**

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### **PHASE I (0-8 weeks)**

#### ***Goals***

- Control inflammation and pain
- Full active extension and 90 degrees of flexion

- Achieve quadriceps control

### ***Brace***

- Locked in extension for 6 weeks for ambulation and sleeping
- May unlock brace at 6 weeks for ambulation and remove for sleeping

### ***Weight-Bearing Status***

- Weight-bearing as tolerated with two crutches and brace locked in extension for 6 weeks. Then, unlock for ambulation but continue to use two crutches from 6-8 weeks.

### ***Therapeutic Exercises***

- Straight leg raises in all planes (use brace locked in extension initially until quad strength is good enough to prevent an extension lag)
- Heel slides to <90 degrees of flexion, calf pumps, quadriceps sets
- Electrical stimulation
- Patellar mobilization
- Balancing activities on a stable platform with brace locked in extension, eyes open and closed
- Begin pool walking

## **PHASE II (8-12 weeks)**

### ***Criteria***

- Good quad set, straight leg raise without extension lag
- 90 degrees of knee flexion
- Full extension

### ***Goals***

- Restore normal gait
- Restore full range of motion

### ***Brace/Weight-bearing status***

- Full weight bearing with brace unlocked
- Discontinue brace when normal gait pattern/quad control is achieved

### ***Therapeutic Exercises***

- Wall slides, then progress to mini-squats (0-45 degrees)

- Stationary Bike (high seat, low tension)
- Prone leg hangs
- Closed chain extension (leg press:0-45 degrees)
- Pool walking/jogging
- Toe raises
- Hamstring and gastroc/soleus stretches
- StairMaster (small steps initially)
- Step-up (start at 2 inches and progress to 8 inches)
- *Proprioception*
  - Mini-tramp standing
  - Unstable platform (BAPS) with eyes open and closed
  - Standing ball throwing and catching

### **PHASE III (3-6 months)**

#### ***Criteria***

- Normal gait
- 100 degrees of knee flexion
- Sufficient strength and proprioception to initiate functional activities

#### ***Goals***

- Improve confidence in the knee
- Progress with strength, power, and proprioception

#### ***Therapeutic Exercise***

- Continue with flexibility exercises
- Advance closed chain kinetic strengthening (two-leg squats to <90 degrees, leg press 0-60 degrees)
- Hamstring curls 0-60 degrees
- StairMaster, elliptical trainer, cross-country ski machine
- *Functional Training (6-12 weeks)*
  - Pool Running
  - Swimming
    - Avoid frog kick
  - Plyometrics
    - Stair jogging
    - Box jumps (6 to 12-inch heights)
  - Proprioception

- Mini-tramp bouncing
- Lateral slide board
- Ball throwing and catching on unstable surface

#### **PHASE IV (6-12 months)**

##### ***Criteria***

- No patellofemoral irritation
- Sufficient strength and proprioception to progress to recreational activities

##### ***Goals***

- Return to unrestricted activity by 9-12 months

##### ***Therapeutic Exercises***

- Progress with flexibility and strengthening program
- Walk/jog progression
- Advance heights with plyometric conditioning
- Sports specific drills (start a 25% on speed and advance as tolerated)

##### ***Criteria for Return to Sports***

- No effusion
- 90% hamstring and quadriceps strength compared to contralateral side