

# Meniscal Allograft Transplantation Rehabilitation Protocol

## I. IMMEDIATE POSTOPERATIVE PHASE (Week 0-2)

Goals: Reduce swelling, inflammation and pain  
Gradually increase ROM  
Reestablish patellar mobility  
Restore voluntary quadriceps control  
Protect healing tissues

### Week One

**Cryotherapy** elevation and compression

**Brace:** knee immobilizer (sleep in brace)

**Weight bearing:** toe touch (less than 25%)

**Range of motion:** full passive knee extension gradually progress to 90 degrees flexion

(\*Use of CPM if necessary)

#### **Exercises:**

- Patellar mobilization
- Heel slides to gain flexion
- Quadriceps setting
- Straight leg raises (flexion)
- Knee extension (active assisted)
- Ankle pumps
- Hamstrings, gastroc-soleus stretches

### Week Two

- Continue all exercises listed above
- Use ice before and after exercise

## II. PROTECTION PHASE (Weeks 3-8)

Goals: Protect healing tissue  
Gradually restore RIOM (flexion)  
Maintain full passive extension  
Progress weight bearing  
Restore quadriceps muscle strength

**Criteria to progress to Phase II:**

- 1) Mild effusion
- 2) Good patellar mobility
- 3) ROM minimal 0-95 degrees
- 4) Active quadriceps contraction

**Weeks 3-4**

**Brace:** continue use of knee immobilizer (sleep in brace for 4 weeks)

**Weight bearing:** increase to 50% at week 3 and 75% at week 4

**Range of motion:** passive ROM 0-105 week 3

**Exercises:**

- Patellar mobilizations
- Scar mobilization (if needed and closed incision)
- Passive knee ROM
- Quad setting
- Multi-angle knee extension 30 degrees, 60 degrees
- Straight leg raise (flexion)
- Hip abd/adduction
- Knee extension (90-30 degrees)
- Hamstrings, gastroc, soleus stretching
- Electrical muscle stimulation to quads
- UBE for aerobic conditioning

**Cryotherapy:** continue use of ice and compression

**Weeks 5-6**

**Brace:** continue use of knee/immobilizer

**Weight bearing** gradually progress to FWIB week 6

**Range of motion:**

- Passive ROM 0-120 week 5
- Passive ROM 0-135 week 6

**Exercises:**

- Continue all strengthening exercises listed above
- Pool exercise program
- Initiate bicycle

**Cryotherapy:** continue use of ice and compression

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### **Weeks 7-8**

**Brace:** discontinue use of brace at week 7-8

**Weight bearing:** full without brace

**Range of motion:** passive ROM 0-135 degrees

**Exercises:**

- Straight leg raises (flexion)
- Hip abd/adduction
- Knee extension (90-30 degrees)
- CKC mini-squats (0-40 degrees)
- CKC leg press (0-60 degrees)
- Bicycle
- Pool program and swimming
- Continue stretching hamstrings and gastroc
- Proprioception and balance training
- Cup walking
- \*No resisted hamstrings

### **III. MODERATE PROTECTION PHASE (Weeks 9-12)**

**Goals:** Protect healing tissue (deep squats)  
Maintain full ROM  
Normalize strength and proprioception

***Criteria to progress to Phase III:***

- 1) Range of motion 0-135 degrees
- 2) Minimal pain and effusion
- 3) Quadriceps strength 4/5
- 4) Good patellar mobility
- 5) Symmetrical gait

### **Weeks 9-12**

**Exercises:**

- Stretch hamstrings and gastroc muscles
- Progress strengthening exercises listed above
- Initiate following:
  - Walking program
  - Swimming
  - Lateral step-ups
  - Wall squats (no deep)
  - Progress proprioception training

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**IV. MINIMAL PROTECTION PHASE (Weeks 13-22)**

Goals: Increase strength, power and endurance  
Begin gradual return to function

***Criteria to progress to Phase IV:***

- 1) Full non-painful ROM
- 2) Minimal to no effusion
- 3) Normal gait
- 4) Strength 4 to 4+/5

**Weeks 13-22****Exercises:**

- Leg press 0-100 degrees
- Wall squats 0-60 degrees
- Lateral step-ups (6") height
- Front step-downs (6") height
- Knee extension 90-30 degrees
- Hip abd/adduction
- Vertical squats
- Bicycle
- Toe-calf raises
- Stairmaster
- Pool running/jobbing program
- Walking longer distance

**May return to work depending on job demands (physician decision)**

**Week 20** Continue all exercises listed above

**V. RETURN TO ACTIVITY PHASE (Weeks 23-52)**

Goals: Gradual return to functional activities

***Criteria for progress to Phase V:***

- 1) Full non-painful ROM
- 2) No swelling
- 3) Normal patellar mobility
- 4) Strength: isokinetics test – satisfactory result 10-15% of appropriate leg

**Week 23 and Beyond**

- 1) Exercises: continue all exercises listed above
- 2) Initiate light jobbing (if appropriate and physician clearance)
- 3) May return to light aerobic conditioning

**Week 26-30**

**Return to recreational sports (physician decision)**