



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

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

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)