

**MENISCAL ALLOGRAFT TRANSPLANT REHABILITATION PROTOCOL****PHASE I: MAXIMUM PROTECTION – WEEKS 1-6:****GOALS:**

- Diminish inflammation and swelling
- Restore ROM
- Reestablish quadriceps muscle activity

**Stage 1: Immediate Postoperative Day 1-Week 3**

- Ice, compression, elevation
- Electrical muscle stimulation
- Brace locked at 0 degrees
- CPM
  - 6 weeks of CPM
  - 0-90 degrees, 6-8 hours/day
  - Increase 5-10 degrees/day or as tolerated
- ROM 0-90
  - Motion is limited for the first 7-21 days, depending on the development of scar tissue around the repair site. Gradual increase in flexion ROM is based on assessment of pain and site of repair (0-90 degrees).
- Patellar mobilization
- Scar tissue mobilization
- Passive ROM
- Exercises
  - Quadriceps isometrics
  - Hamstring isometrics (if posterior horn repair, no hamstring exercises for 6 weeks)
  - Hip abduction and adduction
- **Non-weight bearing for 6 weeks**
- Proprioception training with brace locked at 0 degrees

**Stage 2: Weeks 4-6**

- Gradually increase to full weight bearing with brace unlocked
- Progressive resistance exercises (PRE's) 1-5 pounds
- Limited range knee extension (in range less likely to impinge or pull on repair)
- Toe raises
- Cycling (no resistance)
- PNF with resistance
- Unloaded flexibility

## **PHASE II: MODERATE PROTECTION – WEEKS 6-10**

### **Criteria for progression to Phase II:**

- ROM 0-90 degrees
- No change in pain or effusion
- Quadriceps control (MMT 4/5)

### **GOALS:**

- Increased strength, power, endurance
- Normalize ROM of knee
- Prepare patients for advanced exercises

### **Exercises:**

- Strength- PRE progression
- Flexibility exercises
- Lateral step-ups
- Mini-squats at 8-10 weeks (less than 90 degrees)

### **Endurance Program:**

- Swimming (no frog kick), pool running – if available
- Cycling
- Stair machine

### **Coordination Program:**

- Balance board
- Pool sprinting – if pool available
- Backward walking
- Plyometrics

## **PHASE III: ADVANCED PHASE – WEEKS 11-15**

### **Criteria for progression to phase III:**

- Full, pain free ROM
- No pain or tenderness
- Satisfactory clinical examination
- SLR without lag
- Gait without device, brace unlocked

### **GOALS:**

- Increase power and endurance
- Emphasize return to skill activities
- Prepare for return to full unrestricted activities

### **Exercises:**

- Continue all exercises
- Increase plyometrics, pool program
- Initiate running program
- No deep squats until 4-6 months

### **Return to activity: Criteria**

- Full, pain free ROM

- Satisfactory clinical examination

**Criteria for discharge from skilled therapy:**

- Non-antalgic gait
- Pain free/full ROM
- Quad strength at 80-90% of contralateral side
- Independent with home program
- Normal age appropriate balance and proprioception
- Resolved palpable edema