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# MENISCAL TRANSPLANTATION PROTOCOL

## GENERAL GUIDELINES:

- No open kinetic chain hamstring work for 3 months
- No terminal knee extension exercises for 3 months
- Meniscal transplant performed with ACL reconstruction follows ACL post-op protocol, with the above exceptions
- Supervised physical therapy takes place for 3-9 months post-op

## GENERAL PROGRESSION OF ACTIVITIES OF DAILY LIVING:

Patients may begin the following activities at the dates indicated (unless otherwise specified by the physician):

- Bathing/Showering without brace after suture removal
- Sleep with brace locked in extension for 6 weeks
- Driving at 8 weeks post-op
- Brace locked in extension for 6 weeks for ambulation
- Use of crutches continued for 8-12 weeks
- Weight-bearing as tolerated beginning at 8-12 weeks post-op (see WB Status)

## PHYSICAL THERAPY ATTENDANCE:

The following is an approximate schedule for supervised physical therapy visits:

Phase I (0-8 weeks): 1 visit/week

Phase II (8-12 weeks): 2-3 visits/week

Phase III (3-9 months): 2-3 visits/week first month, reduce to one visit or 1-2 weeks based on patient goals and access equipment

Phase IV (9 months+): Discontinue PT on completion of functional progression

## REHABILITATION PROGRESSION:

The following is a general guideline for progression of rehabilitation following meniscal transplant surgery. Progression through each phase should take into consideration patient status (e.g. healing, function) and physician advisement. Please consult the physician if there is any uncertainty concerning advancement of a patient to the next phase of rehabilitation.

## **PHASE I**

Begins immediately post-op through approximately 8 weeks.

### **Goals:**

- Protect allograft fixation and surrounding soft tissues
- Control inflammation
- Minimize the effects of immobilization through ROM exercises (heel slides)
- Educate patient regarding limitations and the rehabilitation process.

### **Brace:**

- 0-6 weeks: Brace locked in full extension for gait and sleeping, unlock for therapeutic exercises.
- 6-8 weeks: Unlocked for controlled gait training in physical therapy or at home, discontinue use at night.

### **Weightbearing Status**

- 0-4 weeks: Non-weight-bearing
- 4-6 weeks: Touchdown weight-bearing
- 6-8 weeks: Partial weight-bearing
- 8-12 weeks: Weight-bearing as tolerated with two crutches

### **Therapeutic Exercises:**

- Quad sets
- Ankle pump, progress to resistive theraband exercises
- Heel slides from 0-90° of knee flexion
- Non-weightbearing calf, hamstring stretches
- SLR in flexion, abduction, flexion, adduction, extension with brace in full extension until quadriceps strength is sufficient to prevent extension lag
- Patellar mobilizations as needed
- Begin aquatic therapy at 4 weeks with emphasis on normalization of gait

## **PHASE II**

Begins at approximately 8 weeks post-op and extends to approximately 3 months.

Criteria for advancement to Phase II:

- Good quad set, SLR without extension lag
- Approximately 90° of flexion
- Full extension
- No signs of active inflammation

### **Goals:**

- Increase flexion range of motion
- Increase quadriceps strength
- Restore normal gait
- Avoid over stressing the graft

#### **Brace:**

Discontinue use of brace at 8 weeks post-op as allowed by physician

#### **Weightbearing status:**

At 8 weeks may discontinue use of crutches if following criteria are met:

- No extension lags with SLR
- Full extension
- Flexion 90°
- Nonantalgic gait pattern (may use one crutch or cane until gait is normalized)

#### **Therapeutic Exercises:**

- Wall slides 0-45-degrees, progressing to mini-squats
- 4-way hip for flexion, extension, abduction, adduction
- Stationary bike (No toe clips to minimize hamstring activity)
- Leg press 0-60° flexion
- Step-ups (Begin at 2" and progress towards 8")
- Knee extensions 50° -90°
- Toe raises
- Balance exercises (e.g. single-leg balance)

#### **PHASE III**

Begins at approximately 3 months post-op and extends through approximately 9 months.

Criteria for advancement to Phase III

- Full knee extension, at least 100° of flexion
- Good quadriceps strength
- No patellarfemoral or soft tissue complaints
- No signs of active inflammation

#### **Goals:**

- Restore full range of motion
- Continue improvement of quadriceps strength
- Initiate isolated hamstring strengthening
- Improve functional strength and proprioception

#### **Therapeutic Exercises:**

- Progression of closed kinetic chain and balance activities
- Closed kinetic chain terminal knee extension with resistive tubing or weight machine
- Hamstring curls 0-60° of flexion
- Swimming-no breaststroke
- Jogging in pool with wet vest or belt
- Stairmaster (small steps initially)

#### **PHASE IV:**

Begins approximately 9 months post-op and extends until the patient has returned to work or desired activity. Criteria for advancement to Phase IV:

- Physician clearance to initiate functional progression
- No patellarfemoral or soft tissue complaints
- Necessary joint range of motion, strength, endurance, and proprioception to safely return to work or athletics.

#### **Goals:**

- Sport-specific training or work hardening program as appropriate.
- Maintenance of strength, endurance, and proprioception
- Patient education with regards to any possible limitations

#### **Therapeutic Exercises:**

- Continue strength, endurance, proprioception program
- Functional progression including but not limited to:
  - Slide board
  - Walk/jog progression
  - Forward, backward, running, cutting, carioca, etc.
  - Sport specific drills
  - Work hardening program as prescribed by physician

#### **Return to full activity:**

The patient may resume full activity level including sports participation when he/she completes an appropriate functional progression and has clearance from the physician. This usually occurs at approximately 9 months post-op.