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## ACL with Meniscal Root Repair Phased Rehabilitation Guidelines

### General Guidelines

- Allow 8 weeks for complete graft re-vascularization
- Supervised physical therapy takes 3-9 months

### General Progression of Activities of Daily Living

- Bathing/showering without brace after suture removal
- Sleep with brace locked in extension for 2 weeks
- Driving:
  - 1 week for automatic cars; left leg surgery
  - 4-6 weeks for standard cars; right leg surgery
- Brace locked in extension for 2 week for ambulation
- Use two crutches, brace for ambulation for 4-6 weeks

**Physical Therapy Attendance:** the following is an approximate schedule for supervised physical therapy visits

- |             |              |                   |
|-------------|--------------|-------------------|
| • Phase I   | (0-2 weeks)  | 1 visit/week      |
| • Phase II  | (2-3 weeks)  | 2-3 visits/week   |
| • Phase III | (2-5 months) | 2-3 visits/week   |
| • Phase IV  | (5-9 months) | 1 visit/1-2 weeks |

**Rehabilitation Progression:** the following is a general guideline for the progression of rehabilitation following ACL reconstruction. Progression through each phase should take into account 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 : (0 - 6 wk)

#### Goals

- Protect graft fixation (assume 8 weeks fixation time) and meniscal repair
- Knee ROM 0-90 degrees x 4 weeks
- AAROM → AROM as tolerated
- No weight bearing with knee flexion angles >90 degrees
- Pain /edema reduction
- Normalize balance / proprioception abilities
- Begin and enhance normalization of quad recruitment
- Educate patient on rehabilitation progression

### **Brace/Weight Bearing**

- 0-4 weeks: non-weight bearing in brace locked in extension for ambulation and sleep
- 4-6 weeks: partial weight bearing in brace unlocked 0-90 for ambulation and sleep
- 6 weeks: progress to full weight bearing as tolerates, brace unlocked 0-90 for ambulation, remove for sleeping

### **Therapeutic Exercises (0-6 weeks)**

- Patellar mobilization
- Quad/hamstring sets
- Gastroc/Soleus stretching
- Straight leg raises with brace locked in full extension until quad strength prevents extension lag
- Modalities per therapist: including electrical stimulation, ultrasound, heat (before), ice (after)

### **Phase II:** Begins approximately 6 weeks post-op and extends to approximately 8 weeks

#### **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**

- Restore normal gait
- Maintain full extension (especially hip extension), progress flexion range-of-motion
- Protect graft fixation
- Initiate open kinetic chain hamstring exercises

#### **Brace**

- Discontinue use of brace and crutches as allowed by physician when the patient has full extension and can SLR without extension lag
- Patient must exhibit non-antalgic gait pattern, consider using single crutch or cane until gait is normalized

#### **Therapeutic Exercises**

- Wall slides 0°-45°, progression to mini-squats
- 4-way hip
- Closed chain terminal extension with resistive tubing or weight machine
- Stationary bike to increase ROM, start with high seat and progress to normal seat height when able, resistance as tolerated
- Single leg stands for balance/proprioception on Airex pad or trampoline
- Hamstring curls
- Aquatic therapy with emphasis on normalization of gait
- Continue hamstring stretches, progress to weight bearing gastroc/soleus stretches
- Monitor closely for patello-femoral signs and symptoms, manage them accordingly

### **Phase III:** Begins approximately 8 weeks post-op and extends to approximately 5-months

#### **Goal**

- Full range-of-motion
- Improved strength, endurance and proprioception of the lower extremity to prepare for functional activities
- Avoid overstressing the graft fixation
- Protect the patellofemoral joint

#### **Therapeutic Exercises**

- Continue flexibility exercises as appropriate for patient
- Stairmaster - start with shallow steps with feet flat on steps and weight on heels, progress depth as tolerated to normal step depth
- Versa Climber, Fitter, Nordic Track, and Elliptical Trainers etc.
- Advance closed kinetic chain strengthening (single leg squats, leg press 0°-45°, Unilateral step ups - start with 2" and progress to 8", emphasize control during the decent phase of step up)
- Progress aquatic program to include pool running, swimming (no breaststroke)

**Phase IV:** Begins approximately 5 months and extends through approximately 9 months

**Criteria for advancement to Phase IV**

- Full, painfree ROM
- No evidence of patellofemoral joint irritation
- Strength and proprioception approximately 70% of uninvolved leg
- Physician clearance to initiate advanced closed kinetic chain exercises and functional progression

**Goals**

- Progress strength, power, proprioception to prepare for return to functional activities

**Therapeutic Exercises**

- Continue and progress flexibility and strengthening program
- Initiate plyometric program as appropriate to patient's functional goals
- Functional progression including but not limited to:
  - Walk/jog progression
  - Forward, backward running  $\frac{1}{2}$ ,  $\frac{3}{4}$ , full speed
  - Lateral movements - stepping, shuffling, hopping, carioca
- Initiate sport specific activities under supervision of ATC or PT

**Phase V :** Begins approximately 9 months post-op

**Criteria for advancement to Phase V**

- No patellofemoral or soft tissue complaints
- Necessary joint ROM, strength, endurance, proprioception
- Patient education with regard to any possible limitations

**Therapeutic Exercises**

- Gradual return to sports participation
- Maintenance program for strength, endurance