# GUIDELINES FOR REHABILITATION FOLLOWING ACL ALLOGRAFT RECONTRUCTION

**Mauricio F. Herrera, MD**
**305-595-1317**
**drsports@me.com**
**www.herrerasportsmedicine.com**

## GENERAL GUIDELINES

- Allograft revascularization is slower than for autografts. Therefore, crutches and brace are continued for 4 weeks.
- CPM commonly used day of sugery
- ACL reconstructions performed with meniscal repair or transplant follow the ACL protocol with avoidance of open kinetic chain hamstring work for 6-12 weeks. Time frames for use of brace and crutches may be extended by the physician.

## 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 1 weeks
- Driving: 1 weeks for automatic cars, left leg surgery
  4-6 weeks for standard cars, right leg surgery
- Brace locked in extension for 1 week for ambulation
- Use of crutches, brace for ambulation for 6 weeks
- Weight bearing as tolerated immediately post-op

## PHYSICAL THERAPY ATTENDANCE

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

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|---|---|
| Phase I (0-6 weeks): | 1 visit/week |
| Phase II (6-8 weeks): | 2-3 visits/week |
| Phase III (2-6 months): | 2-3 visits/week |
| Phase IV (6 months+): | Discharge after completion of appropriate functional progression |

## REHABILITATION PROGRESSION

The following is a general guideline for progression of rehabilitation following ACL allograft 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**

Begins immediately post-op through approximately 6 weeks

**Goals:**

- Protect graft fixation
- Minimize effects of immobilization
- Control inflammation
- Full extension range of motion
- Educate patient on rehabilitation progression

**Brace:**

0 – 1 week: Locked in full extension for ambulation and sleeping
1 – 6 weeks: Unlocked for ambulation. Remove for sleeping

**Weight-Bearing Status:**

0 – 6 weeks: Weight bearing as tolerated with two crutches

**Therapeutic Exercises:**

- Heel slides
- Quad sets, hamstring sets (consider NMES for poor quad set)
- Patellar mobilization
- Non-weight-bearing gastroc/soles, hamstring stretches
- SLR, all planes, with brace in full extension until quadriceps strength in sufficient to prevent extension lag
- Quadriceps isometrics at 60˚and 90 ˚

**PHASE II**

Begins approximately 4-6 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:**

- Initiate closed kinetic chain exercises
- Restore normal gait
- Protect graft fixation

**Brace/Weight-Bearing Status:**

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˚ progressing to mini-squats
- 4-way hip
- Stationary bike (begin with high seat, low tension to promote ROM. Progress to single leg)
- Closed chain terminal extension with resistive tubing or weight machine
- Toe raises
- Balance exercises (e.g. single-leg balance, KAT)
- Hamstring curls
- Aquatic therapy with emphasis on normalization of gait
- Continue hamstring stretches. Progress to weight-bearing gastroc/soleus stretches.
- Consider using Flexionator and / or extentionator for stiffness

**PHASE III**

Begins at approximately 8 weeks and extends through approximately 6 months

**Goals:**

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

**Therapeutic Exercises:**

- Continue and progress previous flexibility and strengthening activities
- Stairmaster (begin with short steps and avoid hyperextension)
- Nordic Track
- Knee extensions 90-45˚ and progress to eccentrics
- Advance closed kinetic chain activities (leg press , one-leg mini -squats 0-45˚ of flexion, step-ups beginning at 2" and progress to 8", etc.)
- Progress proprioception activities (slide board, use of ball, raquet with balance activities, etc.)
- Progress aquatic program to include pool running, swimming (no breaststroke)

**PHASE IV**

Begins at approximately 6 months and extends through approximately 9 months

**Criteria for advancement to Phase IV:**

- Full, pain-free ROM
- No evidence of patellofemoral joint irritation
- Strength and proprioception approximately 70% of uninvolved

- Physician clearance to initiate advanced closed kinetic chain exercises and functional progression

**Goal:**
- Continue and progress previous flexibility and strengthening activities
- Functional progression including:
  Walk/job progression
  Forward/backward running at ½, ¾ and full speed

**PHASE V**

Begins at approximately 9 months post-op

**Criteria for advancement to Phase V:**
- No patellofemoral or soft tissue complaint
- Necessary joint ROM, strength, endurance and proprioception to safely return to work or athletics
- Physician clearance to resume partial or full activity

**Goals:**
- Initiate cutting and jumping activities
- Completion of appropriate functional progression
- Maintenance of strength, endurance and proprioception
- Patient education with regards to any possible limitations

**Therapeutic Exercises:**
- Functional progression, including but not limited to:
  Walk/job progression
  Forward/backward running at ½, ¾ and full speed
  Cutting, cross-over carioca, etc.
  Plyometric activities as appropriate to patient's goals
  Sport-specific drills
- Safe, gradual return to sports after successful completion of functional progression
- Maintenance program for strength and endurance

**Bracing:**

Functional brace may be recommended by the physician for use during sports for the first 1-2 years after surgery.