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ACL RECON: HAMSTRING, QUADRICEPS  
BTB AUTOGRAFT/ALLOGRAFT  
POSTOPERATIVE PROTOCOL  
Referral for Rehabilitation Services

Patient Name: \_\_\_\_\_ Date of Surgery: \_\_\_\_\_

\_\_\_\_\_ / Week \_\_\_\_\_ Weeks

**Post Op:**

Goals:

**Begin:**

1. Minimize swelling
2. Minimize quadriceps inhibition
3. Protect graft

Exercises:

1. Quad sets, straight leg raises (biofeedback, NMES)
2. Hamstring stretch, calf towel stretch, ankle pumps
3. Patella mobs
4. Hip extension
5. ROM: prone hangs (not with hamstring graft unless full extension is not being attained), knee flexion sitting

Weight bearing:

**As tolerated with crutches**

**Weeks 1-3**

***\*\*DO NOT PUSH FLEXION PAST 90 DEGREES FOR THE FIRST SIX WEEKS!***

Goals:

**Begin:**

1. 90 degrees flexion ROM, full extension
2. Independent quad contraction
3. Gait without crutches by end of week 2

Exercises:

1. Continue with post-op program, add weight to SLR if no extension lag
2. Add bike for ROM, strength, and cardio benefit; pedal as tolerated
3. 4-way hip machine, initiate closed kinetic chain CKC to include toe and heel raises, dynamic terminal extension, mini-squats
4. Gait training with mini-hurdles to restore normal gait kinematics

**Weeks 4-6**

Goals:

**Begin:**

1. ROM 0-120 as tolerated
2. Normal gait cycle by weeks 3-4
3. KT 1000 at 6 weeks post-op

Exercises:

1. Continue with post-op exercises as home exercise program
2. Advance CKC program to: step-ups, modified lunges
3. Initiate isotonic weight machines

- a. Leg extension 90-30 degrees (BPTB – eccentric x 6 weeks, HS concentric starting at week 3)
  - b. Hamstring curls (start with standing HS curls at week 3 for hamstring graft; progress to weight machine)
  - c. Leg press
4. Initiate proprioceptive program – single leg stance, balance board

**Weeks 6-12**

Goals:

**Begin:**

1. Full ROM
2. Swelling < 1-2 cm at midpatella
3. Prevent patella femoral pain with exercises

Test:

1. KT 1000 and isokinetic test at week 12

Exercises:

1. Continue with above program
2. Leg extension can be concentric 90=30 after week 6 for BPTB
3. Begin isokinetics 90-30 degrees, practice starting at week 8 with progression from fast speed (300d/sec) to slow speed (60d/sec), practice once per week only
5. Add shuttle for plyometrics at week 10

**Weeks 12-26**

Goals:

**Begin:**

1. KT 1000 side to side difference <3 mm
2. Quad and hamstring isokinetic difference <30% on side to side comparison

Tests:

1. KT 1000, isokinetic, functional hop test at 26 weeks

Exercises:

1. Continue gym program
2. Begin plyometric if above criteria is met
3. Sport specific training at 5 months
4. Progress into sports at 6 months

**Return to Activity**

Swimming	week 4 (Freestyle only)
Treadmill walking	week 4-6
Elliptical	week 4
Stair stepper	week 6
Rowing	week 10
Outdoor biking	week 12
Golf	week 16-20
Running	month 3 - 4
Skiing, basketball	
Tennis, football	month 6 - 8

I hereby certify these services as medically necessary for the patient's plan of care.

Date \_\_\_\_\_

Physician's Signature \_\_\_\_\_