- Partial weight bearing status (<50%), unless otherwise ordered by Surgeon. Walk with crutches.</li>
  Heel lift in opposite shoe to normalize gait.
- Surgical knee will be in a hinged rehab brace locked in FULL EXTENSION for 4 weeks postop.
- Regular assessment of gait to avoid compensatory patterns.
- Regular manual mobilizations to surgical wounds and associated soft tissue to decrease the incidence of fibrosis.
- No direct palpation to surgical portals x 4 weeks. Consider the edge of the bandages as the "no touch zone" (approximately 2 inches in all directions). See Wound Care Protocol for full details.
- No resisted leg extension machines (isotonic or isokinetic) at any time.
- No high impact or cutting / twisting activities for at least 6 months postop.
- No resisted lateral movement for 12 weeks.
- Surgeon/nurse follow up visits at Day 2, Day 14, 1 month, 3 months, 6 months, and 1 year postop.
- During the first 4 weeks: TWICE PER DAY: Without brace, allow GRAVITY ONLY (passive only) to bend knee back as tolerated BUT NO MORE THAN 90 DEGREES for a good knee stretch without increase in pain. Relax knee and stretch for 60 seconds.

# Week 1:

• Ice and elevation every 2 hours for 15-20 min each session.

## Manual

Soft tissue treatments for edema / pain control and to posterior musculature, ITB, add, quad, calf.
 No direct palpation of surgical portals x 4 weeks.

### Exercises

- Straight leg raise exercises (lying, seated, and standing), quadriceps/adduction/ gluteal sets, ankle pumps.
- Well-leg stationary cycling, upper body ergometer for cardio. Add upper body and core conditioning.
- Daily edge of bed dangle for passive knee flexion (allow knee to hang in pain-free range with light stretch).

## Goals

- Decrease pain/edema.
- Passive range of motion 0-70 degrees.
- Gait: partial weight bearing (<50%) with brace locked in extension. Crutches used for gait.</li>

# Weeks 2 - 4

Clinic visit at day 14 for suture removal and check-up.

#### Manual

 Continue with soft tissue treatment for edema/pain, posterior musculature, iliotibial band, adductor, quadriceps, calf.

#### **Exercises**

- Continue with previous, manual resisted exercises (i.e. PNF patterns) of the foot, ankle and hip.
  Trunk stabilization program, three limb plank. Single leg balance and proprioceptive exercises.
- Aerobic exercises (i.e. unilateral cycling, upper body ergometer, Schwinn Air-Dyne with uninvolved leg and arms only, well body bike, single leg row machine).

## Goals

- Decrease pain/edema.
- Passive range of motion 0-90 degrees.
- Gait: Partial-weight bearing (<50%) with brace locked in extension. Crutches used with gait.</li>

# Weeks 4 - 6

• Clinic visit at 4 weeks post-op, will wean off the use of rehab brace.

#### Manual

 Stretching, exercises and manual treatments to improve range of motion (especially flexion). Initiate surgical portal scar mobilization if portals are completely closed.

## **Exercises**

Incorporate functional exercises (i.e. partial squats, calf raises, mini-step-ups, proprioception).

- Stationary bike low cadence, low resistance.
- Slow walking on treadmill for gait training (preferably a low-impact treadmill).

#### Goals

- Gait- unlock brace; wean off brace and crutches. Emphasize proper gait mechanics.
- Passive range of motion 0-120 degrees.

# Weeks 6 - 8

### Manual

Continue as needed for ROM, decrease pain, muscle guarding.

### **Exercises**

 Increase the intensity of functional exercises (i.e. cautiously increase depth of closed-chain exercises., Shuttle/leg press). Do not overload closed or open-chain exercises.

#### Goals

- Gait- no limp present, good mechanics.
- Passive range of motion 0-135 degrees.
- Tolerate 90/90 squat.

# Weeks 8 - 12

#### **Manual**

Continue with soft tissue, joint mobilizations as needed.

### **Exercises**

- Add lateral training exercises (side-step ups, lateral stepping).
- Introduce more progressive closed chain and agility leg exercises.
- Patients should be pursuing a home program with emphasis on sport/activity-specific training.
- Consider road cycling in saddle.

#### Goals

- Full range of motion.
- Initiate lateral training with no resistance.

# Weeks 12 - 16

- Complete 3 month sports test and initiate return to running program.
- Low-impact activities until 16 weeks.
- Increase the intensity of strength and functional training for gradual return to activities.
- Initiate resisted lateral training (theraband resisted side-stepping).

## Goals

- Preparedness for Sports Test I for s/p 3 month checkup with Dr. Stone.
- Complete and pass Sports Test 1.

**NOTE:** All progressions are approximations and should be used as a guideline only. Progression will be based on individual patient presentation, which is assessed throughout the treatment process.