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**Patient Name:**

**Date:**

**Date of Surgery:**

**Cartilage Restoration Postoperative Protocol:  
Weight-bearing Femoral Condyle (Microfracture,  
Osteochondral autograft or allograft)**

**I) Weeks 0-6 (Healing Phase):**

- Restrictions:
  - 1) Knee immobilizer as needed
  - 2) TTWB with crutches
  
- Goals:
  - 1) Reduce swelling
  - 2) Reduce muscle atrophy
  - 3) Gradual full range of motion
  
- Anti-edema
  - 1) Ice/Cryotherapy multiple times during the day
  - 2) Compression with TubiGrip/TEDS
  
- CPM 8 hours/day x 6 weeks, start 0-60 degrees post-op, progress to specified maximum flexion depending on the lesion location.
  
- Therapy/Exercises:
  - 1) Quad sets, SLR
  - 2) Hamstring sets
  - 3) Gluteal sets
  - 4) Hip belt abduction isometrics
  - 5) Pillow adductor squeezes
  - 6) Crunches
  - 7) Ankle dorsiflexion/plantar flexion isometrics or Theraband strengthening
  - 8) Weight shifts
  - 9) AlterG Treadmill walking
  - 10) Multi-directional patella mobilization
  - 11) Stationary bicycle with no resistance once knee flexion greater than 90 degrees

**II) Weeks 6 to 12 (Transitional Phase):**

- Restrictions:
  - 1) Weight-bearing status: use bathroom scale to progress as follows:
    - week 7: PWB 1/3 body weight
    - week 8: PWB 2/3 body weight
    - week 9: FWB with crutches/crutch/cane
    - week 10+: Discontinue ambulatory aids
  
- Goals:

- 1) Reduce effusion
  - 2) Full weight bearing by ten weeks without crutches
  - 3) Continue full ROM
  - 4) Reduce pain
    - a. Electrical stimulation
    - b. Soft tissue mobilizations and myofascial release
  - 5) Minimize hip, core and lower extremity atrophy
- Therapy/Exercises:
    - 1) Low weight (max 10-20lbs.) open-chain leg extension and curl
    - 2) Stationary bicycle with gradual increased tension per level of comfort
    - 3) Continue quad sets, SLR, leg curl and heel slides
    - 4) Strengthen quads, hamstrings, and hip abductors/extensors using ankle weights and/or elastic band resistance through full ROM as tolerated
    - 5) Gentle closed-chain terminal knee extension 0-40 degrees (TKE) permitted starting at 9-10 weeks as tolerated per weight bearing restriction.
    - 6) Body weight partial squats and leg press 60- to 0- degree arc.
    - 7) AlterG Treadmill walking
    - 8) Multi-directional patella mobilization

### **III) Weeks 13+ (Remodeling Phase):**

- Restrictions:
  - 1) Return to impact loading activities and clearance for return to sports as determined by surgeon
  - 2) No pivoting sports should be started without surgeon clearance
- Goals:
  - 1) Full active range of motion of the involved knee
  - 2) No effusion
  - 3) Improved quad strength and endurance
- Weight bearing:
  - 1) Normal walking
- Therapy/Exercises:
  - 1) Resisted open-chain exercise with  $\leq$  20lbs to be progressed as tolerated after 6mos
  - 2) Closed-chain exercise to promote knee stability and proprioception through full ROM as tolerated. Progress mini-squats to squats. Leg press 90- to 0- degree arc.
  - 3) Cycling on level surfaces permitted with gradual increase in tension per level of comfort
  - 4) Treadmill walking/reverse treadmill walking encouraged

Please send progress notes.

**Physician's Signature:** \_\_\_\_\_  
**Gregory Galano, MD**