



# Travis C. Burns, MD

Sports Medicine and Shoulder Reconstruction  
Arthroscopic Shoulder, Hip, and Knee Surgery

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## MICROFRACTURE TREATMENT OF ARTICULAR CARTILAGE DEFECTS (Patellofemoral)

### General Guidelines

- Obtain full extension within 2 weeks after surgery
- Crutches for 6 weeks, TTWB
- No brace
- Begin using stationary bicycle within 3 days of surgery
- Return to sports at 4-6 months

### Post-op Days 1 – 14

**Goals:** Bicycle for 15 minutes daily starting within 3 days of surgery, full extension, obtain good quad control

- POD 2: Change dressing, keep wound covered, continue TED Hose
- POD 10-14: Sutures out, D/C TED Hose when effusion resolved
- Brace – Locked in extension for 6 weeks
- Crutches – Toe touch weight bearing (TTWB)

#### **Therapy:**

AAROM, AROM as tolerated  
Passive extension with heel on bolster or prone hangs  
Patellar mobilization (teach patient)  
Calf pumping  
Short arc quads, 0-20 only, without resistance  
Standing HS curls in parallel bars  
Straight leg raise (SLR) x 4 with knee in brace  
Electrical stimulation in full extension with quad sets and SLR  
Stationary bicycle for ROM, seat adjusted high, no resistance  
No Resisted Closed Chain ex x 6 weeks  
No Resisted Open Chain ex x 6 weeks

### Weeks 2 – 4

**Goals:** No effusion, no extensor lag

#### **Therapy:**

Crutches with TTWB x 6 weeks  
Continue appropriate previous exercises

Scar massage when incision healed  
D/C CPM once patient is independent with stationary bicycle  
AROM, AAROM as tolerated  
Co-contractions quads / HS at 0, 30, 60, 90 degrees  
SLR x 4 on mat – Add light weight below the knee if good quad control  
Pool therapy – Deep water (chest/shoulder) walking and ROM exercises  
– Water jogging floating upright in deep water  
Stretches – Hamstring, hip flexors, ITB

### **Weeks 4 – 6**

**Goals:** Full ROM

**Therapy:**

Crutches TTWB  
Continue appropriate previous exercises  
PROM, AROM, AAROM to regain full motion  
Standing SLR x 4 with Theraband (standing on uninvolved LE)

### **Weeks 6 – 8**

**Goal:** Normal Gait

**Therapy:**

Weight bearing as tolerated (WBAT), D/C crutches when gait is normal Continue appropriate previous exercises  
Leg press with light weight  
Mini squats, Wall squats  
Hamstring curls – Carpet drags or rolling stool (closed chain) Treadmill – Forwards and backwards walking

### **Weeks 8 – 12**

**Goal:** Walk 2 miles at 15 min/mile pace

**Therapy:**

Continue appropriate previous exercises  
HS curl weight machine  
Knee extension weight machine  
Proprioceptive training – BAPS, ball toss, body blade Fitter  
Slide board  
Forward, lateral and retro step downs  
Stationary bike – Minimal resistance  
Treadmill – Walking progression program  
Elliptical trainer  
Pool therapy – Waist deep water walking or slow jogging Quad stretches

### **Months 3 – 6**

**Goals:** Return to running and full activities

**Therapy:**

- Continue appropriate previous exercises with progressive resistance
- Treadmill – Running progression program
- Agility Drills
- Sit-up progression
- Stairmaster

**Months 6 - 9**

**Goals:** Walk 2 miles at 15 min/mile pace

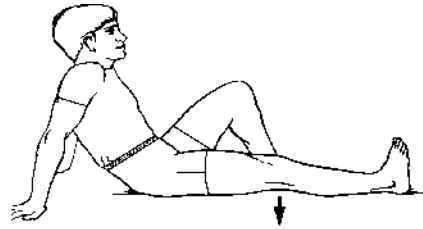
**Therapy:**

- Continue appropriate previous exercises with increased resistance – Progress to 90 degrees of knee flexion
  - Increase resistance as tolerated
- Hip weight machine x 4 bilaterally
- Step downs with medium to large steps
- Sit-up progression
- Progressive weight training program
- Treadmill – Running progression program

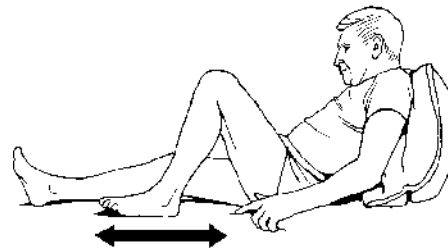
## Knee Post Op Phase 1

Perform exercises below frequently: 30 reps 3-5x a day

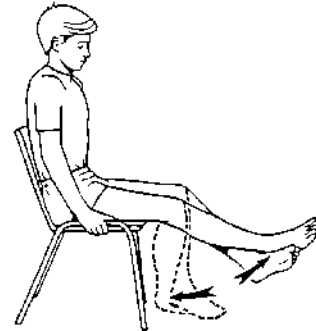
**Quad Isometrics**



**Heel Slides**



**Active Assisted Motion**



**Ice Position 15 minutes 2-3 x  
per day**

