

University Orthopedics, Inc.  
Sports Medicine Division

## MICROFRACTURE TREATMENT OF ARTICULAR CARTILAGE DEFECTS\*\* Patellofemoral

### PHASE I: ~0-2 Weeks Postoperative

#### GOALS:

- CPM or bicycle: 500 cycles or more per day the first week
- 1000 cycles or more per day thereafter
- Full extension

#### AMBULATION AND BRACE USE:

Dressing – POD 1: Debulk dressing, TED Hose in place  
– POD 2: Change dressing, keep wound covered, continue TED Hose  
– POD 7-10: Sutures out, D/C TED Hose when effusion resolved  
Crutches: WBAT, D/C when gait is normal  
– Brace 0-20 degrees x 6 weeks

#### EXERCISE:

CPM – Speed and ROM to patient tolerance, begin with 0-45 (8hrs daily)  
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 Hamstring curls in parallel bars  
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**

### PHASE II: ~2-4 Weeks Postoperative

#### GOALS:

- No extensor lag
- No effusion

#### AMBULATION AND BRACE USE:

Brace 0-20 degrees x 6 weeks

#### EXERCISES:

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 / Hamstring at 0, 30, 60, 90 degrees  
SLR x 4 on mat (no brace) – 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  
BAPS, ball toss, body blade  
Forward, backward, lateral walking in parallel bars  
Double leg heel raises, progress to single leg

### PHASE III: ~4-6 Weeks Postoperative

#### GOAL:

- Full AROM

#### AMBULATION AND BRACE USE:

Brace locked at 0-20 degrees

#### EXERCISES:

Continue appropriate previous exercises  
PROM, AROM, AAROM to regain full motion  
Standing SLR x 4 with Theraband bilaterally

**PHASE IV: ~6-8 Weeks Postoperative**

GOAL:

- Normal gait

AMBULATION AND BRACE USE:

D/C brace

EXERCISES:

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

**PHASE V: ~8-12 Weeks Postoperative**

GOAL:

- No thigh atrophy
- Walk 2 miles at 15 min/mile pace

EXERCISES:

Continue appropriate previous exercises

Hamstring 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

**PHASE VI: ~3-4 Months Postoperative**

GOAL:

- Run 2 miles at easy pace

EXERCISES:

Continue appropriate previous exercises with  
progressive resistance

Treadmill – Running progression program

Stairmaster

**PHASE VII: ~4-6 Months Postoperative**

GOALS:

- Return to all activities
- Pass APFT at 6 months post-op
- No contact sports until 6 months post-op

EXERCISES:

Continue appropriate previous exercises

Agility drills / Plyometrics

Sit-up progression

Progressive weight training program

Transition to home / gym program

\*\*This protocol is designed to be administered by a licensed physical therapist and/or certified athletic trainer. Please do not hesitate to contact our office should you have any questions concerning the rehabilitation process.