



PHYSICAL THERAPY SECTION

MICROFRACTURE TREATMENT OF ARTICULAR CARTILAGE DEFECTS (Tibiofemoral)

*Revised November 2016
Adapted from William Beaumont Army Medical Center*

Post-op Days 1 – 14

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: Toe touch weight bearing (TTWB) x 6wks, No Brace
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 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

Goals

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

Weeks 2 – 4

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 (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
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Goals

No extensor lag
No effusion

Weeks 4 – 6

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

Goal – Full AROM

Weeks 6 – 8

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

Goal – Normal gait

Weeks 8 – 12

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

Goal

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

Months 3 – 4

Continue appropriate previous exercises with progressive resistance
Treadmill – Running progression program
Stairmaster

Goal – Run 2 miles at easy pace

Months 4 – 6

Continue appropriate previous exercises
Agility drills / Plyometrics
Sit-up progression
Progressive weight training program
Transition to home / gym program

Goals

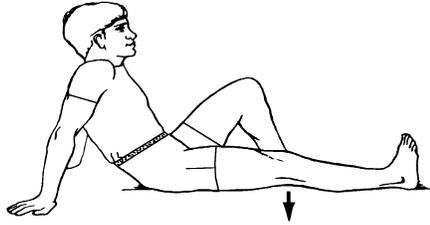
Return to all activities
Pass APFT at 6 months post-op

No contact sports until 6 months post-op

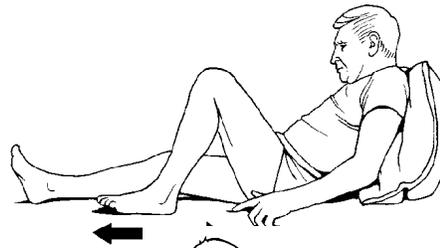
Knee Post Op Phase 1

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

