

Knee Articular Cartilage Defect Microfracture Protocol

Articular cartilage injuries can occur from either an acute traumatic event or from chronic degeneration. Acute traumatic injuries producing cartilage lesions are most often seen in a younger athletic population, while chronic degenerative lesions most often occur in older individuals.

The following is a protocol for post-operative patients following knee arthroscopy and microfracture for articular cartilage defect. Please note this protocol is a guideline. If a patient should develop an increase in pain or swelling or decrease in motion at any time, activity should be decreased until problems are resolved.

Post-op Days 1 – 14

- Crutches: Toe touch weight bearing (TTWB) x 6 weeks, strict
- Brace x4 weeks if applied
- 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) x4 with knee in brace
- Stationary bicycle for ROM, seat adjusted high, no resistance
- **No Resisted Closed Chain ex x6 weeks**
- **No Resisted Open Chain ex x6 weeks**

Goal

- Full Extension

Weeks 2 - 4

- Crutches with TTWB x 6 weeks
- Continue appropriate previous exercises
- Scar massage
- AROM, AAROM as tolerated
- Co-contractions quads / HS at 0, 30, 60, 90 degrees
- SLR x4 on mat (no brace) – Add light weight below the knee if good quad control
- Pool therapy:
 - Deep Water (chest/shoulder) walking
 - Water jogging floating upright in deep water
- Stretches – Hamstring, hip flexors, ITB

Goals

- No extensor lag
- No effusion

Weeks 4 - 6

- Crutches with TTWB x 6 weeks
- Continue appropriate previous exercises
- PROM, AROM, AAROM to regain full motion
- Standing SLR x4 with Thera-Band (standing on uninvolved LE)

Goal

- Full AROM

Weeks 6 - 8

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

Goal

- Normal gait

Weeks 8 - 12

- Continue appropriate previous exercises
- Proprioceptive training
- 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

Goals

- 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 / weight lifting permitted
- Progressive weight training program
- Transition to home / gym program

Goal

- Return to all activities

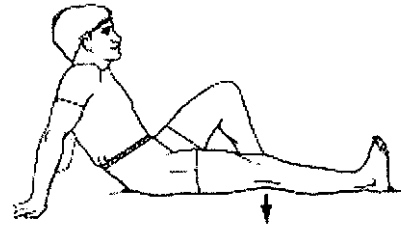
****NO CONTACT SPORTS UNTIL 6 MONTHS POST-OP****



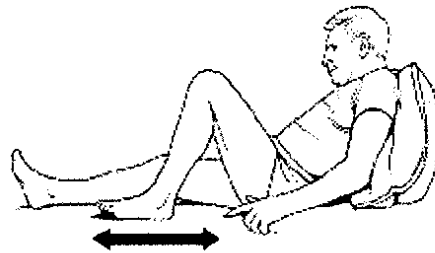
KNEE POST-OP PHASE I

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

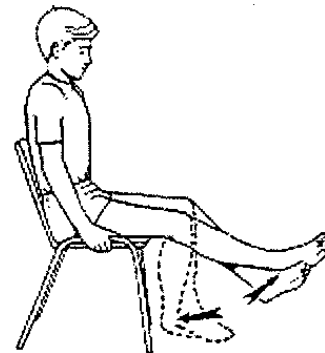
Quad Isometrics



Heel Slides



Active Assisted Motion



Ice Position 15 minutes 2-3 x per day

