



## Microfracture: Femoral Condyle (Weight bearing) Articular Cartilage

| <u>Postop</u>                                                                               | <u>Goals</u>                                                                                                 | <u>Precautions</u>                                                                                                                                 | <u>Exercises/Interventions</u>                                                                                                                                                                                                                                                                                 |
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| <b>Phase 1</b><br><b>Weeks 0-2</b><br><b>weeks</b><br><b>2-3x/ week</b><br><b>HEP Daily</b> | ROM: 0-90°<br>Edema and pain control<br>Full Passive Extension<br>Ambulate with brace and bilateral crutches | NWB gait<br>Brace from 0-20°<br>Bilateral axillary crutches<br>Avoid shearing stress<br>Avoid painful activities<br><br>CPM per surgeon discretion | Ankle pumps, Quad sets, Glute sets<br>Straight leg raises<br>Heel slides<br>PROM<br>Patella mobilization<br>Lower extremity stretching<br>Isometric strengthening within ROM limitations<br>Biofeedback<br>Pain education/management                                                                           |
| <b>Phase 2</b><br><b>Weeks 2-4</b><br><b>1-2x/ week</b><br><b>HEP Daily</b>                 | Week 4: 0-90°<br>Activate quadriceps                                                                         | TTWB<br>Brace from 0-20° in weight bearing<br>Bilateral crutches<br>Avoid Painful movements                                                        | Continue with AAROM, PROM<br>Stretching lower extremity<br>Initiate open chain exercises<br>Low resistance, high repetition<br>Hip strengthening (resistance superior to knee)<br>NuStep, stationary bike 5-10 min.<br>May use aquatic therapy once incisions are closed                                       |
| <b>Phase 3</b><br><b>Weeks 4-8</b><br><b>1-2x/week</b><br><b>HEP Daily</b>                  | Week 5: 0-110°<br>Week 6-8: 0-130°                                                                           | Progress weight bearing by 20% body weight each week<br>Bilateral axillary crutches<br><b>*Dr. Orlevitch TTWB until week 8</b>                     | Continue and progress above exercises<br>Static Proprioception training<br>Weight shifts within weight bearing restriction<br>Initiate closed chain of <20% body weight-progressing 20-30 pounds weekly<br><b>**Low resistance, High repetition</b>                                                            |
| <b>Phase 4</b><br><b>Weeks 8-12</b><br><b>1-2x/ week</b><br><b>HEP Daily</b>                | Full pain free ROM<br>Full weight bearing<br>Normalize gait<br>Restore muscle strength                       | Unlock brace to allow full ROM<br>Discontinue knee brace and wean crutches as quadriceps strength allows                                           | Continue and progress above<br>Progress slowly Closed chain strengthening-high repetitions (20-30 pounds per week)<br>Progress balance, proprioception and strength                                                                                                                                            |
| <b>Phase 5</b><br><b>Weeks 12-16</b><br><b>1-2x/week</b><br><b>HEP Daily</b>                | Restore strength with goal of symmetry of strength                                                           | Must achieve full AROM/PROM, normalized gait and reciprocal stair negotiation to progress to this stage                                            | Progress double to single leg strengthening<br>Emphasis on closed chain exercises<br>-Leg press, squat, lunges, step ups, leg curls, resisted walking.<br>Progressing to symmetrical strength of each LE<br>Progress Balance and proprioception (trampoline, airex, BOSU)<br>Progress cardiovascular endurance |

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| <b>Phase 6</b><br><b>Weeks 16-20</b><br><b>1x/week</b><br><b>HEP Daily</b> | Progress proprioception, conditioning<br>Begin jogging, rollerblading, golf type activities | Continue progression, avoid painful activities<br><br>Physician clearance for light impact | Continue and progress above exercises<br>Initiate light impact activities such as jogging or plyometrics with physician clearance |
| <b>Phase 7</b><br><b>Weeks 20+</b><br><b>HEP Daily</b>                     | Begin light speed (50%) skill activities and progress running/jumping as tolerated          | Continue progression, avoid painful activities                                             | Continue progression of return to activities with increased speed of activity or impact with plyometrics                          |

**Typical Schedule of follow-up visits with physician after surgery:**

- 2 weeks, 6 weeks, 12 weeks