

## Femoral Condyle Cartilage Restoration - OCA/MACI Post-op Physical Therapy Protocol

**\*Blood Flow Restriction (BFR) encouraged at all stages**

**Weeks 0-6** Phase I

**Primary goals:** Protect healing tissue, decrease pain and effusion, gradually improve knee flexion, restore passive knee extension, regain quad control

- Touch down weight bearing (TDWB)
- Brace locked at 0 degrees for ambulation, sleep in locked brace for 4 weeks
- Full passive knee extension immediately
- CPM POD 1 for a total of 6 hours per day x2-3 weeks progress, CPM ROM as tolerated 5-10 degrees per day, up to 6 weeks
- Knee flexion ROM goal: 90 degrees by 1-2 weeks, 105 degrees by 3-4 weeks, 120 degrees by 5-6 weeks
- Patellar mobilization
- Stretch hamstrings and calf
- Ankle pump using rubber tubing, quad sets, multi-angle isometrics, active knee extension (no resistance) and SLRs, biofeedback and electrical muscle stimulation prn
- Isometric leg presses and may begin use of pool for gait training and exercises by week 4

**Week 6-12** PHASE II

**Primary goals:** Gradually increase ROM, improve quad strength/endurance, increase in functional activities

- Discontinue brace by week 6-8, when quad control restored
- Discontinue crutches by 7-8 weeks
- Progress to weightbearing as tolerated, goal to be full weight bearing by 7-8 weeks  
Maintain full passive knee extension and progress to flexion to 125-135 degrees by week 8
- Continue stretching program as well as patellar mobilization

- Initiate weight shifts week 6, mini-squats 0-45 degrees by week 8, closed kinetic chain (leg press), toe calf raises by week 8
- Stationary bicycle (low resistance), treadmill walking by weeks 10-12
- Balance and proprioception drills, initiate front and lateral step-ups and wall squats by weeks 8-10
  
- Continue use of biofeedback and electrical stimulation and pool for gait training and exercise

**Week 12-26 PHASE III**

- Range of motion 0-125 to 135 degrees
- Incorporate home exercise program for strengthening and maintenance 3-4 times per week.
- Progress resistance as tolerated, agility and balance drills, sports programs depending on patient
- Gradual return to full unrestricted functional activities by 6 months and beyond