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**AUTOLOGOUS CHONDROCYTE IMPLANTATION  
POST-OPERATIVE PHYSICAL THERAPY PROGRAM**

**POST-OPERATIVE PHASE I: Weeks 0-6**

**PRIMARY GOALS:** protect healing tissue, decrease pain and effusion, gradually improve knee flexion, restore passive knee extension, and regain quad control

**BRACE:** locked at 0 degrees for WB activities, sleep in locked brace for 4 weeks

**WEIGHT-BEARING:** NWB (if graft site is MFC), WBAT (if graft site is patella or trochlea)

**ROM:** full passive knee extension immediately  
Initiate 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 6w  
Knee flexion ROM goal: 90 degrees by 1-2w  
Knee flexion ROM goal: 105 degrees by 3-4w, 120 degrees by 5-6w  
Patellar mobilization  
Stretch hamstrings and calf

**STRENGTHENING:** ankle pump using rubber tubing, quad sets, multi-angle isometrics, active knee extension (no resistance), SLR, stationary bike when ROM allows, biofeedback and electrical muscle stimulation, prn; isometric leg presses by week 4, may begin use of pool for gait training and exercises by week 4.

**POST-OPERATIVE PHASE II: Weeks 6-12**

**PRIMARY GOALS:** gradually increase ROM, improve quad strength/endurance, and increase in functional activities

**BRACE:** D/C by week

**WEIGHTBEARING:** progress WBAT, FWB by 8-9 weeks, D/C crutches by 9 weeks (if graft site is MFC)

**ROM:** maintain full passive knee extension, progress to flexion to 125-135 degrees by week 8, continue stretching program as well as patellar mobilization

**STRENGTHENING:** 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 prn, use of pool for gait training and exercise

**POST-OPERATIVE PHASE III: Weeks 12-26**

**ROM:** 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.