



Autologous Chondrocyte Cartilage Repair
of the Patello-Femoral Joint

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| | WEIGHT BEARING | ROM | EXERCISES |
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| Phase 1: 0-2 Weeks Max. Protection | Heel-touch (20%) WB in TROM brace locked 0° | CPM/ AROM: 0° - 20° Sleep in locked brace | Quad/Glute/HS sets, ankle pumps, 4-way ankle t-band; NMES for quad activation, SLR in brace once able to perform adequate quad set; Soft tissue mobilization; Pain/swelling control modalities/ Cryotherapy; HEP. |
| Phase 2: 2-6 weeks 2-3x/week "Implantation and Protection" | Week 3 - 50% WB (bilateral crutches) Week 4 - 75% WB (contralateral crutch) TROM locked in full extension for all WB | CPM/ AROM: Week 3: 0 - 60° Week 4: 0 - 90° Week 5: 0 - 120° D/C brace at night after 3 weeks | Continue phase 1 exercises and modalities. Gentle patella mobilization; May begin BFR at 2 weeks post-op based on MD recommendations and patient past medical history. May Initiate aquatic therapy when wounds are closed and 30% WB status (walking, active-resisted exs, deep water exs) SLRx4-way; Isometric core exercises; recumbent bike once patient has 120° of knee flexion (no resistance). |
| Phase 3: 6-8 weeks 2-3x/week "Proliferation" | WBAT D/C Brace wean Crutch | 0° - 135° | Continue phase 1 and 2 exercises. Continue aquatic therapy progressions into shallower water. Deep water squatting activities; Land: Initiate double leg proprioception/balance drills; Calf Raises; Progress to isotonic core exs. |
| Phase 4: 8-12 weeks 2x/week "Proliferation" | Full WBAT | Full ROM | Continue phase 1-3 Exercises , progressing core. Initiate upright bicycle; Progress to Single leg Proprioception/balance drills. Stretch quads and HS. |
| Phase 5: 12-24 weeks 1-2x/week "Remodeling" | Full weight bearing D/C Pool | Full ROM | Introduce modified OKC and CKC loading ie. resisted knee extension, knee flexion, leg press/Shuttle (ranges depend on lesion location and <50% BW); Bridging exs.; May begin elliptical. Begin lateral walking drills. |
| Phase 6: 6-9 months "Remodeling" | . | Full ROM | Patient should be in Independent gross strengthening gym/ home program 2-3x/week; Progress CKC/OKC, single leg strength activities through full ROM as tolerated (step up/downs); Progress stability, and balance/proprioception |
| Phase 7: 9 months and beyond "Maturation" | | | May begin Jogging progression if it was a pre-op activity. May begin Plyometrics and agility related to sport only based on MD clearance. Consider functional testing prior to return to sport (1 yr) |

Lesion size and location will affect weightbearing and ROM precautions. Please request the op-report.
Healing requires controlled mechanical joint loading including cyclic-compressive loading and shear loading
OKC with the most load on the patella: 0-30°; CKC with most load on the patella: knee flexion greater than 90°
MD post op appts: 2 weeks, 6 weeks, 12 weeks, 5 months; Please send PT progress notes prior to each one
This protocol is not a substitute for clinical decision making of the health care professional.
Please see PT referral for any specific post op instructions.