



# Cartilage Repair Center

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[www.cartilagerepaircenter.org](http://www.cartilagerepaircenter.org)  
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## HTO/TTO+PF

Autologous Chondrocyte Transplantation  
Stage 2- Transitional Phase (7-12 weeks)

### PRIMARY GOALS

DO NOT OVERLOAD GRAFT  
INCREASE TIBIAL FEMORAL AND PATELLA FEMORAL MOBILITY  
RESTORE QUADRICEPS CONTROL

- BRACE** ♦ Hinged-knee brace discontinued once independent SLR achieved
- GAIT** ♦ Use bathroom scale to progress as follows: (**if HTO Performed**)
- |               |                                  |
|---------------|----------------------------------|
| Weeks 7 & 8   | PWB 1/3 Body Weight              |
| Weeks 9 & 10  | PWB 2/3 Body Weight              |
| Weeks 11 & 12 | FWB with crutches                |
| Week 13+      | Single crutch, cane as tolerated |
- \* Progress per guidelines above as pain allows
- ROM** ♦ A/AAROM flexion and extension as tolerated  
♦ CPM may be discontinued
- THEREX** ♦ Quad sets, SLR with brace locked as needed, leg curl/heel slides, hip abduction/extension with ankle weights and/or band resistance as tolerated  
♦ Stationary bicycling without resistance as tolerated  
♦ Pool exercise using kickboard- flutter/straight leg scissor kick only (no whip-kick)  
♦ Gentle closed-chain terminal knee extension 0-40 degrees (TKE) permitted at 9-10 weeks as tolerated per weight bearing restriction  
♦ No open-chain strengthening permitted until 6 months after surgery  
♦ No closed-chain leg press or squatting
- THERAPY** ♦ Multi-directional patella mobilization as needed  
♦ Continue cryotherapy and compression stockings for edema control  
♦ E-stim for VMO/quadriceps muscle re-education/biofeedback as needed  
♦ STM to scar, hamstring insertions, suprapatellar quadriceps, medial/lateral gutters, and infrapatellar regions
- COMMENTS** ♦ No resistance permitted with stationary bicycle until 6 months after surgery  
♦ No progression of this protocol until cleared by MD a 12 weeks post-op

For Outpatient Physical Therapist:  
2-3x week / 6 weeks



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