

**Tom Minas, M.D. Brigham and Women's Hospital**  
**Cartilage Repair Center, 850 Boylston Street (Rt. 9) Suite 112, Chestnut Hill, MA 02467**  
**Telephone: (617) 732-9967 Fax: (617) 732-9272**

**Tibia and Femur**

Autologous Chondrocyte Transplantation PT Protocol (#8)  
Stage 3- Remodeling Phase (13+ weeks)

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**PRIMARY GOALS**

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

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- BRACE** ♦Unloading brace to be worn at all times for at least 6-9 months after surgery
- GAIT** ♦Full weight bearing with cane as needed
- ROM** ♦Progress towards full ROM equal to contra lateral side
- THEREX** ♦Stationary bicycling using unloading brace with increased resistance as tolerated  
♦Treadmill forward/retro-walking, Nordic track and elliptical machine permitted  
♦Pool therapy encouraged  
♦Progress open/closed chain LE exercise emphasizing quadriceps and hamstring recruitment for knee strength and stability
- THERAPY** ♦Continue multi-directional patella mobilization as needed  
♦Continue cryotherapy and STM for edema control  
♦E-stim for VMO/quadriceps muscle re-education/biofeedback as needed  
♦STM to scar, hamstring insertions, quadriceps, patella gutters, and supra/infrapatellar regions
- COMMENTS** ♦Activity level should be modified if increased pain, catching, or swelling occurs  
♦Use unloader brace with all activity until MD assessment at 1 year after surgery  
♦No Squats, No Leg presses allowed.