

**Center for Athletic Medicine
Dr. Preston Wolin**

Osteoarticular Autograft Transplant Protocol

Adapted from *HSS Rehabilitation Guidelines Following Mosaicplasty Procedures of the Knee*

~Please call 773-248-4150 with any and all questions~

If a patient is not progressing, please call the office for recommendations!

Post Op Week 0-6

- Weight Bearing Status/Bracing
 - *Tibiofemoral Lesions:*
 - TTWB
 - Brace locked at 0deg with crutches for ambulation only
 - *Patellofemoral Lesions:*
 - PWB progressing to WBAT
 - Brace set at 0-20deg for ambulation only
- Precautions
 - Maintain weight bearing restrictions
 - Avoid neglect of CPM and range of motion exercises
- Treatment Strategies
 - Continuous passive motion (CPM)
 - Active-Assistive Range of Motion
 - Towel extensions
 - Patella mobilization
 - Quadriceps re-education (Quad sets with EMS or EMG)
 - Multiple angle quadriceps isometrics
 - Short Crank Ergometry -> Standard Ergometry
 - (tibiofemoral lesions: bilaterally-submaximally)
 - SLR's (all planes)
 - Hip progressive resisted exercises
 - Pool exercises
 - Lower extremity flexibility exercises
 - Upper extremity cardiovascular exercises
 - Cryotherapy
 - Home therapeutic exercise program
- Criteria for Advancement
 - MD direction for progressive weight bearing (week 6)
 - ROM 0-120deg
 - Proximal muscle strength 5/5
 - SLR (supine) without extension lag

Post Op Week 6-12

- Weight Bearing Status/Bracing

- Progressive weight bearing with crutches
- D/C crutches when gait is non-antalgic
- Post-op brace discontinued as good quadriceps control is demonstrated (ability to SLR without lag or pain)
- Unloader brace/Patella sleeve per MD preference
- Precautions
 - Avoid descending stairs reciprocally until adequate quadriceps control & lower extremity alignment is demonstrated
 - Avoid pain with therapeutic exercise & functional activities
- Treatment Strategies
 - Computerized forceplate (NeuroCom) for weight bearing progression/patient education
 - Underwater treadmill system (gait training)
 - Gait unloader device
 - AAROM exercises
 - Leg Press (60-0deg arc)
 - Mini Squats/Weight Shifts
 - Calf raises (bilateral)
 - Retrograde treadmill ambulation
 - Proprioception/Balance Training
 - Initiate forward step down program
 - Stairmaster
 - SLR's (progressive resistance)
 - Lower extremity flexibility exercises
 - *Tibiofemoral Lesions*: OKC knee extension to 40deg
 - CKC exercises preferred
 - Home therapeutic exercise program: evaluation based
- Criteria for Advancement
 - ROM 0-WNL
 - Normal patella mobility
 - Normal gait pattern
 - Demonstrate ability to ascend 8" step

Post Op Week 12-18

- Weight Bearing Status/Bracing
 - Full weight bearing with assistive device if needed
 - Unloader brace/Patella sleeve per MD preference
- Precautions
 - Avoid pain with therapeutic exercise & functional activities
 - Avoid running till adequate strength development and MD clearance
- Treatment Strategies
 - Progress squat program

- Initiate step down program
- Leg Press (emphasizing eccentrics)
- OKC knee extensions 90deg-40deg (CKC exercises preferred)
- Advanced proprioception training (perturbations)
- Agility exercises (sport cord)
- Elliptical trainer
- Retrograde treadmill ambulation/running
- Hamstring curls/Proximal strengthening
- Lower extremity stretching
- Forward Step Down Test (NeuroCom) @ 4 months
- Isokinetic Test @ 4 months (tibiofemoral lesions)
- Home therapeutic exercise program: Evaluation based
- Criteria for Advancement
 - Ability to descend 8" stairs with good leg control without pain
 - 85% limb symmetry on Isokinetic testing (tibiofemoral lesions) & Forward Step Down Test

Post Op Week 18 and on

- Weight Bearing Status/Bracing
 - Full weight bearing with assistive device if needed
- Precautions
 - Avoid pain with therapeutic exercise & functional activities
 - Avoid sport activity till adequate strength development and MD clearance
- Treatment Strategies
 - Continue to advance LE strengthening, flexibility & agility programs
 - Forward running
 - Plyometric program
 - Brace for sport activity (MD preference)
 - Monitor patient's activity level throughout course of rehabilitation
 - Reassess patient's complaints (i.e. pain/swelling daily-adjust program accordingly)
 - Encourage compliance to home therapeutic exercise program
 - Functional Testing (Hop Test)
 - Isokinetic testing
 - Home therapeutic exercise program: Evaluation based
- Criteria for Advancement
 - Hop Test \geq 85% limb symmetry
 - 85% limb symmetry on isokinetic testing (including patellofemoral lesions)
 - Lack of apprehension with sport specific movements
 - Flexibility to accepted levels of sport performance
 - Independence with gym program for maintenance and progression of therapeutic exercise program at discharge