



**THE STONE CLINIC**  
**ORTHOPAEDIC SURGERY, SPORTS MEDICINE AND**  
**REHABILITATION**

**ARTICULAR CARTILAGE TRANSPLANTATION TO**  
**FEMORAL CONDYLE**

**Post-Operative Physical Therapy Protocol**

**General Considerations:**

- Progression should be based on careful monitoring by the Physical Therapist of the patient's functional status.
- Patients are cleared to drive once they are off all narcotic pain medications typically around week 2, or if cleared by Physical Therapist.
- Non-weight bearing status for 4 weeks post-op (resting foot on floor and driving are okay).
- No direct palpation to surgical portals for 4 weeks. Consider the edges of the bandages as the "do not touch" zone (approx. 2" in all directions from each surgical portal).
- Push for full extension equal to opposite side.
- Regular manual treatment should be conducted to the patella and soft tissue (except around portals) to decrease the incidence of fibrosis.
- Light to no resistance stationary cycling is okay at 2 weeks post-op (low cadence, low resistance).
- Early restoration of neuromuscular quad control is important.
- No resisted leg extension machines (isotonic or isokinetic) at any point.
- Low impact activities for 3 months post-op.
- Daily 1500 -3000 mg of Glucosamine Sulfate via Joint Juice or other sources.
- \*Use of the continuous passive motion machine (CPM) for 6 hours a day for 4 weeks is imperative. Range of motion to be determine by MD based on location of repair.

**Week 1:**

- Nurse visit day 2 post-op to change dressing and review home program .
- Icing and elevation for 15-20 min every 2 hours per icing protocol.
- Continuous passive motion machine (CPM) at home for 6 hours daily/at night.

**Manual:** -Soft tissue mobilization to quadriceps, posterior musculature, suprapatellar pouch, popliteal fossa, iliotibial

- band, Hoffa's fat pads.
- Patellar mobilizations.
- Avoid direction palpation to portals x 4 weeks.

**Exercise:** -Well-leg stationary cycling (light to no resistance) , upper body ergometer.

- Range of motion exercises (passive/active), quadriceps/ gluteal sets, straight leg raises (lying, seated, side-lying and standing), hip/foot/ankle exercises.
- Sit at edge of bed and allow knee to bend to 90 degrees or less for 5 minutes 4x/day in pain-free range.

**Goals:**

- Knee range of motion 0 to 90 degrees.
- Pain <3/10.
- Minimal edema.
- Gait non-weight bearing x 4 weeks.

**Weeks 2 - 4:**

- Nurse visit at 14 days for suture removal and check-up.





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**Manual:** -Continue with soft tissue mobilization to quadriceps, posterior musculature, suprapatellar pouch, popliteal fossa,  
iliotibial band, Hoffa's fat pads.  
-Manual resisted (PNF patterns) of the foot, ankle and hip; core stabilization.

**Exercise:** -Non-weightbearing aerobic exercises (i.e. unilateral cycling, upper body ergometer, Schwinn Air-Dyne arms only).  
-AFTER 2 weeks, bilateral cycling with light to no resistance, low spin cadence.

**Goals:**  
Knee range of motion 0 to 100 degrees.  
Gait non-weight bearing x 4 weeks.

**Weeks 4 - 6:**

-M.D. visit at 4 weeks post-op, will progress to full weight bearing weaning down to 1 crutch, cane, or no assistive device.

**Manual:** -Continue with previous soft tissue mobilization, initiation of scar mobilization to closed surgical portals.

**Exercise:** -Incorporate functional exercises (i.e. squats, lunges, Shuttle/leg press, calf raises, step-ups/lateral step-ups).  
-Balance/proprioception exercises.  
-Slow to rapid walking on treadmill (preferably a low-impact treadmill).  
-Progress knee flexion range of motion.

**Goals:**  
Knee range of motion 0 to 120 degrees.  
Tolerate increased functional exercises/strengthening.  
Gait weight bearing as tolerated work towards good quality gait with least amount of assistive device.

**Weeks 6 - 8:**

-Increase the intensity of functional exercises (i.e. add stretch cord for resistance, increase weight with weightlifting machines).  
-Add lateral training exercises (side-stepping, Theraband resisted side-stepping).

**Goals:**  
-Patients should be walking without a limp.  
-Full active range of motion.

**Weeks 8 - 12:**

-Continue with strengthening; progress balance exercises with emphasis on dynamic tasks.  
-Patients should be pursuing a home program with emphasis on sport/activity-specific training.  
-Road cycling as tolerated starting in saddle, flat surface; progress cautiously.





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**Weeks 12+:**

- Complete Sport Test 1.
- Continue with strengthening, endurance, balance, and sport specific training.
- Increase intensity of low impact type cardio- swimming, cycling, elliptical, etc.
- No high impact activities X 1 year unless approved by MD.

