



**THE STONE CLINIC**  
**ORTHOPAEDIC SURGERY, SPORTS MEDICINE AND REHABILITATION**  
**ARTICULAR CARTILAGE TRANSPLANTATION**  
**TO THE ANKLE**

Post Operative Rehabilitation Protocol

**General Considerations:**

- Non weight bearing status for 4 weeks post-op (resting foot on are okay).
- Patients are cleared to drive once they are off all narcotic pain medications and on size of repaired lesion. Must be cleared by MD typically around week 3 or 4.
- Most patients will be in a posterior splint to maintain dorsiflexion and to remind them not to bear weight.
- Depending on the location of the articular cartilage defect and subsequent graft, patients may have active and/or passive range of motion restrictions.
- Regular manual treatment should be conducted to decrease the incidence of fibrosis.
- Light to no resistance stationary cycling is okay at 3 weeks post-op.
- No resisted inversion/eversion machines (isotonic or isokinetic) for 2 months.
- Low impact activities for 4 months post-op.
- Use of the Continuous Passive Motion Device (CPM) for 4-6 hours a day for 4 weeks is imperative.

**Week 1:**

- Nurse visit day 2 to change dressing and review home program.
- Icing and elevation every 2 hours for 15 minute sessions during wake hours.
- CPM (continuous passive motion machine) at home for at least 6 hours every day.

**Manual:** -Soft tissue treatments to surrounding areas (avoid bandages). Effleurage for edema.

**Exercise:**-Lower extremity non weight bearing strengthening exercises (i.e. lying, seated, and standing straight leg raise exercises, isometrics, well-leg stationary cycling, upper body conditioning).  
-Foot/ankle exercises consisting of intrinsic muscle strengthening (i.e. toe flexion/extension, arch).

**Goals:**

Decrease pain, edema.  
Gait non weight bearing x 4 weeks.  
Range of motion restrictions per MD (graft location).

**Weeks 2 - 4:**

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

**Manual:**-Manual resisted (PNF patterns) of the knee and hip.  
-Range of motion, soft tissue treatments, and effleurage for edema.

**Exercise:**-Non weight bearing aerobic exercises (i.e. unilateral cycling, UBE, Schwinn Air-Dyne noninvolved limb and arms only).  
-AFTER 3 weeks, bilateral cycling with light to no resistance, slow cadence.  
-Continue non-weight bearing strengthening exercises, 1 legged planks, side planks, glut exercises.

**Goals:**

Decrease pain, edema.  
Gait non weight bearing x 4 weeks.  
Range of motion restrictions per MD (graft location).

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**Weeks 4 - 6:**

-M.D. visit at 4 weeks post-op, will progress to partial weight bearing and discontinue use of splint. Progression to full weight bearing is dependent on demonstration of good gait mechanics.

**Manual:** Continue with soft tissue mobilization. Initiate scar mobilization if incisions closed. Gentle distraction mobilization to talocrural joint and other joint mobilizations as needed for range of motion.

**Exercise:** -Incorporate functional exercises (i.e. squats, lunges, Shuttle/leg press, calf exercises, step-ups/lateral step-ups).  
-Balance/proprioception exercises.  
-Progress stationary cycling.  
-Slow to rapid walking on treadmill (preferably a low-impact treadmill).  
-Pool/deep water workouts after incisions closed with the use of the splint.

**Goals:**

Gait partial weight bearing to full weight bearing per quality, discharge assistive device as able.  
Range of motion 80% of non-surgical limb.

**Weeks 6 - 8:**

**Manual:** Continue with soft tissue, scar mobilization, and distraction mobilization to talocrural joint and other joint mobilizations as needed for range of motion.

**Exercise:** -Increase the intensity of functional exercises (i.e. add stretch cord for resistance, increase weight with weightlifting machines)  
-Cautiously add lateral training exercises (side-stepping, Theraband resisted side-stepping).  
-Progress to road cycling on flat surfaces as tolerated, short distances to start.

**Goals:**

Full range of motion.  
Full weight bearing, good gait mechanics.

**Weeks 8 - 12:**

-Introduce inversion/eversion exercises with slow increase in resistance.  
-Sports test 1 at 12 weeks.  
-Low-impact activities until 16 weeks.  
-Patients should be pursuing a home program with emphasis on sport/activity-specific training.

**Goals:**

Complete and pass Sports test 1 at 12 weeks.

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No high impact activities X 1 year unless approved by MD.

**Weeks 12+:**

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

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