General Considerations:
- Non weight bearing status for 4 weeks post-operative.
- Patients may need a posterior splint to remind them not to bear weight through foot with aide of crutches, or can use a post operative shoe which puts weight in heel of foot only.
- Regular manual treatment should be conducted to decrease the incidence of fibrosis. No scar mobilization until 4 weeks post operative.
- Light to no resistance stationary cycling is okay at 2 weeks post-operative with heel contact only.
- Low impact activities for 4 months post-operative.
*Use of the continuous passive motion machine (CPM) for 6-8 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, effleurage for edema, gentle range of motion.
Ther Ex: - Extremity non weight bearing strengthening exercises (i.e. lying, seated, and standing straight leg raise exercises, isometrics, well-leg stationary cycling, upper body conditioning).
- Ankle exercises, core strengthening.

Goals:
Decrease pain, edema.
Gait non weight bearing x 4 weeks.
Range of motion full unless otherwise indicated by MD

Weeks 2 - 4:
- Nurse visit at 14 days for suture removal and check-up.

Manual: - Soft tissue treatments, effleurage for edema, range of motion.
- Manual resisted (Proprioceptive neuromuscular facilitation patterns) of ankle and hip.

Ther ex: - Non weight bearing aerobic exercises (i.e. unilateral cycling, UBE, Schwinn Air-Dyne noninvolved limb and arms only).
- AFTER 2 weeks, bilateral cycling with light to no resistance, slow cadence; heel contact only.

Goals:
Decrease pain, edema.
Gait non weight bearing x 4 weeks.
# Articular Cartilage Transplantation to 1st Metatarsal Joint (Big Toe)

**Post Operative Rehabilitation Protocol**

| Weeks 4 - 6: |  
|---|---|
| - M.D. visit at 4 weeks, 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 mobilizations, range of motion, and okay to add light joint mobilizations. |
| **Ther ex:** | - Initiate resistance to 1st digit toe flexion/extension.  
Incorporate functional exercises (i.e. squats, lunges, Shuttle/leg press, calf exercises, step-ups/lateral step-ups).  
- Light to no resistance toe on pedal stationary cycling, slow cadence, pain-free.  
- Balance/propiroception exercises, seated calf raises.  
- 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.  
Range of motion 80% of non-surgical limb. |

| Weeks 6 - 8: |  
|---|---|
| - Increase the intensity of functional exercises (i.e. add stretch cord for resistance, increase weight with weightlifting machines).  
- Add standing calf raises. |  
| **Goals:** |  
Full range of motion.  
Full weight bearing, good gait mechanics. |

| Weeks 8 - 12: |  
|---|---|
| - Outdoor cycling, initiating with flat surfaces, slow cadence with slow progression to hills.  
- 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. |

*No cutting, running, jumping, or explosive type exercises for 5-6 months post operative.*

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**The Stone Clinic**

**Orthopaedic Surgery, Sports Medicine and Rehabilitation**

**Articular Cartilage Transplantation to 1st Metatarsal Joint (Big Toe)**

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TO 1st METATARSAL JOINT (Big Toe)
Post Operative Rehabilitation Protocol