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

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<th>Weeks 12+</th>
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<td>- Continue with strengthening, endurance, balance, and sport specific training.</td>
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<tr>
<td>- Increase intensity of low impact type cardio- swimming, cycling, elliptical, etc.</td>
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<tr>
<td>- No high impact activities until 1 year unless approved by MD.</td>
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