SANFORD
ORTHOPEDICS
SPORTS MEDICINE

Achilles Tendon Repair Rehabilitation Post-Operative Guideline

This rehabilitation program is designed to return the individual to their activities as quickly and safely as possible. It is designed for rehabilitation following post-operative Achilles tendon repair. Modifications to this guideline may be necessary dependent on physician specific instruction, location of repair, concomitant injuries or procedures performed. This evidence-based Achilles tendon repair is criterion-based; time frames and visits in each phase will vary depending on many factors- including patient demographics, goals, and individual progress. This guideline is designed to progress the individual through rehabilitation to full sport/ activity participation. The therapist may modify the program appropriately depending on the individual's goals for activity following Achilles tendon repair.

This guideline is intended to provide the treating clinician a frame of reference for rehabilitation. It is not intended to substitute clinical judgment regarding the patient's post-operative care based on exam/treatment findings, individual progress, and/or the presence of concomitant procedures or post-operative complications. If the clinician should have questions regarding post-operative progression, they should contact the referring physician.

General Guidelines/ Precautions:

1. Immediate post-operative phase will NWB in post-op splint, transitioning per surgeon to CAM boot with wedging
2. AROM **only** for plantarflexion and dorsiflexion for first 6 weeks. No PROM.
3. Limit dorsiflexion to neutral for the first 6 weeks.
4. Assistive device and CAM boot should be able to be discontinued with controlled environments by 8 weeks post-surgery
5. Gait pattern and return to all activities anticipated at 14-16 weeks post-surgery.

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Phase	Suggested Interventions	Goals/ Milestones for Progression
Phase I Acute Post-Op Phase and weeks 0-2 Expected Visits: 1	*Discuss:* Anatomy, existing pathology, post-op rehab schedule, and expected progressions *Immediate Post-Operative instructions:* Patient will receive education & gait training with appropriate assistive device. *Weight Bearing:* Non-weight bearing until minimum of 2-4 weeks.	*Goals of Phase:* 1. Patient will demonstrate appropriate functional mobility to manage proper weight bearing with an assistive device and/or will have an alternative means of mobility (wheelchair) pending PT recommendations.
Phase II Maximum Protection Phase Weeks 2-6 Expected visits: 3-6	*Specific Instructions:* • At week 2, educate patient to ride stationary bicycle, formal PT to then start at week 3. If concerned with patient ability to safely ride, do 1x visit to assess safety and provide instruction on stationary bicycle. Begin at 10 min per day and add 2 min per day until reaching maximum of 20 min per day • Emphasize for patient to use pain as a guideline. If in pain, back off activities & weight bearing • Weight bearing with crutches and walking boot with heel lift to 30 degrees plantar flexion and 0 degrees dorsiflexion. If possible, 30 degrees PF with mobility to 0 degrees within brace is optimal during weight bearing progression. ○ Week 2-4: 25% ○ Week 4-5: 50% ○ Week 5-6:75% *** At 4 weeks remove 1 wedge per week until gone *Suggested Treatments:* Modalities as indicated: Edema controlling treatments Manual Therapy: scar mobilization ROM: Passive plantarflexion and AROM and PROM dorsiflexion to neutral AROM inversion & eversion with ankle in plantar flexed position to 30 degrees *Exercise Examples:* • Knee & hip exercises with no ankle involvement. Progress to resisted exercises as needed. • Toe extension to pain free limits	*Goals of Phase:* 1. Provide environment of proper healing of repair site 2. Prevention of post-operative complications *Criteria to Advance to Next Phase:* 1. Full knee AROM 2. Minimal to no edema present 3. AROM ankle 0 – 30 degrees plantarflexion

	• Start light seated soleus stretching and NWB gastroc stretching • NuStep with weight bearing restrictions followed *Other Activities:* may do hydrotherapy within motion & weight bearing limitations such as deep water running.	
Phase III Protected Motion Phase Weeks 7-9 Expected visits: 3-6	*Specific Instructions:* -Continue with previous exercise program *Weight bearing:* Week 6-7 100% with walking boot WBAT Week 8-10 progress to normal shoe as pain allows *ROM:* Full passive ROM in all planes. Full active ROM (except into dorsiflexion). Continue to limit forced/ passive dorsiflexion to neutral until 3 months. *Suggested Treatments:* Modalities Indicated: swelling and pain control *Exercise Examples:* - Stationary Bike with boot and heel pedaling only - Isometric ankle exercises for DF/inversion/eversion - Progress active PF to Seated heel raises	*Goals of Phase:* 1. Achieve normal gait mechanics *Criteria to Advance to Next Phase:* 1. Able to complete bilateral heel raise without pain
Phase IV Motion and Muscle Activation Phase Weeks 10-14 Expected visits: 5-10	*Specific Instructions:* - Educate patient this is time of most re-ruptures - Avoid extreme dorsiflexion combined with active plantar flexion - Do NOT attempt eccentric lowering exercises off a step that are typically used for tendinopathies. *Suggested Treatments:* ROM: May begin weight bearing gastroc and soleus stretching as needed *Exercise Examples:* Lower limb muscle strength work with specifics to plantar flexors with progression of seated heel raise to bilateral standing heel raise and single heel raise Ankle stability exercises	*Goals of Phase:* 1. Full active ROM *Criteria to Advance to Next Phase:* 1. Able to perform 75% height with involved single heel raise compared to non-involved side

	Other Activities: - Continue to avoid ballistic motions (running and moderate plyometrics)	
Phase V Advanced strengthening and eccentric control phase Weeks 14 plus Expected visits: 13-20	*Specific Instructions:* Continue previous exercises Educate patient may take 1 year and up to 18 months prior to full activity return to prevent re-injury *Suggested Treatments:* Can start jogging on flat surfaces @ 5 months post op if strength is 70% of uninvolved leg *Exercise Examples:* - Can start eccentric lowering exercises - Sports specific rehab exercises *Other Activities:* - Single leg hopping and higher level plyometrics can be progressed to at 24 weeks if strength and stability goals achieved	*Goals of Phase:* 1. Achieve >90% strength of non-involved ankle strength 2. Girth of calf within ½ cm of noninvolved 3. Normal stair climbing *Criteria to Advance to competitive sports:* 1. Horizontal single leg hop is x 3 with 75% of non-involved leg 2. Vertical hop is 75% of non-involved leg 3. Single heel raise 4. Sprint with toe off phase of gait

**NOTE: Progression of functional activities should be performed only as pain and proper biomechanics allow.

REFERENCES: List all journals, articles, books and any other information used to establish this protocol in apa format:

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11. Wang KC, Cotter EJ, Cole BJ, Lin JL. (2017). Rehabilitation and Return to Play Following Achilles tendon Repair. Operative Techniques in Sports Medicine, 25(3), 214-219.

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