



## ***Total Ankle Arthroplasty Rehabilitation 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 total ankle arthroplasty. Modifications to this guideline may be necessary depending on physician-specific instruction and comorbidities. This evidence-based total ankle arthroplasty 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 and activity participation. The therapist may modify the program appropriately depending on the individual's goals for activity following total ankle arthroplasty.

This guideline is intended to provide the treating clinician with a frame of reference for rehabilitation. It is not intended to substitute clinical judgment regarding the patient's post-operative care based on exam or 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:**

- Pain and swelling can persist after this procedure due to the complexity and comorbidities of the patient.
- AROM of the ankle and calf strength are very important in achieving a good functional outcome.
- AROM and PROM begin at week two and progress into closed chain ankle ROM around 6-10 weeks.
- Typically, the patient will be NWB for the first two weeks with a post-operative splint.
- Weaning from the walking boot to a shoe can occur around six weeks as long as wounds are healed.
- Typical return to golf, tennis, pickleball, etc., is not until after four months post-operative if indicated.

# Total Ankle Arthroplasty Rehabilitation Guideline

PHASE	SUGGESTED INTERVENTIONS	GOALS/MILESTONES FOR PROGRESSION
<b>Phase I</b> <i>Patient Education Phase</i>	<b>Discuss:</b> Anatomy, existing pathology, post-op rehab schedule and expected progressions	<b>Goals of Phase:</b> 1. Educate about expectations of post-operative progress
<b>Phase II</b> <i>Maximum Protection Phase</i>  Weeks 0-2  Expected visits: 0-1	<b>Specific instructions:</b> <ul style="list-style-type: none"> <li>NWB in splint</li> </ul> <b>Suggested Treatments:</b> <ul style="list-style-type: none"> <li>Elevate above the heart frequently throughout the day</li> <li>Gait training with appropriate assistive device</li> </ul> <b>Exercise Examples:</b> <ul style="list-style-type: none"> <li>Hip and knee AROM</li> </ul>	<b>Goals of Phase:</b> 1. Safe and independent use of appropriate AD 2. Control swelling and pain  <b>Criteria to Advance to Next Phase:</b> 1. Removal of splint
<b>Phase III</b> <i>Protected Motion Phase</i>  Weeks 2-6  Expected visits: 4-8	<b>Specific instructions:</b> <ul style="list-style-type: none"> <li>Continue with elevation and pain control</li> <li>Progress to walking boot at all times</li> <li>WB status is determined by physician</li> </ul> <b>Suggested Treatments:</b> <b>Modalities as Indicated:</b> Edema-controlling treatments <b>ROM:</b> <ul style="list-style-type: none"> <li>Begin ankle AROM once incision is healed</li> <li>Begin ankle PROM with low-load, long-duration stretching for calf</li> </ul> <b>Manual Therapy:</b> Manual lymphatic drainage  <b>Exercise Examples:</b> <ul style="list-style-type: none"> <li>Core, hip, knee strength open chain within WB restrictions</li> <li>Stationary biking with boot on</li> </ul>	<b>Goals of Phase:</b> 1. Control swelling and pain 2. Improve ROM 3. Increase exercise tolerance to easy ankle exercises  <b>Criteria to Advance to Next Phase:</b> 1. Tolerate progression to easy ankle exercises 2. Safe and independent use of appropriate AD
<b>Phase IV</b> <i>Motion and Muscle Activation Phase</i>  Weeks 6-10  Expected visits: 4-8	<b>Specific instructions:</b> <ul style="list-style-type: none"> <li>Wean from boot as tolerated and in shoe at six weeks as long as wound is completely healed</li> </ul> <b>Suggested Treatments:</b> <b>ROM:</b> <ul style="list-style-type: none"> <li>Progression of ROM program</li> <li>Start easy closed chain ankle ROM</li> </ul> <b>Exercise Examples:</b> <ul style="list-style-type: none"> <li>Weight shifts in shoe</li> <li>Gait training in shoe</li> <li>Pool therapy/gait training if available</li> <li>Supported walking (Alter G), if available</li> <li>Joint mobilizations</li> <li>Scar mobilization</li> <li>Stationary bike with shoe</li> </ul>	<b>Goals of Phase:</b> 1. Improve functional hip and knee ROM and strength 2. Improve core strength 3. Increase scar mobility 4. Work towards normal walking gait  <b>Criteria to Advance to Next Phase:</b> 1. Tolerate walking in shoe

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<p><b>Phase V</b> Advanced Strengthening and Eccentric Control Phase</p> <p>Weeks 10-16</p> <p>Expected visits: 6-12</p>	<p><b>Specific instructions:</b></p> <ul style="list-style-type: none"> <li>Update HEP to reflect current deficiencies</li> </ul> <p><b>Suggested Treatments:</b></p> <p><b>ROM:</b></p> <ul style="list-style-type: none"> <li>Progression of closed chain ankle DF</li> </ul> <p><b>Exercise Examples:</b></p> <ul style="list-style-type: none"> <li>Gastroc stretching</li> <li>Soleus stretching</li> <li>Bilateral heel raises progressing to unilateral heel raises</li> <li>Progressive balance and proprioceptive exercises double or single leg</li> </ul>	<p><b>Goals of Phase:</b></p> <ol style="list-style-type: none"> <li>Full ankle ROM             <ol style="list-style-type: none"> <li>Dorsiflexion to 10°</li> <li>Plantarflexion to 35°</li> </ol> </li> <li>Increase core, hip, knee and ankle strength</li> <li>Ambulation with no walking aid</li> </ol> <p><b>Criteria to Advance to Next Phase:</b></p> <ol style="list-style-type: none"> <li>Normal walking gait</li> <li>5/5 ankle strength in all planes</li> <li>Complete 10 single leg heel raises</li> </ol>
<p><b>Phase VI</b> Advanced Movement and Impact Phase</p> <p>Months 4+</p> <p>Expected Visits: 1-3</p>	<p><b>Specific instructions:</b></p> <ul style="list-style-type: none"> <li>Check with physician prior to returning to limited impact activities</li> </ul> <p><b>Suggested Treatments:</b></p> <p><b>Exercise Examples:</b></p> <ul style="list-style-type: none"> <li>Weight training</li> <li>Cardiovascular training</li> </ul> <p><b>Other Activities:</b> Golf, tennis, pickleball, etc.</p>	<p><b>Suggested Criteria for Discharge:</b></p> <ol style="list-style-type: none"> <li>Return to independent fitness routine and home exercise program.</li> </ol>

**REFERENCES:**

- Mazzotti, A., et al. *Post-operative management after total ankle arthroplasty: A systematic review of the literature*, Foot and Ankle Surgery, vol. 28, no. 5, 2022, pp. 535-542.
- Azar, F.M. and Beaty, J.H., *Total Ankle Arthroplasty*, Campbell's Operative Orthopaedics, 14th ed., Elsevier Inc; 2021:526-562.

Revision Dates: 3/2024