

Physical Therapy Guidelines for Total Ankle Arthroplasty

For the Clinician: The intent of this protocol is to provide the clinician with a guideline of the post-operative rehabilitation for the patients who undergo Total Ankle Arthroplasty. It is not intended to be a substitute for clinical decision making regarding the progression of a patient's post-operative course based on their examination/findings, individual progress, and/or the presence of post-operative complications. If a clinician requires assistance in the progression of a post-operative patient, they should consult with the referring surgeon.

For the Patient: The timeframes for expected outcomes contained within this guideline may vary from patient to patient based on individual patient differences, surgical techniques, surgeon's preference, additional procedures performed, and/or complications. Compliance with all the recommendations provided by your physician and physical therapist as well as your active participation in all parts of the rehabilitation process, are essential to optimizing the success of this procedure.

Introduction:

Ankle replacement is performed as a treatment for end-stage ankle arthritis (See Figure 1). It is typically indicated in older, lower demand individuals, as the lifespan of an ankle replacement remains less certain than that for hip or knee replacement. Patients that have arthritis (or fusions) involving the joints adjacent to the ankle joint may also benefit from an ankle replacement, because it can help preserve accommodative motion so as not to further overload these other diseased areas. Very young, active patients are usually best served with a well performed ankle fusion.

Figure 1A: Normal Ankle Joint on X-ray



Figure 1B: Ankle Arthritis on X-ray (Loss of ankle joint space)



Physical Therapy Guidelines for Total Ankle Arthroplasty

Surgical Procedure:

In all ankle replacements, the arthritic surface of the distal tibia (lower leg) is removed, as is the arthritic surface of the top surface talus (Figure 2). The resected areas of bone are then replaced with the prosthesis. The prosthesis typically has a metal surface on the tibia and talaris sides, with a polyethylene surface that articulates between them to facilitate motion.

Figure 2: Tornier Saltos Talaris Total Ankle Replacement



Reference: [footeducation.com](http://www.footeducation.com)

Physical Therapy Guidelines for Total Ankle Arthroplasty

| Phase | Restrictions and Precautions | Physical Therapy Treatment | Goals |
|-------------------------------|--|--|--|
| Pre-operative | -Weight bearing as tolerated (WBAT) | -Instruct with use of assistive device based on gait assessment, NWB on affected side | -Demonstrate safe ambulation with assistive device NWB -Able to maintain NWB with transfers and stairs |
| Phase 1: 0-2 weeks | -Non-weight bearing in splint per MD | <ul style="list-style-type: none"> -Edema management and education regarding elevation of limb -Education regarding monitoring skin surrounding incision for infection. This includes increased temperature, increased drainage from wound, and a wound that is not healing. -Gait training and safety (emphasize precautions with weight bearing) -Education/modifications for ADLs - Active movement of the hip and knee including isometrics (as instructed by PT to maintain precautions) | <ul style="list-style-type: none"> -Manage swelling via elevation of limb and icing -Demonstrate safe ambulation with assistive device NWB -Able to maintain NWB with transfers and stairs -Perform ADLs in a modified independent manner or with minimal assistance - Maintain range of motion and strength of hip/knee/core |
| Phase 2: 2-6 weeks | <ul style="list-style-type: none"> -Splint removed, transition to walker boot per MD. Stiches may remain in for 2-4 weeks - Weight bearing when standing ONLY, maintain non-weight bearing while walking - Can remove boot to perform exercises and hygiene. Keep boot on at night. | <ul style="list-style-type: none"> -Exercises and hands-on techniques (by the PT) for foot and ankle active and passive range of motion -Strengthening for core, hips, knees (maintain precautions) -Weight shifting with boot and assistive device (maintain precautions) -Gait training to ensure safety and to normalize pattern as weight bearing is allowed | <ul style="list-style-type: none"> - Manage swelling via elevation of limb and icing -Increase range of motion of foot and ankle -Minimize the loss of strength in the core, hips, and knees -Independence with home exercise program to be performed daily |

Physical Therapy Guidelines for Total Ankle Arthroplasty

| | | | |
|---|---|---|--|
| <p>Phase 3: 6-10 weeks</p> | <ul style="list-style-type: none"> -Wean from boot to be WBAT in shoe at 8 weeks, if the wound is completely healed. -No strengthening against resistance until 3 months if any tendon transfers -No stretching tendons if transferred | <ul style="list-style-type: none"> -Ankle active/passive range of motion, stretching, and light strengthening. -Continuation of progressions of hip/core exercises -Can begin cycling on stationary bicycle -Joint mobilization/soft tissue mobilization techniques by the PT to restore motion of the foot and ankle, including scar massage -Activity progression per PT instructions -Gait training to wean off the assistive devices and normalize gait | <ul style="list-style-type: none"> -Improve range of motion foot and ankle -A normalized gait pattern on all surfaces out of boot with/without a walking aid as needed |
| <p>Phase 4: 10-14 weeks</p> | <ul style="list-style-type: none"> -None if healing complete | <ul style="list-style-type: none"> -Continue treatment as above -Proprioception and balance exercises as appropriate by PT -Progressive resistive exercises of the ankle as tolerated, continue progressing hip/knee/core exercises as appropriate by PT | <ul style="list-style-type: none"> -Continue improving ankle strength and ROM - Normal ambulation without a walking aid -Begin to improve balance/proprioceptive capacity of surgical ankle |
| <p>Phase 5: 14-16 weeks</p> | <ul style="list-style-type: none"> -No repetitive, high impact sports or occupations | <ul style="list-style-type: none"> -Continue treatment as above -Single leg activities progressing into higher level balance and proprioceptive exercises - Bilaterally heel raises progressing into unilateral heel raises | <ul style="list-style-type: none"> - Good balance and control on the involved leg in all planes -Full ROM of ankle complex Ideal ROM Goal Dorsiflexion: 10 degrees Plantarflexion: 35 degrees 5/5 strength of ankle musculature (including transferred tendons if applicable) |
| <p>Phase 6: 16 weeks+</p> | <ul style="list-style-type: none"> -No repetitive, high impact sports or occupations | <ul style="list-style-type: none"> -Continue treatment as above -Sport specific training and conditioning (avoid high impact forces of the ankle) | <ul style="list-style-type: none"> -Gradual return to functional activities, low impact/no impact sports -Full strength of the foot/ankle |
| <p>1 year+</p> | <ul style="list-style-type: none"> -No repetitive, high impact sports or occupations | <ul style="list-style-type: none"> -Continue maintenance home exercise program for strength and mobility -Participation in non-high impact sports | <ul style="list-style-type: none"> -Continue to maintain strength and mobility of ankle and foot to preserve the life of the components -Return to low/no impact sports |

Physical Therapy Guidelines for Total Ankle Arthroplasty

Additional Information

Pain and swelling:

This is a procedure that can cause swelling for up to 6-12 months post-op. Redness does not necessarily indicate infection but would be worrisome with the presence of progressive or persistent pain. Significant drainage from the wound is usually a sign of infection.

Return to work:

Return to work at a full sedentary job no earlier than 3-4 weeks post-op. Return to work at a job requiring significant amounts of standing or walking no earlier than 4 months post-op. Return to work for jobs with physical requirements between the above extremes is individualized (If uncertain, please contact the surgeon).

Important: No patient with a total ankle arthroplasty should be doing a job, sport, or activity causing significant, repetitive, high impact to the joint.

If you have any questions or concerns related to the content of these rehabilitation guidelines, please contact:

MGH Physical and Occupational Therapy Services (MG Waltham)

781-487-3800

Website: <http://www.massgeneral.org/physical-therapy/>

MGH Orthopedics Foot and Ankle

617-724-9338

Website: <http://www.massgeneral.org/ortho-foot-ankle/>