



**Phase 1 --- Initial 2 Weeks Physical Therapy**

**Total Ankle Replacement Protocol**

Focus area: Motion		Focus area: Strength		Focus area: Proprioception	
PT	Patient Homework	PT	Patient Homework	PT	Patient Homework
Joint mobilizations <b>no greater than Grade III</b> and <b>MILD talocrural distraction</b> can be utilized to improve AROM DF/PF. No INV or EV	General AROM in non-weight bearing (focus on DF> PF)	Toe curls and toe extensions for foot intrinsics (start seated and progress to standing)	Toe curls/extension for foot intrinsics (start seated and progress to standing)	Pain free single leg stance while supporting w/bilateral upper extremities (Initially performed for 5 sec only; progressing to 10 sec each rep)	Pain free single leg stance, initially performed for 5 sec only; progressing to 10 sec each rep.
Stationary bike with min to no resistance (pain free)		Pain free Total Gym or leg press	Forward step ups on regular 8" step	A-P Wobble Board, bilateral stance. DF limited to patient's tolerance.	
Gentle calf stretch (gastroc and soleus) Seated with towel stretch initially progressing to standing runners stretch with medial arch support	Calf stretch as directed by PT	Pain free resisted stepping with tubing (limit SL balance by having patient step back or have them reach, touch, and return)	Resisted T-band stepping. X4 directions, band on non-operated ankle.		
General lower extremity stretching (hip and knee) as indicated		General Trunk and Hip Strengthening (bridging, abdominals, etc...)	Physical Therapist directed Core and hip strengthening .		
		Seated heel-toe rocking progressing to standing heel-toe rocking with leaning on table/countertop, etc.	Seated heel-toe rocking progressing to Standing heel-toe rocking with some hand support on wall/table.	<b>**PT note: Electrical stimulation, GameReady Ice compression, and/or ice is to be utilized for pain and swelling.</b>	

Goals of Phase 1 interventions		Common Frustrations	Recommendations	Physician Expectations
1. Improve gait to full Wbing in regular shoes without assistive devices	4. Increase strength and proprioception	AROM DF / PF not progressing as expected	Continue with manual therapy each visit. Consider progressing to Easy Mulligan MWM's in Wbing for DF	•Walking in regular shoes, with moderate difficulty, without an assistive device. •Stable and controlled pain and edema levels.
2. Wean from walking boot, utilizing the boot only when symptoms increase	5. Educate patient on injury and rehabilitation process	Difficulty transitioning out of walking boot	Progress out of boot 1-2 hours per day as tolerated by the patient. OK to use cane to assist with decreased pain.	
3. Stabilize pain and joint effusion	6. Increase ankle joint ROM	Minimal to no improvement with limping	Continue to work AROM PF/DF. Focus more on PF strength and push off of lower extremity.	The Total Ankle Replacement (TAR) is the removal of the talo-crural joint and it's replacement of a metal and plastic prosthetic joint. The end of the tibia and the majority of the dome of the talus are replaced. The primary indication of the surgery is pain relief. The majority of AROM is in the sagittal plane with DF and PF. Limited to abolished IV and EV AROM remains.



**Phase II --- 3rd and 4th Week of Physical Therapy**

**Total Ankle Replacement Protocol**

Focus area: Motion		Focus area: Strength		Focus area: Proprioception	
<i>PT</i>	<i>Patient Homework</i>	<i>PT</i>	<i>Patient Homework</i>	<i>PT</i>	<i>Patient Homework</i>
Continue joint mobilizations if limited AROM DF/PF limiting gait cycle. (Grade III)	Standing calf stretches (knee extended; knee flexed)	Pain Free Wall squats (can progress to wall squats w/stability ball)	Wall squats at home	Progress pain free single leg stance time per repetition and/or stance time on minimally unstable surfaces	Single leg balance; eyes open
Gastroc and soleus stretching in standing and continue general LE stretching		Seated heel raises with resistance, 5 sec up and 5 sec down.		Repeated tubing in standing with increased reps or increased time	Pain-free repeated tubing in standing
Initiate pain free retro-treadmill		Initiate anterior step ups and step downs (2" step--> 8" step; DF needs to be neutral)	Step ups and step downs as indicated by your Physical Therapist	Progress bilateral stance Rocker Board in Sagittal plane only	
		Progress standing bilateral heel raise to 3x10 without pain. (leaning on table or counter progressing to no leaning)	Standing Heel Raises leaning on countertop/wall to less leaning as strength progresses.		

<b>Goals of Phase 2 interventions</b>	<b>Common frustrations</b>	<b>Recommendations</b>	<b>Physician Expectations</b>
1. Increase AROM dorsiflexion to 5deg DF and plantarflexion to ~20 deg	Decreased Lower Extremity Push off	Continue to progress PF strength.	Walking with increased velocity with some difficulty
2. Progress single limb stance to within 10 seconds of uninjured limb	Lateral foot pain with walking	Continue with modalities and joint mobilizations. Try posterior fibular taping.	Potential discharge for clients who have progressed well
3. Minimal gait deviations with focus on midstance and toe-off phase	Heel pain with walking-- this is normal!	Continue with modalities and joint mobilizations	Single leg heel raise not expected at this point
4. Patient to be progressing toward use of regular shoe 100% of day (no heel lift)	Foot symptoms with use of brace	Contact physician office	Some swelling and discomfort is expected
5. Decreasing and stable pain with gait and weight bearing		Use of modalities as needed for pain management and joint edema	Continue to place emphasis on Independent Home Exercise Program



Phase III -- 5th and 6th Week of Physical Therapy

Total Ankle Replacement Protocol

Focus area: Motion		Focus area: Strength		Focus area: Proprioception	
PT	Patient Homework	PT	Patient Homework	PT	Patient Homework
Joint mobilizations as needed for restricted ROM in any plane at foot and ankle	Lower extremity flexibility as needed with stretches learned in Phase I and Phase II	Alternate anterior mini lunges.	Alternate anterior mini lunges	Dynamic balance activities on minimally unstable surfaces with trunk and arm movement (pain free)	
Treadmill and/or elliptical trainer as warm-up activities	Treadmill and elliptical trainer as warm-up/ cardio activities	Progression of calf strengthening with focus on single leg heel raises standing/sitting.	Standing Single leg heel raises leaning on countertop/table		

Goals of Phase 3 intervention	Common frustrations	Recommendations	Physician Expectations
1. Minimal to no pain with normal day to day gait and standing.	Gastrocnemius/Plantar Flexion weakness	Continue with HEP. Educate patient as to potential 1 year recovery of normal strength.	Pt to be walking in regular shoes, without an assistive device, with good velocity and minimal to no pain with normal day to day activities.
2. > 50% symmetric gait mechanics of Lower Extremities	Continued Edema	Stable and predictable edema can be present up to 1 year or more after surgery.	