



Michigan Surgery Specialists

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ACHILLIES TENDON RUPTURE NON-OPERATIVE

Rehab Protocol

PHASE I: Max. Protection (0-2 weeks)			
GOALS: Protect integrity of injury. Minimize effusion.			
WEIGHT BEARING	BRACE	ROM	EXERCISE
Non-weight bearing with assistive device	Plaster castor walking orthosis with ankle plantar flexed to about 20 degrees (reduce gap in rupture)	No ankle PROM/AROM Immobilization in brace.	Strengthening exercises for quadricep, glut, and hamstring. OKC hip strengthening. Modalities: Vasopneumatic compression for edema management 2-3x/week (15-20 mins). Cryotherapy at home, 3x/day for 20 mins with ankle elevation above heart.
PHASE II: Passive/Active ROM (2-6 weeks)			
GOALS: Protect integrity of injury. Minimize effusion. Progress ROM per guidelines. Progress WB in walking boot.			
WEIGHT BEARING	BRACE	ROM	EXERCISE
Protected weight bearing progression: Week 2-3: 25% Week 3-4: 50% Week 4-5: 75% Week 5-6: 100%	Walking boot with 2-4 cm heel lift	Active PF and DF ROM to NEUTRAL DF Inversion and eversion below neutral DF Emphasize on using pain as a guideline for progression of exercises and walking progression. Emphasize on NWB cardio as tolerated DR ROM TO NEUTRAL	Joint mobilizations to ankle and foot (grade I-III) Active PF and DF to neutral DF. Initiate limited ankle and foot strengthening when able to tolerate ankle AROM. (towel crunches, marble pick-ups, PF/DF light band strengthening (DF to neutral), etc.) Sub-max ankle inversion and eversion strengthening Knee/hip exercises with no ankle involvement e.g. leg lifts from sitting, prone, or side-lying. Core strengthening NWB fitness/cardio e.g. bike with on leg, UBE, deep water running (start at 3-4 weeks). Hydrotherapy within motion and WB restrictions Compression garment from effusion control, modalities to control swelling (US, IFC with ice, Game Ready), NMES to gastric/soleus complex with seated heel raises when tolerated, DO NOT GO PAST NEUTRAL ANKLE DF



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PHASE III: Progressive stretching and early strengthening. (6-8 weeks) GOALS: ROM per guidelines. FWB in boot, reducing heel lift to neutral. Gentle strengthening of ankle. Progress cardio endurance.			
WEIGHT BEARING	BRACE	ROM	EXERCISE
Weight bearing as tolerated in walking boot.	Walking boot. Begin to remove heel lifts, 1 section every 2-3 days.	Controlled active assistive DF stretching. DO NOT go past neutral ankle position with WB position Ambulation in CAM boot Gradual progression into DF open chain No impact activities	Joint Mobilizations ankle and foot (grades I-IV) Stationary bike in CAM boot AAROM DF stretching, progressing to belt in sitting as tolerated. Progress resisted exercises from open to close chain; DO NOT go past neutral DF with WB activities (resisted Thera-Band) Gait training in CAM boot Core strengthening Hydrotherapy EMS on calf with strengthening exercises, DO NOT go past neutral DF. Cryotherapy, Game Ready to control inflammation
PHASE IV: Terminal stretching and progressive strengthening. (8-12 weeks) GOALS: Protect integrity of Achilles due to highest risk of re-rupture. Wean out of boot over 2-5 days. Gradually wean off assistive device. Normalize gait			
WEIGHT BEARING	BRACE	ROM	EXERCISE
Weight bearing as tolerated in ankle brace per surgeon recommendation	Ankle brace per surgeon recommendation. Dispense heel wedge as needed.	Progress to full range in all planes. Avoid any sudden loading of the Achilles (i.e. tripping, step-up stairs, running, jumping, hopping, etc.). NO eccentric lowering of plantar flexors past neutral. NO resisted planter flexion exercises which requires more than 50% of patient's body weight.	8-10 Weeks: Progress resistance on stationary bike. Gentle calf stretches in standing. Normalize gait. Continue multi-plane ankle stretching. Progress multi-plane ankle strengthening with Thera-Band. Seated heel raises, BAPS/rocker board. Begin proprioceptive training, progressing to unilateral. 10-12 Weeks: Gradually introduce elliptical and treadmill walking Progress to double heel raise on leg press to standing. DO NOT allow ankle to go past neutral DF and no more than 50% of pt. BW Supported standing BAPS/rocker board Progress proprioceptive training.



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		Avoid activities that require extreme DF motions.	Cryotherapy, Game Ready to control inflammation.
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PHASE V: Progressive Strengthening. (3-5 months)			
GOALS: Progressive running, hopping. Return to function/work/sport			
WEIGHT BEARING	BRACE	ROM	EXERCISE
Full WB as tolerated	Wean out of ankle brace and heel lift	High risk of re-rupture No running or hopping Avoid extreme DF activities	Increase intensity of cardiovascular program Cycling outdoors Progress to double heel raise to single heel raise to 50% BW to eccentric strengthening as tolerated Continue to progress intensity of resistive exercises progressing to functional activities (sing leg squats, step-up progressions, multi-directional lunges) Begin multi-directional resisted cord program (side stepping, forward, backward, grapevine) Initiate impact activities (12+ weeks: sub-max BW (pool, GTS, plyo-press)) (15-16 weeks: max BW as tolerated) Core strengthening Initiate pool running around 15-16 weeks Advanced proprioception on un-stable surfaces with perturbations and/or dual tasks. Cryotherapy/Game Ready as needed
PHASE VI: Terminal Stretching and Progressive Strengthening. (5-8 months)			
GOALS: Return to function			
WEIGHT BEARING	BRACE	ROM	EXERCISE
Full WB as tolerated	None	Only progress back to sport/activity as tolerated, and if cleared by "Return to Sport Test" and physician	5-6 Months: Initiate running on flat ground Progress proprioception Sport-specific rehab Progress eccentric PF strengthening 6-8 Months: Initiate hill running Initiate hopping and progress to long horizontal and vertical hops Return to sport testing per physician approval. Criteria: pain-free, full ROM, minimal joint effusion, 5/5 MMT strength, jump/hop testing at 90% compared to uninvolved, adequate ankle control with sport and/or work specific tasks.