Accelerated Achilles Tendon Repair Rehabilitation Protocol

This protocol provides a guideline for accelerated rehabilitation of an Achilles tendon repair, but may be modified slightly to account for additional procedures and/or special circumstances outlined by the treating orthopedic surgeon. An accelerated repair is typically used either for high level patients, excellent repair quality, or small tear size. Exercises should be gradually progressed based upon protocol recommendations and physician discretion as well as the patient's ability to perform correctly and without an increase in pain.

A Message from The Doctors:

Dear Valued Therapist,

The current protocol reflects our best synthesis of guidelines and directions for patients recovering from Achilles tendon rupture. This protocol is not designed to replace the judgment, communication, and experience of a skilled physical therapist. I recommend you take the time to revisit our websites at www.parkerorthopedics.com and www.drchristo.com each time a new patient reaches your attention for treatment or consultation as our protocol will continue to evolve with better understanding of Achilles injuries and treatment.

Thank you for your dedicated effort!

Andrew Parker, MD
John J Christoforetti, MD

If at any time there is concern for:

- **signs of infection (increased swelling, redness, drainage from the incisions, warmth, fever, chills or severe pain that is uncontrolled with the pain medication)**
- **increasing pain**
- **new injury**
- **or if your clinical experience suggests that the patient would benefit from a sooner MD visit**

please contact us at the office: 214-383-9356.

Milestones and Required Clinical Visits in MD's Office

- 0-2 weeks – WBAT but with two crutches
- 2 weeks - MD visit, begin wean from crutches
- 4 weeks – Begin removing heel wedges at rate of 1 per week
- 6 weeks – MD visit
- 8 weeks – Discontinue boot
- 12 weeks – MD visit
- 16 weeks – Initiate plyo/running program
- 20 weeks – MD visit

Phase I: (0-2 weeks) Maximum Protection Phase	
Goals	• Maintain integrity of repair • Protect healing tissue • Decrease pain and inflammation • Slow muscular atrophy
Precautions	• **WBAT with two crutches (for stability, but also because it is often uncomfortable to fully weight bear for the first week or two)**
Suggested Exercises	• Active ankle plantar flexion and dorsiflexion to neutral can begin immediately • Submaximal isometrics • Hip adduction/abduction • Straight leg raises/flexion • Bicycle (in boot) • Ankle inversion/eversion below neutral (slight plantar flexion)
Frequency & Duration	• Exercises 2x/daily, formal PT 2x/week
Progression Criteria	• Time based – progress after 2 weeks

Phase II: (3-8 weeks) Moderate Protection Phase	
Goals	• Protect healing tissue • Decrease pain and inflammation • Control stresses applied to healing tissues • Slow muscular atrophy
Precautions	• **WBAT in boot, ok to wean crutches once stable** • **No passive ROM or stretching** • **No dorsiflexion past neutral when weight bearing (always wear boot)**
Suggested Exercises	• Submaximal isometrics • Ankle AROM to tolerance • Bicycle in boot • Seated balance on BAPS board • Begin CKC strengthening with boot ON (bridges, light leg press, etc) • Continue quad/hip strengthening • At week 4, begin bands except for resisted plantarflexion
Frequency & Duration	• Exercises 1-2x/daily, formal PT 2x/week
Progression Criteria	• Begin weaning wedges – if 3 wedges in, start removing 1 wedge per week at 3 weeks postop, if 2 wedges in, start removing 1 wedge per week at 4 weeks postop • Progress to Phase 3 if: • Pain free sub-maximal isometrics at neutral • Pain free AROM to 5 degrees dorsiflexion (should be able to lift forefoot from flat position on ground enough to get hand underneath)

Phase III: (Week 8-16) Early Motion and Strengthening Phase	
Goals	• Progress to full motion • Advanced proprioceptive drills • Increase strength and endurance
Precautions	• **Ok to wean boot at 8 weeks** • Begin very slow dorsiflexion stretching ONLY if stiffness is affecting gait (otherwise, tendon will naturally stretch out over time)
Suggested Exercises	• Graduated resistance exercises (OKC, CKC, functional) • Proprioceptive and gait retraining • WBAT during all fitness/cardio • Seated heel raises • 4 way band isotonics • Seated proprioceptive drills • Leg press • Knee extension, side and front lunges, lateral step ups • Vertical squats (no further than 90) • Ok to begin elliptical, stair climber, fast paced walking at 12 weeks • Standing toe-calf raises at week 12 • Towel gathering
Frequency & Duration	• Exercises daily, PT 1-2x/week
Progression Criteria	• Pain free heel raise to at least 50% of uninjured side heel-rise height (15 reps in 1 min) • Good, stable, controlled single leg squat with only 1 finger balance (30 reps in 1 minute)

Phase IV: (Week 16-26) Advanced Strengthening/Running Phase	
Goals	• Progress to running, jumping, agility • Increase power, explosiveness, endurance
Precautions	• **Rest days are critical to allow muscular growth** • **Pain at this phase is a red light – take a week off before resuming at prior pain-free level**
Suggested Exercises	• Continue strengthening program • Plyometric program • Agility Drills • Running program • Begin sport specific training 2 weeks after running program

	• Squats, lunges, stair climber, elliptical, leg press • Proprioceptive training – perturbation training, balance exercises
Frequency & Duration	• Exercises 3-4x/week, formal PT 1-2x/week, ok to stop formal PT when running with good form without pain but encourage continue PT if goal is for return to high level sport
Progression Criteria	• Pain free running/jumping/landing with no form breakdowns with fatigue • Pain free heel raise to at least 50% of uninjured side heel-rise height (20 reps in 45s)

Phase V: (Month 6-12) Return to Sport Phase	
Goals	• Return to prior level of performance in sport
Precautions	• **None – expect early fatigability and frequent muscle soreness after workouts**
Suggested Exercises	• Continue closed chain strengthening program • Continue running and agility program • Accelerate sport specific training and drills
Frequency & Duration	• Exercises 3-4x/week

Progression Criteria	• Return to play no sooner than 9 months postop, must have equal strength and stamina to contralateral side, often takes 12-18 months before return to prior level is possible
	• Objective testing for RTP (>90% compared to contralateral limb):
	  • Single leg hop for max distance/time over 10m distance
	  • Triple hop
	  • Crossover triple hop
	  • Single leg heel rise (max HR reps from 10 deg decline to a 30bpm metronome)