

## ***Achilles Tendon Repair Rehabilitation Protocol***

This protocol provides a guideline for rehabilitation of an Achilles tendon injury repaired surgically, but may be modified slightly to account for additional procedures and/or special circumstances outlined by the treating orthopedic surgeon. 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. We expect the total recovery from an Achilles tendon repair to take 12-18 months, but by 6-9 months most patients will be back to a very functional level and only have deficits in explosiveness, stamina, and max power.

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 our office at: (817) 283-0967.

### **Milestones and Required Clinical Visits in MD's Office**

- 0-2 weeks – Non weight bearing with two crutches
- 2 weeks - MD visit - transition from splint to boot with wedges
- 5 weeks – Begin removing heel wedges at rate of 1 per week; begin progressive partial weight bearing with crutches
- 6 weeks – MD visit
- 8-10 weeks – Walking in boot with no wedges, crutches; begin to discontinue boot
- 12 weeks – MD visit
- 16 weeks – Initiate plyo/running program
- 20 weeks – MD visit
- 24 weeks+ - Return to sport



Physical therapy protocols, post-operative instructions, and other information can all be accessed any time at [www.frantzorthopedics.com](http://www.frantzorthopedics.com)

## Phase I: (0-2 weeks) Maximum Protection Phase

Goals	<ul style="list-style-type: none"> <li>• Maintain integrity of repair</li> <li>• Protect healing tissue</li> <li>• Decrease pain and inflammation</li> <li>• Slow muscular atrophy</li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• <b>Non weight bearing with two crutches in post-op splint</b></li> </ul>
Suggested Exercises	<ul style="list-style-type: none"> <li>• Quad sets</li> <li>• Hip adduction/abduction</li> <li>• Straight leg raises/flexion</li> <li>• Prone hip extensions</li> </ul>
Frequency & Duration	<ul style="list-style-type: none"> <li>• Exercises 2x/daily, formal PT to begin after 2 week office visit</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• <b>Time based – progress after 2 weeks</b></li> </ul>

## Phase II: (3-8 weeks) Moderate Protection Phase

Goals	<ul style="list-style-type: none"> <li>• Protect healing tissue; control stresses applied to healing tissues</li> <li>• Decrease pain and inflammation</li> <li>• Control stresses applied to healing tissues</li> <li>• <u>Full weight bearing in boot without wedges, without crutches by end of week 8</u></li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• <b>Non weight bearing in boot with wedges until 4 weeks; begin progressive weight bearing in boot after 4 weeks</b></li> <li>• <b>No passive ROM or stretching</b></li> <li>• <b>No dorsiflexion past neutral when weight bearing (always wear boot)</b></li> </ul>
Suggested Exercises	<ul style="list-style-type: none"> <li>• Submaximal isometrics</li> <li>• Ankle AROM to tolerance - no passive stretching or ROM</li> <li>• Bicycle in boot</li> <li>• Seated balance on BAPS board</li> <li>• Begin CKC strengthening with boot ON (bridges, light leg press, etc)</li> <li>• Continue quad/hip strengthening</li> <li>• At week 4, begin bands except for resisted plantarflexion</li> </ul>
Frequency & Duration	<ul style="list-style-type: none"> <li>• Exercises 1-2x/daily, formal PT 2x/week</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• <b>Begin weaning wedges – if 3 wedges in, start removing 1 wedge per week at 5 weeks postop, if 2 wedges in, start removing 1 wedge per week at 6 weeks postop</b></li> <li>• <b>Progress to Phase 3 if:</b></li> <li>• <b>Pain free sub-maximal isometrics at neutral</b></li> <li>• <b>Normal gait in boot without wedges or crutches</b></li> </ul>



### Phase III: (Week 8-16) Early Motion and Strengthening Phase

Goals	<ul style="list-style-type: none"> <li>• Progress to full motion</li> <li>• Advanced proprioceptive drills</li> <li>• Increase strength and endurance</li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• <b>Ok to wean boot at 8 weeks</b></li> <li>• Begin very slow dorsiflexion stretching ONLY if stiffness is affecting gait (otherwise, tendon will naturally stretch out over time)</li> </ul>
Suggested Exercises	<ul style="list-style-type: none"> <li>• Graduated resistance exercises (OKC, CKC, functional)</li> <li>• Proprioceptive and gait retraining</li> <li>• WBAT during all fitness/cardio</li> <li>• Seated heel raises</li> <li>• 4 way band isotonic</li> <li>• Seated proprioceptive drills</li> <li>• Leg press</li> <li>• Knee extension, side and front lunges, lateral step ups</li> <li>• Vertical squats (no further than 90)</li> <li>• Ok to begin elliptical, stair climber, fast paced walking at 12 weeks</li> <li>• Standing toe-calf raises at week 12</li> <li>• Towel gathering</li> </ul>
Frequency & Duration	<ul style="list-style-type: none"> <li>• Exercises daily, PT 1-2x/week</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• <b>Pain free heel raise to at least 50% of uninjured side heel-rise height (15 reps in 1 min)</b></li> <li>• <b>Good, stable, controlled single leg squat with only 1 finger balance (30 reps in 1 minute)</b></li> </ul>

### Phase IV: (Week 16-26) Advanced Strengthening/Running Phase

Goals	<ul style="list-style-type: none"> <li>• Progress to running, jumping, agility</li> <li>• Increase power, explosiveness, endurance</li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• <b>Rest days are critical to allow muscular growth</b></li> <li>• <b>Pain at this phase is a red light – take a week off before resuming at prior pain-free level</b></li> </ul>
Suggested Exercises	<ul style="list-style-type: none"> <li>• Continue strengthening program</li> <li>• Plyometric program</li> <li>• Agility Drills</li> <li>• Running program</li> <li>• Begin sport specific training 2 weeks after running program</li> </ul>



	<ul style="list-style-type: none"> <li>• Squats, lunges, stair climber, elliptical, leg press</li> <li>• Proprioceptive training – perturbation training, balance exercises</li> </ul>
Frequency & Duration	<ul style="list-style-type: none"> <li>• 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</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• <b>Pain free running/jumping/landing with no form breakdowns with fatigue</b></li> <li>• <b>Pain free heel raise to at least 50% of uninjured side heel-rise height (20 reps in 45s)</b></li> </ul>

Phase V: (Month 6-12) Return to Sport Phase	
Goals	<ul style="list-style-type: none"> <li>• Return to prior level of performance in sport</li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• <b>None – expect early fatigability and frequent muscle soreness after workouts</b></li> </ul>
Suggested Exercises	<ul style="list-style-type: none"> <li>• Continue closed chain strengthening program</li> <li>• Continue running and agility program</li> <li>• Accelerate sport specific training and drills</li> </ul>
Frequency & Duration	<ul style="list-style-type: none"> <li>• Exercises 3-4x/week</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• <b>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</b></li> <li>• <b>Objective testing for RTP (&gt;90% compared to contralateral limb):</b> <ul style="list-style-type: none"> <li>• <b>Single leg hop for max distance/time over 10m distance</b></li> <li>• <b>Triple hop</b></li> <li>• <b>Crossover triple hop</b></li> <li>• <b>Single leg heel rise (max HR reps from 10 deg decline to a 30bpm metronome)</b></li> </ul> </li> </ul>



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