

Alta View Sports Medicine



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Achilles Tendon Repair

What to Expect

The Achilles tendon connects the calf muscles (gastrocnemius and soleus) to the heel and allows for strong push-off of the foot during walking, running, and jumping. Over time the tendon fibers may undergo degeneration and weaken. This is termed tendinosis, and the tendon is predisposed to further tearing or rupture. Spontaneous rupture may occur during sporting activities due to a forceful contraction of the calf muscles. This leads to a gap in the tendon and weakness of push-off.

The torn tendon may be treated conservatively or with surgery. Conservative treatment avoids the complications of surgery, but you may experience slight weakness in push-off strength or risk of re-rupture. The tendon is repaired using various techniques involving strong sutures or suture anchors to reattach the tendon to the heel depending on the location of the tear. Chronic tears may be reconstructed using a tendon graft to augment the repair or tendon transfer from a nearby tendon in the back of the ankle. The tendon must be protected to allow it to heal in the first few weeks after surgery.

Appropriate rehabilitation is critical to the success of the procedure.



Phase 1 (0 – 2 weeks postop)

Goals: Control pain, Diminish swelling, Protect the tendon repair

- Pain: You will be prescribed pain medication to use after surgery. Use as directed and wean use to as needed. You may begin taking an anti-inflammatory medication (i.e. ibuprofen, naproxen) unless medically contraindicated. Do not drive or use alcohol while taking narcotic pain medication.
- Splint: You will be placed in an ankle splint after surgery to protect the repair and avoid any undue tension on it. It will not allow you to move your ankle. Keep it clean and dry. Do not get it wet. Do not try to scratch inside the splint to avoid any skin abrasions which can lead to infection. It will be taken down at your first postoperative visit ~ 2 weeks after surgery. If you do get it wet, call the office immediately to arrange a splint change.
- Weight bearing:
 - Non-weightbearing. Ambulate only with crutches or walker.
 - Stairs: step up and down leading with nonoperative leg, or maneuver stairs sitting on your bottom.
- Ice: Although normally useful, it will not penetrate the splint.
- Elevation: The most important thing you can do the first two weeks is to keep your foot/ankle elevated to help decrease swelling. You must keep your foot higher than your knee, knee higher than your hip. Sleep with leg elevated.
- Schedule your postoperative visit for ~14 days after surgery. At this visit:
 - Splint removal
 - Suture removal
 - Review of your surgery and rehab plan
 - Prescription for physical therapy if needed or desired

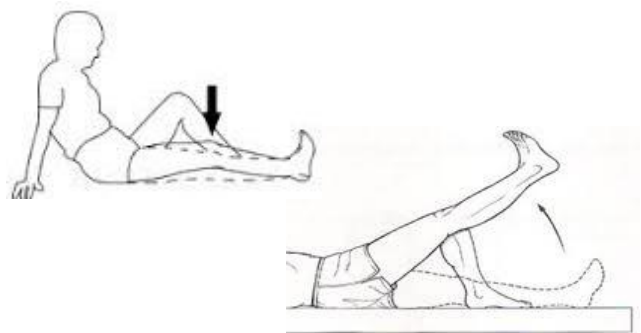
Phase 2 (2 - 4 weeks postop)

Goals: Continued wound healing, Protect the tendon repair, Begin regaining ankle motion

- Brace: You will be placed in a postoperative CAM-type walking boot with heel wedges. The heel wedges keep your foot plantar-flexed (toes pointing down) which eases the tension on the Achilles tendon and repair. The wedge height will be decreased over the next six weeks. You may remove boot to sleep once your wound is healed.
 - Week 2: 20° plantar-flexion (2 heel lifts)
 - Week 3: 10° plantar-flexion (1 heel lift)
 - Week 4: 0° of plantar-flexion
- Weight bearing:
 - Begin to put weight on your operative leg only in the walking boot with appropriate wedge height outlined above. Be sure to walk with a normal heel-toe gait. Begin walking using crutches. Use crutches through week 3, wean by week 4.

Exercises

- May remove the boot for exercises. Do not attempt to put weight on your foot without the boot in place.
- Quad sets (with leg out straight)
 - Flex and hold quad muscles for 5 sec
- Straight leg raises
 - 3 min. 3x/day
- Ankle Eversion/Inversion
 - With toes relaxed pointing down, move ankle side to side.
- Ankle Circles/Alphabet
 - Move foot to draw a circle/cursive alphabet
 - 3 min 3x/day



Phase 3 (4 - 6 weeks postop)

Goals: Continued wound healing, Protect the tendon repair, Regain ankle motion, Normalize gait in walking boot

- Brace: Continue to ambulate in walking boot at all times. At 4 weeks you may walk without having any heel wedge in the boot if you have regained motion to neutral (0°). If you begin to feel increased pain in your Achilles or calf muscle, place a heel wedge for the next few days.
- Make a clinic visit for about 6 weeks from surgery date.

Exercises

- Continue exercises from Phase 2

Boot On

- Balance/Coordination
 - Single leg stork balance (with boot on)
- Standing mini-squats
 - Avoid knee flexion > 45°
- Stationary Bike:
 - Goal 20 min without resistance with boot on
 - Set the seat so leg is straight when pedal is at the lowest point



Phase 3 Exercises continued

Boot Off

- Ankle pumps

- Actively bring ankle/toes up (dorsiflex) and gently relax ankle back down (plantarflex)
- Move through motion that is pain free, don't push it too hard
- 3 min 3x/day



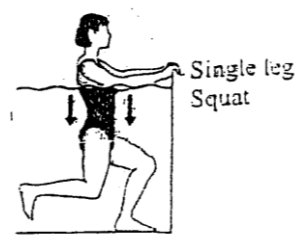
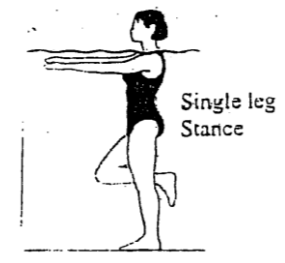
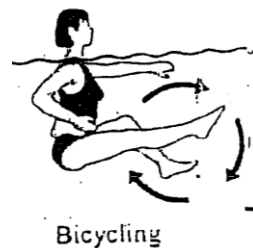
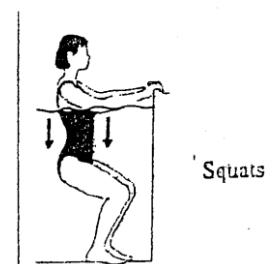
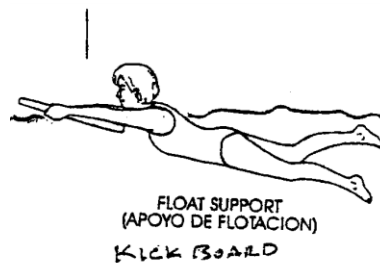
- Prone/Standing hamstring curls



- Pool Program

(avoid forceful whip kicks, toe walking or pushing off the pool wall/floor with operative foot)

- Kickboard swimming
- Double leg squats
- Bicycle kicks
- Single leg stance
- Single leg squats



Phase 4 (6-8 weeks postop)

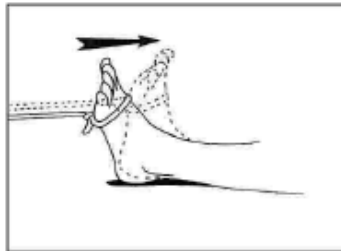
Goals: Regain full ankle range of motion, Leg strengthening

- The tendon is still in the healing phase and is weak. Be careful using stairs, walking on uneven surfaces, walking long distances
- Brace: Continue to use the boot while walking until 8 weeks postop.

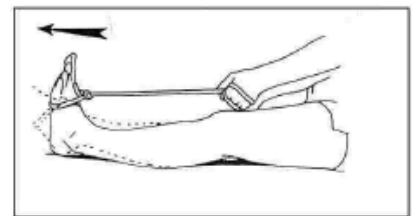
Exercises

- Continue exercises from Phases 2 & 3
- Theraband strengthening exercises
(Each exercise for 3 min 3x/day using yellow theraband)

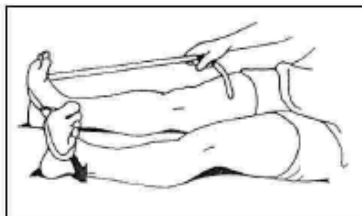
- Dorsiflexion



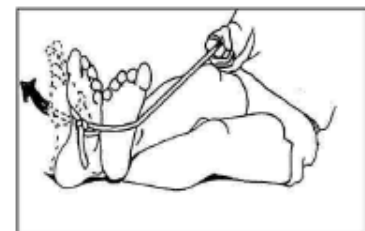
- Plantarflexion



- Ankle Eversion



- Ankle Inversion



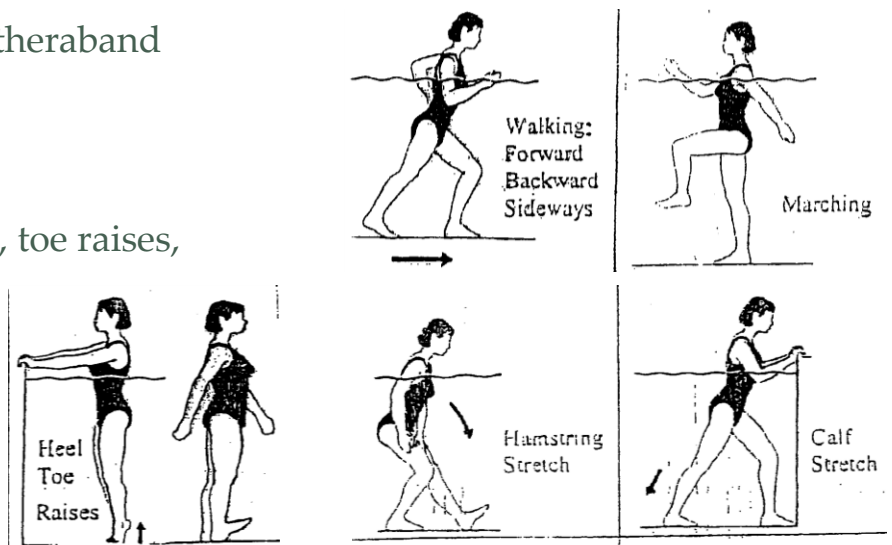
Phase 5 (8-12 weeks postop)

Goals: Equal weight distribution, improve coordination, increase ambulation endurance, progress leg strengthening

- You may feel ready to get back to regular activities—be cautious to avoid re-rupture. Avoid forceful activities/toe push-off. If you experience an increase in pain with exercises, decrease your activity and increase periods of rest.
- Brace: Begin to wean from the boot with walking. Place a heel wedge or heel cup in your regular shoe. Alternate between regular shoe and boot for 2 weeks, then in shoe with heel cup for 2 weeks, then remove heel cup as tolerated if you are walking with a normal gait without a limp.
- Make a clinic visit for about 3 months from your surgery date

Exercises

- Continue exercises from Phases 2, 3 & 4 without the boot
- Theraband strengthening exercises (Each exercise for 3 min 3x/day)
 - 8 weeks: may use red theraband
 - 10 weeks: may use blue theraband
- Pool program
 - May begin pool walking, toe raises, and leg stretching



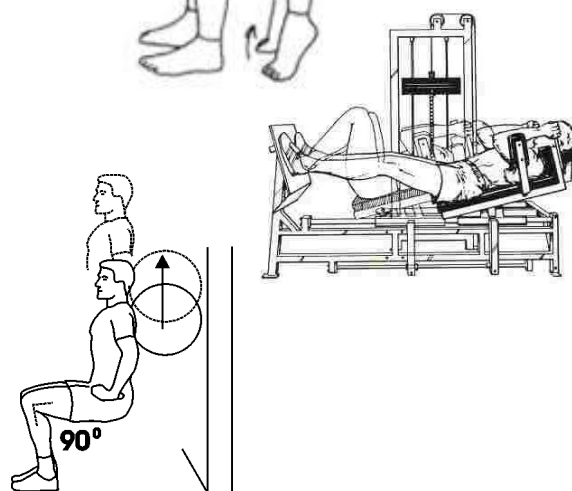
Phase 6 (3-4 months postop)

Goals: Maintain full range of motion, Increased leg strength and endurance

- You should be walking with a normal gait without a limp
- Progression to exercises that increase tension on your repaired tendon. Progress only as you remain without pain about your heel

Exercises

- Continue exercises from Phases 3, 4, & 5
- Eccentric toe raises
 - Go up with two feet, down with operative foot only by raising nonoperative foot off the ground
- Seated leg press (avoid knee flexion $> 45^\circ$)
- Wall squats (may use gym ball behind back against wall)
- Endurance Program
 - Pool program—pool walking/running, swimming (straight-leg kicks only)
 - Stationary Bike: increased duration and resistance
 - Elliptical: may begin use, 15 min daily
 - Treadmill: may begin walking program (no jogging until 4 months)
- Balance/Coordination/Proprioception Training
 - Single leg stork balance/toe raises
 - Backward walking
 - Wobble board/BOSU balance trainer



Phase 5 (4-6 months postop)

Goals: Maintain full range of motion, Increased leg strength and endurance, Return to skill activities and full sport participation

- Progression to exercises that increase tension on your repaired tendon. Progress only as you remain without pain about your heel.
- Make a clinic visit for about 6 months from your surgery date.

Exercises

- Continue exercises from all previous Phases
- At 4 months:
 - May begin treadmill jogging or on soft track (goal of 20 min at mild pace)
 - Step Ups/Downs: Increase step height to normal stair height
 - Stair-stepper machine
 - Single leg wall squats
- At 5 months:
 - May begin outdoor running on level surface, road biking
 - Plyometric exercises/single leg hops/hop ups and downs from single stair height
- At 6 months:
 - Agility drills: backward running, figure of eight drills, box runs
 - Sport specific drills
 - May begin trail and stair running
 - May begin skiing, tennis, basketball, football
 - Criteria for return to full sport activity: full range of motion, full leg strength, pain free all strengthening activities, good neuromuscular control/agility, satisfactory clinical exam
 - > 85% functional hop testing operative leg vs nonoperative leg

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