SOUTH BEND ORTHOPAEDICS

53880 Carmichael Drive ● South Bend, IN 46635
60160 Bodnar Boulevard ● Mishawaka, IN 46544
Phone 574-247-9441 ● Fax: 574-247-9442 ● www.sbortho.com

ACHILLES RUPTURE: OPERATIVE PROTOCOL

In this surgery, the torn ends of the tendon are sewn together with strong suture. The body then heals the tendon in the appropriate position. The goal of surgery is to reapproximate the ruptured tendon ends in order to promote healing and restore overall strength. Tendons gapped greater than 1cm have demonstrated to have greater risk of rerupture (Westin 2016). In addition, surgery has been shown in to restore calf muscle strength earlier over the entire range of motion of the ankle joint with a 10% to 18% strength difference favoring surgery at 18 months (Lantto AJSM 2019). Surgery may also result in better health-related quality of life in the domains of physical functioning and bodily pain compared with nonsurgical treatment (Lantto AJSM 2019).

Please note that this is a general guideline and may be tailored to specific patient needs and conditions

Preoperative Physical Therapy

Pre surgical Gait Training, Balance Training, Crutch Training and Knee Scooter Training

Phase 1: Protection and Healing (0-8 weeks)

GOALS:

- Protect the repair
- Decrease swelling
- Provide optimal conditions for wound healing and healing of the repair
- Initiate gentle ROM activities
- Initiate WB

WEEK 1: Discuss procedure and quality of tissue with MD to determine how quickly to progress

- Splint to Protect Incision
- **NO WEIGHT BEARING** in splint
- Elevate leg above heart 23 hours/day
- Ice behind knee to control pain and swelling
- Avoid direct pressure right behind the heel
- Acetaminophen (e.g. Tylenol) 500mg every 6 hours alternating with ibuprofen 600mg every 6 hours or meloxicam 15mg once daily. Narcotic pain medication (hydrocodone or oxycodone) should be reserved for breakthrough pain as second line medication. Do not take over 4,000mg of acetaminophen per day.

1ST POST OP (5-7 DAYS): Dressing change in the office and application of boot with wedges or removable splint

- Continue strict elevation and ice
- ***Active Motion Protocol***: Begin ankle dorsiflexion/plantar flexion (move ankle up and down) out of boot/splint, 5 minutes, 5 times per day
  - **DO NOT GO PAST NEUTRAL ANKLE DORSIFLEXION FOR 12 WEEKS**
  - May initiate exercises for proximal joints in NWB (ie SLR, sidelying hip abduction)
- Compression stocking to be worn to control swelling along with ice/elevation

WEEK 2-3: Sutures out

- Continue ***Active Motion Protocol***
- Compression stocking to be worn to control swelling along with ice/elevation (16 hours per day)
- Keep incision completely dry for first 2 weeks; may then shower but do NOT immerse in water (no pools, tubs, lakes, oceans, etc) for 6 weeks

WEEK 4: Begin protected weight bearing IN BOOT with 3 wedges

- Start with 25% weight, progress 25% per week until 100%
- Take **one wedge out per week**
- Monitor for swelling, use modalities for swelling and pain control.
- Wear CAM boot or splint while sleeping until 8 weeks post op.
- Use assistive device (walker, crutches, rollabout) at all times for safety
- Begin physical therapy. Note that the therapist should not at this time start passive dorsiflexion (movement of the ankle and toes towards the head); this will overstretch the tendon
  - Continue to work on AAROM and AROM with goal of obtaining neutral DF by 4-6 weeks post op
  - Limit active dorsiflexion to neutral and no passive stretching into dorsiflexion until 8 weeks post op.

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- Initiate static balance activities in boot at 6 weeks post op.
- Patient may ride stationary cycle with light resistance with boot/ brace on for 10 to 20 minutes.
- Progress with progressive resistance exercises (PREs) for proximal muscles and joints avoiding any closed chain activities with dorsiflexion past neutral until 8 weeks post op.

– Initiate desensitization and scar mobility when wound is healed.

Phase 2: Recovery (8-12 Weeks)

GOALS:
– Return to normal gait pattern
– Pain and edema control
– Progress functional ROM

WEEKS 8-10:
– Wean from boot to shoes with gel heel lift
– SLOWLY transition to regular shoe wear initially around the house, then increase to outside activities
– Pt may be progressed to HEP/ gym program if gait is normal and pain and edema are minimal.
– Initiate WB activities outside of boot and gradually progress. May use heel lifts or towels to maintain foot and ankle in slight plantarflexion.
– Initiate static balance activities as tolerated
– Initiate gentle passive dorsiflexion at 8 weeks
– Initiate light resistance bands (level 1)
– Continue modalities and manual for pain, desensitization, scar mobility

WEEKS 10-12:
– Progress balance with dynamic activities
– Initiate retro walking if patient has appropriate dorsiflexion ROM (5-10 degrees active)

Phase 3: Retrain (12 to 24 Weeks)

GOALS:
– Improve functional mobility with stairs.
– Improve tolerance for ambulation
– Strength to WNL
– ROM to WNL
– Progress to return to prior level of activity/ sport

MONTHS 3-6:
– Progress PRE as tolerated with focus on eccentric control with plantar flexion
– Progress closed chain activities
– Progress walking program, may progress to walk/ jog when able to perform minimum 15- 20 single leg toe raises with good control
– Non-athletic patients may be discharged to HEP/ Gym program

DRIVING:
– Right Achilles surgery: may begin driving at 8 weeks from surgery as long as off narcotics and weightbearing as tolerated in normal shoe
– Left Achilles surgery: may begin driving when off narcotic pain meds if automatic transmission vehicle

BIKING/SWIMMING: May begin at 8 weeks post-op
RUNNING/HIGH IMPACT: May begin 4-6 months after surgery

FULL ACTIVITY: Return to sports may begin when you can come up and down on your toes (single heel rise) or hop (single leg hop) on the surgical side. This may take 6 months to a year. There is no guarantee on outcome. All conservative management options have risk of worsening pain, progressive irreversible deformity, and failing to provide substantial pain relief. All surgical management options have risk of infection, skin or bone healing issues, and/or worsening pain. Our promise is that we will not stop working with you until we maximize your return to function, gainful work, and minimize pain.

SHOWERING: You may shower with soap and water once splint has been removed. Avoid lotions, creams, or antibiotic ointments on surgical site until directed by your orthopaedic surgeon. No baths or submerging operative site under water until incision has completely healed.

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SKIN CARE: Steristrips are typically placed on your incision at your follow up appointment. Steristrips will typically fall off on their own. Remove steristrips in shower after 3 weeks if they remain on incision. Incisions may become sensitive. Some surgical incisions based on their location and patient factors are more likely to require postoperative scar desensitization with physical therapy. You may use Mederma or other skin protectant lotion once incisions have completely healed and approved by your orthopaedic surgeon. Do not placed cortisone or other steroid on your incision unless directed by your orthopaedic surgeon. Incisions and surgical site scars are more prone to burn by ultraviolet radiation when out in the sun. Always apply sun screen onto the healed incision once fully healed.

STOOL SOFTENERS: While on narcotic pain medication (e.g. Norco/hydrocodone or Percocet/oxycodone) especially within first 72 hours of surgery, you should take stool softener (e.g. Miralax, docusate, senna). Discontinue if you develop loose stool or diarrhea.

REFERENCES:

1. Westin et al. Acute Ultrasonographic Investigation to Predict Rerupture and Outcomes in Patients with an Achilles Tendon Rupture. OJSM 2016
2. Lantto et al. A Prospective Randomized Trial Comparing Surgical and Nonsurgical Treatments of Acute Achilles Tendon Ruptures. AJSM 2016