

ACHILLES TENDON ULTRASOUND GUIDED PERCUTANEOUS TENOTOMY (Tenex) CLINICAL CARE GUIDELINE

The ultrasound guided percutaneous tenotomy allows what was once major surgery to be performed quickly through a small incision. Although post-procedure care will be tailored to fit your individual needs, the following guidelines are designed to help you and your physical therapist after the procedure.

Progression is time and criterion-based, dependent on soft tissue healing, patient demographics and clinician evaluation. Contact Ohio State Sports Medicine at 614-293-2385 if questions arise.

Things to Avoid Before and After Your Procedure

- Over-the-counter pain medicine like ibuprofen (Advil™, Motrin™), naproxen (Aleve™, Naprosyn™) and: Avoid for two weeks before and one week after your procedure. This class of medications may increase your risk of bleeding and also impair your ability to heal.
- Acetaminophen (Tylenol™) is ok to take for pre and post procedural pain.
- If you are taking aspirin (ASA) for cardiovascular benefit, please continue with this medication at the same dosage.
- There should be no need for narcotic pain medications after this procedure.
- Alcohol: Avoid 48 hours before your procedure. Do not consume alcohol while you are taking prescription pain medication.
- Tobacco & nicotine: Consider talking to your physician about stopping. These products impair your ability to heal and might reduce the beneficial effects of the procedure.
- Diet: You will need to fast overnight before the procedure. You may resume your regular diet when you feel able after the procedure.

Make sure your medical team provides you with the following before or at your procedure:

- CAM boot
- Therapy appointment times
- Follow-up times

Post-Operative Information

CAM boot	<ul style="list-style-type: none">• Weight-bearing: It is OK to weight bear in the CAM boot as tolerated for the first 2-3 days after the procedure.• You do not need to sleep in the CAM boot. It is also OK to come out of the CAM boot at night while you sleep and are not weight bearing.• Do not drive with the CAM boot if it is your right foot.
Discomfort	<ul style="list-style-type: none">• Some pain after your procedure is expected for the first few weeks. Local anesthetic was used and this will begin to wear off about 8 hours after the procedure. Anticipate an increase in pain at this time and consider taking Acetaminophen (Tylenol) about 6 hours after the procedure to stay ahead of your pain.• Use an ice pack on the painful area for 15 minutes as needed; in the first 2-3 days consider icing 3 times daily.• If you are concerned about your pain, please contact your care team.



Bandage	<ul style="list-style-type: none"> • If a bandage / dressing was applied, remove dressing after 24-48 hours. Replace with simple bandage. • Sterile strip bandages can be removed when they begin peeling off or after 7 days. Keep procedure area clean and dry for 1 week after the procedure until your doctor has seen you for your wound check.
Bathing	<ul style="list-style-type: none"> • Do not soak/submerge the treatment area in water for 1 week. Showering is OK, but keep incision site covered for the first week.
Follow-Up Appointment	<ul style="list-style-type: none"> • You will be scheduled for follow-up appointments approximately 1 week, 1 month and 3 months after your procedure.
When to call your Provider	<ul style="list-style-type: none"> • If you notice increasing redness, warmth, pain, fever, drainage from the wound or other problems that concern you, call Ohio State Sports Medicine (614-293-3600) during normal clinic hours. Otherwise seek care at your local emergency room.

Post-operative Achilles Tendon Care Timeline

Your Rehabilitation will follow these basic principles:

Phase 1: Inflammation: 3 - 5 days after procedure, sometimes lasting up to 2 weeks.

Purpose: localize and eliminate damaged tissue so that the body can heal. Pain control and tissue protection

Response: Increase in blood flow, permeability of blood vessels, migration of fluid proteins and white blood cells.

Phase 2: Proliferation: 1-4 weeks after procedure, sometimes lasting up to 8 weeks.

Purpose: PDGF recruit fibroblasts, synthesize collagen to begin to repair tissue. Controlled loading of the tendon and mechanical stimulation

Response: Davis Law: soft tissue heals according to the manner in which they are being stressed. Rest is contraindicated in this phase.

Phase 3: Remodeling: 1 -3 months after procedure.

Purpose: Remodeling, strengthening, improve cellular organization.

Response: increased organization of collagen. Tissue and scar maturation.

Please understand that this treatment is not a “quick fix” like a cortisone injection but rather we are trying to cause long term healing of the tendon. Anticipate that it may take up to 3 months to experience improvement in your symptoms.

Day of your procedure	<ul style="list-style-type: none"> • Plan to have a family member or friend drive you home after your procedure. • Bring your CAM boot to your appointment if they were given to you at an earlier time. • Activity & Rehab: Protect ankle by resting and keeping it elevated to reduce swelling.
Days 2-4	<ul style="list-style-type: none"> • Weight-bearing: It is OK to weight bear in the CAM boot • Activity & Rehab: Elevate at least 3 times a day to control swelling. Begin gentle non weight bearing ankle active range of motion exercises 3 times per day.
Days 6 or 7	<ul style="list-style-type: none"> • Transition out of CAM boot • Continue with gentle no weight bearing ankle range of motion exercises



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	Weight Bearing	Activity and Rehab
Progression 1 (weeks 1-2)	<ul style="list-style-type: none"> • Transition out of CAM boot • Weight bear as tolerated 	<ul style="list-style-type: none"> • Continue ankle range of motion and add ankle inversion, eversion, and dorsiflexion isometrics 3 times per day. (No plantar flexion) • Manual Therapy: May use soft tissue mobilizations around incision, avoiding direct pressure throughout progressions.
Progression 2 (weeks 2-4)	<ul style="list-style-type: none"> • Ambulate as tolerated 	<ul style="list-style-type: none"> • Continue ankle range of motion 3 times per day. Submaximal isometric calf strengthening. i.e Isometric strengthening calf strengthening on shuttle • Begin stationary bike. • Begin gentle swimming and pool exercise when the wound is healed.
Criteria to Progress to Progression 3	<ul style="list-style-type: none"> • Full AROM • No reactive pain > 24 hours 	
Progression 3 (weeks 4-6)		<ul style="list-style-type: none"> • Continue ankle range of motion • Add gentle Achilles tendon stretching. • Progress 4-way ankle strengthening with resistance bands. • Initiate general lower extremity strengthening, avoiding large Achilles stretch • Initiate PWB calf raises (i.e on shuttle, or with use of uninvolved in standing) • PWB soleus strengthening (knee flexion >60 degrees) with seated heel raises • Begin balance exercises like single-leg stance.
Criteria or Progress to Progression 4	<ul style="list-style-type: none"> • No reactive pain > 24 hours • Normalized gait 	
Progression 4 (weeks 6-8)		<ul style="list-style-type: none"> • Initiate treadmill walking and elliptical (no incline/resistance) • Progress ankle strengthening and stabilization (unstable surfaces) • Progress to full WB isolated calf strengthening with knee straight and knee bent
Criteria to Progress to Progression 5	No reactive pain > 24 hours	
Progression 5 (weeks 8-10)		<ul style="list-style-type: none"> • Initiate PWB plyos on shuttle • Progress general LE strengthening • Start calf strengthening past neutral (HR off step) as able. • Progress weight with calf strengthening as able. • Advance at the discretion of your care team.
Criteria to Progress to Progression 6	No reactive pain > 24 hours	



Progression 6 (10-12)		<ul style="list-style-type: none"> • Initiate FWB jumping (starting with bilateral to unilateral) • Initiate flat surface jogging and running • If tolerated, progress to sprinting, jumping and running hills as directed by your care team.
Criteria to Progress to Unrestricted Activity	<ul style="list-style-type: none"> • Pain free throughout Progression 6 • 25 single leg calf raises through full ROM for gastroc and soleus 	<ul style="list-style-type: none"> • Good dynamic control in multi-plane activities. • Physician approval

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References

1. de Vos, RJ , Weir, A , van Schie. , Platelet-rich plasma injection for chronic Achilles tendinopathy: a randomized controlled trial. *JAMA*. 2010; 303(2): 144–149.
2. Gaweda K, Tarczynska M, Krzyzanowski W. Treatment of Achilles tendinopathy with platelet-rich plasma. *Int J Sports Med*. 2010 Aug;31(8):577-83. doi: 10.1055/s-0030-1255028. Epub 2010 Jun 9
3. Krogh TP, Ellingsen T, Christensen R, Jensen P, Fredberg. Ultrasound-Guided Injection Therapy of Achilles Tendinopathy With Platelet-Rich Plasma or Saline: A Randomized, Blinded, Placebo-Controlled Trial. *Am J Sports Med*. 2016 Aug;44(8):1990-7. doi: 10.1177/0363546516647958. Epub 2016 Jun 2.
4. von Wehren L, Pokorny K, Blanke F, Sailer J, Majewski M. Injection with autologous conditioned serum has better clinical results than eccentric training for chronic Achilles tendinopathy. *Knee Surg Sports Traumatol Arthrosc*. 2019 Sep;27(9):2744-2753. doi: 10.1007/s00167-019-05465-8. Epub 2019 Mar 21.
5. Boesen AP, Hansen R, Boesen MI, Malliaras P, Langberg H. Effect of High-Volume Injection, Platelet-Rich Plasma, and Sham Treatment in Chronic Midportion Achilles Tendinopathy: A Randomized Double-Blinded Prospective Study. *Am J Sports Med*. 2017 Jul;45(9):2034-2043. doi: 10.1177/0363546517702862. Epub 2017 May 22.
6. Sussman WI, Mautner, K, Malanga, G. The role of rehabilitation after regenerative and orthobiologic procedures for the treatment of tendinopathy: a systematic review. *Regen Med*. 2018; 13(2): 249-263.



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