

Rehabilitation Protocol for Peroneal Tendon Repair

This protocol is intended to guide clinicians through the post-operative course for peroneal tendon repair. This protocol is time based (dependent on tissue healing) as well as criterion based. Specific intervention should be based on the needs of the individual and should consider exam findings and clinical decision making. The timeframes for expected outcomes contained within this guideline may vary based on surgeon’s preference, additional procedures performed, and/or complications. If a clinician requires assistance in the progression of a post-operative patient, they should consult with the referring surgeon.

The interventions included within this protocol are not intended to be an inclusive list of exercises. Therapeutic interventions should be included and modified based on the progress of the patient and under the discretion of the clinician.

Considerations for the Post-operative Peroneal Tendon Repair

Many different factors influence the post-operative peroneal tendon rehabilitation outcomes, including the nature of the pathology as well as the surgical approach (tendoscopic or open) and whether the superior peroneal retinaculum (SPR) is repaired. It is recommended that clinicians collaborate closely with the referring physician regarding the nature of the repair along with specific guidance related to timing of weight bearing, immobilization and the need for precautions for inversion and eversion in the early phases of rehabilitation.

If you develop a fever, intense calf pain, uncontrolled pain or any other symptoms you have concerns about you should call your doctor.

PHASE I: IMMEDIATE POST-OP (0-2 WEEKS AFTER SURGERY)

Rehabilitation Goals	<ul style="list-style-type: none"> Protect repair. Maintain strength of hip, knee and core. Manage swelling with elevation “toes above nose.” Gait training and safety (emphasize precautions with weight bearing).
Weight Bearing	<i>Walking</i> <ul style="list-style-type: none"> Non weight bearing (NWB) on crutches in splint/cast
Intervention	<i>Range of motion/Mobility (in boot/splint)</i> <ul style="list-style-type: none"> Supine passive hamstring stretch <i>Strengthening (in boot/splint)</i> <ul style="list-style-type: none"> Quad sets Straight leg raise Abdominal bracing Hip abduction Sidelying hip external rotation-clamshell Prone hip extension Prone hamstring curls
Criteria to Progress	<ul style="list-style-type: none"> Decreased pain and edema

PHASE II: INTERMEDIATE POST-OP (2-4 WEEKS AFTER SURGERY)

Rehabilitation Goals	<ul style="list-style-type: none"> Continue to protect repair. Reduce pain, minimize swelling. Improve scar mobility once incision is healed. Initiate ankle range of motion with good understanding of restricted planes if applicable. Good tolerance with addition of partial progressive weight bearing.
Weight Bearing	<p><i>Walking</i></p> <ul style="list-style-type: none"> Begin partial progressive weight-bearing on crutches in boot/cast with crutches once cleared by surgeon. ***Gradually increase the amount of weight-bearing allowed each week. This may be in percentage of body weight or pounds (per surgeon).
Additional Intervention <i>*Continue with Phase I interventions</i>	<p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> If the SPR is NOT REPAIRED, initiate ankle passive range of motion (PROM), active assisted range of motion (AAROM) and active range of motion (AROM). <ul style="list-style-type: none"> Ankle pumps Ankle circles Ankle inversion Ankle eversion Seated heel-slides for ankle DF ROM If the SPR is REPAIRED begin ankle ROM as above except NO INVERSION/EVERSION UNTIL 6 WEEKS POST-OP If stiff from boot initiate great toe DF and PF stretching (by patient or by therapist) May begin gentle scar mobilization once incision is healed. <p><i>Cardio</i></p> <ul style="list-style-type: none"> Upper body ergometer <p><i>Strengthening:</i></p> <ul style="list-style-type: none"> Seated heel raises Seated toe raises Exercises for foot intrinsic muscles to minimize atrophy while in boot <p><i>Proprioception</i></p> <ul style="list-style-type: none"> Joint position re-training
Criteria to Progress	<ul style="list-style-type: none"> Pain < 3/10 Minimal swelling (recommend water displacement volumetry or circumference measures such as Figure 8). Improved ROM of the ankle (excluding inversion and eversion if SPR is repaired). Good tolerance with weight bearing in boot.

PHASE III: LATE POST-OP (4-8 WEEKS AFTER SURGERY)

Rehabilitation Goals	<ul style="list-style-type: none"> Continue to protect repair. Restore full range of motion of the ankle Safely progress strengthening. Promote proper movement patterns. Avoid post exercise pain/swelling. FWB in boot without crutches, with good tolerance and normalized gait pattern by week 8.
Weight Bearing	<p><i>Walking</i></p> <ul style="list-style-type: none"> If SPR is NOT REPAIRED, may progress from partial progressive weight bearing with crutches to full weight bearing (FWB) 4-6 weeks post-op per surgeon. Begin weaning from boot at post-op week 6. If SPR is REPAIRED, continue with partial progressive weight bearing with crutches until post-op week 6 then progress to FWB. Wean from boot at post-op week 8.

<p>Additional Intervention *Continue with Phase I-II Interventions as indicated.</p>	<p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> • Foot and ankle joint mobilizations may be performed if indicated during this time per therapist discretion provided they do not stress the repair. • If <u>SPR in NOT REPAIRED</u>, continue with foot and ankle mobility exercises from previous phase. • If <u>SPR is REPAIRED</u>, in addition to dorsiflexion and plantar flexion, may begin inversion and eversion as well after post-op week 6. • Once boot weaned: standing gastrocnemius stretch, standing soleus stretch <p><i>Cardio</i></p> <ul style="list-style-type: none"> • Stationary bicycle (in boot until boot weaned for walking), Alter-G walking (adjusted for weight bearing allowed) <p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Inversion with resistance, plantar flexion with resistance, dorsiflexion with resistance once AROM full in these planes • If <u>SPR was NOT REPAIRED</u>, may begin isometric eversion at post-op week 4. • If <u>SPR was REPAIRED</u>, initiate isometric eversion after post-op week 6. • Progress to eversion with resistance once isometrics are non-painful and eversion AROM is full/non-painful • Lumbopelvic strengthening: bridges on physioball, bridge on physioball with roll-in, bridge on physioball alternating • Gym equipment: hip abductor and adductor machine, hip extension machine, roman chair
<p>Criteria to Progress</p>	<ul style="list-style-type: none"> • No swelling/pain after exercise. • Full ankle ROM if SPR is not repaired. If SPR is repaired, ankle ROM is progressing. • Able to tolerate full weight bearing in supportive sneakers.

PHASE IV: TRANSITIONAL (9-12 WEEKS AFTER SURGERY)

<p>Rehabilitation Goals</p>	<ul style="list-style-type: none"> • Normalize gait in supportive sneaker. • Safely progress strengthening. • Promote proper movement patterns. • Avoid post exercise pain/swelling. • Increase ankle strength and continue to progress ankle ROM if still limited. • Improve balance and proprioception.
<p>Weight Bearing</p>	<p><i>Walking</i></p> <ul style="list-style-type: none"> • Gait training to promote normalized gait pattern.
<p>Additional Intervention *Continue with Phase I-III interventions as indicated.</p>	<p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> • Ankle/foot mobilizations (talocrural, subtalar, midfoot, MTPs) as indicated. <p><i>Cardio</i></p> <ul style="list-style-type: none"> • Stationary bike, swimming/pool jogging, Alter-G/treadmill walking <p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Bilateral standing heel raises • Bilateral squats progressing to single leg squats • Gym equipment: seated hamstring curl machine and hamstring curl machine, leg press machine, Romanian deadlift <p><i>Balance/proprioception</i></p> <ul style="list-style-type: none"> • Double limb standing balance utilizing uneven surface (foam, wobble board) • Single limb balance - progress when able to uneven surface including perturbation training
<p>Criteria to Progress</p>	<ul style="list-style-type: none"> • No swelling/pain after exercise. • Full ankle strength/ROM. • Normal gait pattern in supportive footwear.

PHASE VI: ADVANCED POST-OP (3-6 MONTHS AFTER SURGERY)

Rehabilitation Goals	<ul style="list-style-type: none"> • Full strength and ROM of ankle. • Promote proper movement patterns. • Avoid post exercise pain/swelling. • Good tolerance with progression to plyometrics and agility training.
Additional Interventions <i>*Continue with Phase II-V interventions as indicated.</i>	<p><i>Cardio</i></p> <ul style="list-style-type: none"> • Elliptical, stair climber, Alter-G jogging progression <p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Single leg heel-raise progressing to eccentric heel-raises off edge of step • Seated calf machine or wall sit with bilateral calf raises • <i>**The following exercises are to focus on proper pelvis and lower extremity control with emphasis on good proximal stability:</i> <ul style="list-style-type: none"> ○ Hip hike ○ Forward lunges ○ Lateral lunges ○ Single leg progression: partial weight bearing single leg press, slide board lunges: retro and lateral, step ups and step ups with march, lateral step-ups, step downs, single leg squats, single leg wall slides <p><i>Running</i></p> <ul style="list-style-type: none"> • Interval walk/jog program (Return to Running Program – Phase I) • Running progression (Return to Running Program - Phase II) <p><i>Plyometrics</i></p> <ul style="list-style-type: none"> • Initiate Beginner Level plyometrics: <ul style="list-style-type: none"> ○ Once able to perform 3 sets of 15 of bilateral standing heel-raises with equal weight bearing progress to rebounding heel raises bilateral stance. ○ Once able to perform 3 sets of 15 unilateral heel raises progress to rebounding unilateral heel raises. ○ Once able to demonstrate good performance/tolerance with rebounding heel raises then initiate hopping in place bilateral stance. Progress as able to unilateral hopping in place. • Criteria to progress to the Agility and Plyometrics Program: <ul style="list-style-type: none"> ○ Good tolerance/performance of Beginner Level Plyometrics as above ○ Completion of Phase 1 Return to Running Program (walk/jog intervals) with good tolerance.
Criteria to Progress	<ul style="list-style-type: none"> • Good tolerance and performance with plyometrics, agility and jogging. • Psych Readiness to Return to Sport (PRRS)

PHASE VII: EARLY to UNRESTRICTED RETURN TO SPORT (6+ MONTHS AFTER SURGERY)

Rehabilitation Goals	<ul style="list-style-type: none"> • Continue strengthening and proprioceptive exercises. • Safely initiate sport specific training program. • Symmetrical performance with sport specific drills. • Safely progress to full sport.
Additional Interventions <i>*Continue with Phase III-VI interventions as indicated.</i>	<ul style="list-style-type: none"> • Sports specific training and conditioning • Examples of Functional Tests for Return to Sport: <ul style="list-style-type: none"> ○ Timed lateral step-down ○ Timed leap and catch hop sequence ○ Single-leg hop for distance ○ Single-leg timed hop ○ Single-leg triple hop for distance ○ Crossover hop for distance ○ Square hop test ○ Lower Extremity Functional Test (LEFT)

Criteria to Progress	<ul style="list-style-type: none"> • Clearance from MD and ALL milestone criteria below have been met. <ul style="list-style-type: none"> ○ Completion of the Return to Running Program without pain/swelling. ○ Functional Assessment ○ Lower Extremity Functional Tests should be ≥90% compared to contralateral side for unilateral tests.
Contact	Please email **** with questions specific to this protocol

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References:

1. MGH/NWH Foot and Ankle Service – MGH Department of Orthopedics. PT Guidelines for Peroneal Repair.
2. Van Dijk PAD, Lubberts B, Verheul C, DiGiovanni CW, Kerkhoffs GMMJ. Rehabilitation after surgical treatment of peroneal tendon tears and ruptures. Knee Surg Sports Trumatol Arthrsoc. January 2016:1165-1174. doi:10.1007/s00167-015-3944-6.
3. Van Dijk PAD, Tanriover A M.D, DiGiovanni CW M.D., Waryasz GR M.D. Immobilization and Rehabilitation after Surgical Treatment of the Peroneal Tendons
4. Van Dijk PA, Miller D, Calder J, et al. The ESSKA-AFAS international consensus statement on peroneal tendon pathologies. Knee Surg Sports Traumatol Arthrosc. 2018;epub ahead of print