ATFL Repair with Internal Brace
Post-operative Management Protocol

For physiotherapy, occupational therapy and ward teams

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Immediate answer to NWB query

This is not a routine 6-8 week non-weight-bearing protocol. For an isolated ATFL repair using duplication/imbrication of the ATFL remnants, suture-tape/internal-brace augmentation and retinacular reinforcement, the default is protected weight bearing as tolerated in a walker/CAM boot from the day of surgery, using crutches as needed for balance and pain. The boot must be worn for all mobilisation until review and then gradually weaned, usually over 6-8 weeks. The operation note and intra-operative findings override this protocol.

1. Scope and operative construct

- This protocol applies to straightforward lateral ankle stabilisation where the principal operation is ATFL repair with duplication/imbrication of the remaining ligament tissue, internal-brace/suture-tape augmentation, closure/reinforcement of the inferior extensor retinaculum, subcutaneous closure and skin closure.
- It is intended for patients discharged in a walker/CAM boot. It assumes no additional procedure requiring protection, such as osteochondral microfracture, peroneal tendon repair, calcaneal osteotomy, deltoid/syndesmosis reconstruction, fracture fixation, complex revision reconstruction, or unexpectedly poor fixation.
- A more conservative plan should be used if there are concerns about wound healing, soft-tissue envelope, infection, neuropathy, marked swelling, recurrent falls risk, non-compliance, significant hypermobility, severe obesity, poor bone quality, revision surgery, or if the operation note states restricted weight bearing.

2. Key principles for physiotherapy and OT

- Protect the wound and the ligament repair first. If the wound is not dry/healed, decelerate rehabilitation and discuss with the surgical team.
- Protected weight bearing as tolerated (WBAT) in the boot is the default from day 0 unless the operation note states otherwise.
- For the first 2 weeks: boot for all transfers and mobilisation; no formal ankle range-of-motion exercises. Encourage elevation, toe movement, knee/hip movement and safe gait.
- After the 2-week wound check: the boot may be removed for hygiene, rest and supervised range-of-motion work; it should be reapplied for mobilisation.
- Avoid inversion stress, combined plantarflexion-inversion, uneven ground, pivoting/cutting, jumping and running until specifically progressed.
- The usual boot-to-shoe transition occurs between 6 and 8 weeks, using a supportive trainer or lace-up ankle brace if needed.
- Progression is criterion-based as well as time-based: pain, swelling, wound healing, gait quality and neuromuscular control determine speed of progression.

3. Post-operative pathway summary

Phase	Boot / weight bearing	Physiotherapy focus	Restrictions / milestones
Day 0-14 Protection and wound phase	WBAT in walker/CAM boot. Crutches as required. Boot on for all mobilisation and transfers.	Elevation, ice as tolerated, toe/knee/hip ROM, quadriceps/gluteal activation, safe gait and stair practice. No formal ankle ROM until 2-week review.	Keep dressing clean/dry. No inversion/plantarflexion-inversion. Early wound check at 10-14 days. Escalate wound ooze, cellulitis, calf pain, neurovascular symptoms, uncontrolled pain or inability to mobilise safely.

Phase	Boot / weight bearing	Physiotherapy focus	Restrictions / milestones
Week 2-6 Protected mobilisation	Continue WBAT in boot for mobilisation. Boot may be removed for hygiene, rest and exercises once wound reviewed and dry.	Begin AROM/AAROM: dorsiflexion, plantarflexion and eversion. Gentle gastroc/soleus stretching. Submaximal isometrics except inversion initially. Intrinsic foot work, proximal strength, stationary bike if safe.	Avoid passive inversion beyond neutral and avoid combined plantarflexion-inversion. No running, jumping, cutting or uneven-ground work. Aim: dry wound, reducing oedema, improving ROM, safe gait in boot.
Week 6-8 Boot weaning	Wean from boot to supportive trainer +/- lace-up ankle brace if pain, swelling and gait allow. Continue boot outdoors/long distances if reactive swelling.	Progress ROM including gentle inversion if comfortable. Theraband strengthening all planes, calf raises, closed-chain strength, balance/proprioception.	Criteria to leave boot: healed wound, minimal swelling, plantigrade gait, pain controlled, no giving-way, safe single-leg stance with support. Avoid high-impact sport.
Week 8-12 Strength and control	Regular shoes; ankle brace for higher-risk activity if required.	Progress single-leg calf strength, squats/lunges/step work, proprioception on varied surfaces, low-impact cardio. Begin graded walk-jog only when criteria met.	No reactive swelling next day. No cutting/pivoting until strength/control restored. Aim: normal gait on stairs and uneven surfaces.
12+ weeks Return to activity	Shoes; consider lace-up brace/taping for sport for 3-6 months.	Sport/job-specific strengthening, agility, hopping/landing mechanics, change-of-direction progression, endurance conditioning.	Return to sport/manual work only when functional criteria passed and there is no pain, swelling or instability.

4. Phase details

Phase 1: Day 0-14 - protection and wound phase

- Default: WBAT in walker/CAM boot from the day of surgery, with crutches until gait is safe and pain controlled.
- Boot is to be worn for all mobilisation, transfers and stairs. The patient should not walk barefoot or in a slipper during this phase.
- Elevation above heart level when resting, especially for the first 48-72 hours and whenever swelling increases.
- No ankle ROM exercises until the 2-week wound check. Encourage toe motion, knee ROM, hip ROM, straight-leg raises, quadriceps/gluteal activation and contralateral/proximal conditioning.
- OT/ward team to check safe transfers, stairs, home access, showering plan, crutch use and falls risk before discharge.
- Analgesia, thromboprophylaxis and dressings are as per hospital prescription and VTE risk assessment.

Phase 2: Week 2-6 - protected ROM and early strengthening

- At 10-14 days: wound review, dressing/suture management as appropriate and confirmation that the wound is dry before progressing.
- Boot may be removed for hygiene, rest and exercises. Reapply the boot for all walking and standing tasks.
- Start ankle dorsiflexion, plantarflexion and eversion AROM/AAROM; avoid inversion stress. Gentle PROM may be used within a comfortable neutral arc, avoiding stress to the lateral repair.
- Begin gentle long-sitting calf stretch, intrinsic foot activation, toe yoga/towel work, proprioceptive awareness and proximal strengthening.
- Begin submaximal pain-free isometrics in neutral. Resisted inversion should wait until later progression unless specifically cleared.
- Stationary bike/NuStep may be used if wound is healed and swelling is controlled; initially use the boot or very supportive footwear as clinically appropriate.

Phase 3: Week 6-8 - wean boot and restore gait

- Begin boot weaning if wound is healed, oedema is controlled, the patient can walk plantigrade without significant limp, and there is no subjective giving way.
- Use a supportive trainer. Consider an ASO/lace-up ankle brace during the transition, outdoors, on uneven surfaces or for higher-demand patients.

- Progress to theraband strengthening in dorsiflexion, plantarflexion, eversion and gentle inversion; progress calf raises from double-leg to single-leg as tolerated.
- Advance balance work from double-leg to single-leg, level surface to compliant surface, and static to dynamic tasks.
- If swelling or pain flares after boot weaning, step back: use boot for longer distances for a few days and reduce exercise load.

Phase 4: Week 8-12 - strengthening, proprioception and graded impact

- Aim for full functional ROM, normal gait on level ground and stairs, and progressive calf/peroneal strength.
- Progress closed-chain strengthening: squats, split squats, step-ups/step-downs, hip abductor/external-rotator work and kinetic-chain control.
- Introduce low-amplitude plyometric preparation only if pain-free: marching drills, small double-leg hops, landing mechanics and balance reactions.
- A graded walk-jog programme can begin when the patient has full pain-free ROM, minimal swelling, normal walking gait, adequate calf strength and no instability symptoms.
- Avoid rapid cutting, pivoting and unpredictable sport until single-leg strength, balance and landing control are restored.

Phase 5: 12+ weeks - return to work, sport and higher demand activity

- Return to sport is criteria-led, commonly from 12-16+ weeks for non-contact sport-specific drills and later for contact/pivoting sport depending on confidence and functional testing.
- Manual work, ladders, uneven ground and prolonged standing should be graded. A work-hardening approach may be required.
- Consider brace/taping for sport or high-risk work for 3-6 months after surgery.
- Do not clear return to high-risk activity if there is recurrent swelling, pain, instability, poor single-leg control or apprehension.

5. Criteria for progression

Progression point	Minimum clinical criteria
Start ROM after 2 weeks	Wound reviewed; dry/closed or surgeon happy to proceed; pain controlled; patient understands boot must be used for mobilisation.
Wean boot at 6-8 weeks	Healed wound; minimal oedema; plantigrade gait in boot; pain low and not increasing; safe transfers/stairs; no giving way.
Begin walk-jog at 8-12 weeks	Normal walking gait; full or near-full pain-free ROM; no next-day swelling after strengthening; 20-25 controlled double-leg heel raises and progressing single-leg control.
Return to sport/manual work	No pain, swelling or instability; strength and balance at least 90% of the other side where measurable; satisfactory hop/landing/Y-balance or job-specific testing; patient confident and surgeon/physio agreement.

6. Escalation and red flags

- Wound ooze, dehiscence, spreading erythema, increasing warmth, fever, or concern for infection.
- Disproportionate or escalating pain, new numbness/paraesthesia, colour change, cold foot, or increasing tightness in the boot/dressing.
- Calf swelling/pain, chest pain or breathlessness: manage as possible VTE/PE according to local pathway.
- Repeated falls, inability to mobilise safely in the boot, or inability to comply with boot use.
- Sudden giving way, traumatic inversion episode, new mechanical instability or concern for repair failure.
- Any wound concern should take priority over accelerated rehabilitation. Slow down ROM/weight-bearing progression and discuss with the surgical team.

7. Practical patient advice for the team

Topic	Suggested advice
Sleeping/resting	Boot may be required while sleeping in the first 2 weeks depending on swelling, comfort and local practice. At minimum, the ankle should be protected from accidental inversion.
Showering	Keep wound dry until reviewed. Use waterproof cover. Do not stand in shower without boot unless specifically safe and permitted after wound review.
Driving	No driving in a boot. Consider driving only after boot discontinued, patient can perform an emergency stop, is off sedating analgesia and insurer/legal requirements are satisfied.
Office work	May return when pain controlled, swelling manageable and safe travel arranged; keep foot elevated when possible.
Manual work / prolonged standing	Usually not before 8-12 weeks and may require graded duties; later if uneven ground, ladders or heavy loads are involved.

8. Evidence summary and rationale

- Traditional Broström/Broström-Gould protocols vary widely. Many institutional protocols use an initial NWB phase followed by WBAT in a boot, and emphasise that surgeon preference, concomitant procedures and wound status should guide progression [6,7].
- Internal-brace/suture-tape augmentation has been developed to protect the repair and permit earlier functional rehabilitation. A 2025 clinical commentary proposed early mobilization after internal brace augmentation, with full weight bearing in a CAM boot after the first few days, transition to an ankle-stabilising orthosis around 3 weeks if the wound is healed, and avoidance of inversion until week 6 [1].
- A 2025 retrospective series of suture-tape augmented modified Broström reconstruction reported immediate postoperative WBAT in a standardised accelerated protocol, with no reconstruction failures, revisions, DVT or postoperative infection; 90% could perform a single-leg heel rise and 81% a single-leg hop at 6 weeks [2].
- Earlier military/high-demand data also reported safe early functional rehabilitation after suture-tape augmented Broström repair, with 96% able to complete single-leg hop and heel rise at 6 weeks and no subsequent failure in the series [3].
- Comparative evidence suggests suture-tape augmentation can shorten return to pre-injury activity compared with traditional modified Broström in selected patients, although systematic reviews note that final outcomes are often similar and long-term superiority is not established [4,5,8].
- Therefore, this protocol is evidence-informed rather than evidence-mandated: it uses protected WBAT in a boot immediately, while keeping ankle ROM delayed until the 2-week wound check to align with the consultant's wound-protection preference and local practical requirements.

9. Suggested short reply to OT/physiotherapy query

Suggested wording:

For my isolated ATFL repairs performed with remnant duplication/imbrication, internal-brace augmentation and retinacular reinforcement, I do not require routine 6-8 weeks of non-weight bearing. Please provide a walker boot and allow protected weight bearing as tolerated from the day of surgery, using crutches as required. The boot should be worn for all mobilisation. I review the wound at approximately 2 weeks. After that, if the wound is dry and satisfactory, the patient can remove the boot for hygiene/rest and begin gentle ankle ROM, but should continue using the boot for mobilisation. Boot weaning is usually from 6-8 weeks according to pain, swelling, gait and physiotherapy assessment. If the operation note specifies a different plan, or if there are wound/soft-tissue concerns, please follow the more cautious pathway and discuss with me/the foot and ankle team.

References

1. Vesely B, Challa S, Moyer B, Gereb B, Watson T. Early Mobility and Rehabilitation Protocol after Internal Brace Ankle Stabilization. International Journal of Sports Physical Therapy. 2025;20(1):107-112. doi:10.26603/001c.127849.

2. Martin KD, Anand S, Rust A, Chinnasamy H, Curatolo C. Immediate Weightbearing After Augmented Modified Broström Reconstruction: A Retrospective Review of an Accelerated Rehabilitation Protocol. Orthopaedic Journal of Sports Medicine. 2025;13(11). doi:10.1177/23259671251389196.

3. Martin KD, Andres NN, Robinson WH. Suture Tape Augmented Broström Procedure and Early Accelerated Rehabilitation. Foot & Ankle International. 2021;42(2):145-150. doi:10.1177/1071100720959015.

4. Kulwin R, Watson TS, Rigby R, Coetzee JC, Vora A. Traditional Modified Broström vs Suture Tape Ligament Augmentation. Foot & Ankle International. 2021;42(5):554-561. doi:10.1177/1071100720976071.

5. Wittig U, Hohenberger G, Ornig M, et al. Improved Outcome and Earlier Return to Activity After Suture Tape Augmentation Versus Broström Repair for Chronic Lateral Ankle Instability? A Systematic Review. Arthroscopy. 2022;38(2):597-608. doi:10.1016/j.arthro.2021.06.028.

6. Massachusetts General Brigham Sports Medicine. Rehabilitation Protocol for Brostrom Lateral Ankle Ligament Repair. Accessed 9 July 2026.

7. Sanford Health. Modified Brostrom Procedure Rehabilitation Guideline. Revised 2024. Accessed 9 July 2026.

8. Kubick SE, Martinez AN, Mauren NR. Modified Broström vs Suture Tape Augmentation: A Systematic Review. Journal of Foot and Ankle Surgery. 2025;64(1):86-90. doi:10.1053/j.jfas.2024.09.013.

9. Cho BK, Kim SH. The Modified Broström Procedure with Suture-Tape Augmentation for Chronic Lateral Ankle Instability. Journal of Clinical Medicine. 2025;14(5):1683. doi:10.3390/jcm14051683.

10. Petrera M, Dwyer T, Theodoropoulos JS, Ogilvie-Harris DJ. Short- to Medium-term Outcomes After a Modified Broström Repair for Lateral Ankle Instability With Immediate Postoperative Weightbearing. American Journal of Sports Medicine. 2014;42(7):1542-1548. doi:10.1177/0363546514530668.

End of protocol