CLINICAL PATIENT INFORMATION LEAFLET | SURGICAL REHABILITATION

Ankle Surgery Prehab & Rehab: Your Pathway to Recovery

Evidence-based pre-operative preparation, strict immobilization timelines, and staged mobility protocols.

Ankle and hindfoot surgeries—including open reduction and internal fixation (ORIF) of ankle fractures, Achilles tendon repairs, ankle arthrodesis (fusion), total ankle replacement (TAR), and lateral ligament reconstructions (e.g., Broström procedure)—require delicate bone and tendon healing in a dependent, weight-bearing extremity. Structured **prehabilitation ('prehab')** primes your upper body strength and non-weight-bearing mobility, while a staged **post-operative rehabilitation** pathway restores talocrural range of motion, retrains calf and peroneal muscle power, and rebuilds dynamic proprioception.

1. Why Prehabilitation (Prehab) Matters

- **Non-Weight-Bearing (NWB) Mobility Rehearsal:** Practicing with crutches, a knee scooter, or a walker before surgery ensures safe mobility while strictly protecting surgical fixations and tendon repairs.
- **Upper Body & Core Strengthening:** Enhancing triceps, latissimus dorsi, and core musculature makes non-weight-bearing transfers (bed, chair, toilet) seamless and prevents secondary shoulder or wrist strain.
- **Proximal Kinetic Chain Preservation:** Maintaining hip abduction and quadriceps strength on the affected limb prevents severe proximal deconditioning during prolonged ankle casting or booting.
- **Home Environment Safety & Elevation Setup:** Preparing an elevation station (pillows or wedge to keep the ankle strictly above heart level), clearing rugs and cords, and installing a shower stool before admission drastically reduces fall risk.
- **Systemic Optimization:** Smoking cessation is critical for foot and ankle surgery (nicotine drastically impairs bone fusion and wound microvascular flow), alongside strict glycemic and protein optimization.

2. Staged Post-Operative Rehabilitation Protocol

Phase & Timeline	Clinical Objectives	Precautions & Restrictions	Core Exercise Protocols
Phase 1: Protection & Strict Elevation ***(Weeks 0–2)***	• Protect surgical fixation/repair. • Control acute swelling & pain. • Wound edge healing. • Prevent proximal DVT.	• **Strict Non-Weight-Bearing (NWB)**. • Backslab cast or fixed boot intact. • Leg elevated above heart >85% of day. • Keep dressings completely dry.	• Active toe curls & toe extensions. • Isometric quadriceps sets & straight leg raises. • Proximal hip abduction & gluteal squeezes. • Non-weight-bearing transfer training.
Phase 2: Early Motion & Protected Boot ***(Weeks 2–6)***	• Suture removal & wound review. • Initiate gentle talocrural ROM. • Transition to CAM walker boot. • Progressive partial weight (PWB).	• Weight-bearing strictly per protocol (NWB vs. Touch-Down vs. PWB). • Boot worn for all transfers & sleep. • No forced passive stretching into pain. • Avoid inversion/eversion stresses.	• Active-assisted dorsiflexion & plantarflexion (neutral limits; avoid extreme dorsiflexion in Achilles repair). • Alphabet toe drawing in air. • Gentle submaximal isometric ankle contractions. • Stationary cycling in CAM boot.
Phase 3: Progressive Weight-Bearing & Strength ***(Weeks 6–12)***	• Progress to Full Weight-Bearing (FWB). • Wean from CAM boot to supportive shoe. • Rebuild gastroc-soleus & peroneals. • Normalize non-antalgic gait.	• Wean boot only after clinical/radiographic union. • Avoid sudden impact, twisting, or uneven terrain. • Monitor for end-of-day edema.	• Resistance band four-way ankle strengthening (dorsi/plantar/inversion/eversion). • Seated to bilateral standing calf raises. • Gait re-education (heel-to-toe strike). • Proprioceptive balance pads & tandem stance. • Hydrotherapy / aquatic walking.
Phase 4: Functional Conditioning & Agility ***(Months 3–6+)***	• Single-leg calf raise symmetry (>85%). • Restore dynamic ankle proprioception. • Return to work, hiking, and sport.	• High-impact running, cutting, or jumping requires explicit surgeon clearance (typically 4–6+ mos). • Supportive lace-up brace as needed.	• Single-leg eccentric calf raises. • Dynamic balance board & multi-planar agility ladders. • Plyometric hopping & deceleration mechanics. • Sport/occupation-specific movement simulation.

3. The Multidisciplinary Foot & Ankle Care Team

Restoring foot and ankle mechanics requires a coordinated balance between structural biological healing and progressive functional re-loading:

- **Orthopaedic Foot & Ankle Surgeon:** Performs structural fixation, ligament reconstruction, fusion, or arthroplasty; dictates strict weight-bearing schedules and immobilization stages; and assesses radiographic bone and hardware union.
- **Rehabilitation Medicine Physician:** Directs comprehensive functional rehabilitation, manages complex post-operative pain or complex regional pain syndrome (CRPS) risk, evaluates peripheral nerve recovery, and oversees coordinated allied health milestone transitions.
- **Physiotherapist:** Guides joint mobilizations, retrains gastroc-soleus complex power and peroneal muscle stability, re-educates symmetrical heel-to-toe gait mechanics, and delivers advanced balance and agility drills.
- **Occupational Therapist:** Assesses non-weight-bearing home safety, prescribes transfer and bathroom equipment (shower bench, cast protectors), and evaluates ergonomic seating and work duty adjustments.
- **Podiatrist / Orthotist:** Customizes CAM boot fitting, prescribes and fabricates custom foot orthoses or ankle braces, assesses shoe modifications, and optimizes plantar pressure distribution.

4. Practical Daily Guidelines for Patients

- **Strict Elevation Above Heart Level:** In the first two weeks, elevate your ankle above heart level (toes above nose) with pillows. Lower limb gravity causes rapid blood and fluid pooling, increasing incision tension and pain.
- **Respect Weight-Bearing Restrictions Completely:** Putting weight on a repair too early can bend plates, pull out suture anchors, or disrupt bone fusion. Use your crutches or knee scooter strictly as instructed.
- **Protect Casts and Dressings from Moisture:** Keep surgical casts and post-op dressings strictly dry. Use a sealed waterproof protector bag during sponge baths or seated showers; dampness dramatically increases infection risk.
- **Wean Gradually into Supportive Footwear:** When cleared to leave the boot, transition into supportive, lace-up athletic shoes with a firm heel counter. Avoid barefoot walking or flimsy slip-on shoes during early consolidation.

5. Warning Signs Requiring Immediate Medical Attention

Promptly contact your surgical team, rehabilitation physician, or emergency department if you experience:

- Severe calf pain, tenderness, heat, or asymmetric swelling (signs of Deep Vein Thrombosis / DVT).
- Severe 'pins and needles', numbness, coldness, or blue discoloration in your toes (neurovascular compromise).
- Spreading wound redness, heat, purulent discharge, or persistent fever (>38°C) and chills.
- A sudden slip or fall onto the operated ankle resulting in acute pain, deformity, or cracking sensations.

Ankle Prehab & Rehab Pathway | Practice Attachment

This leaflet is designed as a patient educational guide. Because surgical procedures, bone density, ligament repairs, and hardware fixation methods vary widely, always adhere strictly to the individual timeline and weight-bearing instructions given by your Foot & Ankle Surgeon and Rehabilitation Physician.