Lisfranc Injury Postoperative Rehabilitation Protocol

(Operative Lisfranc Fixation — ORIF / Ligamentous Repair)

This protocol outlines general rehabilitation guidelines following operative management of Lisfranc (tarsometatarsal) injuries. Progression should remain **criteria-based rather than strictly time-based** and individualized according to:

- Injury severity and pattern
- Fixation method and stability
- Sport/activity demands
- Patient healing response and symptoms
- Surgeon preference and imaging findings when indicated

Important: This protocol serves as a guideline only. Clinical judgment should always guide rehabilitation progression.

Phase 0 — Immediate Postoperative Protection (Weeks 0–2)

Goals

- Protect surgical fixation and maintain reduction
- Control pain and swelling
- Promote incision healing
- Maintain general conditioning

Immobilization / Weight Bearing

- Strict **non–weight bearing (NWB)**
- Splint, cast, or CAM boot per surgeon preference

Therapy / Activity

- Aggressive elevation and edema control
- Gentle active toe ROM as tolerated
- Hip, core, and upper-extremity strengthening
- Straight-leg raises and contralateral limb conditioning

Restrictions

- No weight bearing
- No midfoot loading or rotational stress
- No forced forefoot or midfoot motion

Phase 1 — Protection With Early Mobility (Weeks 2–6)

Goals

- Maintain ankle and subtalar mobility
- Prevent stiffness and proximal deconditioning
- Protect biologic healing of Lisfranc complex

Immobilization / Weight Bearing

- Continue **strict NWB through week 6**
- Cast or CAM boot per surgeon preference

Therapy / Activity

- Ankle ROM: dorsiflexion, plantarflexion, inversion, eversion
- Toe and first MTP mobility exercises
- Gentle intrinsic activation without loading
- Stationary cycling with minimal resistance (if cleared)
- Pool-based ROM once incisions healed
- Ongoing hip/core strengthening

Criteria to Progress

- Incisions healed
- Controlled swelling and pain
- Radiographic and clinical surgeon clearance

Phase 2 — Progressive Weight Bearing (Weeks 6–8)

Goals

- Gradual load introduction to midfoot
- Normalize protected gait mechanics
- Begin functional strengthening

Weight Bearing Progression

- **Weeks 6–7:** Partial WB (~25–50%) in CAM boot with assistive device
- **Weeks 7–8:** Progress to WBAT in boot

Progress only if:

- Minimal midfoot pain
- Controlled swelling
- Non-antalgic gait pattern

Therapy Focus

- Gait training in boot
- Weight-shifting drills
- Closed-chain strengthening in protected range
- Seated calf raises
- Early balance and proprioception work
- Cardiovascular conditioning as tolerated

Caution Signs

- Increased midfoot pain
- Swelling escalation
- Limping or altered gait

If present → slow progression.

Phase 3 — Boot Weaning and Functional Strengthening (Weeks 8–10)

Goals

- Transition out of immobilization
- Normalize gait mechanics
- Improve foot strength and proprioception

Footwear Transition

- Supportive athletic shoe
- Consider:
    - Carbon fiber insert
    - Stiff-soled shoe

- Rocker-bottom footwear

Therapy Focus

- Gait retraining
- Progressive calf strengthening (eccentric emphasis)
- Intrinsic foot strengthening
- Step-ups, controlled single-leg tasks
- Elliptical and treadmill walking progression

Criteria to Progress

- Minimal pain with walking
- Near-normal gait without boot
- No reactive swelling after activity

Phase 4 — Return-to-Sport Progression (Weeks 10–16+)

Goals

- Restore strength, endurance, and mechanics
- Introduce power and agility safely
- Prepare for sport-specific demands

Activity Progression

1. Walking progression
2. Walk–jog intervals
3. Continuous running
4. Linear running before cutting/pivoting
5. Plyometrics (hopping, bounding, jump training)
6. Gradual sport-specific drills

Return-to-Sport Criteria (Typically ~3–4 Months)

Clearance should be **functional rather than calendar-based:**

- No midfoot tenderness
- Minimal swelling
- Full ankle and first MTP functional motion
- Strength ≥90% of contralateral side
- Pain-free hopping, cutting, and sport-specific tasks
- Athlete confidence without compensatory mechanics

Phase 5 — Hardware Removal (If Planned ~5–6 Months)

Post-Removal Considerations

- WBAT in supportive footwear (surgeon dependent)
- Temporary reduction in impact activity (≈2–4 weeks)
- Gradual return to sport once incision healed and symptoms resolved

Patient Counseling Points

- Midfoot swelling can persist for several months and does not necessarily indicate complications.
- Lisfranc injuries vary widely in severity — recovery timelines differ substantially.
- Premature return to sport risks fixation failure, chronic pain, and midfoot arthritis.
- Return-to-sport decisions should always be **criteria-driven, not time-driven.**

Selected References

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