

# POSTOPERATIVE REHABILITATION PROTOCOL

## Ankle Fracture ORIF – SLOWED / PROTECTED PROTOCOL

*(Non-Weight-Bearing x 6 Weeks)*

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### INDICATIONS FOR THIS PROTOCOL

This more protective approach is used when there is increased risk to healing or stability, including:

- Severe syndesmotic injury
- Intra-articular involvement or cartilage injury
- Complex fracture patterns (Weber C, comminution, high fibula fractures)
- Deltoid ligament repair or reconstruction
- **Open injuries or compromised soft tissues**
- **Medical comorbidities affecting healing**, including:
  - Diabetes
  - Peripheral vascular disease
  - Neuropathy
  - Smoking/nicotine use
- **Concerns about patient compliance** with weight-bearing restrictions

In these situations, a slower progression helps reduce complications and protects the surgical repair.

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### IMMOBILIZATION STRATEGY: CAST VS BOOT

#### Why this matters

While many patients transition to a removable boot at 2 weeks, some patients benefit from **continued casting through 6 weeks.**





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## When a cast may be recommended

- Concern for **noncompliance with non-weight-bearing**
- **Severe injury patterns** requiring strict protection
- **Open fractures or soft tissue compromise**
- Patients with **neuropathy** (reduced protective sensation)
- Situations where minimizing motion is critical for healing

## Cast vs Boot: Key Differences

### Cast (more protective)

- Enforces strict immobilization
- Prevents unintended weight-bearing
- Less reliance on patient compliance
- No removal for exercises

### Boot (more flexible)

- Allows controlled motion and hygiene
- Requires strict patient adherence
- Risk of premature weight-bearing if misused

### Bottom line:

A cast is sometimes the safest option when protection—not convenience—is the priority.

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# PHASE 1: PROTECTION

## 0–2 WEEKS POSTOPERATIVE

### Goals

- Protect fixation and soft tissues
- Allow wound healing
- Control swelling and pain

### Weight-Bearing

- Strict non-weight-bearing

### Immobilization



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- Posterior splint

### **Rehabilitation**

- Elevation above heart (as much as possible)
  - Toe range of motion
  - Quad sets, straight leg raises
  - Core and upper body conditioning
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## **PHASE 2: PROTECTED IMMOBILIZATION / EARLY MOTION**

### **2–6 WEEKS POSTOPERATIVE**

#### **Goals**

- Protect repair during critical healing phase
- Minimize stiffness (if motion allowed)

#### **Weight-Bearing**

- **Strict non-weight-bearing continues**

#### **Immobilization (two options based on patient/injury)**

##### **Option A: Cast (more protective)**

- Short leg cast maintained until 6 weeks
- No ankle motion

##### **Option B: CAM Boot (select patients only)**

- Removed for hygiene and exercises only
- Requires strict compliance

#### **Rehabilitation (if in boot)**

- Gentle active and passive ankle ROM
- Ankle alphabet exercises
- Light theraband (plantarflexion/dorsiflexion initially)
- Delay inversion/eversion if syndesmotic/deltoid repair



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**Precautions**

- No weight-bearing
- Avoid rotational stress
- Avoid aggressive stretching

**Key Principle**

- Protection takes priority over motion in this phase
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## **PHASE 3: GRADUAL LOADING**

### **6–10 WEEKS POSTOPERATIVE**

**Goals**

- Gradual return to weight-bearing
- Initiate strength recovery
- Begin gait normalization

**Weight-Bearing**

- Begin partial weight-bearing at 6 weeks
- Progress to full weight-bearing over 2–4 weeks

**Immobilization**

- Transition from cast → boot (if casted)
- Continue boot during progression

**Rehabilitation**

- Gait training
  - Standing weight shifts
  - Seated → standing calf raises
  - Theraband strengthening (all planes)
  - Stationary bike
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## **PHASE 4: TRANSITION TO SHOE**



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## **10–12 WEEKS POSTOPERATIVE**

### **Goals**

- Normalize gait
- Improve strength and balance

### **Weight-Bearing**

- Full weight-bearing in supportive shoe with brace

### **Rehabilitation**

- Double → single-leg heel raises
  - Balance training
  - Closed-chain strengthening
  - Elliptical, low-impact cardio
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## **PHASE 5: ADVANCED STRENGTHENING**

### **12–16+ WEEKS POSTOPERATIVE**

### **Goals**

- Restore strength, endurance, and control

### **Rehabilitation**

- Lunges, step-downs
  - Advanced balance training
  - Initiate jogging progression (if appropriate)
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## **PHASE 6: RETURN TO SPORT / FULL ACTIVITY**

### **4–6+ MONTHS POSTOPERATIVE**

### **Goals**



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- Safe return to full activity

**Rehabilitation**

- Plyometrics
  - Agility and sport-specific drills
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## RETURN TO SPORT CRITERIA

- Pain-free full weight-bearing
  - Near-normal ankle range of motion
  - Strength  $\geq 90\%$  of opposite side
  - Successful single-leg hop and agility testing
  - Physician clearance
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## KEY PATIENT EDUCATION POINTS

- Healing is **biologic and time-dependent**, not based on pain alone
- The first 6 weeks are critical to protect:
  - Bone healing
  - Ligament stability (especially syndesmosis)
  - Cartilage recovery

**Patients at higher risk of complications:**

- Smokers or nicotine users
- Patients with diabetes or vascular disease
- Neuropathy
- Open injuries
- Poor compliance with restrictions

**Common pitfalls:**

- Advancing weight-bearing too early
- Removing the boot against instructions
- Poor swelling control
- Skipping physical therapy