BeyondDuty+

# Ankle and Foot Injuries

Foot and ankle injuries are frequently reported among service personnel and veterans, particularly those who have undergone **Phase 1/2 initial training, airborne selection,** or **high-load infantry roles.** These injuries often arise due to intense physical demands, load carriage, high-impact landings, and repetitive training on varied terrain.

## Common Conditions in Military/Veteran Populations

- **Ankle Sprains** – lateral ligament injuries from twisting or rolling the ankle
- **Achilles Tendinopathy or rupture** – chronic overuse injury, worsened by load-bearing or hill running
- **Plantar Fasciitis** – sharp heel pain due to inflammation of the plantar fascia, common with prolonged standing or marching
- **Stress Fractures** – tibia, metatarsals, or calcaneus; often from overtraining without adequate rest
- **Post-Traumatic Arthritis** - Long-term joint damage after injury
- **Chronic Instability** - Recurrent giving way after repeated sprains

## Veteran-Specific Risk Factors

• Heavy **load-bearing** (bergens, body armour)

• Frequent **running on uneven terrain**

• **Parachute landings** and jump-related trauma (for airborne-trained personnel)

• **Poorly fitting** or worn footwear during or after service

• **Inadequate rehab** following initial injury in service

**Recurrent ankle sprains** and untreated plantar fasciitis are common complaints among veterans attending NHS MSK clinics, especially those seeking support for **long-term pain, instability, or mobility limitations.**

## Management

**1. Acute Injury (Sprain, Strain, Fracture Suspected):**

• **RICE protocol** – Rest, Ice, Compression, Elevation (first 48–72 hours)
• GP assessment - **X-ray/MRI** if fracture suspected or symptoms persist
• **Crutches or walking boot** for offloading if needed

**2. Conservative Management (First-Line):**

• **NHS MSK Physio referral** – often self-referral or via GP
• **Exercise-based rehab:**

- Ankle mobility and proprioception drills
- Progressive calf/Achilles strengthening
- Plantar fascia stretches and loading

• **Insoles or orthotics** – via podiatry or physio for arch support and gait correction

### 3. Persistent or Chronic Cases:

• **Ultrasound or MRI imaging** for unresolved pain or instability
• **Injection therapy** – corticosteroid (rarely), PRP, or shockwave (for plantar fasciitis)
• **Surgical referral** – for chronic instability or Achilles tears

### Long-Term Considerations

• Chronic ankle instability may limit high-level activity if not fully rehabilitated
• Plantar fasciitis can become resistant to treatment without early intervention
• Achilles tendinopathy requires **graded loading**, not rest alone
• Stress fractures need **adequate rest and nutritional support** (e.g. vitamin D, calcium)

## Initial Assessment and Red Flags

Veterans presenting with ankle pain should have a thorough clinical assessment including:

• **History:** Mechanism of injury, severity, previous ankle problems, weight-bearing ability
• **Physical Exam:** Swelling, bruising, deformity, ligament stability tests (e.g., anterior drawer test)
• **Red Flags** to watch for:

- Inability to weight-bear immediately or within 4 steps (Ottawa Ankle Rules)
- Severe deformity or open wounds
- Suspected fracture or tendon rupture
- Signs of infection (redness, warmth, fever)

Imaging (usually X-ray) is indicated if fracture suspected or Ottawa Ankle Rules criteria met.

## Management Principles

### 1. Acute Phase (First 48-72 hours)

- **Protection:** Rest and avoid aggravating activities
- **Ice:** Apply ice packs for 15-20 minutes every 2-3 hours to reduce swelling
- **Compression:** Use elastic bandage or ankle brace
- **Elevation:** Keep ankle raised above heart level to limit swelling
- **Pain Relief:** Use NSAIDs (ibuprofen) unless contraindicated

### 2. Early Rehabilitation (3 days to 2 weeks)

- **Gentle range of motion exercises** to prevent stiffness (e.g., ankle circles, alphabet tracing)
- **Weight-bearing as tolerated,** with crutches if needed
- Begin **muscle activation** exercises (e.g., isometric contractions)

### 3. Strengthening and Proprioception (Weeks 2-6)

- Progress to **balance and coordination exercises** (e.g., single-leg stands, wobble boards)
- **Strengthen calf muscles and ankle stabilizers** through resisted exercises
- Gradually return to **functional activities** like walking, jogging

### 4. Return to Duty/Sport (6 weeks+)

- Higher level proprioceptive and plyometric training (e.g., hopping, cutting drills)
- Sport- or job-specific drills tailored to veteran's role or lifestyle
- Assess for persistent instability or pain; refer to specialist if needed

## Special Considerations

- Physical fitness demands may be higher; rehab should be tailored accordingly
- Mental health comorbidities (e.g., PTSD) can affect pain perception and adherence
- Use Defence Primary Healthcare (DPHC) physiotherapy and rehabilitation services when available

• Consider referral to orthopaedics or sports medicine for complex injuries or poor progress

## Preventing Recurrence

• Use appropriate ankle supports during high-risk activities
• Maintain strength, flexibility, and balance with ongoing exercise
• Education on injury risks and safe movement techniques

## Digital and Remote Rehab Options

Virtual physiotherapy and telerehabilitation platforms can improve access for veterans in rural areas or those with mobility restrictions.

## Summary

Effective management of ankle injuries involves:

• Early, thorough assessment and injury classification
• Prompt application of RICE principles and pain control
• Graduated rehabilitation focusing on mobility, strength, and proprioception
• Individualised return to activity plans reflecting veteran-specific needs

With timely, multidisciplinary care, most veterans can expect full recovery and return to active life.

# Rehabilitation Exercises

**Includes: Sprains | Achilles Tendinopathy | Plantar Fasciitis**
Use under guidance of a professional

### Important Notes Before You Start

- Begin only after swelling/pain from acute injury has reduced
- Perform exercises **within a pain-free range**
- Stop and consult your clinician if symptoms worsen
- Do exercises **daily or as prescribed** by a physiotherapist

## Phase 1: Early Recovery (Mobility & Pain Relief)

### Ankle Circles (All injury types)

- Sit or lie down, raise foot off floor
- Slowly rotate ankle clockwise and counterclockwise
- 10 circles each way, 2 sets

### Towel Stretch (Plantar Fasciitis & Achilles tightness)

- Sit with legs extended. Loop towel/band around ball of foot
- Pull gently towards you, keeping knee straight
- Hold 20–30 seconds, 3 reps each side

### Toe Towel Curls (Plantar Fasciitis)

- Sit and place a towel flat under your foot
- Curl your toes to scrunch the towel toward you
- 10 reps, 2 sets each foot

## Phase 2: Strengthening & Proprioception

### Heel Raises (Achilles & general foot/ankle strength)

- Stand behind a chair for balance
- Rise up on toes, slowly lower down
- 2 sets of 10 reps. Progress to single-leg when able

### Single-Leg Balance (Ankle sprains & stability)

- Stand on one foot for 30 seconds
- Try on a firm surface, then softer (e.g. pillow)
- 3 reps per side

### Resistance Band Ankle Work (4 directions)

Secure a band to a stable object and:

1. Dorsiflexion – pull toes up
2. Plantarflexion – push toes down
3. Inversion – turn foot inward
4. Eversion – turn foot outward

10 reps each direction, 1–2 sets

## Phase 3: Functional Return (Late Rehab)

### Step Taps

- Tap the injured foot onto a step, return to start
- Builds control and strength for dynamic movement
- 10–15 reps, 2 sets

### Heel-to-Toe Walking

- Walk in a straight line, heel touching toe each step
- Improves balance and proprioception
- 10 steps forward and back, 2–3 sets

### Wall Calf Stretch (Achilles/Plantar Fasciitis)

- Stand facing a wall
- One foot forward (bent knee), other back (straight)
- Lean in and stretch calf of back leg
- Hold 30 seconds, 2–3 reps per side

## Contact Us

For more information and support, get in touch with our advisors and veterans with lived experience today.

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