# Fractures (Acute and Stress)

Fractures—both acute and stress-related—are a common musculoskeletal issue among UK Armed Forces personnel and veterans. These injuries can occur in **basic training, specialist units,** or during combat deployments, and may lead to **chronic pain, reduced mobility,** or **post-traumatic osteoarthritis** if not fully rehabilitated.

## Types of Fractures in Service Contexts

### 1. Stress Fractures

- Common in early-phase training (e.g. Phase 1, Royal Marines, Para Reg)
- Caused by repetitive loading and insufficient recovery
- Frequently affect:
    - **Tibia**
    - **Metatarsals**
    - **Femur**
    - **Pelvis**
- Often under-reported due to a culture of "pushing through pain"

### 2. Acute/Traumatic Fractures

- Often linked to:
    - **Combat injuries** (IED blasts, gunshot wounds)
    - **Falls from height or vehicles**
    - **Parachuting accidents**
- May involve complex joint surfaces or soft tissue damage

Combat-related fractures are a key concern in veterans of Iraq and Afghanistan, and may overlap with other blast injuries or traumatic brain injury.

## Specific Risk Factors

- **High-load training without adequate deload**
- Underdiagnosed stress injuries during service
- Repeated microtrauma from long marches or poor footwear
- Exposure to **combat trauma** or high-velocity impacts
- Delays in rehab due to operational constraints

## Management Pathways

### Initial Care (Acute Fracture):

- Immobilisation / casting / surgical fixation (depending on fracture type)
- Analgesia and **thromboprophylaxis** if immobilised
- NHS orthopaedic follow-up or MOD secondary care (if in service)

### Stress Fracture Management:

- **Rest and offloading** – typically 6–12 weeks, varies by site/severity
- Gradual reintroduction of load-bearing under physiotherapy guidance
- Address **underlying biomechanical or nutritional issues**

### Rehabilitation Focus

- **Range of motion** - prevent stiffness post-immobilisation
- **Muscle strength** - especially around affected joint
- **Gait retraining** - restore normal movement
- **Bone health optimisation:** Vitamin D, calcium, load progression
- Use of **hydrotherapy, resistance bands, or anti-gravity treadmills** (e.g. at DMRC Stanford Hall)

## Long-Term Considerations

- Improperly treated fractures can lead to:
  - **Joint malalignment**
  - **Chronic instability**
  - **Post-traumatic arthritis**
- Combat-related fractures may be accompanied by **nerve injury, PTSD, or complex pain syndromes**
- Veterans with severe or multiple fractures may need **adaptive equipment or vocational retraining**

## Post-Fracture Rehabilitation Exercises

**For: Recovery after acute or stress fractures (upper or lower limb)**
Use under guidance of professionals

### Before You Start

- Only begin these exercises if cleared by a healthcare professional
- Start with **low reps**, progress gradually based on tolerance
- If pain, swelling, or numbness worsens - **pause and consult your physio or GP**
- Use **ice and elevation** if swelling increases post-exercise

### Phase 1: Early Recovery (Post-Cast or Partial Weight-Bearing)

### Ankle / Foot Fracture

**Ankle Alphabet** – Sit and "draw" the alphabet with your toes
**Toe Curls** – Pick up a towel or marbles with your toes
**Heel Slides** – Slide heel along the floor to gently bend knee and ankle
**Calf Pumps** – Point and flex foot to aid circulation (20 reps)

### Wrist / Forearm Fracture

**Wrist Flexion/Extension** – Bend wrist forward and back
**Grip Squeezes** – Use a soft ball or therapy putty
**Forearm Rotations** – Turn palm up/down slowly (elbow at 90°)

## Phase 2: Regaining Strength & Mobility (After 6–8 Weeks, if Cleared)

### Lower Limb Fractures

**Seated Leg Extensions** – Strengthen quads without loading full body
**Mini Squats** – Against a wall or holding onto a chair
**Step-Ups** – Low step, lead with recovering limb
**Resistance Band Ankle Eversion/Inversion** – Control foot strength

### Upper Limb Fractures

**Wrist Circles & Resistance Band Flexion** – Build forearm and wrist control
**Wall Crawls** – Use fingers to "walk" hand up a wall
**Shoulder Rolls** – Restore shoulder motion if immobilised
**Scapular Squeezes** – Activate posture muscles

## Phase 3: Functional Return (8+ Weeks, if Cleared)

- **Weight-bearing walking** - progress to uneven surfaces
- **Balance work** - single leg stands, wobble boards
- **Grip training** - for those recovering from upper limb fracture
- **Low-impact cardio** - cycling, swimming, elliptical
- **Military reconditioning** (if returning to work or tactical roles)

## Tips

- Don't rush – **refractures are common** when pushing too early
- Use **walking aids or braces** as advised (stick, orthotics)
- Report any **tingling, coldness, or colour change** in the limb
- Consider **Vitamin D/calcium supplementation** to support bone healing

## Progress Tracker (Example)

| Date | Activity Done | Pain (0-10) | Exercises Done | Notes |
|---|---|---|---|---|
| | Ankle/wrist/hip | | | |

## Contact Us

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

enquiries@veteranswelfaregroup.co.uk

0330 056 0174

BeyondDuty+

VETERANS WELFARE GROUP