Open Fracture Management within the Wessex Trauma Network

February 2026

Executive Summary

This policy outlines how ED and T&O clinicians should triage and manage open fractures within the Wessex Trauma Network. This policy is a pragmatic approach to managing open fractures within the WTN and does differ to the BOAST/BAPRAS National guidelines for the management of open fractures, to enable timely management of these patients.

1. Scope and Purpose

This SOP applies to all Major Trauma Units (MTU) within the Wessex Major Trauma Network.

This policy is to support decision making within the network, ensuring that patients are managed appropriately as per national guidelines.

This policy provides a clear process for the triage, transfer and management of patient with open fractures, ensuring that care is consistently provided.

It is acknowledged that this policy deviates from the national guidelines outlined in the joint BOAST/BAPRAS guidelines, this policy sets out a pragmatic approach to enable patients to be managed within the geographical distribution within the Wessex Trauma Network.

2. Exclusion Criteria

Polytrauma patients which exceed the operational ability of the MTU and therefore require transfer to the Major Trauma Centre.

Upper Limb fractures which should be managed locally.

Open pelvic fractures or femoral fractures which should be managed in the MTC.

Patients, where in the opinion of the local Trauma and Orthopaedic team, must be managed strictly in line with the BOAST/BAPRAS guidelines, which necessitates discussion with the Plastics team at Salisbury District Hospital.

3. Details of Procedure

a. Key Points

i. Patients should be managed in accordance with the BOAST/BAPRAS guidelines on the management of open fractures.

ii. Antibiotics should be given as soon as possible after injury, pre-hospital if possible and ideally within 3 hours of initial injury.

iii. Initial ED management (as per BOAST) should involve:

1. Primary/Secondary survey to identify further/distracted injuries.
2. Antibiotics (if not already given) +/- Tetanus
3. NV assessment of limb.
4. Photography of wound and coverage with saline soaked gauze.
5. Splinting +/- reduction of limb.
6. Appropriate imaging.
7. Thorough documentation of management steps taken.
8. Ensure patient is kept in ED until decision regarding management made.

iv. The local T&O Team should be involved in the decision making for the initial management of open fractures, liaising with ED regarding the suitability for local management or ED to ED transfer.

b. Full Management elements required by T&O. Some may have been covered by ED, but may need augmenting in the T&O assessment to enable appropriate surgical decision making.

i. Clinical Assessment:

1. Primary and Secondary survey to rule out distracted injuries as per ATLS.
2. Vascular assessment of the limb, including documentation of:
    a. pulse presence and location +/- triphasic Doppler
    b. continued blood loss
    c. expanding haematoma.
    d. Repeated assessments, especially post reduction.
3. Neurological assessment of the limb including:
    a. Which sensory nerves have been assessed and presence of sensation as:
        i. Normal
        ii. Altered
        iii. Absent

   b. Which motor nerves have been assessed and documented as per the MRC grading system.
4. Expose the wound to remove gross contamination.
5. Take pictures of the wound with a ruler visible to guide skin loss.
6. Cover wound with saline soaked gauze and impermeable dressing
7. Reduction manoeuvres as required – with repeated NV assessment after.
8. Appropriate splinting.
9. Surgical Decision Making (See Figure 1 for flowchart summary)
   a. Following initial assessment, the local T&O should stream patients according to the criteria:
      1. <u>Low energy mechanism of injury with small skin defect:</u>
         a. Initial management – washout, debridement and fixation/closure, if possible, in the local MTU.
         b. If following initial debridement and washout there is a significant soft tissue loss – pictures should be taken, vacuum dressing applied, temporary stabilisation (Ex-Fix/POP), followed by discussion with the Plastics team at Salisbury District Hospital.
      2. <u>High energy mechanism of injury or significant skin defect:</u>
         a. Discussion with Plastics at Salisbury District Hospital regarding initial debridement and either:
            i. Initial debridement at local MTU by Orthopaedics team – fixation and primary closure if achievable, if not pictures should be taken, vacuum dressing applied and temporary stabilisation (Ex-Fix/POP), followed by discussion with the Plastics team at Salisbury District Hospital.

            -Or-

            ii. ED to ED transfer to Plastics at Salisbury District hospital – T&O team at SDH to be informed out of courtesy.

3. Vascular injury:
    a. Discussion with Vascular centre at UHS for definitive vascular repair.
    b. ED to ED transfer
4. Contaminated Wound:
    a. Patients with contaminated wounds should be identified early and should undergo initial washout and debridement at the local MTU by the T&O team, unless they have a Vascular Injury in which case their transfer should not be delayed.

c. Transfer Process
    i. Patients with Polytrauma/ with injuries that exceed the capabilities of the MTU should be transferred as per the Wessex Trauma Network transfer policy to the MTC.
    ii. Patients with Vascular Injuries who have been discussed and accepted by the receiving Vascular and T&O teams at UHS should be transferred from ED to ED as per the SWAST/SCAS transfer process as a Category 2 transfer for limb threatening injury.
    iii. Patients who have been discussed and accepted by the Plastics and T&O team at SDH should be transferred from ED to ED as per the SWAST/ SCAS transfer process as a Category 2 transfer for limb threatening injury.

4. Roles and Responsibilities

a. **Emergency Department**
    i. Prompt assessment of patients with open fractures and liaison with local T&O team.
    ii. Assistance with reduction and plaster cast application.
    iii. Ensuring patients are kept within department until final decision made regarding transfer – if patients leave ED they automatically become a CPE risk resulting in unnecessary delays.
    iv. Co-ordination with SWAST/SCAS regarding transfer arrangements.

b. **Local Trauma and Orthopaedic Team**
    i. Prompt assessment of open fractures in the ED.
    ii. Completion of BOAST guidelines for management of Open Fractures
    iii. Liaison with Plastics/Vascular/T&O teams at UHS / SDH as required.

c. **MTC**
    i. Acceptance of polytrauma patients, those with injuries exceeding the MTU capabilities, or those patients with Vascular Injuries.

d. **Salisbury Orthoplastics team**

i. Advise on the suitability of local management of open fractures.

ii. Accept patients with isolated open fractures requiring soft tissue coverage.

5. Communication Plan

Development and formulation of SOP via TU and MTC leads at WTN meeting, for feedback and then agreement.

Once ratified the following will need to occur:

- TU Trauma Leads to cascade and implement this SOP within their respective Trusts alongside letters from the WTN CD to the CDs in each MTU T&O department and their Medical Director.

6. Process for Monitoring Compliance/Effectiveness

The purpose of monitoring is to provide assurance that the agreed approach is being followed – this ensures we get things right for patients, use resources well and protect our reputation.

Our monitoring will therefore be proportionate, achievable and deal with specifics that can be assessed or measured.

7. Arrangements for Policy Review

This SOP will be reviewed 2 years after ratification or earlier if required.

Figure 1:

Flowchart demonstrating the management of open fractures within WT