



We have not reviewed the evidence for the other recommendations on open fractures in hospitals, shaded in grey, and cannot accept comments on them. In some cases, we have made minor wording changes for clarification.

Full details of the evidence and the committee’s discussion on the 2022 recommendation are in the [evidence review](#). Evidence for the 2016 recommendation is in the [full version of the 2016 guideline](#).

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## 1 Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in [NICE's information on making decisions about your care](#).

[Making decisions using NICE guidelines](#) explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

### 2 1.2 Hospital settings

#### 3 Open fractures

#### 4 Management of open fractures before debridement or excision

5 1.2.1 Do not irrigate open fractures of the long bones, hindfoot or midfoot in the  
6 emergency department before debridement or excision. **[2016]**

7 1.2.2 Consider a saline soaked dressing covered with an occlusive layer (if not  
8 already applied) for open fractures in the emergency department before  
9 debridement or excision. **[2016]**

10 1.2.3 In the emergency department, administer prophylactic intravenous  
11 antibiotics immediately to people with open fractures if not already given.  
12 **[2016]**

#### 13 Limb salvage in people with open fractures

14 1.2.4 Do not base the decision whether to perform limb salvage or amputation  
15 on an injury severity tool score. **[2016]**

16 1.2.5 Perform emergency amputation when:

- 17 • a limb is the source of uncontrollable life-threatening bleeding, or
- 18 • a limb is salvageable but attempted preservation would pose an
- 19 unacceptable risk to the person's life, or

- 1                   • a limb is deemed unsalvageable after orthoplastic assessment.

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3                   Include the person and their family members or carers (as appropriate)  
4                   in a full discussion of the options if this is possible. **[2016]**

5 1.2.6           Base the decision whether to perform limb salvage or delayed primary  
6                   amputation on multidisciplinary assessment involving an orthopaedic  
7                   surgeon, a plastic surgeon, a rehabilitation specialist and the person and  
8                   their family members or carers (as appropriate). **[2016]**

9 1.2.7           When indicated, perform the delayed primary amputation within 72 hours  
10                  of injury. **[2016]**

### 11 **Debridement or excision, staging of fixation and cover**

12 1.2.8           Surgery to achieve debridement or excision, fixation and cover of open  
13                   fractures of the long bone, hindfoot or midfoot should be performed  
14                   concurrently by consultants in orthopaedic and plastic surgery (a  
15                   combined orthoplastic approach). **[2016]**

16 1.2.9           Perform debridement or excision:

- 17                   • immediately for highly contaminated open fractures  
18                   • within 12 hours of injury for high energy open fractures (likely Gustilo–  
19                   Anderson classification type IIIA or type IIIB) that are not highly  
20                   contaminated  
21                   • within 24 hours of injury for all other open fractures. **[2016]**

22 1.2.10          Perform fixation and definitive soft tissue cover:

- 23                   • at the same time as debridement or excision if the next orthoplastic list  
24                   allows this within the time to debridement or excision recommended in  
25                   1.2.28, or  
26                   • within 72 hours of injury if definitive soft tissue cover cannot be  
27                   performed at the time of debridement or excision. **[2016]**

1 1.2.11 When internal fixation is used, perform definitive soft tissue cover at the  
2 same time. [2016]

3 1.2.12 Use a temporary dressing that avoids wound desiccation and minimises  
4 the number of dressing changes after wound debridement or excision if  
5 immediate definitive soft tissue cover has not been performed. [2022]

#### 6 **Pilon fractures in adults (skeletally mature)**

7 1.2.13 Create a definitive management plan and perform initial surgery  
8 (temporary or definitive) within 24 hours of injury in adults (skeletally  
9 mature) with displaced pilon fractures. [2016]

10 1.2.14 If a definitive management plan and initial surgery cannot be performed at  
11 the receiving hospital within 24 hours of injury, transfer adults (skeletally  
12 mature) with displaced pilon fractures to an orthopaedic centre (ideally this  
13 would be emergency department to emergency department transfer to  
14 avoid delay). [2016]

15 **1.2.15** Immediately transfer adults (skeletally mature) with displaced pilon  
16 fractures to an orthopaedic centre if there are wound complications.  
17 [2016]

#### 18 **Intra-articular distal tibia fractures in children (skeletally immature)**

19 1.2.16 Create a definitive management plan involving a children's orthopaedic  
20 trauma specialist within 24 hours of diagnosis in children (skeletally  
21 immature) with intra articular distal tibia fractures. [2016]

22 1.2.17 If a definitive management plan and surgery cannot be performed at the  
23 receiving hospital, transfer children (skeletally immature) with intra  
24 articular distal tibia fractures to a centre with a children's orthopaedic  
25 trauma specialist (ideally this would be emergency department to  
26 emergency department transfer to avoid delay). [2016]

For a short explanation of why the committee made the 2022 recommendation and how it might affect practice, see the [rationale and impact section on temporary](#)

[dressings for open fractures after debridement or excision but before definitive tissue cover](#).

Full details of the evidence and the committee's discussion are in [evidence review A: negative pressure wound therapy for temporary closure of open fractures](#).

## 1 **Rationale and impact**

2 This section briefly explains why the committee made the recommendation dated  
3 2022 and how it might affect practice.

## 4 **Temporary dressings for open fractures after debridement or** 5 **excision but before definitive soft tissue cover**

6 [Recommendation 1.2.31](#)

## 7 **Why the committee made the recommendation**

8 The evidence showed that use of negative pressure wound therapy (NPWT) after  
9 debridement or excision if immediate definitive soft tissue cover has not been  
10 performed is not more clinically effective than other dressings and is unlikely to be  
11 cost effective. Despite this evidence, the committee agreed that it was not  
12 appropriate to use a 'do not routinely use' recommendation, as they noted that key  
13 outcomes measuring acceptability and resource use had not been examined in the  
14 studies. Furthermore, although the base case analysis showed that NPWT was  
15 unlikely to be cost effective, there was evidence of NPWT being cost effective in the  
16 complete case analysis based on 31% of the trial population.

17 The committee agreed that, in their experience, compared to other dressings, NPWT  
18 could:

- 19 • reduce the number of times dressings are changed or supplemented and reduce  
20 the number of associated bedding changes, thereby saving nursing time
- 21 • reduce the pain and discomfort of changing or supplementing dressings, thereby  
22 improving patient satisfaction.

1 They also noted that NPWT is useful for wounds that are heavily exuding where  
2 other dressings may need to be changed or supplemented more often.

3 They agreed that there are several types of dressing that can remain in situ until  
4 definitive soft tissue cover is performed up to 72 hours later. NPWT is not the only  
5 choice.

6 The committee agreed to replace the 2016 recommendation on NPWT with a  
7 recommendation to apply a temporary dressing that avoids wound desiccation and  
8 minimises dressing changes.

9 They were not able to recommend specific dressings because the evidence they  
10 considered only related to NPWT, so they discussed whether to make a research  
11 recommendation on specific temporary dressing for open fractures after debridement  
12 or excision but before definitive soft tissue cover. Since they could not be sure that  
13 this evidence did not already exist (because it was not searched for as part of this  
14 update) they agreed to ask stakeholders at consultation.

### 15 **How the recommendations might affect practice**

16 NPWT is widely used as a temporary dressing for open fractures before definitive  
17 soft tissue cover, however other temporary dressings can be effective in providing  
18 temporary coverage and may be more cost-effective. The updated recommendation  
19 stipulates the use of a temporary dressing that prevents desiccation and minimises  
20 the number of dressing changes. This may reduce the use of NPWT.

21 [Return to recommendation](#)

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