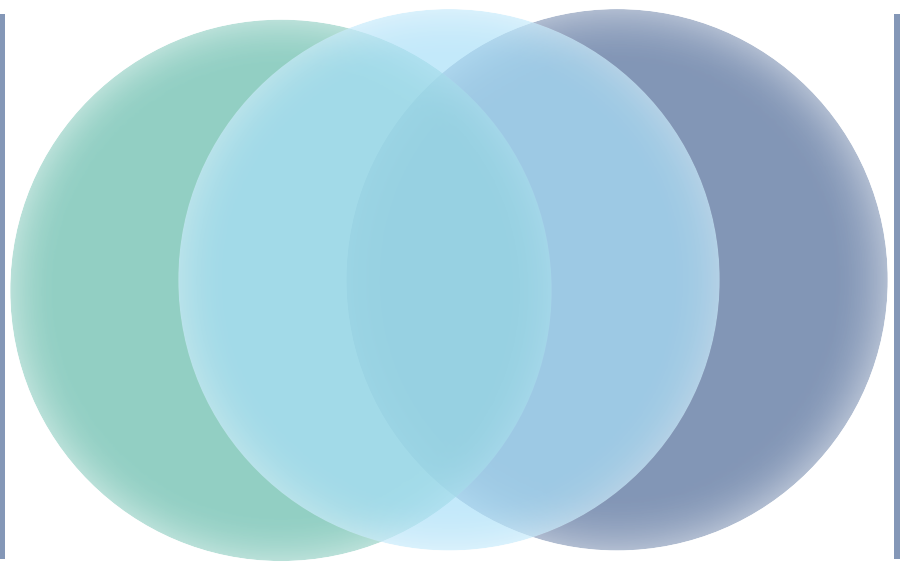


# Best Practice Statement

Improving holistic assessment of chronic wounds

2018



**Importance of holistic wound assessment**

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**Empowering patients**

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**Establishing cause**

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**Agreeing objectives and care planning**

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**Evaluation**

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**BEST PRACTICE STATEMENT:  
IMPROVING HOLISTIC  
ASSESSMENT OF  
CHRONIC WOUNDS**

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# Improving holistic assessment of chronic wounds

## GUIDE TO USING THIS DOCUMENT

This document was developed with the overall objective of supporting practitioners to improve the assessment of patients with chronic wounds by:

- Explaining the value and importance of holistic wound assessment
- Describing the principles underlying holistic wound assessment and summarising these as Best Practice Statements (BPSs)
- Showing how the processes involved in holistic wound assessment can support best practice management of patients with chronic wounds.

The BPSs were derived from a one-day meeting of the Expert Working Group that was convened to discuss holistic wound assessment. The BPSs were further developed by the Expert Working Group during an extensive review process that also involved a Review Panel.

To emphasise the importance of patient involvement, each BPS is accompanied by a related statement that explains to patients with a chronic wound what they should expect from high-quality wound assessment. The text supporting each BPS commences with an overview. The main text provides more detailed information on the rationale for each BPS and provides guidance on its implementation.

The Expert Working Group recognises that some elements of the BPSs may be hard to achieve in some care settings. However, the hope is that, by setting out what is best practice and the processes required, practitioners may be supported in the quest for any organisational changes necessary for delivery of best practice in the holistic assessment of chronic wounds.

Efforts to optimise the rate and likelihood of healing of a chronic wound start by identifying the cause of the wound and any factors that may impede healing. An appropriate management plan will include removal or treatment of any factors identified. The phrase '**holistic wound assessment**' emphasises the need for wide-ranging assessment that considers the impact of all aspects of the patient's health and wellbeing on the healing process, and the importance of resisting the temptation to make the wound the sole focus.

Unfortunately, large and increasing numbers of patients in the UK have one or more wounds – it has been predicted that prevalence of chronic wounds will increase at a rate of 12% per year due to delayed healing (Guest et al, 2017). Even so, it has been estimated that an improvement of >1% per year in healing rates across all wound types would reverse the trend (Guest et al, 2017).

## Significance of the Burden of Wounds Study

The Burden of Wounds Study was undertaken to estimate the prevalence of wounds managed by the NHS in the UK and to estimate resource use (Guest et al, 2015). The study used data from The Health Improvement Network (THIN) Database, which is derived from UK general practice patient records. The study reported high resource usage associated with wound management and revealed apparent

## Box 1. NHS England CQUIN indicator for wound assessment (NHS England, 2016)

- Commissioning for Quality and Innovation (CQUIN) indicators were introduced by NHS England in 2009. They form a system by which a proportion of a healthcare provider's income is dependent on demonstrating improvements in specified areas of care
- The CQUIN indicator for wound assessment is one of 13 indicators for 2017–2019 and is currently applicable only to community settings in England
- The goal of the indicator is "To increase the number of full wound assessments for wounds which have failed to heal after 4 weeks"

**Table 1. Annual healing rates and costs of healed and unhealed wounds in the UK (Guest et al, 2018a; Guest et al, 2018b)**

	Venous leg ulcer	Diabetic foot ulcer
<b>Healing</b>		
Proportion of wounds healed within 12 months	53%	35%
Mean time to healing	3.0 months	4.4 months
<b>Costs</b>		
Mean NHS cost of wound care over 12 months (2015–16 prices)	£7600	£7800
• For a healed wound	£3000	£2140
• For an unhealed wound	£13500	£8800
• For an amputation resulting from a wound	Not applicable	£16900

inconsistencies in wound care practice across the UK (Guest et al, 2015). The study estimated that in 2012/13 about 2.2 million patients in the UK were treated by the NHS for an acute or chronic wound at a cost of £4.5–£5.3 billion (Guest et al, 2015).

Further analysis of data from THIN Database has highlighted the high annual costs associated with unhealed venous leg ulcers and diabetic foot ulcers (Table 1, page 3).

Another study estimated the cost of managing chronic wounds in Wales to be £328.8 million for a 6-month period at 2012/13 costs, equating to 5.5% of the healthcare expenditure for the country (Phillips et al, 2016).

### Variable wound care practice

The Burden of Wounds Study also revealed that some patients with chronic wounds receive care that is at odds with accepted practice. Among the most concerning of the findings were that:

- Approximately 30% of wounds had no recorded differential diagnosis (Guest et al, 2015)
- More than 41% of wounds were on the lower limb; of these only 16% had a documented ABPI (ankle-brachial pressure index) but 81% were recorded as being treated with compression therapy (Guest et al, 2016)
- Only 5% of patients with a diabetic foot ulcer had a documented ABPI (Guest et al, 2018b).

In addition, an audit in Welsh hospitals found that 34.2% of pressure ulcers were subject to errors in identification and classification (Clark et al, 2017).

The suboptimal assessment and care of some patients and their wounds suggested by these findings could be contributing to a delay in healing, increased risk of adverse events, wasted resources and exposure of patients to unnecessary risk (Johnson, 2015; Andriessen et al, 2017).

### Benefits of improving holistic assessment of chronic wounds

By ensuring appropriate treatment according to wound aetiology and condition that reduces or removes impediments to healing, best practice in holistic wound assessment has the potential to:

- Improve healing rates
- Reduce the physical, emotional and socioeconomic impact of wounds on patients
- Benefit practitioners and the NHS by reducing the overall burden of wounds, potentially decreasing workload and the costs associated with wound care
- Raise practitioner and patient morale by improving patient outcomes.

The importance of wound assessment and recognition of the potential benefits of improving standards has recently been recognised by NHS England through implementation of a CQUIN indicator that links rates of wound assessment with funding payments (Box 1, page 3) (Wounds UK, 2017a). The indicator currently applies to community settings in England and to the assessment of wounds that have not healed after 4 weeks, i.e. chronic wounds (Coleman et al, 2017).

Even though the CQUIN indicator is currently not applicable to acute settings or general practice in England nor to the UK outside England, the underpinning aim of improving wound assessment to increase standards in wound care is of relevance and value to all care settings in the UK.

**Table 2. Generic wound assessment minimum data set (Coleman et al, 2017)**

Domain	Core data set items
General health information	<ul style="list-style-type: none"> <li>• Risk factors for delayed healing (systemic and local blood supply to the wound, susceptibility to infection, medication affecting wound healing, skin integrity)</li> <li>• Allergies*</li> <li>• Skin sensitivities</li> <li>• Impact of the wound on quality of life (physical, social and emotional)*</li> </ul>
Wound baseline information	<ul style="list-style-type: none"> <li>• Number of wounds</li> <li>• Wound location</li> <li>• Wound type/classification</li> <li>• Wound duration</li> <li>• Treatment aim</li> <li>• Planned reassessment date</li> </ul>
Wound assessment parameters	<ul style="list-style-type: none"> <li>• Wound size (maximum length, width and depth)</li> <li>• Undermining/tunnelling</li> <li>• Category (pressure ulcers only)</li> <li>• Wound bed tissue type</li> <li>• Wound bed tissue amount</li> <li>• Description of wound margins/edges</li> <li>• Colour and condition of surrounding skin</li> <li>• Whether the wound has healed</li> </ul>
Wound symptoms	<ul style="list-style-type: none"> <li>• Presence of wound pain</li> <li>• Wound pain frequency</li> <li>• Wound pain severity</li> <li>• Exudate amount</li> <li>• Exudate consistency/type/colour</li> <li>• Signs of systemic infection*</li> <li>• Whether a wound swab has been taken</li> </ul>
Specialists	<ul style="list-style-type: none"> <li>• Investigation for lower limb (ABPI)</li> <li>• Referrals (tissue viability team, hospital consultants)</li> </ul>

\*Should be recorded in the generic wound assessment MDS if not recorded in the wider patient record  
Abbreviation: ABPI – ankle–brachial pressure index

# Importance of holistic assessment of chronic wounds

A patient with one or more wounds should receive a holistic wound assessment. In primary care or community settings, this should be conducted on presentation of the wound(s); in acute settings, assessment should be conducted within 6 hours of an admission that involves one or more overnight stays or the development of the wound(s) during an inpatient stay.

## Practitioner

### BPS 1

You and your wound(s) will be assessed fully when you first show your wound to a nurse, podiatrist or doctor. If you go into hospital to stay for one or more nights, in most circumstances, you should receive the assessment within 6 hours of admission (excluding time spent in A&E) no matter why you have been admitted, or when a wound develops if it was not present before.

## Patient expectation

## Overview

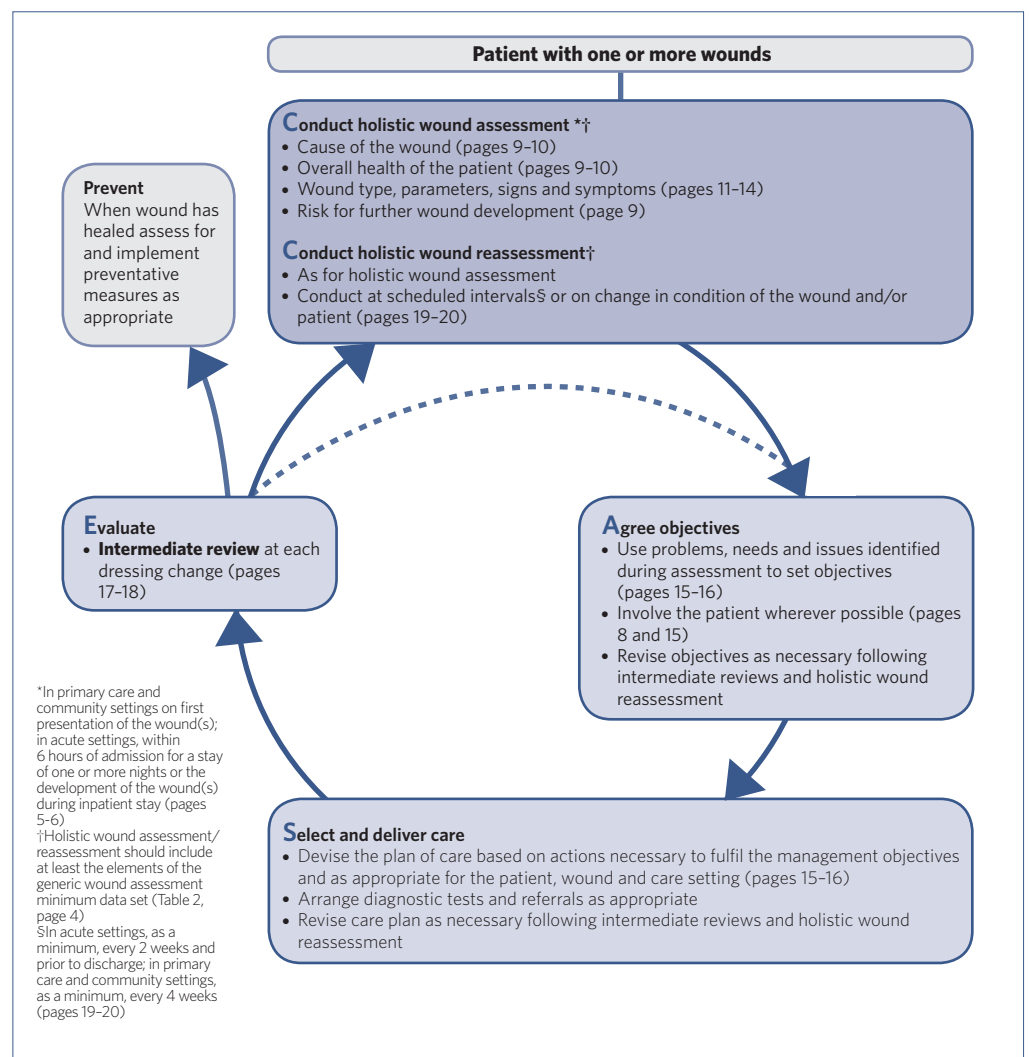
- Holistic wound assessment considers the ‘whole’ patient and should comprise at least the components of the generic wound assessment minimum data set (Table 2, page 4)
- By identifying factors that require intervention and indicating objectives for management, holistic wound assessment will guide appropriate patient and wound management
- Practitioners should be given sufficient time to perform holistic wound assessment
- Holistic wound assessment should be performed by a practitioner with sufficient knowledge and skills
- Patients with a wound should receive a holistic wound assessment on presentation. In acute settings, this should be within 6 hours of an admission for one or more nights or on development of the wound

The purpose of holistic wound assessment is to ensure that the patient receives the most appropriate treatment in line with best practice that enables the primary objective of management, which usually is healing, to be met (Figure 1). Ultimately, holistic wound assessment involves the collection and interpretation of data which is used to diagnose the underlying cause of the wound and aid

decision-making relating to implementing (and monitoring) patient and wound management (Benbow, 2016).

Barriers to performing holistic wound assessment include:

- Insufficient time – particularly in primary care/community settings, where appointment lengths are often too short



**Figure 1: The role of holistic wound assessment in the management of patients with wounds**

The discussions leading to the development of this figure were based on the CASE wound assessment framework (Figure 3, page 12).



- Lack of awareness, knowledge and skills
- High workload that may:
  - Leave little time for reflection/ reassessment
  - Emphasise local management of the wound and encourage ritualistic dressing changes
- Unclear or absent referral pathways for investigation and/or management
- Lack of access to key assessment tools, e.g. to a Doppler probe for determining ABPI
- Organisational issues – e.g. record-keeping systems that focus solely on the wound.

**When to do holistic wound assessment**

In **community settings**, the Expert Working Group recommends that holistic wound assessment is performed on first presentation of the wound(s). Unfortunately, the wording of the goal for the wound assessment CQUIN indicator (Box 1, page 3) has sometimes been misinterpreted as meaning that the assessment can be completed at some point up to 4 weeks after presentation and/or that wound assessment is not required until the wound has been treated for 4 weeks and is not healing. Neither is the intention – best practice is clearly that holistic wound assessment should occur on wound presentation.

In **acute settings**, the Expert Working Group recommends that in most circumstances a holistic wound assessment is performed within 6 hours of admission to hospital for a patient with a wound who will be an inpatient for one or more nights. However, if the admission is directly related to issues with the wound, assessment should be performed sooner as part of the admission procedure and involve medical staff and, if necessary, the wider multi-disciplinary team.

Patients with wounds who access secondary or tertiary care for non-wound related treatment as day cases do not necessarily require holistic wound assessment as care will usually be coordinated in primary care or the community.

The 6-hour recommendation may appear to potentially result in duplication of effort for patients with wounds admitted to acute services who may have recently been assessed in the community. However, the Expert Working Group considers the recommendation to be appropriate to:

- Ensure that on admission to hospital clinicians directly examine wounds in patients even if the admission is for apparently unrelated reasons. This will enable any contribution of the wound to the patient’s condition, e.g. wound infection in a patient admitted with sepsis, to be identified promptly and any necessary treatment to be incorporated into inpatient management
- Allow a baseline to be established for monitoring purposes during the stay in hospital.

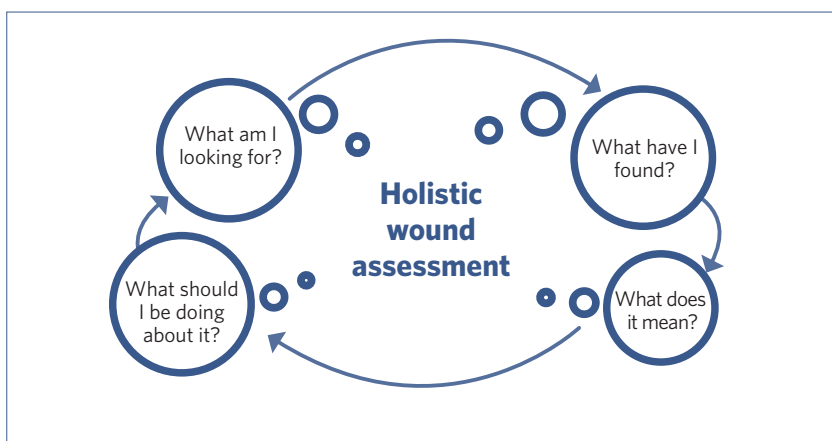
**Components of holistic wound assessment**

The Expert Working Group recommends that holistic wound assessment includes at least the elements of the recently developed generic wound assessment minimum data set (MDS) (Coleman et al, 2017) (Table 2, page 4). Additional assessment parameters may be necessary according to wound type, e.g. for the signs and symptoms of peripheral neuropathy in a patient with a diabetic foot ulcer.

The stimulus for the development of the generic wound assessment MDS was to provide a benchmark for NHS England’s CQUIN indicator on wound assessment. However, it provides a useful general framework for holistic assessment of all wounds.

Holistic wound assessment inevitably involves paper or electronic form-filling. However, practitioners should avoid completing forms ritualistically. They should consider what each assessment finding means, what implications it may have for management, and how the care plan should address issues that require intervention (Figure 2).

**Figure 2: Questions practitioners should ask themselves during holistic wound assessment**



# Documenting holistic wound assessment

All holistic wound assessments and reassessments should be documented. Documentation should include the findings of the assessments, the objectives of care, the care plan and the date for holistic wound reassessment.

## Practitioner

### BPS 2

Every time you have an appointment with a registered healthcare practitioner about your wound, e.g. with a nurse, podiatrist or doctor, they will record the key facts about you, your wound, the aims of treatment, how you will be treated and when you will be seen again.

## Patient expectation

## Overview

- Documentation systems can guide the process of holistic assessment of chronic wounds
- When completed to a high standard, documentation can guide objective setting, care planning and evaluation/reassessment
- Electronic patient records have the potential to fulfil many of the characteristics of the ideal documentation system for holistic wound assessment
- As a minimum, documentation of holistic wound assessment should record the findings for each of the parameters in the generic wound assessment MDS (Table 2, page 4)

Accurate and complete healthcare records can:

- Aid care planning and clinical decision-making
- Assist continuity of care
- Contribute to patient safety
- Provide legal evidence of care undertaken
- Serve as a resource for audit and research to evaluate care/outcomes or service delivery (Andrews & St Aubyn, 2015).

Currently some parts of the UK healthcare system use electronic record-keeping systems and others use paper-based systems. There are targets to introduce electronic health records throughout the UK in the next few years (POST, 2016).

Variation in the type of patient record-keeping system or lack of integration of systems between healthcare settings can cause issues such as duplication of data

collection/investigations and can hamper communication about care on transfer of a patient from one setting to another.

### Documentation systems

Documenting wound assessment often involves completing a paper or electronic form that has predefined parameters for assessment. Well-designed forms can ensure systematic, complete and meaningful holistic wound assessment that can guide objective setting and selection of interventions, and provide a baseline from which to monitor/evaluate progress.

Electronic record-keeping systems can be designed to fulfil many of the characteristics of the ideal documentation system for holistic wound assessment (Box 2).

### Box 2. Characteristics of an ideal documentation system for holistic wound assessment

- Engaging, easy-to-use, portable and readily accessible in healthcare and community settings, e.g. in patients' homes
- Systematically guides practitioners through holistic wound assessment
- Contains, as a minimum, the elements of the generic wound assessment MDS (Table 2, page 4)
- Provides guidance on assessing each parameter
- Raises alerts for findings that require urgent action
- Has the facility to take and store photographs
- Is integrated/shared/compatible with the patient's other health records to:
  - Reduce duplication of data entry
  - Enable access to test results and information from other care settings
  - Aid communication between care settings and within multidisciplinary teams
- Links to wound care pathways and dressing/device formularies
- Aids objective setting and care planning
- Enables easy review of previous assessments
- Collates chronological numerical assessments, e.g. plots graphs of wound dimensions over time
- Has integrated systems for:
  - Referral for specialist investigation/advice
  - Appointment booking for dressing/device changes
  - Bookings and alerts for holistic wound reassessments
  - Communicating with other healthcare professionals
- Enables audit and data retrieval, and uses a standardised clinical vocabulary, e.g. Read Codes or SNOMED Clinical Terms (Benson, 2011)

# Communicating to empower and engage

Communication with a patient who has a wound and their carer(s) should be in a style and use language that empowers and engages patient participation in the planning, delivery and evaluation of care.

## Practitioner

### BPS 3

The healthcare staff looking after you and your wound(s) should communicate with you in a clear way that helps you to understand your care, includes you in decision-making and, if you wish, involves you in looking after your wound(s).

## Patient expectation

## Overview

- Communication with patients should use the most appropriate type and style of communication, and should be clear, patient-specific and jargon-free
- Written information can be used to reinforce verbal communication
- Effective communication is the key to patient empowerment
- The use of open-ended questions during assessment can be useful in identifying the appropriate level of patient involvement and needs for information/education

Practitioners should use the most effective type and style of communication for the patient (NICE, 2012). Communication type and style should take into account any vision, hearing, cognitive, language and cultural needs.

Good verbal communication:

- Involves listening, as well as talking
- Uses clear language and content at a level of detail appropriate for the listener
- Uses open-ended questions to encourage discussion
- Uses repetition
- Checks understanding and summarises (NICE, 2012; King & Hoppe, 2013; Ali, 2017).

Written information in the appropriate language, e.g. patient information leaflets or weblinks, can help to reinforce or remind of verbal communication and provide additional sources for further reading. Information should include triggers for seeking help (Box 3) and contact details for advice.

### Patient empowerment

Effective communication between practitioners and patients is key to patient empowerment

(also known as patient engagement or involvement) (Box 4) (Moore et al, 2016). Patients with chronic wounds should be encouraged to:

- Express their needs, priorities, expectations and concerns
- Take an active role in treatment-related decisions
- Participate in care delivery
- Communicate their reflections on how care is delivered and how care could be adapted (Augustin et al, 2012).

The use of open-ended questions during assessment will help to determine patient priorities, need for information and preferred level of, and capacity for, patient involvement (Box 5). However, some patients may not want to be involved in decision-making or to participate directly in wound care. Patients may also experience changes in their stance or capacity over the course of treatment.

Although carers and family members may provide useful perspectives on the patient's condition, care and views, practitioners should remain mindful of issues around confidentiality.

#### Box 3. Examples of triggers for a patient with a chronic wound to seek help

- For a lower limb wound, change in colour of the leg and/ or foot\*†
- New, changed or increased pain in or around the wound†
- New, different or increased unpleasant smell from the wound†
- New or increased swelling associated with the wound†, e.g. can no longer put on footwear
- New or increased redness around the wound†
- Dressing becomes loose or falls off
- Saturated dressings or leakage from the dressing †, e.g. strikethrough onto bedding or clothing
- Difficulty applying compression therapy, changing dressing or putting on therapeutic footwear
- Decrease in mobility
- Disturbed sleep
- Becoming systemically unwell, e.g. developing a fever or rapid pulse, which could be signs of sepsis\*†

\*This requires urgent attention whatever the wound type

†Patients with a diabetic foot ulcer who experience any of these changes or develop any of these symptoms need to be seen as soon as possible and ideally on the same day

#### Box 4. Defining patient empowerment/engagement/involvement (Moore et al, 2016)

- **For patients** – being active in the management of their own health and health-care, and in any decisions about available treatment options
- **For clinicians** – knowing who their patients are and developing a partnership that facilitates transparency of information for both parties

#### Box 5. Examples of open-ended questions to use during chronic wound assessment (adapted from Moore et al, 2016)

- What worries you about your wound?
- How does your wound affect daily living and your personal relationships?
- What issue or problem do you want to sort out first?
- What do you want to sort out in the next couple of weeks/ longer-term?
- How do you feel about doing some of the care for your wound yourself?
- What do you want to know about doing some of the care yourself?
- Who else can be involved to help you manage caring for your wound?



# Factors that affect healing, quality of life and self-care

Holistic wound assessment should include determining the type/cause of the wound(s), identifying factors that may delay healing or increase risk for future wounds, establishing the impact of the wound on the patient's quality of life and determining capacity for self-care.

Practitioner

**BPS 4**

You and your wound(s) will receive a thorough assessment that includes finding out what type of wound you have, what is likely to have caused it, whether you have any other conditions or issues that might delay healing of your wound(s) or increase your risk for another wound, the effect of the wound on your day-to-day life and how involved you would like to be in the care of your wound(s).

Patient expectation

## Overview

- Establishing wound type/cause is fundamental to objective setting, care planning and management
- Holistic wound assessment should identify whether any of the wide range of factors that may hinder healing or increase risk of further wound development is present
- Understanding how the wound is affecting the patient can enable the plan of care to include measures to reduce the wound's impact
- Patients should be encouraged to self-care where willing and able to do so safely

Underpinning the setting of appropriate objectives for the treatment of a patient with a wound and devising and delivering a care plan to achieve those objectives are:

- Classifying the wound according to aetiology
- Identifying any factors that may hinder healing
- Determining the need for management of conditions other than the wound(s), e.g. diabetes
- Establishing the patient's risk for the development of further wounds
- Ascertaining the impact of the wound(s) on the patient, their socioeconomic situation and capacity for self-care.

## Wound type/diagnosis

Wherever possible a 'working diagnosis' of wound type based on clinical judgement should be recorded at the initial holistic wound assessment. The working diagnosis should be reviewed regularly and if necessary modified according to the results of further investigations, e.g. for peripheral arterial disease or neuropathy (LCAV, 2017). If necessary, the assessing practitioner should seek early involvement of a more senior or specialist practitioner or request multidisciplinary input to determine diagnosis.

Pressure ulcers should also be categorised according to the NPUAP/EPUAP/PPPIA classification system (NPUAP/EPUAP/PPPIA, 2014). Local policies may also exist for the classification of other wound types, e.g. skin tears and diabetic foot ulcers, using a validated tool.

## Impediments to healing and risk factors for further wounds

Identifying any potential hindrances to healing and risk factors for further wound development (Table 3, page 10) will aid understanding of the patient's likely healing capacity and indicate interventions to aid healing or prevent further wounds. It will also allow a more realistic discussion of outcomes with patients. Local policy may require more formal risk assessment, e.g. for pressure ulcer risk (NICE, 2014; HIS, 2016).

## Quality of life, concordance and capacity for self-care

Chronic wounds can negatively impact quality of life for many reasons, including hampering sleep, mental health, hobbies, work, activities of daily living, relationships with family and friends, and desire to socialise (Price & Krasner, 2012). Pain, odour and leakage from dressings are frequent concerns about wounds (Green & Jester, 2009).

If a patient is not concordant with treatment, the practitioner should explore why. Assessment should also include establishing what self-care the patient is already undertaking and has the willingness, and physical and mental capacity to undertake. A patient or carer undertaking wound care and dressing changes will need sufficient visual acuity, physical flexibility and dexterity. They will need to be provided with information on issues such as appropriate hand hygiene, disposal of dressings, and on when (Box 3, page 8) and how to seek help (WUWHS, 2016).

**Table 3. Factors that may impair wound healing or increase risk for wound development (adapted from Guo & DiPietro, 2010; Thomas Hess, 2011; Vowden, 2011; Khalil et al, 2015; Wounds UK, 2017b)**

Factor category	Examples
Patient-related	<ul style="list-style-type: none"> <li>• Age &gt;65 years</li> <li>• Suboptimal compliance with local treatment and/or management of other conditions that affect wound healing</li> <li>• Psychological stress</li> <li>• Pain</li> <li>• Chronic disease/comorbidities – e.g.:               <ul style="list-style-type: none"> <li>- Diabetes mellitus</li> <li>- Circulatory disorders – e.g. peripheral arterial disease</li> <li>- Obesity</li> <li>- Chronic respiratory, kidney or liver disease; anaemia</li> <li>- Immunosuppression – e.g. due to disease or medication</li> <li>- Malnutrition/dehydration</li> <li>- Reduced mobility</li> <li>- Incontinence</li> <li>- Cognitive impairment</li> <li>- Autoimmune disease</li> </ul> </li> <li>• Medication – e.g. corticosteroids, chemotherapy, immunosuppressants, anticoagulants, non-steroidal anti-inflammatory drugs (NSAIDs)</li> <li>• Radiotherapy</li> <li>• Acute illness</li> <li>• Smoking, alcoholism, substance misuse</li> <li>• Previous chronic wound</li> <li>• Unsuitable or poor living conditions</li> </ul>
Wound-related	<ul style="list-style-type: none"> <li>• Large initial wound size (&gt;10cm<sup>2</sup>)</li> <li>• Long duration of wound (&gt;6 months)</li> <li>• Presence of devitalised tissue</li> <li>• Infection</li> <li>• Contamination/foreign body</li> <li>• Hypoxia/ischaemia – e.g. peripheral arterial disease</li> <li>• Oedema – e.g. due to venous insufficiency</li> <li>• Inflammatory conditions – e.g. vasculitis, pyoderma gangrenosum</li> <li>• Ongoing local mechanical stress, pressure or trauma</li> </ul>

# Assessing each wound

Holistic wound assessment should include individual assessment of the characteristics of and symptoms related to each wound present, including accurate recording of the location of the wound and taking photographs.

## Practitioner

### BPS 5

You and your wound(s) will receive a thorough assessment that includes examination of the wound(s) and talking about your wound-related symptoms and how involved you would like to be in your own care. You will be asked to give permission before any photographs of your wound are taken.

## Patient expectation

### Box 6. Tips for accurately recording the location of a wound

- Use correct anatomical descriptors when recording the location of each wound in words (Figure 4, page 13), e.g.:
  - Wound is located on the medial aspect of the right lower leg, 4cm above the right medial malleolus
  - Wound is located over the 1st metatarsal head on the plantar aspect of the left foot
- Record the location of each wound on a body map
- Remember that left and right are allocated from the patient's perspective
- Use a measurement tool for measuring distances
- Consider displaying posters illustrating key anatomical terminology in clinical rooms

## Overview

- The physical characteristics of and symptoms associated with each wound should be assessed using the relevant parameters from the generic wound assessment MDS (Table 2, page 4)
- The location of each wound should be recorded accurately, using appropriate anatomical language and a body map (Figure 4, page 13)
- Photography is recommended and should be used according to local policies and following appropriate patient consent. A locating photograph and a close-up photograph should be taken for each wound
- Consistency of wound measurement technique is important for wound size monitoring
- Wound bed condition and amount/type of exudate will play a dominant role in selecting the wound dressing(s) and dressing change frequency
- Diagnosis of infection is usually based on clinical signs and symptoms; routine swabbing should be avoided
- Symptoms, such as pain, should be explored to determine severity, timing and triggers/relievers

As part of holistic wound assessment, each wound should be assessed individually, and the findings recorded separately for each wound. In addition to recording the wound type/diagnosis, it is recommended that assessment of each wound should include at least the items from the 'wound baseline information', 'wound assessment' and 'wound symptom' sections of the generic wound assessment MDS (Table 2, page 4).

### Frameworks to aid wound assessment

Several frameworks for the assessment of wounds have been developed over the years to encourage a systematic approach to assessment. Examples of wound assessment frameworks suitable for all wounds are included in Table 4, page 12. While the generic wound assessment MDS is the most comprehensive, the other frameworks are compatible with it and could be used in parallel.

### Location of wound(s)

The location of each wound should be recorded accurately using the correct anatomical language (Box 6 and Figure 4, page 13). This information should be supplemented with location marked on a body map. Practitioners need to be aware that the relationship between surface anatomy and skeletal anatomy can vary depending on patient position. The use of anatomical language may need to be modified or replaced when talking to patients.

### Photographing wounds

The use of photography is recognised as good practice in the assessment and monitoring of wounds (Coleman et al, 2017). Although not yet feasible in all care settings in the UK, the Expert Working Group recommends that

the documentation of each holistic wound assessment and reassessment includes a minimum of two digital photographs of each wound. The first photograph should be sufficiently distanced to demonstrate location of the wound; the second should record the closer-up appearance of the wound and periwound skin (Box 7, page 12).

Practitioners who take photographs should receive training on consent for photography, how to take photographs, and how and where to upload, transmit and store photographs (Sperring & Baker, 2014) in line with local governance procedures.

### Wound measurement

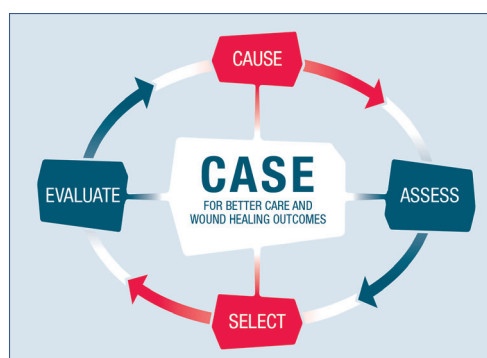
Comparison of successive wound measurements provides an objective means of assessing healing progress. A wide range of wound measurement techniques is available (Khoo & Jansen, 2016). The method used should measure at least maximum length, width and depth. The same method should be used for each set of measurements (Nichols, 2015). If different techniques are used, apparent changes in wound size may be related to the difference in results produced by the different techniques rather than to real changes.

Each wound should be measured during holistic wound assessment and holistic wound reassessment using a measurement tool, e.g. a disposable ruler. The timing of holistic wound reassessment relates to the condition of the patient and the wound (pages 19–20). Measurement at intermediate reviews (pages 17–18), e.g. at each dressing change, is unlikely to produce helpful results.

Table 4. Examples of generic frameworks used to aid systematic wound assessment							
Framework	Elements incorporated						
	Type/ cause of wound	Assessment of patient concerns, symptoms, quality of life	Assessment of risk factors for delayed healing	Assessment of the wound and wound bed	Assessment of the periwound skin	Evaluation/ reassessment	Provision of patient information/ education
Generic wound assessment MDS (Coleman et al, 2017)	✓	✓	✓	✓	✓	✓	✓
TIME (Schultz et al, 2004) Tissue, Infection/ Inflammation, Moisture imbalance, Edge of the wound				✓			
Triangle of Wound Assessment (Dowsett et al, 2015) Wound bed, wound edge, periwound skin				✓	✓		
TIMES (Wounds UK, 2016) Tissue, Infection/Inflammation, Moisture imbalance, Edge of the wound, Surrounding skin				✓	✓		
CASE (Scott-Thomas et al, 2017) (Figure 3) Cause, Assess, Select, Evaluate	✓	✓	✓	✓	✓	✓	✓

**Box 7. Tips for photographing wounds (adapted from Sperring & Baker, 2014)**

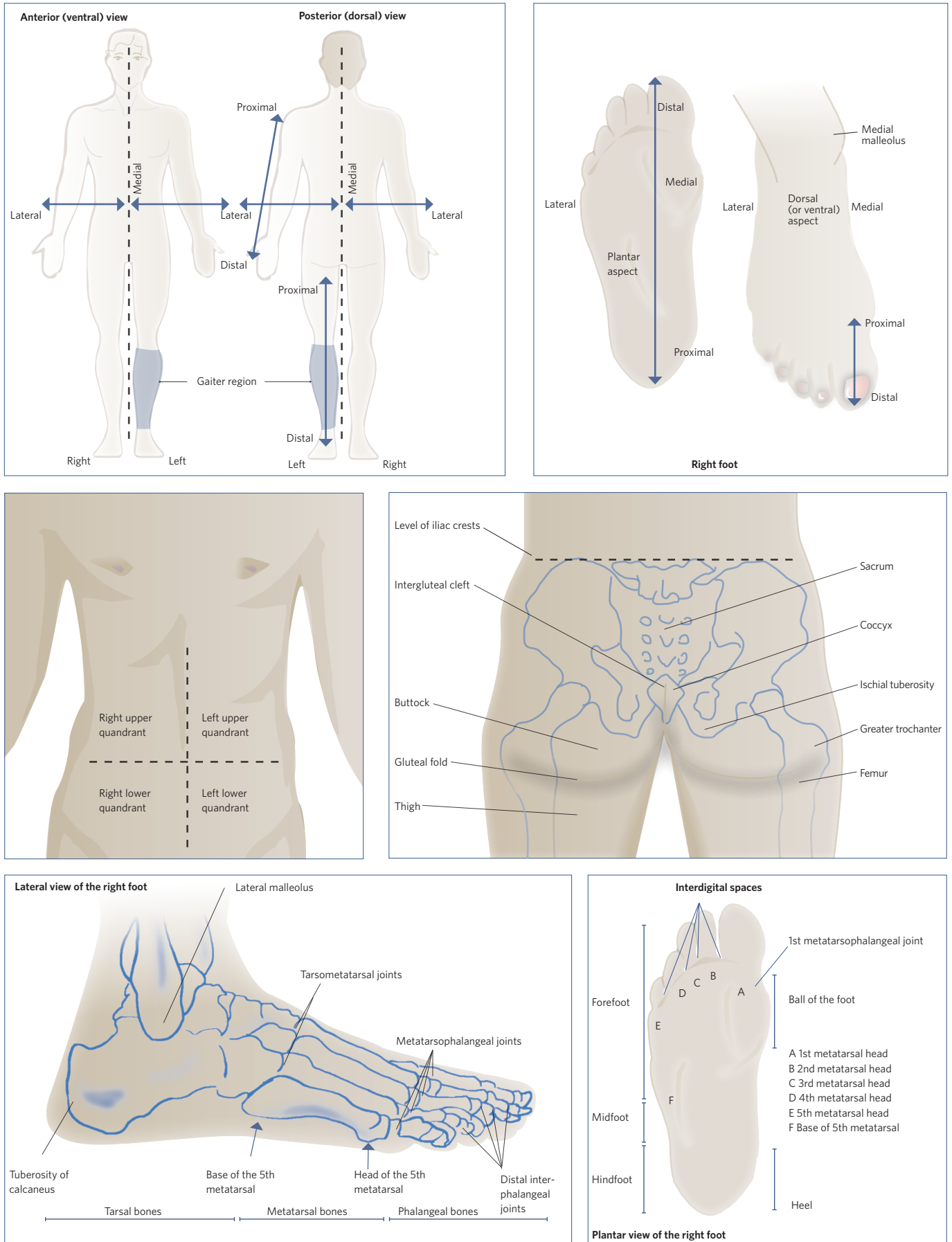
- Only take photographs when consent has been given and according to local guidelines (which may include who is permitted to take photographs and require that camera users are registered)
- Store and transfer photographs to other devices and into patient records according to local guidelines
- Only take photographs using devices approved for the purpose
- Include references/scales for size and colour in the photograph – e.g. a disposable paper ruler marked in centimetres and millimetres
- Include the date and an anonymised unique patient identifier, e.g. written on a piece of paper, in the field of the photograph
- Check that the photographs are in focus while with the patient and retake if necessary
- Take photographs at the initial holistic wound assessment, at scheduled holistic wound reassessments and if there is a major change in the wound
- Be aware that some patients may not wish to see photographs of their wound



**Figure 3: The CASE wound assessment framework takes a holistic approach for better wound healing outcomes**



Figure 4: Anatomical terminology



**Box 8. Sources of additional information useful for wound assessment**

- International Wound Infection Institute (IWII) (2016) *Wound infection in clinical practice*. London: Wounds International\*
- Nichols E (2015) Wound assessment Part 1: how to measure a wound. *Wound Essentials* 10(2): 51–55†
- Nichols E (2016) Wound assessment Part 2: exudate. *Wound Essentials* 11(1): 36–40†
- Nichols E (2017) Wound assessment Part 3: how to assess wound margins and periwound skin. *Wound Essentials* 12(1): 80–83†
- Ousey K, Cook L (2012) *Wound assessment made easy*. London: Wounds UK 8(2)†
- Wounds UK Best Practice Statement (2013) *Effective exudate management*. London: Wounds UK†
- CASE wound assessment framework at: [www.bsnmedical.co.uk/education](http://www.bsnmedical.co.uk/education)

\*Available at: [www.woundsinternational.com](http://www.woundsinternational.com);  
†Available at: [www.wounds-uk.com](http://www.wounds-uk.com)

This section gives a brief overview of wound and periwound assessment. Box 8 lists sources of further information.

### Wound and periwound assessment

Signs (findings revealed on examination by a practitioner) and symptoms (a feature of the condition reported by the patient) related to the wound and periwound area form the basis of wound and periwound assessment. As there can be considerable overlap of signs and symptoms, they are discussed here together.

The wound bed should be examined for the presence and percentage of the wound bed covered by epithelial tissue, granulation tissue, necrotic tissue/eschar and slough, and for the condition of the wound edges (Benbow, 2016). The location and extent of any undermining or tunnelling/tracking should be recorded.

A clock face diagram may aid this process. The periwound skin should be examined for maceration/excoriation, erythema, general skin condition and the presence of other skin conditions, e.g. eczema, allergic reactions (Dowsett et al, 2015).

#### Exudate level

Exudate level can be difficult to assess; the current dressing and frequency of dressing changes may provide guidance (WUWHS, 2007). A sudden increase and/or change in consistency or colour of exudate may indicate wound infection (IWII, 2016).

#### Infection

Wound infection can delay wound healing (Guo & DiPietro, 2010). The diagnosis of infection in chronic wounds is usually made on the basis of clinical signs and symptoms (IWII, 2016).

The role of sampling for microbiological analysis in chronic wounds continues to be debated. Routine wound swabs are not usually justified (Cooper, 2010). If undertaken, sampling for microbiological examination should be carried out according to local protocols (Patten, 2010). The results should be interpreted in the context of clinical signs and symptoms and advice from a microbiologist, and any action taken should be in line with local policy on the use of antimicrobial agents.

### Other patient-reported wound symptoms

Patients with chronic wounds can report a wide range of symptoms. Some symptoms may be volunteered by the patient, but the practitioner may need to question the patient to reveal others. Symptoms should be recorded using the patient's words, e.g. "My slippers keep getting wet", "I can't walk because my leg is too painful".

Symptoms can range from pain, odour, leakage, itching, bleeding and disturbed sleep, to difficulties with activities of daily living and/or working, difficulty with finding suitable clothing and footwear, reluctance to socialise and depression.

Assessment of pain should include where and when pain occurs, level, triggers and relievers, any changes in recent days or weeks, and the effectiveness of the current analgesic regimen. The level of pain can be assessed using verbal scales (e.g. using a list of phrases ranging from 'no pain' to 'severe pain') or numerical scales (e.g. on a scale of 0 to 10; where zero = no pain and 10 = the worst pain imaginable) (Solowiej & Upton, 2010).

In patients with cognitive impairment, an alternative approach to pain assessment may be necessary, e.g. the use of simple pictures of facial expressions ranging from happy (no pain) to very upset (severe pain) or direct observation for possible pain-related behaviours (Booker & Herr, 2016).

The method used to assess pain level should be documented and then used consistently for reassessment. A recent change in the nature and/or increase in level of pain may indicate wound infection or ischaemic (vascular) changes.

Other symptoms should similarly be explored to determine severity, timing, triggers/relievers and changes over time.

# Setting objectives and care planning

Following holistic wound assessment, the objectives of management should be prioritised according to discussion with the patient and carer(s) and a care plan to achieve the objectives devised and implemented.

## Practitioner

### BPS 6

After assessment of you and your wound(s), the practitioner co-ordinating your care will discuss and agree with you the aims for your treatment and any further tests you need. They will then plan your treatment and discuss with you how you could take part in your care.

## Patient expectation

## Overview

- The problems, needs or issues identified during holistic wound assessment will indicate the patient-focused objectives of management
- The objectives should be discussed and prioritised with the patient and carers
- Objectives should be specific, timed and related to the actions necessary to fulfil them
- Patient- and wound-specific objectives may relate to healing, wound cause, hindrances to healing, wound symptoms and patient/carer concerns, complications, concordance and self-care, prevention of recurrence, reassessment and patient/carer education
- Practitioners should undertake only actions within their competency

The objectives of management will be to address the problems, issues or needs identified during holistic wound assessment. The actions required to fulfil the objectives will form the basis of the care plan.

### Objectives should be specific and time-related

The objectives of management should be discussed and prioritised with the patient and carer(s). Objectives should be tailored to the patient and the wound and should include an indication of timing and who is responsible for ensuring they are fulfilled. Practitioners should undertake only actions that are within their competency, and, as necessary, seek assistance from senior colleagues and the multidisciplinary team or refer.

Table 5, page 16, provides examples of problems/issues/needs that may be found during holistic wound assessment with examples of objectives and related actions. The mnemonic SMART may provide a useful framework when considering the content of an objective (Box 9).

### Box 9. Setting SMART objectives (Richman, 2011; Yemm, 2013)

- **Specific** – include the expected outcome, what needs to be done and who is responsible
- **Measurable** – specify clear criteria for the outcome
- **Achievable** – be realistic
- **Relevant** – be appropriate
- **Timed** – state when the objective will be achieved

N.B. There are many versions of SMART: the most common meanings of the letters are given above

**Table 5. Examples of problems/issues/needs and related objectives and actions**

This table provides a few **examples only** and is not a guide to patient and wound management. Objectives and related actions should be individualised to the patient and to the wound type/condition, and may involve a range of members from the multidisciplinary team. Referrals should be made according to local policy.

Categories	Examples of problems/issues/needs	Examples of objectives	Examples of actions
Healing	Wound of a known type that is likely to heal	To heal the wound	<ul style="list-style-type: none"> <li>• Optimise the condition of the patient, treat wound cause, complications and symptoms</li> <li>• Promote moist wound healing</li> </ul>
Wound cause/contributory factors	Patient has diabetes that is not well controlled	To improve control of diabetes mellitus	<ul style="list-style-type: none"> <li>• Explain to the patient the importance of blood glucose control for healing</li> <li>• Refer to a multidisciplinary team for further assessment of diabetes mellitus and medication</li> </ul>
Hindrances to healing	Patient is malnourished	To correct malnutrition	<ul style="list-style-type: none"> <li>• Identify why the patient is malnourished and correct cause</li> <li>• Refer for nutritional assessment and dietary advice</li> </ul>
Wounds symptoms and other patient/carer concerns	Patient reports dressing change-related pain	To avoid pain during dressing changes	<ul style="list-style-type: none"> <li>• Moisten the dressing before removal to loosen adherence if present</li> <li>• Use a low adherent dressing</li> <li>• Consider use of an adhesive remover</li> <li>• Provide analgesia to cover dressing changes</li> </ul>
Complications	Patient is at high risk of infection	To prevent infection	<ul style="list-style-type: none"> <li>• Observe hygiene measures</li> <li>• Educate the patient about hygiene</li> <li>• Use antimicrobial dressings/preparations according to local policy</li> </ul>
Concordance and self-care	Patient with a VLU removes compression bandages because of discomfort	To reduce discomfort and facilitate compression therapy	<ul style="list-style-type: none"> <li>• Reassess lower limb for signs and symptoms of deterioration of arterial status, including repeating ABPI</li> <li>• Consider using a lower level of compression for 1–2 weeks or using an alternative type of compression therapy, e.g. compression wraps</li> <li>• Explain rationale for compression therapy</li> <li>• Review analgesia</li> </ul>
Holistic wound reassessment	Patient requires review of current management either as scheduled or because of deterioration	To check healing progress and the suitability of the current management regimen and to adjust care plan as needed	<ul style="list-style-type: none"> <li>• Perform a holistic wound reassessment using the parameters of the generic wound assessment MDS (pages 19–20)</li> <li>• Review the findings against the objectives and actions, and revise management as necessary</li> <li>• Refer as necessary</li> </ul>
Patient education	Patient needs/would like to know more about the cause and treatment of their wound	To help the patient better understand the cause and treatment of their wound	<ul style="list-style-type: none"> <li>• Discuss and provide suitable information</li> </ul>
Risk of recurrence	Patient with a healed PU	To prevent further PUs	<ul style="list-style-type: none"> <li>• Discuss and provide information on PU prevention and who to contact if problems occur</li> </ul>

Abbreviations: ABPI – ankle–brachial pressure index; DFU – diabetic foot ulcer; PU – pressure ulcer; VLU – venous leg ulcer



# Intermediate reviews at each dressing change

At each dressing change, the patient and the wound should be monitored for signs of improvement or deterioration and progress against the objectives of management should be reviewed.

## Practitioner

### BPS 7

The progress of your wound will be checked at every dressing change by the person who changes your dressing. That person will also check your treatment plan to make sure everything is on course.

## Patient expectation

## Overview

- Intermediate reviews should take place at each dressing change
- Intermediate reviews should determine whether the patient and the wound are improving, deteriorating or unchanged and should check progress against the objectives of management
- Deterioration of, and in some cases, no change in the condition of the wound should trigger holistic wound reassessment
- The intermediate review and any adjustments to management should be fully documented

The care plan of a patient with a wound should include a date for a holistic wound reassessment. This will comprise a full review of the patient and the wound (pages 19–20). Less formal **intermediate reviews** should take place at each dressing change to:

- Determine whether the wound is **improving, deteriorating or unchanged** from the last dressing change
- Determine whether the condition of the patient is **improving, deteriorating or unchanged**
- Review progress against the **objectives of management**.

Many factors influence the frequency of intermediate reviews. For some wounds, particularly those that are infected or those at high risk of deterioration such as diabetic foot ulcers, intermediate reviews may need to be very frequent, e.g. daily.

Table 6, page 18, gives examples of local indicators of chronic wound improvement and deterioration. Practitioners should be alert to possible indicators of wound infection.

Although a change in wound size is an important indicator of the change in status of the wound, in practice, changes in size may not be noticeable from one dressing change to the next. The Expert Working Group recommends that wound measurement is *not necessarily* undertaken at intermediate reviews but should be part of holistic wound reassessment, which is performed at scheduled intervals or if the wound deteriorates (pages 19–20).

The objectives of management and linked actions should be reviewed at each dressing change to ensure that progress is as expected and that there are no outstanding actions that should be implemented.

The findings of the intermediate reviews and any resulting actions taken or changes to management should be documented.

### Improved

If the wound is found to be improved at the dressing change, the current wound dressing regimen should be checked for suitability and adjusted if necessary. For example, an antimicrobial dressing might be discontinued if the wound is showing signs of improvement after 2 weeks of use (IWII, 2016) or a less absorbent dressing used if the level of exudate has dropped (WUWHS, 2007).

If the wound has fully healed, this should be documented and measures to prevent recurrence should be implemented as appropriate.

### Deteriorated

Deterioration of the patient and/or wound should trigger a holistic wound reassessment (pages 19–20) and a medical review. The objectives of patient and wound management and the care plan should be adjusted as appropriate.

### Unchanged

If the wound appears unchanged at intermediate review, it will often be appropriate to continue the current care plan until the next dressing change or scheduled holistic wound reassessment, whichever is sooner. In primary care and community settings, however, for patients with wounds that are at high risk of complications, e.g. a patient with a diabetic foot ulcer at high risk of wound infection, lack of positive change in the wound for 2 weeks or more should prompt a holistic wound reassessment (pages 19–20).

Table 6. Examples of local indicators of improvement/deterioration of chronic wounds (adapted from Wounds UK, 2017c)		
Parameter	Change that may indicate:	
	Improvement	Deterioration
Wound bed	<ul style="list-style-type: none"> <li>• Increased amount of granulation tissue</li> <li>• Decreased amount of slough/necrotic tissue</li> <li>• Reduction in wound area/volume*</li> </ul>	<ul style="list-style-type: none"> <li>• Increased amount of slough/necrotic tissue</li> <li>• Decreased amount of granulation tissue</li> <li>• Granulation tissue is friable</li> <li>• Increase in wound area/volume</li> </ul>
Exudate	<ul style="list-style-type: none"> <li>• Levels usually decrease as the wound heals</li> <li>• Changed to clear if previously cloudy</li> </ul>	<ul style="list-style-type: none"> <li>• Increased level</li> <li>• Changed from clear to discoloured</li> <li>• Change in consistency, e.g. thinner to thicker</li> </ul>
Periwound skin	<ul style="list-style-type: none"> <li>• Reduction, if present, of:                             <ul style="list-style-type: none"> <li>- Maceration/excoriation</li> <li>- Erythema</li> <li>- Swelling</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Development, or increase in extent, of:                             <ul style="list-style-type: none"> <li>- Maceration/excoriation</li> <li>- Erythema</li> <li>- Swelling</li> </ul> </li> </ul>
Odour	<ul style="list-style-type: none"> <li>• Less noticeable or resolved if previously an issue</li> </ul>	<ul style="list-style-type: none"> <li>• Development, change in or worsening of unpleasant odour</li> </ul>
Wound-related pain†	<ul style="list-style-type: none"> <li>• Reduced level or frequency</li> </ul>	<ul style="list-style-type: none"> <li>• Development, change in nature and/or increase in level of pain†</li> </ul>
<p>*N.B. Changes in wound area/volume may not be noticeable from one dressing change to the next. A wound may increase in size when necrotic tissue and slough are removed                      †Patients with a DFU and neuropathy may not experience pain; a patient with sudden onset of pain should be referred urgently</p>		

# Conducting holistic wound reassessment

A holistic wound reassessment should take place at scheduled intervals appropriate for the patient and the wound and if there is deterioration in the condition of the patient and/or wound. Following holistic wound reassessment, the objectives of management and care plan should be adjusted as necessary.

## Practitioner

### BPS 8

You and your wound will be fully reassessed at regular intervals. You will also be fully reassessed if you or your wound get worse. After the reassessment, the healthcare staff looking after you will talk to you about how your treatment might need to be adjusted.

## Patient expectation

## Overview

- Deterioration in the condition of the patient or the wound should trigger holistic wound reassessment
- Holistic wound reassessment should also be carried out at the time scheduled in the care plan
- The reassessment should comprise at least the elements of the generic wound assessment MDS (Table 2, page 4), plus any other assessments appropriate for the wound type, and should review the objectives of management and associated care plan
- Holistic wound reassessment should be carried out:
  - By a registered practitioner who has the appropriate skills and knowledge
  - At least every 2 weeks and on discharge in acute settings
  - At least every 4 weeks in primary care and community settings
- After holistic wound reassessment, the objectives of management and care plan should be updated and the next date for full reassessment should be scheduled

Holistic wound reassessment should be carried out:

- If the **condition of the patient deteriorates** – e.g. they develop an acute medical condition, or an existing comorbidity gets worse
- If the **condition of the wound deteriorates** – see Table 6, page 18, for signs of deterioration
- **At the time scheduled** for holistic wound reassessment.

N.B. **Holistic wound reassessments** (see below) are different from **intermediate reviews** (pages 17–18).

### Timing of a scheduled holistic wound reassessment

The timing of a scheduled holistic wound reassessment will depend on the condition of the patient, the condition of the wound and the care setting. The Expert Working Group recommends the following for the frequency of holistic wound reassessments:

- **In acute settings** – as a *minimum*, every 2 weeks and prior to discharge. If the wound is the primary cause for admission, more frequent reassessments will be necessary
- **In primary care and community settings** – as a *minimum*, every 4 weeks.

### Components of a holistic wound reassessment

The Expert Working Group recommends that a holistic wound reassessment encompasses at least the elements of the generic wound assessment

MDS (Table 2, page 4) and any other parameters appropriate for the wound type.

In addition to reassessing the wound itself (e.g. size, wound bed tissue type and percentage of each, periwound skin), the reassessment should review:

- The patient's general health information, including medication regimen, the status of any comorbidities and any newly-diagnosed comorbidities or allergies
- Any symptoms related to the wound – e.g. pain, odour, leakage, redness, swelling
- Progress with any referrals
- The objectives of management and the care plan.

The holistic wound reassessment should be carried out by a registered healthcare practitioner who has the appropriate knowledge and skills. Electronic record systems may allow allocation of the reassessment to an appropriate practitioner. It is essential that sufficient time is allocated within workload planning and the appointment system to conduct a full reassessment to a high standard.

#### Wound size

Changes in wound size are often used to monitor wound healing progress. The percentage reduction in wound area after 4 weeks of optimal treatment may provide useful information on the likelihood of healing. A venous leg ulcer or pressure ulcer that has not reduced in

area by 40% (or by 50% for a diabetic foot ulcer) after 4 weeks of optimal treatment is unlikely to heal (Phillips et al, 2000; Kantor & Margolis, 2000; Flanagan, 2003; Günes, 2009; Sheehan et al, 2003; Coerper et al, 2009; Snyder et al, 2010).

Consequently, if a venous leg ulcer or pressure ulcer has not reduced in area by at least 40% or a diabetic foot ulcer by at least 50%, over the previous 4 weeks, it is important to determine the reasons for non-healing and to ensure that management and concordance are optimised. If necessary, the patient should be referred for confirmation of diagnosis of wound cause.

### **Update objectives and plan of care**

The objectives of management and the actions required, i.e. the plan of care, should be updated as appropriate for the findings of the holistic wound reassessment and documented. This should include documenting a date for the next holistic wound reassessment date.

### **Documenting healing**

Full healing of a wound should be documented. In an electronic patient record system, this may require allocation of a specific 'healed' code. Clear documentation of healing is important for audit and reporting.

Patients who have had a chronic wound are at increased risk of a further wound and so appropriate preventative measures should be implemented and patients should be advised on how to monitor their skin and how to seek early advice if skin breakdown occurs.



# Using telecommunication technology

Consider using telecommunication technology, such as video calling, to assist with wound assessment, monitoring and specialist referral.

**Practitioner**

**BPS 9**

The healthcare worker looking after you and your wound may suggest that you telephone, email or video call them to keep in touch about your progress and care. Video calling might also be used if you need to see a wound specialist.

**Patient expectation**

## Overview

- Use of telecommunication technology has the potential to improve patient care and reduce healthcare costs
- Telecommunication technology should be used according to local policies and may be particularly useful for patients living remotely from practitioners or specialist care

The use of telecommunication technology to provide remote healthcare is considered to have considerable potential as a means of containing costs, enhancing access to specialist services and improving patient quality of life (Gray et al, 2010; van Houwelingen et al, 2016).

The Expert Working Group recommends consideration of the use of telecommunication technology during wound assessment. Use should be in line with local policies and should consider issues such as patient confidentiality.

Such modes of communication include telephoning, emailing, transmission of photographs (taken by a practitioner or the patient) and, increasingly, video calling. These can be particularly useful when the patient is remote from the practitioner/specialist service or has difficulty in travelling to the practitioner/specialist service, e.g. because of lack of transport, discomfort or immobility (Santamaria & Kapp, 2013).

Telecommunication technology can be used by patients/carers to contact a practitioner for monitoring or to seek advice. It can also be used to screen requests for practitioner visits or appointments and for triage of patients who may require urgent specialist treatment. There is growing interest

in the use of video calling to facilitate specialist input and improve healing for patients being managed in primary care (Zarchi et al, 2015; Wickström et al, 2018). There are also mobile device apps under development for aiding wound monitoring and enabling communication between patients and practitioners.

## Summary

Ensuring that all patients with chronic wounds receive a holistic wound assessment has the potential to have a considerable effect on the physical, emotional and socioeconomic status of patients, on healing rates, on nursing time and on the financial costs of wound care. The use of a structured framework (e.g. Figure 1, page 5 or Figure 3, page 12) that incorporates holistic assessment, including establishing the cause of the wound, alongside agreeing objectives and selecting and evaluating care, will assist practitioners to deliver care that is most appropriate for the patient and the wound.

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