Why you should read this article:

- To understand how loss of independence and social withdrawal can affect patients with chronic wounds
- To remind yourself of the elements required for an optimal wound assessment such as wound measurements and tissue type
- To contribute towards revalidation as part of your 35 hours of CPD (UK readers)
- To contribute towards your professional development and local registration renewal requirements (non-UK readers)

Promoting an inclusive approach to assessing and managing chronic wounds

Fiona Smith and Ailsa Sharp

Abstract

Chronic wounds can be burdensome for patients and are associated with a loss of independence and social withdrawal. Additionally, there are challenges for healthcare services in providing care over a long period of time and across different acute and community settings. Patients with chronic wounds require a holistic assessment of their health and their wound, undertaken by healthcare professionals with knowledge of the wound healing process. Patients and carers may benefit from education and greater involvement in their wound care, since this can lead to increased independence, a sense of control and improved well-being. This article outlines the elements of an optimal wound assessment and explains how this can inform effective decision-making about appropriate care and management interventions. It also discusses how healthcare professionals can promote patient involvement and self-management of chronic wounds.

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Keywords

chronic wounds, clinical, complex wounds, patient engagement, patients, professional self-care, skin, wound assessment, wound care, wound healing, wound management

Aims and intended learning outcomes

The aim of this article is to enable nurses to apply knowledge of the wound healing process to the assessment, care and management of chronic wounds. The article also aims to explore the contribution of nurses, the multidisciplinary team, patients and informal carers in promoting the self-management of chronic wounds. After reading this article and completing the time out activities you should be able to:

- Describe the elements that should be included in a holistic wound assessment.
- Apply knowledge of the wound healing process to the assessment of wounds.
- Understand how wound assessment influences clinical decision-making in wound care.
- Recognise the value of using a person-centred approach to wound care that includes patients, informal carers and the multidisciplinary team.
- Examine various developments in practice, such as the increased importance of patient involvement and promoting the self-management of wounds.

Introduction

Chronic wounds have underlying causes that lead to a delay in wound healing, in contrast with acute wounds, which are usually caused by trauma or surgery and heal in a timely manner (Peate and Glencross 2015). The nursing care of people with chronic wounds is complex and multifactorial and will often involve input from the multidisciplinary...
team, primarily in the community setting (Gray et al 2019). In the UK, an increasing number of people with chronic wounds require healthcare services, with an estimated 3.8 million people with a wound managed by the NHS in 2017-18 (Guest et al 2017, 2020). In addition, there has been a notable decline in the number of community nurses (Guest et al 2020) and year-on-year increases in overall nurse vacancy rates in the NHS (NHS Digital 2023), resulting in an increase in workload for nurses practising in the community setting.

People with a chronic wound may experience social withdrawal, decreased independence and loss of a sense of control (Pragnell and Neilson 2010, Kapp et al 2017, Murray et al 2018). Therefore it is important that these individuals are empowered to participate in decisions about their wound care and to self-manage their wound if they are willing and able to do so (Wounds International 2016, Gupta et al 2017). The coronavirus disease 2019 (COVID-19) pandemic emphasised the need to increase patient involvement in wound care. During the pandemic, limited contact between people with wounds and nurses, alongside temporary closure of wound clinics and services, meant there was a need for people with wounds, their significant others and their carers to become increasingly involved in wound care, and for healthcare professionals to enable them to do so (Queen and Harding 2022).

**TIME OUT 1**

Review the elements that should be included in a wound assessment, as detailed in Boxes 1 and 2. Does your local wound assessment tool incorporate all of these elements? How could this tool be improved?

**Holistic wound assessment**

Healthcare Improvement Scotland (2021) advised that a wound assessment should be completed for every patient with a wound. This assessment should be holistic and person-centred, closely involving the patient to ensure shared decision-making and to encourage them to take an active role in their wound management.

The holistic assessment of a wound should begin with the healthcare professional asking the patient questions about the wound and their physical, social and psychological well-being, and observing for any issues with their wound and potential barriers to healing (Smith and Sharp 2019). Once this has been completed, a clinical examination of the wound should be undertaken by a healthcare professional – often a nurse – who has understanding, experience and knowledge of the wound healing process (Lloyd-Jones 2017). To manage wounds effectively, healthcare professionals need to be competent in wound assessment, because this will inform their clinical decision-making (Docherty 2020).

Ideally, a formal wound assessment tool should be used to ensure the assessment is completed in a systematic, structured manner; however, concerns have been raised that this is not widely undertaken in practice (Moore et al 2019). White (1999) suggested that using a structured approach to wound assessment can aid diagnosis and subsequent treatment decisions. Furthermore, using a structured assessment process to develop a care plan for patients with a chronic wound has been shown to reduce healing times and the need for systemic antibiotics (Oien and Forssell 2013). Knowledge of wound healing and the use of clinical judgement are required to make decisions about treatment and to determine whether further tests are necessary to make a formal diagnosis; however, one study found that in 12% of recorded wounds no diagnosis had been made (Guest et al 2015).

Several frameworks are available to aid structured wound assessment, such as Applied Wound Management (Gray 2005), which uses three continuums related to healing, infection and exudate, and the TIME (tissue, inflammation or infection, moisture balance and wound edge) framework, which outlines how to apply the principles of wound bed preparation in practice (Schultz et al 2003). Coleman et al (2017) developed a wound assessment minimum data set (Box 1), based on what an expert panel considered to be the relevant components of a wound assessment tool. Similarly, Greatrex-White and Moxey (2015) identified from the literature what they considered to be the elements of an optimal wound assessment tool (Box 2) and used this information to assess available wound assessment tools. When combined, these two sets of criteria provide an effective indication of what should be included in the systematic assessment of a wound.

**TIME OUT 2**

Consider a time when you or a colleague have found it challenging to identify which phase of healing a wound had reached. Why was this challenging and how did it affect the wound care provided to the patient?

**Phases of wound healing**

The four main phases of wound healing are summarised in Table 1. Most wounds...
progress through these phases in an orderly and timely manner (McFarland and Smith 2014). However, some wounds do not progress through these phases within the expected timeframes (Smith and Sharp 2019). Awareness of the four phases and the clinical signs to look for in each phase can aid the assessment process and lead nurses to make appropriate decisions about how to manage the wound.

As part of a wound assessment, it is important to identify the tissue type present within the wound – for example whether it is necrotic, sloughy or granulating – since this is crucial to determining the phase of healing that the wound is in. All wound assessment tools mention the tissue found in the wound bed; the TIME framework looks to quantify this, while Applied Wound Management looks to identify the tissue type that is furthest from healing (Gray 2005, Dowsett 2008).

**Box 1. Wound assessment minimum data set**

<table>
<thead>
<tr>
<th>General health information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of delayed healing, for example factors affecting the blood supply to the wound and medicines</td>
</tr>
<tr>
<td>Allergies</td>
</tr>
<tr>
<td>Skin sensitivities</td>
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<tr>
<td>Effect on quality of life</td>
</tr>
<tr>
<td>Patient or carer information</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wound baseline information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of wounds</td>
</tr>
<tr>
<td>Wound location</td>
</tr>
<tr>
<td>Wound type and/or classification</td>
</tr>
<tr>
<td>Wound duration</td>
</tr>
<tr>
<td>Treatment aim</td>
</tr>
<tr>
<td>Planned reassessment date</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wound assessment parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wound size – maximum length, width and depth</td>
</tr>
<tr>
<td>Undermining or tunnelling</td>
</tr>
<tr>
<td>Category (pressure ulcers only)</td>
</tr>
<tr>
<td>Wound bed tissue type</td>
</tr>
<tr>
<td>Wound bed tissue amount</td>
</tr>
<tr>
<td>Description of wound margins or edges</td>
</tr>
<tr>
<td>Colour and condition of surrounding skin</td>
</tr>
<tr>
<td>Whether the wound has healed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wound symptoms</th>
</tr>
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<tbody>
<tr>
<td>Presence, frequency and severity of wound pain</td>
</tr>
<tr>
<td>Exudate amount, consistency, type and colour</td>
</tr>
<tr>
<td>Odour occurrence</td>
</tr>
<tr>
<td>Signs of local or systemic infection</td>
</tr>
<tr>
<td>Whether a wound swab has been taken</td>
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<tr>
<th>Specialists</th>
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<tbody>
<tr>
<td>Investigation of lower limb – ankle brachial pressure index</td>
</tr>
<tr>
<td>Referral – for example to the tissue viability service or hospital consultant</td>
</tr>
</tbody>
</table>

(Coleman et al 2017)

**Haemostasis phase**

The haemostasis phase is clearly identifiable from the active bleeding, which usually reduces quickly (Smith and Sharp 2019). Vasoconstriction occurs and platelets released from the damaged blood vessels trigger the clotting cascade, with a fibrin clot developing (Vuolo 2009). A bleeding wound suggests a recent injury or may indicate issues with clotting. Various conditions such as haemophilia and Von Willebrand disease (an inherited clotting disorder), and medicines such as warfarin sodium and clopidogrel can interfere with clotting times. Bleeding that occurs in new granulation tissue in a chronic wound may indicate infection (Cutting 1998).

**Inflammatory phase**

The inflammatory phase is often problematic in chronic wounds (Bosanquet and Harding 2014, Gupta et al 2017, Han and Ceilley 2017). The reaction to invading bacteria and foreign bodies stimulates an inflammatory response which, although helpful when there is necrotic or sloughy tissue to be removed, can be detrimental to healing if prolonged (Powers et al 2016). This response leads to an increase in the amount of exudate, which is a clear sign that the wound is in the inflammatory phase. Observing the wound’s level and type of exudate over time can indicate its progression towards healing.

The presence of a haematoma or devitalised tissue can provide a reservoir for bacteria and may obscure the actual dimensions of the wound bed (Docherty 2020). Sloughy tissue adheres to the wound bed and is usually soft and creamy yellow, brown or black in colour. It is formed by rehydrated necrotic and fibrous tissue along with bacteria and dead white blood cells.
cells, and its presence is a strong indicator that the wound is in the inflammatory phase (Cook 2012, Angel 2019). The presence of this non-viable tissue can prolong the inflammatory phase and it should be removed in a timely manner using a recognised method of debridement (McFarland and Smith 2014). The colour and quantity of devitalised tissue should be noted, with the amount of slough or necrotic tissue reducing as the wound progresses to healing.

**Proliferative phase**
In the proliferative phase, new blood vessels are formed via angiogenesis, where existing blood vessels sprout buds of new capillaries which meet and form capillary loops, supporting fibroblasts to develop new connective tissue (Vuolo 2009). Fibroblasts proliferate within hours of an injury and will begin producing new tissue as inflammation reduces within the wound bed, usually from around the three-day point onwards (Peate and Glencross 2015). The red ‘bumpy’ appearance of fresh granulation tissue is a clear sign that proliferation is taking place.

New skin cells can migrate across a granulating base in a process known as epithelisation. These new skin cells can appear as small, pale pink islands where the epidermal cells are lining the structures within the skin (for example hair follicles), or a wave of pale pink moving from the wound margins to close the wound (Peate and Glencross 2015).

An increase in granulation tissue is an indicator of healing, so the amount of granulation tissue in the wound, the level of exudate and the colour of the new tissue should be observed as part of the evaluation of how the wound is healing.

**Maturation phase**
During the maturation phase, the wound is covered by new skin cells but can remain red and raised until this phase is completed. This process can take from weeks to months, depending on the size and position of the wound. Type III collagen will be synthesised in the early stages of wound healing, and the wound area will have reduced tensile strength until this type III collagen is replaced with type I collagen, at which point the redness will recede as the blood supply withdraws from the scar tissue (McFarland and Smith 2014). The use of protection such as effective care of the wound site or continued use of a dressing is crucial during this phase because the tissue is at risk of breakdown or traumatic damage until its tensile strength has improved.

Consider a patient with a chronic wound who you cared for. Which healthcare professionals would it have been helpful to have on the multidisciplinary team? How might you involve others more effectively in your practice?

**Multidisciplinary team care**
People with chronic wounds are often cared for across a variety of acute and community settings, with substantial financial resources attributed to their care (Gray et al 2018, Urwin et al 2022). With this multidisciplinary team approach to wound care, a structured assessment process can aid communication. Sharing the findings of an assessment is particularly useful when various healthcare professionals in different settings are involved in care. The ability to access previous assessments can be beneficial in showing the progression of a wound’s healing when reviewing a treatment plan. Effective evaluation of wound care can only be achieved

<table>
<thead>
<tr>
<th>Table 1. Summary of the phases of wound healing</th>
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<tbody>
<tr>
<td><strong>Timeframe post-injury</strong></td>
</tr>
<tr>
<td><strong>Activity</strong></td>
</tr>
<tr>
<td><strong>Visible signs</strong></td>
</tr>
<tr>
<td><strong>Colour</strong></td>
</tr>
</tbody>
</table>

(Adapted from McFarland and Smith 2014, Smith and Sharp 2019)
Encouraging patients to be involved in their care encompasses three aspects: patient autonomy, patient rights and health literacy. Consider a patient you have recently cared for and reflect on how you encouraged them to be involved in the care of their wound, taking into account these three aspects.

**Patient involvement**

Patient involvement should be recognised as an essential component of care. Nurses should assess the level of involvement desired by the patient and their carers (Wounds International 2016), which can vary from passive acceptance of care to active engagement.

When previous assessments are available to identify any progress towards healing and if interventions have been effective (Doughty 2004). Many clinical areas use electronic records, which should ideally include the wound assessment minimum data set (Box 1). This information should be readily accessible to all relevant healthcare professionals.

In some clinical areas, multidisciplinary clinics for specific wound types have had positive effects. For example, Gottrup (2004) identified that multidisciplinary wound-healing centres in Denmark led to improved healing rates for patients with leg ulcers, suggesting that communication and collaboration has beneficial outcomes for patients. Similarly, Joret et al (2019) demonstrated that a multidisciplinary diabetic foot clinic reduced costs, hospital admissions and amputations, while also improving patients’ concordance with treatment.

It should be noted that many informal carers manage wounds in the community. Miller and Kapp (2015) identified that there is a lack of information on the care provided by informal carers, yet acknowledged that they provide an important contribution to the management of wounds. Indeed, Reinhard et al (2012) identified that 35% of informal carers provided wound care as part of their caring role and find this one of the most challenging aspects of providing care. Similarly, a systematic review by Klein et al (2021) found that providing care can be a significant burden for family members. Therefore, it is important that they receive appropriate support and education. Informal carers are a useful resource who can support healthcare professionals and facilitate a more person-centred approach to wound care and should be considered partners in the multidisciplinary team (Aldridge and Harrison Dening 2022).

**TIME OUT 4**

Encouraging patients to be involved in their own care encompasses three aspects: patient autonomy, patient rights and health literacy. Consider a patient you have recently cared for and reflect on how you encouraged them to be involved in the care of their wound, taking into account these three aspects.

**Patient involvement**

Patient involvement should be recognised as an essential component of care. Nurses should assess the level of involvement desired by the patient and their carers (Wounds International 2016), which can vary from passive acceptance of care to active engagement.
A study by Kapp et al (2017) found that patients gained independence by self-treating their chronic wounds, and that although most patients had seen healthcare professionals for advice, few had received any education or training to manage their wounds. Information for patients and carers is available in several formats, including leaflets and web-based materials (Wounds International 2016, Healthcare Improvement Scotland and National Association of Tissue Viability Nurse Specialists 2020). Furthermore, some areas offer phone support lines and virtual clinics.

**Developments in wound care delivery**

As the way in which healthcare is delivered changes – for example, the integration of health and social care, alongside care increasingly being delivered at home – the roles of healthcare professionals also need to evolve. With appropriate supervision and training, a range of healthcare professionals may undertake wound care, including those not previously involved in such activities. For example, in recent years community pharmacists have played a greater role in the management of long-term health conditions, and this can include wound care (Mossialos et al 2015). Healthcare assistants and nursing associates with sufficient knowledge to identify changes in the wound may also undertake wound care, in accordance with the patient’s care plan.

While involving other healthcare professionals in wound care can be beneficial, variation in their knowledge and skills in this area of practice has been acknowledged as a potential contributor to inadequate care (National Wound Care Strategy Programme and Skills for Health 2021). Furthermore, inexperienced healthcare professionals tend to focus on the wound and may miss valuable holistic information about the patient (Brown and Flanagan 2013).

In response to clinical need, the National Wound Care: Core Capabilities Framework for England (National Wound Care Strategy Programme and Skills for Health 2021) was published to define the knowledge, skills and behaviours required by the multidisciplinary team who are involved in wound care. The framework comprises five domains:

- Domain A – underpinning principles.
- Domain B – assessment, investigations and diagnosis.
- Domain C – wound care. This includes care planning, interventions and referrals.
- Domain D – personalised care and health promotion. This includes communication, prevention and improvement.
- Domain E – leadership and management, education and research.

The COVID-19 pandemic has demonstrated that wound care can be delivered differently, often remotely, but this requires effective assessment and support for patients and their carers (Scalise et al 2022). Bondini et al’s (2020) literature review found that while it was often challenging to implement telehealth systems, these were effective when the initial consultation involved both the referring healthcare professional and the multidisciplinary wound care team, to support effective decision-making.

During the pandemic, this first step was omitted and many patients had to undertake their own assessment under guidance, which was less comprehensive. A triage tool was subsequently developed for directing patients with a wound to the most appropriate healthcare setting (Bondini et al 2020). Developing telehealth systems may be particularly beneficial to those working in remote and rural areas; however, further evaluation of existing telehealth services would be helpful before introducing new ones.

**Conclusion**

Chronic wounds are complex and can have significant effects on patients, families and carers. Wound care can occur across a variety of acute and community settings, requiring a multidisciplinary team approach. The care and management of chronic wounds should be based on a comprehensive, holistic assessment of patients and their wounds. It is essential that healthcare professionals, including nurses, have the required knowledge, skills and behaviours to provide effective wound care, and that patients and informal carers are involved in wound assessment, care planning, management and evaluation.

Nurses often have a central role in coordinating and supporting patients and their informal carers to contribute to the self-care and management of wounds through shared decision-making and goal setting to achieve the desired outcomes.

**TIME OUT 5**

Identify how the assessment and management of chronic wounds applies to your practice and the requirements of your regulatory body.

**TIME OUT 6**

Now that you have completed the article, reflect on your practice in this area and consider writing a reflective account: rcni.com/reflective-account
### Chronic wounds

**TEST YOUR KNOWLEDGE BY COMPLETING THIS MULTIPLE-CHOICE QUIZ**

1. Living with a chronic wound can result in:
   - a) Social withdrawal
   - b) Decreased independence
   - c) Loss of a sense of control
   - d) All of the above

2. Which statement is true?
   - a) Patients should be discouraged from participating in decisions about their wound care
   - b) During the coronavirus disease 2019 (COVID-19) pandemic there was a need for people with wounds to become less involved in wound care
   - c) Nursing care of people with chronic wounds will often involve input from the multidisciplinary team, primarily in a community setting
   - d) Wound care is solely the responsibility of medical professionals

3. In the TIME framework, what does the 'M' stand for?
   - a) Medicines
   - b) Moisture balance
   - c) Management
   - d) Making decisions

4. A wound assessment should be:
   - a) Structured and holistic
   - b) Rapid and informal
   - c) Task-focused and biomedical
   - d) Ad hoc and unstructured

5. Which of these elements should be included in an optimal wound assessment tool?
   - a) Wound measurement
   - b) Tissue type
   - c) Exudate
   - d) All of the above

6. What is the first phase of wound healing?
   - a) Inflammatory phase
   - b) Proliferation phase
   - c) Haemostasis phase
   - d) Maturation phase

7. Which of these is an indicator that a wound is in the inflammatory phase?
   - a) Active bleeding
   - b) The formation of new blood vessels
   - c) The presence of sloughy tissue
   - d) The formation of skin across the surface of the wound

8. Bleeding that occurs in new granulation tissue in a chronic wound may indicate:
   - a) Infection
   - b) Healing
   - c) Necrosis
   - d) Clot formation

9. Which of these is not one of the three aspects of patient empowerment?
   - a) Patient autonomy
   - b) Patient dependence
   - c) Patient rights
   - d) Health literacy

10. What is the aim of patient involvement in wound care?
    - a) To increase the use of telehealth systems in clinical practice
    - b) To enable nurses to manage their time more effectively
    - c) To encourage patients to access emergency services
    - d) To encourage patients to be active in decisions about their care and management

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**How to complete this assessment**

This multiple-choice quiz will help you test your knowledge. It comprises ten multiple choice questions broadly linked to the previous article. There is one correct answer to each question.

You can read the article before answering the questions or attempt the questions first, then read the article and see if you would answer them differently.

You may want to write a reflective account. Visit rcni.com/reflective-account

Go online to complete this multiple-choice quiz and you can save it to your RCNi portfolio to help meet your revalidation requirements.

Go to rcni.com/cpd/test-your-knowledge

The answers to this quiz are:

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**This activity has taken me __ minutes/hours to complete. Now that I have read this article and completed this assessment, I think my knowledge is:**

- Excellent
- Good
- Satisfactory
- Unsatisfactory
- Poor

As a result of this I intend to:

____________________________________________________________________________________
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