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# An inclusive approach to assessing and managing chronic wounds

## Aims and intended learning outcomes

The aim of this article is to enable nurses who are responsible for managing chronic wounds to apply knowledge of the wound healing process to the assessment and decisions made about wound care. The article explores the contribution of the nurse, the multidisciplinary team, patients, and informal carers in the promotion of self-management of wounds. After reading this article and completion of the time out activities, you should be able to:

- Apply knowledge of the wound healing process to the assessment of wounds
- Critically reflect how wound assessment influences clinical decision making in wound care
- Using a patient centred approach, appraise the value of a multi-disciplinary team (including significant others) approach to wound care
- Examine the impact of patient involvement in the promotion of self-management of wounds

## Abstract

Chronic wounds can be a burden for the patient, with loss of independence, social withdrawal. Additionally, they are challenging for the health services providing care potentially over a long period of time and across different health and care settings. Information needs to be shared with all those caring for a patient with a wound and the inclusion of appropriate specialists can be key to achieving healing in a timely manner. These patients need detailed holistic assessment, both of their health and their wound, using a structured assessment process from care providers with the required knowledge, skills, and behaviours to achieve the determined goals. Patients and carers may benefit from education on wound healing and inclusion in decision making as part of the multi-disciplinary team as self-care is promoted as an enabler of independence, promoting a sense of control, and improving well-being. This article examines the practical application of wound assessment that leads to good decision-making, involving the multi-disciplinary team and most importantly, how healthcare professionals can empower themselves and those they care for who have chronic wounds to promote patient involvement and self-management of wounds.

## Clinical Context of Chronic Wound Care

Chronic wounds are complex and, by definition, difficult to heal due to an often-extensive array of factors (Smith and Sharp, 2019). Nursing care of people with wounds that are determined to be chronic is complex, multifactorial and will often involve input from the multidisciplinary health and care team mainly within a community setting (Gray et at, 2019). Within healthcare in the United Kingdom (UK), we are faced with an increasing incidence of people with chronic wounds who require care (Guest et al, 2017) resulting in an estimated 3.8 million people living with a wound in the UK (Guest et al, 2020). This situation is juxtaposed with a notable decline in community nurses (Guest et al, 2020) and year-on-year increases in overall nurse vacancy rates within the NHS (NHS Digital, 2022).

It is acknowledged that living with a chronic wound can result in decreasing independence, social withdrawal, 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 regarding their wound care and to care for their wound if they are able to, or wish to do so (Wounds International, 2016; Gupta et al, 2017). The impact of the Covid-19 pandemic emphasised the need for enhancing patient participation in wound care. Here, the limited contact between people with wounds and nursing staff, temporary closure of wound clinics and services drove the need to empower healthcare practitioners, people with wounds, their significant others, and their carers to embrace an increased emphasis on patient involvement in wound care (Queen and Harding, 2022).

## Holistic assessment

Managing wounds requires clinicians to be competent at wound assessment as this is the starting point for their clinical decision making (Doherty, 2020). This assessment should be holistic, and patient centred closely involving the patient to ensure shared decision making and to encourage them to take an active role in their wound management.

Holistic assessment of a wound begins with the patient, usually through questioning and observation, to identify the patient's issues with the wound and any potential barriers to healing (Smith & Sharp, 2019). Only once this has been completed should clinical examination of the wound be started (Lloyd-Jones, 2017). This is a role usually undertaken by a healthcare professional who has the understanding, experience, and knowledge of the wound healing process, often a registered nurse.

As the landscape of healthcare delivery changes, so too must the activities of those health and care professionals facing the patient. With appropriate supervision and training other health and care professionals may undertake wound care, including practitioners not previously involved in wound care such as community pharmacists who have, over recent years, a more significant role in the management of chronic health conditions and this can include wound care (Mossialos, 2015). Healthcare assistants and associates may undertake wound care, following a care plan when they have sufficient knowledge to identify changes in the wound. Whilst this approach has merit, variation in wound care related knowledge and skills across the health and care workforce has been acknowledged as a potential contributor to inadequate care (National Wound Care Strategy Programme (NWCSP), 2021). Inexperience can lead to components of a holistic/patient centred assessment being lost as practitioners tend to focus on the wound and miss valuable information about the patient (Brown & Flanagan, 2013).

In response to clinical need, the *National Wound Care: Core Capabilities Framework for England* (NWCSP, 2021) was published to define the knowledge, skills and behaviours needed by the multi-professional workforce who are involved in wound care and are outlined in table one below:

Table One: Wound Care Core Capabilities adapted from The Wound Care Core Capabilities Framework (NWCSP, 2021)

| DOMAIN | DOMAIN TITLE | TOPIC/CAPABILITIES |
|---|---|---|
| A | Underpinning principles | 1. Underpinning principles |
| B | Assessment, investigation and diagnosis | 2. Assessment and investigations<br>3. Diagnosis |

| | | |
|---|---|---|
| C | Wound care | 4. Care planning<br>5. Wound care and interventions<br>6. Referrals |
| D | Personalised care and health promotion | 7. Communication<br>8. Personalised care<br>9. Prevention, health promotion and improvement |
| E | Leadership & management, education and research | 10. Leadership & management<br>11. Education<br>12.Research, audit and quality improvement |

## Wound assessment

Healthcare Improvement Scotland (HIS) advise the completion of a wound assessment for every patient or client with a wound (HIS, 2021). Assessment is traditionally carried out when a wound is first identified, ideally a formal wound assessment tool is used, thus completing the assessment in a systematic, structured way, however, concern has been raised that this is not widely practiced (Moore et al, 2019).

White (1999) suggested that using a structured approach to wound assessment can aid diagnosis and thus treatment decisions. Using a structured assessment process to develop a care plan for patients with a chronic wound has been shown to reduce healing times and also reduce the need for systemic antibiotics in Sweden (Öien & Forssell, 2013). These decisions require knowledge of wound healing and the use of clinical judgement to decide on treatment options or further tests to make a formal diagnosis, yet, as many as 30% of wounds do not have this assessment and diagnosis (Guest et al, 2015).

There are several frameworks to aid structured wound assessment, these include the principles from Wound Bed Preparation (WBP) (Schultz et al, 2003), with the Tissue Inflammation/Infection Moisture balance and the wound Edge (TIME) framework developed to aid the application of these principles. Other tools such as Applied Wound Management (AWM) have been developed by Gray (2005).

Coleman et al (2017) published a minimum data set (MDS) for wound assessment, a list of what their expert panel considered to be relevant components to be included in a wound assessment tool. Earlier, Greatrex-White and Moxey (2015) identified from the literature, what they considered to be the desirable characteristics for a wound assessment tool and used this information to assess available wound assessment tools. These two papers, when combined, give a good indication of what is appropriate in an assessment tool to support the systematic assessment of a wound (see Tables Two and Three).

Table Two: Key criteria identified by Coleman et al (2017)

| General Health information | Wound symptoms |
|---|---|
| Risk for delayed healing: blood supply/meds | Presence of wound pain |
| Allergies | Wound pain frequency |
| Skin sensitivities | Wound pain severity |

| | |
|---|---|
| Quality of life impact | Exudate amount |
| Patient or carer information | Exudate consistency/type/colour |
| Wound baseline information | Odour occurrence |
| Number of wounds | Signs of systemic infection |
| Wound location | Signs of local infection |
| Wound type/classification | Whether a wound swab has been taken |
| Wound duration | Specialists |
| Treatment aim | Investigation of lower limb (ABPI) |
| Planned reassessment date | Referral (TV, Hospital Consultant) |
| Wound assessment parameters | |
| Wound size (max l, w, d) | Wound bed tissue amount |
| Undermining/tunnelling | Description of wound margins/edges |
| Category (Pressure ulcers only) | Colour and condition of surrounding skin |
| Wound bed tissue type | Whether the wound has healed |

Table Three: Characteristics suggested as meeting the needs of nurses when assessing wounds (adapted from Greatrex-White & Moxey, 2015).

| **Characteristics of an optimal wound assessment tool** |
|---|
| Details and characteristic of the wound |
| Patient details |
| Wound measurements |
| Tissue type |
| Exudate |
| Surrounding skin |
| Pain |
| Signs of infection |
| Documentation |
| Communication and continuity of care |
| Ease of use |
| Setting goals and planning care |
| Monitoring of the healing process |
| Guiding practice |

**Time out activity one:** Review the tables one and two of characteristics to include in wound assessment tools and determine why these considered appropriate details to include in an assessment tool? Does your local wound assessment tool meet these criteria, if not consider how it could do this or be improved.

## Phases of healing

Once the patient centred components of the assessment have been completed, then assessment of the wound can be conducted. Assessment of the wound includes identifying the tissue type within a wound as being necrotic, sloughy or granulating. Identification of the tissue type within a wound is

key to identifying the phase of wound healing. All wound assessment charts include some mention of the tissue found in the wound bed; TIME looks to quantify this, while AWM looks for the furthest tissue type from healing (Dowsett, 2008; Gray, 2005).

The four main stages of wound healing are well documented, from achieving haemostasis though inflammation, proliferation to maturation with most wounds progressing through these stages in an orderly manner (McFarland & Smith 2014). However, not all wounds progress as expected and this is where the challenges lie (Smith and Sharp, 2019). Awareness of the four stages and key signs to look for can help with the assessment process and lead to good decisions in managing the wound (see Table Four for a summary of the phases of wound healing).

### Haemostasis

This phase is clearly identifiable with active bleeding, which usually reduces quickly, however, some conditions can impact on clotting (Smith & 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 alternatively may suggest issues with clotting, however, when bleeding is seen in new granulation tissue this may indicate infection in a chronic wound (Cutting 1998).

### Inflammatory phase

This is considered to be the phase which is often troublesome 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, while helpful when there is necrotic or sloughy tissue to be removed, if prolonged, can be detrimental to healing (Powers et al, 2016). This response leads to an increase in the amount of exudate, a clear sign of the wound being in the inflammatory phase. Observing the level and type of exudate over time can indicate progression to healing.

The presence of a haematoma or devitalised (dead) tissue can provide a reservoir for bacteria and in addition obscures the actual dimensions of the wound bed (Docherty, 2020). Sloughy tissue adheres to the wound bed and is usually seen as creamy-yellow or brown/black and soft. It is formed by rehydrated necrotic and fibrous tissue along with bacteria and dead white cells, a strong indicator the wound is in the inflammatory phase (Cook, 2012). The presence of this non-viable tissue can prolong the inflammatory phase and the aim would be to remove it in a timely manner via a recognised method of debridement (McFarland & Smith, 2014).

The colour and quantity of this devitalised tissue should be noted, with the amount of slough or necrotic tissue reducing as the wound progresses to healing.

### Proliferative phase

Within this phase new blood vessels are developed, angiogenesis, where existing blood vessels sprout buds of new capillaries which meet and form capillary loops and supports fibroblasts developing new connective tissue (Vuolo, 2009). Fibroblasts proliferate within hours of injury and will begin producing new tissue as inflammation reduces within in the wound bed, usually from around 3 days onwards (Peate & 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, epithelialisation, they can appear as small islands of pale pink where there are the epidermal cells lining the structure within the skin (e.g. hair

follicles), or a wave of pale pink moving from the wound margins to close the wound (Peate & Glencross, 2015).

Observing the increase in granulation tissue is an indicator of healing, noting the amount of granulation tissue in the wound, the level of exudate and also the colour of the new tissue, should form part of the evaluation of how the wound is healing.

### Maturation phase

When the wound has skin covering the surface, the wound can remain red and raised until the maturation process is completed. This can take from weeks to months depending on the size and position of the wound. The area has a reduced tensile strength until the type 111 collagen is replaced with type 1, at which point the redness will recede as the blood supply withdraws from the scar tissue (McFarland & Smith 2014). Protection is therefore vital at this stage as the tissue is at risk of breakdown or traumatic damage until the tensile strength has improved.

Table Four: Summary of Phases of Wound Healing (adapted from McFarland and Smith 2014)

| | Haemostasis | Inflammation | Proliferation | Maturation |
|---|---|---|---|---|
| Time frame post injury | Immediate on injury | 10-15 minutes | Hours to days | Days to months |
| Activity | Vasoconstriction<br>Clotting cascade | Vasodilation<br>Diapedesis | New capillary growth<br>Fibroblast accumulation and migration | Collagen remodelling |
| Visible signs | Active bleeding<br>Clot formation | Exudate<br>Presence of necrotic tissue, slough | Bumpy red granular tissue | Redness starts to fade |
| Colour | Red | Black/brown/yellow/white | Red | Pale pink |

**Time out activity two:** When have you found it challenging to identify a phase of wound healing? Why was this difficult and how did it affect the care you provided?

## The multi-disciplinary team

Increasingly patients are cared for across a variety of settings, both in the community and in residential care facilities. This means care can often be shared between different teams in the acute and community, and across the different settings. Complex wounds are managed across different levels of health services and a substantial amount of monetary resources are attributed to their care (Gray et al, 2018; Unwin et al, 2022). With this multidisciplinary approach to wound care, a structured assessment process can aid communication, as nurses may look for different signs compared to a podiatrist for example.

Early work on interdisciplinary wound clinics by Gottrup and colleagues (2004) showed improved healing rates with chronic wounds in Sweden, suggesting the communication and collaboration has beneficial outcomes for patients. Some clinical areas have multidisciplinary clinics for specific wound types with good effect, such as Joret et al (2019), who demonstrated setting up a multi-disciplinary diabetic foot clinic reduced costs, hospital admissions, amputations, and improved compliance in their patient population. However, other authors identified the challenges in developing these multidisciplinary clinics, particularly when removing traditional role boundaries (Donnelly & Shaw, 2000).

Sharing the assessment is valuable, particularly when there are several healthcare professionals caring for a patient with a wound. Many clinical areas are moving to electronic records which ideally will include the minimum data set for wound assessment criteria. These should be readily accessible to all relevant clinicians, given the range of care settings and carers providing care, but this can be a challenge. In addition, as progression of a wounds healing is important, the ability to show previous assessments and thus the healing trajectory is an advantage when reviewing a treatment plan. Effective evaluation of wound care can only be achieved when previous assessments are available to identify progress, or otherwise, and which practices were effective (Doughty, 2004).

It should be noted that many unpaid carers are managing wounds in the community. Miller and Kapp (2015) identified a lack of information on the care provided by informal carers, yet acknowledged they provide an economic contribution to the management of wounds. Indeed, Reinhart et al (2015) suggested 35% of informal carers provided wound care as part of their caring role and they find this one of the most challenging aspects of providing care. Klein et al (2021) within their systematic review, found that the care provided by spouses and family members can lead to a high burden for relatives. Healthcare professionals need to provide support and education to this group, a valuable resource who, when willing, can support healthcare professionals and enable a more patient centred approach to wound care. Informal carers are partners in the multidisciplinary team delivering care and should be included as such (Aldridge & Harrison-Dening, 2022).

The role of the nurse is to assess the level of involvement desired by the patient and their carers (Wounds International, 2016); this level of involvement can vary from passive acceptance of care to active engagement. They consider three elements to patient involvement, including health literacy to enable informed decision making, patient rights to accessing treatment and being offered information to enable them to make decisions and patient autonomy, where the patient is empowered to make decisions about their treatment and management. In addition, the best practice statement (Wounds International, 2016) includes suggestions on how to involve the patient as an active participant in wound care.

Kapp et al (2017) found that patients gained independence by self-treating, their study showed most patients had seen healthcare professionals for advice, though 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 (Healthcare Improvement Scotland; 2020, Wounds International, 2016).

**Time out activity three:** Consider a wound you have cared for and think who would have been helpful to have on your multidisciplinary wound care team? How can you involve others more effectively in your practice?

## Patient involvement

Health and care delivery should include patient involvement as a key component of care. Patient involvement is comprised of three intersecting aspects of patient empowerment: patient autonomy, patient rights and health literacy (Wounds International, 2016). Patients need to be able to make decisions about their treatment and management based upon the ability to access relevant health information to make informed choices and the ability to access appropriate services and treatments.

It is recognised that living with a chronic wound can result in decreasing independence, social withdrawal, financial impact, life disruption and loss of a sense of control (Pragnell and Neilson, 2010; Kapp et al, 2017; Murray et al, 2018; Klein et al, 2021). Ultimately, patient involvement in wound care aims to address these issues through encouraging patients to be active in decisions about their care and care management, promoting independence where possible and improving their sense of control (Wounds International 2016). For clinicians, patient involvement is centred upon developing a partnership with transparency of information as, according to the narratives in Paden and colleagues' study, a good and trusting relationship was a requirement of treatment success (Paden et al, 2022).

There is limited information on supporting self-care in wound management, however, there are benefits to supporting patients to self-manage their wounds (Blackburn et al, 2021). Nurses have a role in developing the patients' health literacy to enable them to make decisions about their care, as a knowledgeable patient can be a valuable partner in promoting wound healing. Acknowledging the experiential knowledge of the patient is important as this can aid shared decision making to prioritise treatment that best suits the patient's needs and expectations (Wounds International, 2016; Dougherty, 2020).

Patients may benefit from education and support from healthcare professionals when caring for their wounds, indeed many patients in the Kapp and Santamaria study reported involving their informal carers in wound care, so this education is needed across both groups (Kapp & Santamaria, 2017). Patient and carer education may include using written information, videos, or verbal support during a consultation to aid compliance with the treatment plan. Paden et al (2022) found that patients actively sought information via the internet about their wound but often did not understand the information, therefore the role of the healthcare professional to clarify information and provide robust sources of information is pivotal. Some areas offer telephone support lines, and some areas now offer virtual clinics.

The Covid 19 pandemic has shown that wound care can be delivered differently, often remotely, but this does require good assessment and support for patients and their carers (Scalise et al, 2022). In their literature review, Bondini and colleagues (2020) found it challenging to implement telehealth systems, they found success when the telehealth consultation involved both the referring clinician and the multidisciplinary wound care team at the initial visit to support effective decision making. The pandemic meant this first step was omitted and patients were relied on to perform their own assessment under guidance, resulting in a less comprehensive assessment. The team subsequently developed a triage tool directing patients with a wound to the most appropriate setting for care (Bondini et al, 2010). Developing telehealth maybe particularly beneficial to those working in remote and rural areas, however, more evaluation of these services currently operating would be helpful before designing new telehealth wound care services.

**Time out activity four:** Encouraging patients to be involved in their own care encompasses three aspects: patient autonomy, health literacy and patient rights. Consider a patient you have recently cared for and reflection how you encouraged them to be involved in the care of their wound taking account of these three factors.

**Time out activity five:** Following completion of Time out activity four, revisit your local wound assessment tool and consider if there is sufficient emphasis on patient involvement. How could this be improved?

## Conclusion

Caring for patients who have chronic wounds is complex as care can occur across a variety of settings, require multidisciplinary team contribution and the impact on the patient, their family and carers can be significant. Comprehensive, holistic assessment of the patient and their wound are the cornerstone upon which subsequent care delivery is based, and a workforce with the required knowledge, skills, and behaviours to achieve this is pivotal in the delivery of this complex care. The contribution of patient involvement and the involvement of informal carers in wound assessment, planning, intervention, and evaluation is significant. Healthcare professionals, in particular nurses, can play a central role in coordinating and supporting patients and their informal carers to contribute to self-care and management of the wound through shared decision making, successful goal setting to achieve the co-produced desired outcomes.

'The most important practical lesson that can be given to nurses is to teach them how to observe (assess) - how to observe (assess) what symptoms indicate improvement - what the reverse - which are of importance - which are evidence of neglect, and what kind of neglect.'

Florence Nightingale (1859) *Notes on Nursing*

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Total word count (abstract, text, time outs and references) = 5,234

# An inclusive approach to assessing and managing chronic wounds (previous title: Promoting patient involvement in chronic wound care)

Fiona Smith & Ailsa Sharp

Responses to Peer Reviewer Feedback

| Feedback Point | Author Response | Outcome/Changes Made |
|---|---|---|
| **1. Comments from Editors and Reviewers:**<br>**Reviewer One:**<br>I would advise you to change the title to reflect that the article is on the consistent assessment of wounds | Thank you for highlighting this, we acknowledge the point made and have revised the title accordingly. As the later part of the article focuses on an inclusive approach to chronic wound care this has been reflected in the new title. | Title changed to: *An inclusive approach to assessing and managing chronic wounds* |
| **Reviewer Two:**<br>Excellent research, well adapted to an article and easily applied to the reader's own practice | Thank you for your comments | No changes required |
| **2. Aims and Intended Learning Outcomes:**<br>**Reviewer One:**<br>a. The abstract infers that you are interested in helping colleagues to promote consumer involvement in wound care. If so, then I think a brief discussion needs to include the merits of such involvement<br>b. The article does not include an aim and intended learning outcomes | a. Thank you, the merits of involvement have now been included in the abstract<br>b. Thank you for highlighting, this was an oversite during the submission process. We have now included the aim and intended learning outcomes as agreed by the editor prior to commencing the article | *a)* Sentence added: *Patients and carers may benefit from education on wound healing and inclusion in decision making as part of the multi-disciplinary team as self-care is promoted as an enabler of independence, promoting a sense of control, and improving well-being.*<br>b) Aim and intended learning outcomes added |
| **Reviewer Two:**<br>Yes | No action required | N/A |

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| **3. The Text:**<br>**Reviewer One:**<br>The bulk of the paper is a summary of best features of wound assessment tools and stages of wound healing. Change the title to reflect that. | The title has been revised | As per comments in point 1 |
| **Reviewer Two:**<br>Area of content well researched, recent studies used to include studies published this year. Clear understanding of relevant methodologies and relative strengths and weaknesses. Demonstrates a clear understanding of the current challenges nursing is facing as a profession and contextualizes the research within this. | Thank you for your comments | N/A |
| **4. Time Outs:**<br>**Reviewer One:**<br>Your time outs are well positioned and not overly ambitious. | Thank you for your comments | N/A |
| **Reviewer Two:**<br>Encourages learning and application to real world practice. | Thank you for your comments | N/A |
| **5. References**<br>**Reviewer One:**<br>Yes | Thank you for your comments | N/A |
| **Reviewer Two:**<br>Yes | Thank you for your comments | N/A |
| **6. Illustrative materials:**<br>**Reviewer One:** | Thank you for your comments | N/A |

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| The tables on features of a sound wound assessment tool, and stages of healing are good and clear. | | |
| **Reviewer Two:**<br>Tables used to show grouping and subheadings of key concepts. Phases of healing may benefit from real-world examples. | Thank you for your comments, due to word limit it is not possible to include extra wordage here. | No changes to text/tables made |
| **7. Scenarios**<br>**Reviewer One:**<br>You don't use a scenario here and I don't think that you need one- it would be very word hungry! | Thank you for your comments | N/A |
| **Reviewer Two:**<br>Real world wound examples may be a useful way to apply new knowledge to practice. | Thank you for your comments, as per review one's comments, due to word count it is not possible to include scenarios | No changes to text/tables made |
| **8. Conclusion**<br>**Reviewer One:**<br>The conclusion focuses on wound assessment and wound healing - once you change the title and your aims and learning outcomes this conclusion should be fine. | Thank you for your comments, title has been amended (see point 1) and aims and intended LOs included (see point 2) | Please see point 1 and 2 above |
| **Reviewer Two:**<br>Yes. | Thank you for your comments | N/A |
| **In text annotation comments** | | |
| **Page one, paragraph one in 'Clinical Context of Chronic Wound' care section**<br>Numbers – I don't think you mean the standard of service, the later part of your sentence clarifies things but it reads oddly at first. | Agreed – we do not mean the standard of service; we were referring to staffing levels and the data to support the decline in numbers of staff. We have reworded the sentence to clarify. | Sentence amended to: *Within healthcare in the United Kingdom (UK), we are faced with an increasing incidence of people with chronic wounds who require care (Guest et al, 2017) resulting in an estimated 3.8 million people living with a wound in the UK (Guest et al, 2020). This situation is* |

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| | | *juxtaposed with a notable decline in community nurses (Guest et al, 2020) and year-on-year increases in overall nurse vacancy rates within the NHS (NHS Digital, 2022).* |
| **Page two, paragraph four in 'Holistic assessment' section**<br>Briefly indicate what the capabilities are | Thank you for your comment. We have included a table denoting the core capabilities from the framework (Table one in revised version) | See table one in revised version. |
| **Page four, paragraph one in 'Phases of wound healing' section**<br>If there are weblinks (free access) to these tools it would be good to indicate the relevant addresses | Thank you for the suggestion, we have included weblinks to these two articles where readers can access the tools. | Amended reference list to include weblinks:<br><br>*Dowsett, C. (2008). Using the TIME framework in wound bed preparation. British Journal of Community Nursing, 13(6), S15–S20. Available: https://doi.org/10.12968/bjcn.2008.13.Sup3.29468*<br><br>*Gray, D. (2005) Understanding applied wound management. Wounds UK 1 (10) 62-68. Available: https://www.wounds-uk.com/journals/issue/2/article-details/understanding-applied-wound-management* |
| **Page five, Table three (original text) summary of phases of Wound healing**<br>Indicate the source of the table | Thank you for highlighting this omission, source has been acknowledged in revised txt. | Text amended to:<br>*Table Four: Summary of Phases of Wound Healing (adapted from McFarland and Smith 2014)* |
| **Page six, paragraph four in 'The multi-disciplinary team' section**<br>a. Given the relatively common contribution of relatives to wound care, I think that you need to comment on the essentials that | a. Thank you for highlighting this, we have amended the text to reflect your recommendation. | a) Text added:<br><br>*The role of the nurse is to assess the level of involvement desired by the patient and their carers* |

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| they need to know to contribute effectively.<br>b. If next you mean relatives and patient involvement, then I would term this consumer involvement | b. The literature that we have read and cited within this text does not use the term 'consumer' (although we do acknowledge that this is more common term within publications from America) therefore, we have continued to use the terms patients, relatives and informal carers in the text. | *(Wounds International, 2016); this level of involvement can vary from passive acceptance of care to active engagement. They consider three elements to patient involvement, including health literacy to enable informed decision making, patient rights to accessing treatment and being offered information to enable them to make decisions and patient autonomy, where the patient is empowered to make decisions about their treatment and management. In addition, the best practice statement (Wounds International, 2016) includes suggestions on how to involve the patient as an active participant in wound care.*<br>*Kapp et al (2017) found that patients gained independence by self-treating, their study showed most patients had seen healthcare professionals for advice, though 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 (Healthcare Improvement Scotland; 2020, Wounds International, 2016).*<br><br>a. No changes made |