Accurate chronic wound assessment in the community setting

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The community nurse may come across a range of wounds in the community setting, particularly with the rise in comorbidities such as diabetes and cardiovascular disease due to unhealthy lifestyles and an ageing population. Accurate assessment is the key to identifying the most appropriate wound treatment programme; one that will promote healing and/or relieve symptoms associated with chronic wound healing. Product choice is secondary to getting the assessment process right and accurate assessment and methodical documentation not only help protect against legal challenges, but also aim to reduce waste, dressing change frequency (and thereby nurse time), and patient discomfort. The community nurse should always seek to match their wound-healing knowledge with what they see in the wound bed and the patient’s history, which in turn will enable the nurse to make informed therapy choices and provide expert patient advice.

KEYWORDS:
- Wounds
- Chronic wounds
- Assessment
- Diagnosis

With wound care currently calculated to cost the NHS £5.3 billion per year (Guest et al, 2015), and the importance of carrying out comprehensive wound assessment should not be underestimated, as it is key to establishing a differential diagnosis and enables clinicians to set patient agreed goals of care. Community nurses should therefore be skilled and competent to complete wound assessments, which should not be performed in isolation, as many patient-related factors affect the healing process. These are grouped into intrinsic, extrinsic and environmental factors. Successful management relies on identification and management of these factors, alongside managing the wound, using a triumvirate approach as shown in Figure 1.

The acronym Heidi (Figure 2) provides a framework for structured assessment, diagnosis and management of wounds (Heinrichs et al, 2005).

**HISTORY-TAKING**

It is important to step away from the wound and look at the person behind it. A complete medical history helps to establish comorbidities that have contributed to wound aetiology, and those that may affect healing. It is essential to establish the ‘healability’ before setting goals to ensure that these are achievable. As a minimum, community nurses should consider;

- Wound trigger — surgical, trauma, pressure, infection, oedema, previous treatments
- Medical background, e.g. cardiovascular disease or diabetes, as these factors may affect blood flow to the wound
- Factors that may negatively impact ‘healability’, such as age, smoking, anaemia, concordance, incontinence, immobility, pain
- Nutritional status — nutrition has been linked to impaired wound healing (Australian Wound Management Association, 2009)
- Socioeconomic status, including environmental factors, such as cluttered houses, pets, and inability to work leading to financial difficulties
- Psychological status, cognitive impairment and stress.

Evaluation needs an accurate and appropriate baseline from which to measure. It is important to look at and listen to the patient, paying attention to the factors that affect wound healing. Family history may be significant in leg ulceration or suspected malignant wounds, or undiagnosed diabetes.

Successful outcomes depend on balancing knowledge of wound healing and matching product attributes and choices to expedite the natural healing process or correct imbalances that lead to chronicity.

Sometimes, for example in the case of pressure ulcers/diabetic foot wounds, it is also about engaging the patient with offloading.

**EXAMINATION OF THE WOUND**

It is essential that wound documentation allows easy description of the wound in words. Assessment must include as a minimum; the wound location, size, shape, depth, tissue types in the wound and at the wound edge and in the periwound area, presence of any undermining, functional disturbance, odour, heat and exudate volume. It is important to ask if the history matches the wound. Failure to identify and treat
the underlying cause is the main reason for failure of wounds to heal (Eagle, 2009).

Frameworks aid documentation by encouraging consistency. One example is the T.I.M.E (Shultz et al, 2003) acronym, which represents:

- Tissue type
- Infection or inflammation
- Moisture
- Edge or epidermal advancement.

Advanced Wound Management (AWM) (Gray et al, 2005) is another method of wound assessment and documentation to help clinical decision-making, which uses three continuums related to wound parameters — tissue type, infection and exudate (see examples in Figures 3 and 4).

Whichever method of assessment is used, it is essential to differentiate between inflammation and infection. The inflammatory stage of wound healing lasts 3–5 days post wounding in acute wounds (Timmons, 2006). Neutrophil extravasation in the inflammatory phase of wound healing makes capillaries dilate to allow white cells to remove debris by phagocytosis. The permeability of capillaries produces exudate.

However, in normal circumstances this should start to reduce in numbers after about three days. Conversely, if bacterial counts are high, more white cell are needed which leads to more inflammation and more exudate. However, chronic wounds (those with an underlying pathophysiology) have high levels of unregulated inflammatory mediators; which is linked with chronicity (Romanelli et al, 2016). Signs of infection to look out for include:

- Redness (erythema) extending 2–3cm outside wound margins
- Heat (+ or – swelling/oedema)
- Odour
- Pain
- Increasing exudate — change in colour, viscosity and type
- Delayed healing or wound breakdown
- Wound bed discolouration/ granulation tissue which bleeds easily
- Pocketing at the base of the wound (World Union of Wound Healing Societies [WUWHS], 2008).

Establishing wound size is also an important parameter on which success is measured — this should include width, length and depth of the wound and be recorded at initial presentation and each assessment thereafter. In addition, obtaining images of the wound with a camera following written consent can help to monitor progress.

INVESTIGATIONS

Any investigations should be proportionate to the past medical history and in keeping with clinical signs and symptoms, and should seek to inform and aid diagnosis. Depending on the type of wound, investigations may include:

- Blood tests, full blood count (FBC) to exclude anaemia, international normalised ratio (INR) if bleeding, erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), electrolytes, lipids, haemoglobin A1c (HbA1c), mineral deficiencies and hypoalbuminemia can contribute to oedema formation

Wound swabs should only be taken if the patient is clinically symptomatic and the healthcare professional intends to treat the patient with antibiotics. Local symptoms of infection should be addressed with topical antimicrobial agents. If the wound fails to respond to antimicrobials, it can be helpful to consider looking for specific pathogens, as this can allow for a more targeted approach to specifically address the bioburden that is present in the wound and surrounding tissues. If there is any doubt about the type of specimen to send to the laboratory, contact the local microbiologist for advice. For example, in patients with repeated lower limb cellulitis, sending nail clippings to the laboratory to rule out fungal infection as the causative organism is often warranted.

If a patient’s wound is failing to progress or has a suspicious appearance, they should be referred to dermatology to obtain a tissue sample for histology to rule out malignancy and/or rarer immune diseases that lead to chronic wound development.

Figure 1. A triumvirate approach to wound assessment.

Figure 2. The acronym Heidi provides a framework for structured assessment, diagnosis and management (Heinrichs, 2005).
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In addition to the tests listed above, blood flow — ankle brachial pressure index (ABPI), oxygenation and neurological investigations should be sought if the patient’s wound is on their lower limb.

**CONCLUSION**

Accurate assessment is key to identifying the most appropriate treatment to expedite healing and/or to palliate symptoms associated with chronic wound healing. Product choice is secondary to getting the assessment process right. In the author’s clinical experience, good assessment and methodical contemporaneous documentation not only help to protect against legal challenges, but also aim to reduce waste, dressing frequency, nurse time, and patient discomfort.

**REFERENCES**


Guest JF, Ayoub N, McIlwraith T, et al (2015) Wound healing is initiated after injury and, at a cellular level, is a complex set of interactions between cells which result in closure of the defect.

For acute wounds, for example surgical incisions that are closed, the process is ordered and occurs in a timely and sequential fashion and could be described as predictable.

Unfortunately, the combination of underlying disease processes and an ageing population with multiple comorbidities can lead to chronicity.

Health economic burden that wounds impose on the national health service in the UK. BMJ Open 5(12): e009283. Available online: http://bmjopen.bmj.com/content/5/12/e009283.full


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