



## Promoting Evidence-Based Nursing Practice: *Wound Assessment and Documentation*

### Introduction

Sound assessment and accurate documentation is the cornerstone of wound management practice (Banks, 1998). Practitioners assessing wounds require an understanding of the basic principles and common terminology associated with wound characteristics.

### Principles of wound management

Principles of wound management guide the comprehensive assessment. Guiding the practitioner, the principles of wound management are:

1. Determine wound aetiology.
2. Identify and where possible eliminate or control factors impairing healing.
3. Determine realistic and achievable long and short term objectives.
4. Implement appropriate management regime.
5. Regularly monitor responses to the management regime and reassess as necessary.
6. Ensure optimal outcome is achieved (Fergusson and MacLellan, 1997)

Based on assessment a wound management regime can be planned in collaboration with the client. This plan is individually tailored to consider the person, his/her health, social, economic and psychological status, as well the characteristics of their wound (Morison et al, 1997).

### The 'whole' person

Wound assessment begins with a comprehensive assessment of the *person* with the wound. A broad assessment can identify factors which may impair healing (or an absence of these!). The following *intrinsic* factors are recognised for their potential to impair healing from (Carville, 2001, Bale and Jones, 1997).

Increasing age	Diabetes
Liver failure	Rheumatoid arthritis
Anaemia and blood dyscrasias	Inflammatory bowel disease
Auto-immune disorders	Reduced vascularity
Non steroidal anti-inflammatory drugs	Cytotoxics and radiotherapy
Poor nutrition	Obesity
Reduced sensation	Poor mobility

### Factors impairing healing

Carville (2001) identifies the following *extrinsic* factors as recognised for their potential to impair healing:

Moisture (eg incontinence)	High bacterial load / infection
Wound desiccation (dryness)	Cooling of wounds below 37°C
Pressure, shear and friction	Foreign bodies

The information obtained from a comprehensive assessment should be documented in a systematic and standardised manner to ensure all practitioners involved

in caring for the person with wound can access relevant information on which to base an appropriate management plan and expected wound response (Williams, 1997). It is important that the goals of wound management are clearly articulated and the plan of management is interdisciplinary and client focussed.

### The old dressing

Assessment of the old wound dressing is often overlooked. The old dressing reveals vital information in determining the appropriateness of the dressing products chosen and the wound characteristics. The old dressing will provide information on the amount, colour and consistency of wound exudate. If dressings are leaking or adhered to the wound the dressing regime or frequency of dressing changes may need to be altered.

### Tools to assist wound assessment

Bachand and McNichols (1999) recommend that assessment of wound characteristics occurs at every dressing change to determine whether the management regime instituted is appropriate and expected outcomes are met. Regular and systematic documentation of wound characteristics ensures that comparisons can be made to previous assessments. A wound assessment chart can be a useful tool to ensure that all wound characteristics are assessed and documented (Williams, 1997). Novice practitioners may use a chart with prompts (Bachand and McNichols, 1999). Williams (1997) argues that documentation of phrases such as 'dressing attended' in a person's record without any information as to wound characteristics and the response of the wound to the management regime is not useful. Photographs are also an excellent wound documentation tool. Photographs may be used in addition to or in place of an assessment chart and provides a degree of detail that cannot be obtained by written description or drawings (Swann, 2000).

### Wound Characteristics

When assessing the wound itself, there are a number of specific characteristics that require consideration. These should be evaluated at each dressing change and compared with the previous, documented assessment (Bachand and McNichols, 1999). Whilst each characteristic will be discussed individually, it is the overall clinical picture achieved through the integration of *all* the characteristics that will provide the practitioner with an indication of wound status. Through comparison of assessments over time, the practitioner can determine wound progress.

### Wound size

Regular assessment of wound size is a relatively specific method to determine wound progress (Goldman and Salcido, 2002). Wound size may be ascertained using a number of methods and a chart is provided separately for use in clinical practice (see attachment 1).

The presence of any sinus tracts or undermining should also be determined and documented. Undermining may

be represented on a wound tracing as a broken line (Bale and Jones, 1997). Another method for describing undermining and sinus/es is to use a clock face analogy (Carville, 2001), where 12 o'clock is the direction of the head. For example: *4cm deep sinus at 3 o'clock*.

#### *Tissue types*

The type of tissue within a wound should be noted. In most circumstances, devitalised or necrotic tissue should be removed to facilitate healing and reduce the risk of infection (Bale and Jones, 1997). Tissue types are described by Carville (2001) as:

- Necrotic: Black, hardened dead tissue. It may be moist or dry.
- Sloughy: Yellow, devitalised tissue.
- Granulating: Red, healthy tissue.
- Epithelialising: Pink tissue evident as epithelium covers the wound.

#### *Exudate*

Wound exudate is a general term applied to fluid that is produced by wounds. Normally exudate is pale yellow in colour. Contaminants (such as bacteria) can result in discolouration (Thomas, 1997). The type and amount of exudate should be noted. Whilst serous fluid has a vital role in wound healing, it is important to ensure that the moisture balance at the wound surface is moist, rather than dry or wet (Thomas, 1997). Carville (2001) provides the following descriptors used to identify exudate types:

- Serous: clear fluid, straw coloured
- Haemoserous: slightly blood stained serous fluid
- Sanguineous: heavily blood stained or frank blood
- Purulent: containing pus

Knowledge of exudate quantity is vital as this forms the basis for choosing most dressing products. The amount of exudate is often described using terms such as 'low', 'moderate' and 'heavy' (Carville, 2001). Due to the lack of a simple, reliable and accurate method of quantifying such terms, it must be acknowledged that there will be some variation amongst assessors.

#### *Odour*

Whilst most wounds have a smell associated with them, an offensive odour usually indicates the presence of high levels of bacteria (Morison et al 1997). The presence of necrotic tissue often produces a putrid smell which is the result of anaerobic bacteria (Morison et al 1997).

#### *Surrounding skin*

Skin surrounding a wound can develop a number of problems. If not detected and treated early, these can lead to skin breakdown. It is important to assess for the following problems:

- Maceration: Soft, white, moist skin due to exposure to excessive moisture (Morison et al, 1997)
- Erythema: Redness which may or may not blanch when pressed. Erythema may indicate infection or pressure. Non blanchable erythema is a heralding sign of tissue destruction (Maklebust and Sieggreen, 2001).
- Contact dermatitis: This may result from sensitivity to a dressing product, prolonged use of adhesive dressings or tapes, or prolonged

exposure of the skin to wound exudate. It may present as a rash, dry, scaly or itchy skin. Treatment is aimed at correct identification of the cause and eliminating this (Morison et al, 1997).

- Callous: Indicates pressure. This most commonly occurs on the foot. The cause of the pressure should be identified and eliminated. Callous can also mask a wound.

Induration (hardness), bruising and/or induration should also be noted.

#### **Conclusion**

In this paper it is argued that assessment is a vital component of wound management. It is important to understand the principles guiding practice and to appreciate the evidence provided in this paper on which best practice is based. Evidence based practice can achieve optimal outcomes for the person with a wound.

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## Assessment of Wound Size

Method	Explanation	Comments
Linear measurement	Measurement of the greatest length and greatest width (width is measured perpendicular to the length).	Assumes a wound is rectangular or elliptical, therefore may be inaccurate for irregularly shaped wounds.
Wound tracing	Clear, plastic sheeting is placed over the wound and the wound margins are traced on to the plastic with a marker or pen.	Provides accurate representation of wound area and shape. Depends on consistent and precise location of wound margins. <i>Highly recommended technique.</i>
Area measurement	1) The length is multiplied by the width.	Inaccurate for irregularly shaped wounds.
	2) The wound tracing is transposed onto a grid with 0.5cm squares and the number of <i>whole</i> squares within the tracing counted to calculate the area.	Many Nurses count part squares as well as full squares. Varying the location of the grid in relation to the tracing can lead to a difference of up to 5 squares therefore standardised technique is important.
	3) A computer program analyses a digital photograph to determine wound area.	Expensive. Requires specialised equipment and training.
Volume measurement	The maximum depth of the wound is measured with a sterile probe and documented.	Possible inaccuracy due to varying depths within a wound.

Goldman and Salcido, 2002, Langema et al, 1998, Pudner, 2002

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