Wound pain is often underestimated and poorly managed. A variety of techniques can be used by health professionals to improve its assessment and management.

**In this article...**

- Definitions of pain
- How to assess wound pain
- Strategies to manage wound pain

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Wound pain is often underestimated and poorly managed. This article explains the different types of pain and how to assess wound pain, and gives practical advice on how to manage or minimise the pain experienced by patients with wounds.

Patients with wounds often experience pain. However, there is evidence that this is often underestimated or mismanaged by health professionals (Herr, 2011; Hirsh et al, 2010).

The type and intensity of wound pain a patient experiences is influenced by many physical factors, including:

- The cause/site of the wound, as in arterial leg ulceration, where circulation is reduced;
- Oedema due to allergic reactions or as a result of the inflammatory response;
- Wound debridement;
- Poor dressing techniques;
- The use of inappropriate dressings (European Wound Management Association, 2002).

In addition, there are many psychological and emotional factors associated with living with a wound that can affect patients’ perception of pain, such as anxiety, stress, fear and depression (Vuolo, 2009). Living with chronic wound pain, particularly when wound malodour or high exudate levels are present, can result in reduced self-belief, isolation and loss of identity; many patients also experience sleep disturbance, which further reduces their pain tolerance (Mudge et al, 2008; Soon and Acton, 2006).

**Definition of pain**

Pain is an unpleasant sensation and is felt as a result of the brain’s response to disease or damage to the body. There are different types of pain.

**Nociceptive pain**

This arises from damaged tissue. Signals are picked up by sensory receptors in nerve endings in the damaged tissue. The nerves transmit the signals to the spinal cord, and then to the brain where the signals are interpreted as pain, which is often described as aching or throbbing.

**Neuropathic pain**

This is caused by damage to or dysfunction of the nervous system, and is a major contributor to chronic pain. It differs in character from nociceptive pain and patients describe it as burning, tingling or shooting (Mudge and Orsted, 2010; World Union of Wound Healing Societies, 2004; EWMA, 2002).

Patients with wounds often experience a combination of nociceptive and neuropathic pain. Nurses should be aware that a new or unexpected type of pain developing could be the sign of a wound infection.

Signs of neuropathic pain are listed in Box 1 and signs of nociceptive pain in Box 2.

**Pain caused by wound infection**

Pain as a result of wound infection is caused by the inflammatory response, which is triggered when there are microorganisms in the wound. In the presence of
high levels of bacteria, white blood cells release enzymes and free radicals, which cause tissue damage.

Pain may result from direct stimulation of peripheral pain receptors, tissue damage and from the swelling that occurs as part of the inflammatory response. Pressure ulcer infection is associated with increasing pain severity and/or change in nature of pain (Mudge and Orsted, 2010; EWMA, 2006; 2002).

In surgical wounds, infection is associated with unexpected pain/tenderness that begins or increases around the wound area. If the area surrounding the wound is painful to touch, this should be a cause for concern. Infection in burns and partial/full thickness wounds is associated with the onset of pain in a previously pain-free wound. Any sudden onset of pain, change in type of pain or increase in intensity of pain in any wound type is therefore a significant indicator for infection (Cutting et al, 2005). Types of wound pain are outlined in Table 1.

Pain assessment
Assessing pain should form part of an initial assessment and must be an ongoing process to ensure management strategies are effective.

A pain history should include intensity, quality, location(s) (including radiation), pattern (including onset, duration and frequency), and aggravating and relieving factors (Hadjistavropoulos et al, 2007; Herr, 2005).

Non-verbal cues, such as guarding the wound area, grimacing and restricted movement, should also be noted, particularly if the patient is not able to provide a description of the pain. In some cases, it may be necessary to gather information and a history from other sources, such as the primary caregiver (Herr, 2005).

TABLE 1. TYPES OF WOUND PAIN

<table>
<thead>
<tr>
<th>Pain type</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Background</td>
<td>Continuous or intermittent pain that is felt even at rest</td>
</tr>
<tr>
<td>Incident</td>
<td>Pain that occurs during day-to-day activities, such as mobilisation or coughing</td>
</tr>
<tr>
<td>Procedural/operative</td>
<td>Pain that results from routine procedures such as dressing changes or wound cleansing, or is associated with significant wound interventions, such as biopsies or debridement</td>
</tr>
<tr>
<td>Hyperalgesia</td>
<td>Ongoing stimulation of a pain pathway can increase the sensitivity of peripheral pain receptors (primary hyperalgesia) and increase transmission of pain impulses to and within the brain (secondary hyperalgesia). These increase the degree of pain perceived to arise from a painful stimulus</td>
</tr>
<tr>
<td>Allodynia</td>
<td>Ongoing pain can result in allodynia, where a patient experiences extreme pain as a result of a normal stimulus; for example, merely brushing the skin surrounding a wound could be extremely painful</td>
</tr>
</tbody>
</table>

Psychological aspects of pain
It is now recognised that pain is complex and is influenced by many factors including emotions, social background, the meaning of the pain to patients, together with their beliefs, attitudes and expectations (Price, 2006).

For example, many older people believe that pain is normal with old age and may refuse to take analgesia (Price, 2006). Worrying about the reason for the pain is common and, when it is not effectively managed, may happen in chronic wounds, patients can become depressed, have poor concentration, poor sleep quality and may fear movement, which in turn leads to functional limitations and increasing disability (Mason, 2009).

Prior experiences of pain will also affect patients. For example, a patient who has previously experienced pain on dressing change will anticipate the pain each time a dressing is changed and will become anxious and tense, resulting in an increase in pain experienced.

Pain assessment tools
There are several pain measurement tools available to help patients communicate their level of pain and to allow levels to be monitored over time, with any changes highlighted.

The simplest example is the visual analogue scale (VAS), which asks patients to indicate the severity of their perceived pain on a straight line graded from “no pain” to “worst possible pain”. Other basic pain assessment tools include numerical/descriptive colour scales and pain faces (Douglas and Way, 2006).

In addition, there are a number of validated tools, including the McGill Pain Questionnaire, which asks specific questions about patients’ pain experiences and can provide valuable insight into the nature of their pain and its effect on quality of life (Melzack, 1975).

Pain scales are also available for patients with dementia, such as the Pain Assessment for the Dementing Elderly (PADE) (Villanueva et al, 2003) and the Pain Assessment in Advanced Dementia (PAINAD) Scale (Warden et al, 2003).

Pain diaries are also useful in trying to understand how pain affects a patient on a day-to-day basis (Hockenberry et al, 2009).

Pain related to dressing changes
Many patients experience pain on dressing removal or change, which is largely preventable with the use of appropriate products (EWMA, 2002). EWMA (2002) found that:

- Dressing removal is considered to be the time of most pain, followed closely by wound cleansing;
- Dried out dressings and adherent products are most likely to cause pain

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and trauma at dressing changes;

- Gauze is most likely to cause pain, while products such as hydrogels, hydrofibres, alginates and soft silicone dressings are least likely;
- Supporting the surrounding skin during dressing removal is not considered a priority, despite evidence that many adhesive products may lead to skin stripping and potential skin trauma and pain (Dykes et al, 2001);
- Health professionals ranked venous leg ulcers as the most painful wounds, and superficial burns ranked second. They ranked infected wounds, pressure ulcers, cuts and abrasions, paediatric wounds, cavity and fungating wounds as less painful wounds (adapted from EWMA, 2002).

**Management strategies**

**Pharmacological**

The principles of wound pain management apply to any painful wound. The appropriate use of analgesics alone and in combination is key to minimising pain (Price et al, 2008; World Union of Wound Healing Societies, 2004).

Several analgesic regimens may be required for the different types of pain, for example background pain, pain arising from wound procedures, and neuropathic and nociceptive pain. Unfortunately, not all wound pain responds to systemic analgesics and studies have revealed that there is often a stigma attached to the use of pain-relieving medication. This includes fear of polypharmacy and dependency or addiction, particularly in older patients (Herr, 2011; Vuolo, 2009).

Senecal (1999) adapted the World Health Organization (1996) analgesic ladder for use in wound pain; the recommended steps given in Box 3 are a useful guideline for adjusting the strength and dose of analgesia to the level of pain.

**Non-pharmaceutical**

These strategies are useful and can be employed alongside pharmaceutical methods, particularly if the patient is reluctant to take analgesia or the analgesia is poorly tolerated.

**Reduce anxiety**

Time invested before dressing removal is time well spent. Talking to patients about how much pain they can expect, together with an explanation of measures that are in place to minimise their pain will help to reduce feelings of fear and anxiety.

Patients who feel more pain than expected from a procedure may become less confident about the nurse treating them and be more anxious about future dressing changes (Smith et al, 1997; Vingoe, 1994). Anxiety is thought to generate an autonomic response such as muscle tension and an increase in heart rate, while focusing on the pain, past experience and the meaning of the pain all contribute to the level of pain a patient experiences (Vingoe, 1994).

Smith et al (1997) have suggested some simple measures that can be used for reducing anxiety during painful dressing procedures (Box 4).

**Distraction therapy**

Any therapy that diverts the patient’s attention can help with coping with pain, particularly when changing dressings on children.

Listening to music, breathing and relaxation exercises, and providing a warm, calm environment, can help patients to relax.

**Acupuncture and acupressure**

Acupuncture and acupressure have been used for many years to manage pain (James, 2009). Although it is not clear how acupuncture works, it is believed that the needles allow endogenous opioids to be released in the body, which in turn improves local circulation (James 2009; Tsuchiya et al, 2007).

Touch therapy and massage can also help to reduce the intensity of the pain and can be performed by health professionals or family members.

Other techniques, such as transcutaneous electrical nerve stimulation and cognitive behavioural therapy, are also useful techniques to manage pain; however, these generally require specialist equipment or specific training.

**Conclusion**

Wounds will always be painful to some extent, but much can be done to control the impact of this pain on our patients.

Accurate initial and ongoing assessment, good preparation, adequate analgesia and the use of appropriate dressings can improve the patient’s ability to cope with pain.

Unfortunately, this important aspect of wound management is frequently underestimated and poorly managed. The direct benefit of pain relief on wound healing rates requires more detailed research, but simply showing respect, empathy and care to our patients is the essence of good healthcare. It is essential that practitioners are professionally competent, knowledgeable and motivated to act in the best interests of their patients.

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“A good nurse needs diligence and the will to do the right thing”
Kimberley Salmon-Jamieson p26

References

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