In a recent multinational survey, practitioners reported dressing removal to be the most painful aspect of the dressing procedure.1 This is particularly problematic where a dressing has stuck to the wound or removal of the dressing has torn the skin.2,3 Although practitioners are aware of issues surrounding wound pain, they often fail to manage pain effectively at dressing changes4 due to lack of knowledge and understanding of the underlying physiology responsible for the perception of pain. Misconceptions with regard to pain relative to ulcer size and type frequently undermine appropriate treatment. In addition, nurses may use social defenses such as “distancing” and “denial” to protect them from feeling overwhelmed about inflicting pain on their patients5; when used in excess, such strategies can result in poor practice.

Pain Models

Practitioners need to understand that wound pain is multidimensional. Attempts to provide a structure for the complex experience of pain have generated various models. Krasner6 presented one of the first models for chronic wound pain, which highlights the difference between background pain (associated with the underlying etiology of the wound) and the pain of treatment (iatrogenic pain), such as occurs at dressing changes. The model by Melzack and Casey,7 proposed in 1968, presents three distinct dimensions of pain.

Sensory dimension. This dimension focuses on how much the wound hurts and what it feels like (ie, the physical sensations of having a wound). Following initial tissue damage, the inflammatory response sensitizes the pain receptors in the skin, helping the person locate the extent and site of the wound so it can be protected. In an acute wound, this pain subsides with healing. In a chronic wound, the impact of the prolonged inflammatory response causes increased sensitivity in the wound and surrounding skin (primary and secondary hyperalgesia). If further painful or noxious stimuli are added as a result of repeated manipulation (eg, dressing changes), the patient may become locked into a cycle where any sensory stimulus will register as pain (alldynia).

Additional complications may occur because wounds invariably involve damage to nerves, causing some patients to experience altered sensations as a result of how nerves respond (neuropathic pain). Even the lightest sensation (eg, temperature change or blowing on the wound) may produce an exaggerated response from the central nervous system, causing the patient to feel excruciating pain. Damaged nerves can also fire “ectopics” that shoot down the leg, for example, for no reason. This type of pain often is not responsive to analgesia and requires antidepressants and antiepileptic drugs to modify nerve activity.4 Wound healing complications such as infection and ischemia may further contribute to pain. Underlying pathologies possibly related to the wound (eg, peripheral vascular disease, diabetic neuropathy, arthritis, dermatological conditions, and malignancy) are also factors in wound pain.

Affective dimension. The emotional impact of the pain — fear, anger, anxiety, sorrow, depression, irritability, and fatigue — may exacerbate, or be exacerbated by, the patient’s pain response.

Cognitive dimension. The attitudes and beliefs people have about their pain, what they believe to be the
cause of their pain, and the strategies they use to cope with their pain experience are part of the cognitive dimension. Patients previously subjected to painful dressing changes may remember this pain and become anxious at the prospect of further unrelieved pain.9

Socio-cultural dimension. Dobson10 considers a further dimension that describes the impact of a long-standing painful wound on the patient's family and social network. This may be influenced by cultural, spiritual, and social factors.

Assessing Pain
Clinicians should not use these pain dimensions as a checklist to categorize patients, but rather, they should adopt a broad holistic approach to management. Assessment should begin by talking to patients about pain and observing their responses. A number of pain intensity rating scales are available to help establish the severity of pain. The verbal rating scale has good compliance rates and works well with elderly patients; even patients with dementia or confusion can use one of the scales with some success.11 Scales must be used with consistency to afford score comparison and enable informed choices about strength of analgesia and dose titration for subsequent dressing changes. Additional issues to consider include: existing wound pain, neuropathic pain, socio-cultural factors, and anxiety.

Pain Management
At best, analgesics will reduce the intensity or duration of pain, but only a total local anesthetic block of the region could eliminate all sensation. Therefore, patients must be supported by a combination of techniques to help them through the dressing procedure.

Pharmacological.
Analgesia. The patient’s analgesia requirement must be accurately assessed before dressing removal. If underlying wound pain is present, or if pain from other pathologies is poorly controlled, the patient’s current analgesic regimen should be reviewed and specialist referral made where necessary. However, the patient should not be expected to remain untreated while awaiting clinical review by a chronic pain specialist; the basic principles of good pain management must be implemented in the meantime.

The World Health Organization’s Analgesic Ladder provides a guideline for titrating the strength and dose of analgesia to the level of pain.12 This ladder has been applied to wound pain10:

• Use non-steroidal anti-inflammatory drugs (NSAIDs) with or without a local anesthetic.
• Add a mild opioid (use oral medication if possible).
• Replace mild opioid with potent opioid analgesic.

The type of analgesic used should have a short time peak effect, be easily titrated to changing requirements, and cause minimal side effects. The final choice of drug, however, will be dictated by the patient’s history, severity of pain, and clinical setting.13 The lack of clinical evaluation on the impact of analgesia on wound pain and healing should not be a reason for under-medication; the need for relief from suffering is self-evident when the patient says the procedure is painful. When using NSAIDs, the impact of prolonged bleeding and reduction in inflammatory response needs to be considered. Mild opioids may provide relief through and after the procedure. In addition to oral analgesia, topical application of local anesthetics and self-administered analgesic gas (oxygen and nitrous oxide used just during the procedure) can be effective.

Non-pharmacological.
Reducing anxiety. Time invested before dressing removal is time well spent. Talking to patients about the amount of pain they can expect and explaining the measures that are in place to minimize their pain will help reduce feelings of fear and anxiety. Like pain, anxiety is influenced by physiological and psychological factors, generating an autonomic response (eg, muscle tension, heart rate changes) and influencing the patient’s interpretation of painful stimuli.15,16 To reduce anxiety, clinicians should:

• Identify what the patient recognizes as triggers of pain and pain reducers.
• Invite patient involvement to the extent desired by the patient.
• Encourage slow, rhythmic breathing during the procedure.
• Allow the patient to pace the procedure, offering “time outs” that are requested through verbal or nonverbal communication.17
Dressing selection and removal. Dressings should be selected to minimize the degree of sensory stimulus to the sensitive area. Dressings such as gauze that stick to the wound and are peeled off send more sensory information to pain receptors in the skin than dressings bathed in moisture that slide gently away. Practitioners perceive soft silicones, hydrogels, hydrofibers, and alginates to be less likely to cause pain at dressing changes. When removing a patient’s dressing, every attempt should be made to avoid unnecessary manipulation of the wound and to prevent further damage to the periwound area.

Dressing selection and ongoing pain. The impact of dressing choice on the pain experienced between dressing changes also must be assessed. Dressings remove the visible reminder of the wound by covering it, allowing the person to become involved in daily activities and reduce attention to the pain. Dressings also provide a barrier to mechanical stimuli due to friction and shear forces. Further, occlusion or absorption may alter the composition of the wound exudate and the balance of inflammatory mediators in the wound. Dressings that maintain a moist wound environment can improve healing and are less painful than the traditional gauze dressings.

Conclusion
More information is needed to understand the impact of different dressings on different wounds and characteristics, but clinicians can do a great deal to control the impact of pain during dressing changes for their patients. Although the direct benefit of pain relief on wound healing rates requires more detailed study, clinicians should know that simply showing respect, empathy, and care to patients will help facilitate a smooth procedure.

References

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