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Psychological stress and pain in wound care, part 3: management

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Psychological stress and pain in wound care, part 3: management

There is increasing evidence to support a relationship between psychological stress and delayed wound healing. Management should therefore include interventions that minimise patient distress, which will include social support and coping skills

comprehensive assessment; pain measurement; coping skills; social support

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- 4 Thomas, S. Atraumatic dressings. *World Wide Wounds*, 2003. <http://www.worldwidewounds.com/2003/january/Thomas/Atraumatic-Dressings.html> (accessed 30 January 2009).
- 5 World Union of Wound Healing Societies (WUWHS). Principles of Best Practice: Minimising pain at dressing related procedures. A consensus document. WUWHS, 2007.

The previous two articles^{1,2} in this series reviewed the literature on the relationship between stress and wound healing, and explored how the methods identified from the literature can be used by clinicians to assess pain and stress in patients with acute and chronic wounds. This final article explores approaches clinicians can utilise to manage patient stress and pain during the wound care process, which could potentially promote faster wound healing.

Management of pain and stress

Every patient with a wound should have an individual pain management plan, including regular review and re-assessment. Woo et al.³ demonstrated how comprehensive assessments improved clinical outcomes in patients with leg and foot ulcers. Specifically, the research documented the wound healing rate achieved following comprehensive assessment and ongoing evidence-based treatment and management plans. Treatment was based on the Registered Nurses' Association of Ontario best practice guidelines for assessment and management of venous leg ulcers and diabetic foot ulcers, whose 65 recommendations were summarised into 12 concise statements for use in clinical practice. Some 111 patients were included in the study, of whom 61.3% reported that pain was a significant problem. After implementation of the practice guidelines, the average pain level (measured on an 11-point numerical scale) decreased from 6.3 at week 1 to 2.8 at week 4. Furthermore, wound healing had significantly improved in patients receiving appropriate pain management.

Another way to minimise wound pain is to use dressings that do not cause trauma or damage to the wound or peri-wound skin on removal.^{4,5} Certain atraumatic dressings significantly reduce levels of pain at dressing change, which is beneficial to the wound healing process.⁶ The World Union of

Wound Healing Societies (WUWHS) have identified the impact of dressing adhesives on wounds, and their potential to minimise pain at dressing change (Table 1).

A review of psychological models used to conceptualise chronic pain suggested that a more realistic approach to eliminate pain would combine pharmacological, physical and psychological components, tailored to each patient's needs.⁷ In the review, the greatest empirical evidence for success with psychological interventions was found for cognitive behavioural therapy (CBT), which includes stress management, problem solving, meditation, relaxation and goal setting. In CBT, therapists help patients to:

- Build their communication skills
- Gain a sense of control over their pain
- Cope with the fear of pain through learning positive coping strategies. This will help improve mood.⁷

This was demonstrated in a randomised controlled trial (RCT)⁸ that compared the effects of a one-month meditation training programme with a relaxation training programme and a control group in 83 students reporting distress. Both meditation and relaxation groups experienced a significant decrease in distress and an increase in positive mood over time, when compared with the control group ($p < 0.05$ in all cases). No significant differences were found between the meditation and relaxation groups for distress and positive mood. These results show that, when compared with a control group receiving no treatment, brief training in meditation or relaxation skills reduced distress and improved positive mood.

Further support for this is provided by the demonstration that problem-focused coping (attempts to control or minimise distress caused by pain when a situation is perceived as amenable to change) tends to be associated with better physical and psychological functioning; it has been recommended, there-

fore, that the patient's ability to cope with chronic pain, which can influence their level of depression and self-esteem, should be included in routine clinical assessments.⁹ It has been suggested that practitioners should encourage patients to become involved in self-help strategies, such as coping skills training, behavioural contracts, biofeedback, relaxation and distraction techniques, and social support/self-help groups, to improve their pain.¹⁰

For coping skills training, the practitioner would identify how each patient attempts to deal with their pain, in order to implement the most appropriate coping strategy. For example, a patient who prefers to distract him/herself from pain at dressing change could benefit from imagery techniques. This was demonstrated in a study¹¹ in which patients with burn pain were shown videos as a distraction therapy. The content of the videos included picturesque scenery accompanied by music. Pain was measured using the McGill pain questionnaire,¹² and anxiety was assessed using the state trait anxiety inventory (STAI).¹³ Viewing the videos during dressing changes significantly reduced patients' pain and anxiety, when compared with a control group that did not receive a distraction therapy. These findings suggest that if patients show a preference for distraction, then coping techniques of this nature can minimise pain experienced by patients during burn dressing change. Notwithstanding the potential practical limitations, patients receiving care in their own home could watch the television or listen to music when wound treatments are being administered.

Coping skills can also include techniques that encourage patients to focus on sensory aspects of certain procedures to facilitate pain management. For example, during wound cleansing, patients could be encouraged to focus on the sensations of the cleansing solutions as opposed to the pain caused by this process. This was demonstrated in a study that investigated the effect of anxiety sensitivity and sensory focus of pain in a sample of female participants.¹¹ Participants were instructed either to focus on the pain caused by the application of a cold pressor (a method used in experimental studies of pain) or to ignore the pain. Results showed that participants reported greater pain when instructed to ignore the pain. This suggests that encouraging patients to focus on other sensations may help to minimise pain during procedures such as wound cleansing or dressing change.

In view of the evidence suggesting that wound pain is a major contributor to psychological stress, minimising pain should be a key priority in wound management.¹⁴ Box 2 highlights a range of techniques that can be used to reduce the pain associated with dressing changes.

For wound assessment to be truly patient-centred,

Table 1. Dressing types and their impact during dressing-related procedures (adapted from WUWHS)⁵

Dressing types	Application	Removal
Acrylates/polyurethanes	+ Strong bond to skin - Can cause allergies	- Increased occurrence of pain and trauma - Can leave residue on the skin
Hydrocolloids	+ Local warmth promotes bond to the skin surface - Edges may roll - Adhesive may dissolve in the presence of exudate	- Can leave residue on the skin - Increased occurrence of pain and trauma
Soft silicone	+ Good adherence to the skin without strong bonding + Sticks instantly to the skin	+ Minimal trauma and pain at dressing changes + Easy to check wound and re-apply
Non-adhesive alternatives (eg, pastes, non-adherent foams)	- Can be difficult to fix to the skin - Susceptible to local friction and shear - Selection dependent on exudate level	- Can cause local trauma, maceration or drying if moisture balance is not maintained

Box 1. Techniques that can reduce pain at dressing changes²³

- Interact with and actively listen to patients
- Encourage patients to articulate their pain experience
- Implement coping strategies (sensory focus/distraction techniques)
- Use warm cleansing solutions
- Encourage patients to participate in their own dressing removal
- Correct selection and application of dressings
- Review the frequency and necessity of dressing changes

the practitioner must engage with and listen to the patient.¹⁵ A review of pain and wound care studies identified that nurses consistently rated patients' experience of pain lower than did the patients themselves.¹⁶ This suggests that more attention should be paid to patient feedback during the wound care process.

There is also evidence that there is a relationship between social support and a reduction in psychological stress. A lack of social support could potentially contribute to patients' experience of psychological stress and, in turn, affect wound healing.¹⁷

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Box 2. Tips for practice

Measure stress in patients before and during procedures such as dressing change, wound cleansing and tissue debridement

Recognise that stress is not an event itself, but a perception of an event

Implementing coping strategies can help reduce pain and stress

Social support can reduce stress

Appropriate selection of treatment and dressings can reduce stress

This is known as the direct-effects hypothesis, which suggests that social support reduces illness by directly influencing variables such as the perception of control and the perception of available coping responses.¹⁸ These variables lead to positive feelings, the physiological concomitants of which reduce vulnerability to illness.¹⁹ The buffering hypothesis suggests that good social support networks — for example, family or friends — help improve patient wellbeing and act as a defence against the negative effects of stress. From a holistic perspective, it can be hypothesised that this will increase healing rates.¹⁷ These observations suggest that thorough and qualified aftercare for healed patients with wounds should be promoted²⁰ to prevent social isolation and potential recurrence.

Examples of social support interventions that might reduce stress include Leg Clubs, which provide a setting in which people with similar problems (chronic wounds) can socialise in a supportive, information-sharing environment. Peer support and information sharing are encouraged, and clinicians teach patients goal setting and coping strategies, thus providing a social support network for patients during the wound healing process.

According to a pilot study, preliminary results from an RCT that examined the effect of a community-based Leg Club environment on venous leg ulcers healing rates suggested there was a significant improvement in patients who attended a Leg Club when compared with a control group who received treatment in their own homes, as measured by ulcer area size and Pressure Ulcer Scale for Healing scores.²¹

Furthermore, healing and recurrence rates improved when patients were educated by and maintained contact with wound-care professionals at leg ulcer clinics.¹⁶ For many patients, a healed ulcer is viewed as the only acceptable outcome. However, practitioners working in Leg Clubs focus on alternative outcomes, such as improved QoL.²² This suggests

that social support interventions, which can help minimise psychological distress, are as beneficial as expert and evidence-based wound care.

Considering the empirical evidence that shows wound pain contributes to stress, pain measurement and assessment of psychological stress should be key priorities in the assessment of patients with acute and chronic wounds. This will enable practitioners to implement appropriate interventions or techniques to minimise patient psychological stress and pain as part of the wound care process.

Conclusion

It is evident from the literature that there is increasing empirical support for a relationship between psychological stress and delayed wound healing. A major theme emerging from the current literature is that wound care should include interventions and techniques designed to minimise patient distress, although further work is needed to demonstrate the effectiveness of different interventions. Appropriate assessment and management of wound pain also play a key role in minimising psychological stress.

Reliable and valid measures of assessing levels of pain and psychological stress should be routinely administered as part of the wound care process in order to tailor treatment to each patient's individual needs. In the assessment of psychological stress and pain, the use of both psychological and physiological measures should be used to monitor physiological changes associated with stress and pain, while the patient's own perception of their stress and pain should be included.

Appropriate dressing selection plays an important role in the wound care, so practitioners should focus on specific characteristics, including good adherence to skin, permeability and absorption, to achieve this. This will not only facilitate wound healing but also help reduce patient pain and discomfort.

There is evidence that social support can help minimise psychological stress during wound healing. The beneficial effects of social support interventions, such as Leg Clubs, should be investigated as they have been shown to have the potential to improve healing rates when used as an adjuvant to medical treatment. For example, patients can see the positive results of effective treatment in their Leg Club peers. Furthermore, CBT techniques, such as positive coping and goal setting, should be promoted as part of the wound treatment process as they can help minimise psychological stress and thus improve wound healing rates.

Future research should therefore focus on interventions and techniques that can be used to minimise pain and psychological stress in patients with chronic wounds in order to promote faster healing. ■

Declaration of interest

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