

The holistic management of chronic wound pain

Pain is a frequent symptom of patients with chronic wounds and contributes to suffering and reduced quality of life. Wound care professionals need to understand the potential causes and mechanisms of pain that are experienced by a patient with a chronic wound and provide the most appropriate interventions. A previous article published in *Wounds UK* considered the deleterious effect on wound healing that may occur from pain-induced psychological distress (Soon and Acton, 2006). In this article, the interventions and procedures that can be considered for managing pain in people with chronic wounds are described.

Claire Acton

KEY WORDS

Pain
Holistic wound management
Pain relief
Psychological therapy
Dressing changes

The pain experienced by a patient with a chronic wound can vary in nature and can have many causes (Hollinworth, 2005). The pain may be associated with traumatic wound procedures, for example during wound debridement or dressing changes. This is usually short-lived (acute) and is a result of tissue damage. Such pain has been described as non-cyclic, if the procedure causing the pain is a single or an infrequent traumatic procedure, or cyclic if it is a regular occurrence (Krasner, 1995). Wound pain may also be persistent (chronic) and not associated with tissue trauma, for example, as a result of ongoing pathology, wound infection or chronic inflammation. Cyclic or non-cyclic pain is typically nociceptive in nature, with the pain diminishing and disappearing once the procedure causing the trauma has stopped. Persistent pain

Claire Acton is Tissue Viability and Vascular Nurse Specialist, Surgical Directorate, Queen Elizabeth II Hospital, Greenwich, London

may also be nociceptive in nature due to continual stimulation of nociceptors in areas of ongoing tissue damage (Ashburn and Staats, 1999), but it can also persist long after the tissue damage that initially triggered its onset has resolved. This type of pain, which is a result of damage or dysfunction of nervous tissue, is called neuropathic pain.

Patient-focused care

Pain is the symptom that patients with chronic wounds find most distressing. Dressing changes are the most frequently cited cause (Price, 2005). However, there are many other individual factors to consider and dressing changes must be placed within the context of total pain management. The patient, and not just the wound, should be the focal point of care (Price, 2005).

In the past, little attention was given to the psychological and social needs of patients when carrying out wound care (Hollinworth and Hawkins, 2002). Emphasis has generally been on wound assessment and choice of dressing rather than the assessment of the patient as a whole, for example their attitudes to the wound, the inconveniences it causes them, and the disruption it has on their everyday lives because of the pain and discomfort it causes (Benbow, 2006). Providing psychological support to help patients cope with the wound-related pain and emotional problems that

may result is an important component of caring for the patient as a whole. Unfortunately, it is an area that has received little attention in clinical research (Hollinworth and Hawkins, 2002; Benbow, 2006).

Psychological aspects of pain

Because chronic pain is unrelenting, it is likely that stress, environmental and affective factors may be superimposed on the pain that arises from the original damaged tissue and contribute to its persistence and intensity (Loeser and Melzack, 1999). Persistent pain can profoundly affect a patient's mood, personality and social relationships (Ashburn and Staats, 1999). People with persistent pain typically experience concomitant depression, sleep disturbance, fatigue, and decreased overall physical functioning. Patients who are threatened by pain may suffer fear, anxiety and worry. Those with marked fears of pain may avoid the behaviour which causes the pain, e.g. avoiding movement or procedures that trigger the pain, which may increase disability and make matters worse. These patients may also exhibit anger, frustration, feelings of hopelessness and helplessness.

Relieving pain with analgesics, for example, is only one of the many issues that must be addressed in the management of a patient with persistent pain. Patients may be helped by providing

them with information which can help them to understand their pain, and by encouraging them to take an active role in its management (Eccleston, 2001). The goal of therapy is to control pain and to rehabilitate the patient so that they can function as well as possible (Ashburn and Staats, 1999). All the dimensions of the patient's condition should be treated. Behavioural and psychological therapies, such as cognitive behavioural therapy (CBT) should be integrated, wherever appropriate, into an interdisciplinary approach to treatment. Patients with chronic pain may require referral to a pain team if it is recalcitrant or difficult to control (Grey et al, 2006). However, its management should be considered the responsibility of all health professionals involved with the patient, such as doctors, nurses, psychologists, physical and occupational therapists, vocational counsellors and pharmacists.

Pain assessment

Many factors influence a patient's sensation of pain, and it is difficult to objectively assess pain levels. Healthcare professionals need to take the time to engage and listen to patients. Understanding the patient's pain experience, and the effects it has on their daily lives, is essential for identifying the most appropriate means for managing their pain and providing supportive measures. Because many patients find it difficult to describe their pain, giving them descriptive words to choose from and using a pain-measuring tool can help, and if used on a regular basis will enable the patient's progress to be monitored, thereby assessing the effectiveness of interventions. Changes in the level of pain may indicate a need to reassess the choice and timing of analgesics and/or other interventions used for managing the pain (World Union of Wound Healing Societies [WUWHS], 2004). All assessments made should be well documented to ensure effective communication between healthcare professionals and to maintain continuity of care for the patient which in itself will enhance the outcomes.

No single pain measuring scale is suitable for all patients; the choice will depend on the individual patient's

needs and circumstances. However, once chosen, the same scale should be used for subsequent assessments (WUWHS, 2004).

The following are suggested key elements of pain assessment (Doughty, 2006):

- ▶▶ When and for how long the pain is experienced: this will identify particular procedures that cause or exacerbate the pain, and whether or not the pain is acute or persistent
- ▶▶ Type of pain: to identify whether the pain is nociceptive or neuropathic, or mixed in nature
- ▶▶ Severity: establish the severity using an established rating scale, such as the Numeric Pain Intensity Scale, the Visual Analog Scale, or the Faces Rating Scale
- ▶▶ The impact of pain on the patient: to identify the consequences of pain for their daily lives (e.g. sleep, walking and work)
- ▶▶ Factors which increase or decrease pain: these can give important clues to the wound aetiology (e.g. to differentiate between venous and ischaemic ulcers)
- ▶▶ Relief rating: assessment of scores after receiving analgesia can give a useful measure of interventions for pain management
- ▶▶ Related adverse effects: to identify treatment-related adverse side effects, to enable appropriate measures to be taken to reduce their impact, such as giving alternative treatments, or treatments to alleviate the side effects.

Unfortunately, the value of using a valid pain assessment tool appears to be unrecognised by many healthcare professionals. Results from an international survey, exploring wound care practitioners' understanding of pain and trauma at dressing changes, found that pain assessment was considered a low priority, with greater reliance being put on body language and non-verbal cues (Moffatt et al, 2002).

Treatment of pain

Pain in wounds can be caused, or is influenced by, many factors. These include disease processes, treatments and

wound care procedure, types of wound management products used, emotional and social issues, and professional issues (Hollinworth, 2005). Treating all aspects of pain may not be possible, but it is important that as many factors as possible are considered and addressed.

Clearly, treating the underlying pathology causing the wound is desirable and is an effective strategy for removing pain resulting from chronic wounds. However, in many cases the prospect of eradicating the underlying cause of the wound (e.g. venous insufficiency in leg ulcers or malignancy in fungating lesions) may be difficult, if not impossible. Therefore, other means of alleviating wound pain are required to relieve the pain symptoms. Infected wounds can be the source of inflammation and pain and eliminating the infection by use of appropriate antibiotics should help with this.

A regimen for relieving pain and associated stress should be developed for each individual patient, and may include several elements. Analgesics and/or psychological and other non-drug therapies can be considered on a continual or intermittent basis for relieving persistent or procedural pain, respectively. As pain is particularly associated with dressing changes, care should be taken to adopt regimens for removal and replacement of dressings, and cleaning/debriding the wound, that minimise trauma to the wound. Ideally, the dressings in contact with the wound and surrounding skin should be easy to remove without causing additional damage to the wound and the sensitive surrounding skin. Interventions to reduce stress and emotional problems that are frequently associated with pain should also be considered, whether by drug treatment, such as anxiolytics and antidepressants or psychosocial therapy such as counselling or CBT.

For extremely painful procedures, such as the debridement of deep ulcers, it may be necessary to consider general anaesthesia, local neural blockade, spinal analgesia, general anaesthesia or the use of mixed nitrous oxide and oxygen (Entonox).

Analgesics and anti-inflammatory drugs

Analgesics are the most common intervention for relieving pain, and can be given systemically on a continual basis for persistent wound pain.

However, adverse effects, particularly with opioids, can be problematic. Systemic or topical analgesics or local anaesthetics can also be considered for reducing procedural pain. Because of the inflammatory nature of many chronic wounds, use of non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, can also be considered with or without other analgesics (Popescu and Salcido, 2004). It should be remembered that if systemic drugs are used for treating procedural pain, sufficient doses should be used and sufficient time allowed for the drug to take effect.

In the absence of specific clinical trials in wound care, experience from treatment of chronic pain arising from other diseases can be used to guide choice for persistent wound pain. For pain that is nociceptive in nature, whether it arises from traumatic procedures or inflammation, analgesics should be considered and used promptly. Choice depends on the intensity of the pain. The World Health Organization has developed a three-step ladder for managing cancer pain and chronic pain, which it claims is effective in about 90% of patients (WHO, 2006). This uses drugs of increasing potency alone or in combination depending on severity, and titrated until the pain is controlled. Non-opioids (aspirin, paracetamol or NSAIDs) are used in the first instance for mild pain; then mild opioids, such as codeine, for moderate pain; and strong opioids, such as morphine, diamorphine, or fentanyl, for severe pain. Adjuvants are recommended in addition. These are not themselves analgesics, but they enhance the effect of analgesics by treating side effects of opioids (for example, anti-emetics or laxatives) or treating other symptoms associated with pain, such as anxiolytics. Whatever analgesic drug is chosen, it is important that they are given in the appropriate dose and on a regular basis to control chronic pain, in accordance

with their licensed doses and monitored accordingly. Details can be found in their summaries of product characteristics, which can be accessed online at www.medicines.org.uk.

Consultation with a pain specialist is advisable when opioids are required, in order to identify the optimum dose and form to use. The objective is to provide the necessary level and duration of pain relief, while minimising unacceptable side effects. A recent meta-analysis of opioids for non-cancer pain found them to be effective in relieving pain associated with a wide range of diseases, and for both nociceptive and neuropathic pain. However, they were associated with many adverse effects. Constipation, nausea, dizziness or vertigo, somnolence and drowsiness, vomiting, dry skin, itching or pruritus, and sedation all occurred more frequently with opioids than with placebo (Furlan et al, 2006).

Neuropathic pain is often difficult to relieve, not just because of its severity, but because it is generally resistant to simple analgesics. Although opioids may help, alternative non-analgesic treatments can be tried. These include local anaesthetics, gabapentin, pregabalin, tricyclic antidepressants, such as amitriptyline, and mixed serotonin-noradrenaline reuptake inhibitors, such as venlafaxine (Gilron et al, 2006). A Cochrane review considered that carbamazepine, an anticonvulsant medicine, was effective for relieving pain caused by damage to nerves, either from injury or disease. However the trials supporting its use have been small (Wiffen et al, 2005).

Opioid receptors are present in peripheral nerves, and become susceptible to the action of opioids during inflammation. In chronic wounds, where inflammation is generally present, topical opioids offer a means to relieve localised wound pain while minimising the risk of systemic side effects (Ashfield, 2005). A number of cases of the successful use of topical opioids have been reported, although there have been no well-controlled randomised studies. For example, Twillman et al (Twillman et al, 1999)

reported immediate pain relief in seven out of nine patients with painful skin ulcers when 0.1% morphine-infused gel was applied. There are several other reports of the successful use of morphine or diamorphine topical gels (Flock, 2003; Abbas, 2004; Ashfield, 2005), however, the number of people in these studies is small. Gallagher et al (2005) reported the use of methadone mixed with Stomahesive powder (ConvaTec, Ickenham). Sprinkling this mixture onto open wounds at the time of dressing changes was claimed to be effective for 24 hours or more, without adverse side effects. It should be remembered that opioids are not currently licensed for topical use in this way, and there is no good evidence to guide choice of dosage or any particular mode of delivery.

Topical anaesthetics may be suitable for use before painful intermittent procedures. Use of eutectic mixture of lidocaine and prilocaine (EMLA) (AstraZeneca, Alderley Park) has been evaluated for the relief of pain occurring during debridement of venous leg ulcers in a number of studies. A Cochrane review concluded that EMLA did provide effective pain relief for venous leg ulcer debridement but the effect of the product on ulcer healing was unknown (Briggs and Nelson, 2003). Again the use of such anaesthetics topically in wound management is not licensed. No trials that address the treatment of persistent pain (between and at dressing changes) were identified.

Limited evidence for the effectiveness of a foam dressing containing ibuprofen to reduce pain (Biatain-Ibu [Coloplast, Peterborough]) is available from two small studies. In a prospective case series study, 10 patients with painful chronic venous leg ulcers were treated for six dressing changes with Biatain-Ibu. The ibuprofen dressing demonstrated a reduction in pain intensity scores during the study, but this increased one week after discontinuing treatment (Flanagan et al, 2006). In another study — a small single-blinded crossover study of 12 patients — use of the ibuprofen dressing was reported to be associated with a

statistically significant decrease in pain intensity compared with a placebo. Although having the advantage of convenience, the use of a proprietary dressing containing ibuprofen has limitations. It does not allow for dose modification of the NSAID or the use of other, and possibly more appropriate, dressing types depending on the wound characteristics. As with other topical pain-relieving strategies more extensively and appropriately powered studies are required to establish its side effect profile and identify its role in management of wound pain (Jørgensen et al, 2006).

Psychological and other non-drug therapies

Psychological factors are important modifiers of pain perception, and thus psychological therapies can complement other pain-relieving measures (Adams et al, 2006). These therapies focus upon emotional, cognitive and behavioural aspects of illness, addressing beliefs through education about their condition, reducing anxiety and stress by teaching stress management techniques, and improving personal control by teaching coping skills (Adams et al, 2006). There are a wide range of psychological approaches that can be considered, and these include psychophysiological, behavioural, cognitive behavioural and psychodynamic therapies.

Cognitive behavioural therapy is well recognised as an intervention that can be helpful for a wide range of psychological problems, and is probably the most widely used therapy in pain management programmes. CBT attempts to change the negative thoughts and dysfunctional attitudes to foster more healthy and adaptive thoughts, emotions and actions in the patients (Ashburn and Staats, 1999). A systemic review and meta-analysis of 25 studies, including 1,672 patients with chronic pain (excluding headache) found significant benefits of CBT over both waiting list controls and alternative treatments with regard to measures of pain and several other (but not all) quality of life domains. Interpretation of the results is uncertain, because of the variations of study design and comparator treatments used in the included studies (Morley et al, 1999).

Any CBT undertaken requires the patient to be an active participant in the process rather than a passive recipient so may not be suitable for all patients.

Relaxation techniques are a common component of multimodal chronic pain management, and have been suggested, among other interventions, as an option for managing wound pain (Krasner, 1995). However, there appears to be no good evidence for its effectiveness. A systematic review of randomised, controlled trials, including patients with malignant and non-malignant pain, failed to identify any significant benefits compared with other interventions for relieving chronic pain (Carroll and Seers, 1998).

Frenay et al (2001) compared hypnosis with stress-reducing strategies administered by a psychologist to alleviate pain during dressing changes of patients with 10 to 25% body surface area burns, as adjunctive treatments to analgesics and anxiolytics. Hypnosis was found to be more effective than the stress-reducing strategies at reducing anxiety before and during dressing changes. Although both treatments were considered to improve pain and patient satisfaction, there was no difference between them in these respects.

Transcutaneous electrical nerve stimulation (TENS) is widely used in the treatment of many types of chronic pain, sometimes as a first-line treatment. However, a Cochrane review of 19 studies that met suitable quality inclusion criteria found insufficient evidence to draw any conclusions about its analgesic effectiveness for the treatment of chronic pain in adults. The reviewers considered that new trials of better design are needed before any evidence-based recommendations can be made for patients or health professionals for the treatment of chronic pain (Carroll et al, 2000).

There are many other alternative or complementary therapies that may have a role in the holistic management of chronic wounds. These include acupuncture, energy healing, physical

therapy, distraction (e.g. using music), guided imagery, biofeedback, and meditation or prayer (Krasner 1995; Papantonio, 1998). There appears to be no robust clinical trial evidence to support the use of any of these therapies for relieving pain in wound care.

Wound care procedures

Dressing removal and wound cleansing are the most painful wound care interventions (Hollinworth and Collier, 2000; Kammerlander and Eberlein, 2002; Moffatt et al, 2002). Furthermore, anticipation of a painful wound care procedure can lead to considerable apprehension and stress. Talking to patients about pain and how much they can expect, together with an explanation of whatever measures are in place to minimise pain will help reduce fear and anxiety (Briggs et al, 2002).

There are a number of simple measures that can be used for reducing anxiety during painful procedures (Smith et al, 1997):

- ▶▶ Identify what the patient recognises 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 non-verbal communication.

The opinion of an expert working group of the WUWHS was published as a consensus document *Minimising Pain at Wound Dressing-Related Procedures* in 2004 (WUWHS, 2004). This document points out that preparation and planning of the dressing change procedures are key to effective pain management, and suggests the following measures:

- ▶▶ Choose an appropriate non-stressful environment. Close windows, turn off mobile phones, etc
- ▶▶ Explain to the patient in simple terms what will be done and the method that will be used
- ▶▶ Assess the need for skilled or unskilled assistance, such as someone to simply hold the patient's hand

- ▶▶ Be thoughtful in positioning the patient to minimise discomfort and avoid unnecessary contact or exposure
- ▶▶ Avoid prolonged exposure of the wound, e.g. waiting for specialist advice
- ▶▶ Avoid any unnecessary stimulus to the wound. Handle wounds gently, being aware that any slight touch can cause pain
- ▶▶ Involve the patient throughout. Frequent verbal checks and use of pain tools offer real-time feedback
- ▶▶ Consider preventive analgesia.

In view of the pain and trauma that results from changing wound dressings, it is important to restrict dressing changes to those that are necessary. The desire to see what the wound looks like has to be balanced against the damage that may be caused to the wound and the surrounding skin by removing the dressing, and the pain and stress inflicted on the patient by the change procedure. Using an adhesive remover spray or wipe will significantly reduce pain of this type. It is used widely in stoma care and is becoming more popular in wound care. Use of non-adherent primary contact layers, which can be left in place at dressing changes, and require only the secondary absorbent layer to be removed, offers a useful means of reducing wound trauma. Mepitel (Mölnlycke, Dunstable) is an atraumatic soft-silicone non-adherent wound contact dressing, which can be left in place for up to 14 days (Platt et al, 1996; Bugmann et al, 1998; Terrill and Varughese, 2000). It allows exudate to pass through it, while maintaining a moist wound environment. Although Mepitel does not adhere to the wound bed, it does adhere to adjacent dry healthy skin (Pudner, 2001). When wet Mepitel becomes transparent and allows wound healing to be monitored with minimal trauma at intermediate dressing changes.

Much of the pain and trauma occurring during dressing changes may be obviated by appropriate selection of dressings that allow moist wound healing and do not use aggressive adhesives (see next section); this avoids

the often unsuccessful approach of soaking dressing in water or saline to effect removal (Hollinworth, 2005).

Pain to the wound and periwound skin during dressing changes can also occur as a result of applying wound irrigation and cleansing solutions. Use of irritant or allergic materials should be avoided where possible (Conway and Whettam, 2002). Although use of sterile normal saline is an appropriate cleansing solution, a review found that wound cleansing with water was no different from cleansing with normal saline, any other solution, or indeed no cleansing, with regard to rates of healing and infection (Fernandez et al, 2002). If tap water is used for wound cleansing, then the quality must be considered (Betts, 2003). The temperature of the solution should be warm, not only for comfort but to prevent the arrest of the healing process which can happen for some hours after a dressing change (McKirdy, 2001).

Choice of dressings

By careful selection of dressings much of the pain and trauma associated with wound dressing changes can be avoided. An international survey of wound care practitioners identified the following (Moffatt et al, 2002):

- ▶▶ Dried out dressings and adherent products were the most likely to cause pain and trauma at dressing changes
- ▶▶ Pain-free removal was considered the most desirable characteristic of a dressing
- ▶▶ There appeared to be a close association between those dressings that caused wound trauma and those that caused pain
- ▶▶ Gauze was the most likely to cause both pain and trauma and hydrogels, hydrofibres and alginates and soft silicones were the least likely
- ▶▶ Use of atraumatic dressings was considered the most important strategy to avoid wound damage.
- ▶▶ The most common strategy to manage pain was to soak old dressings, just ahead of selecting non-traumatic dressings and choosing dressings that offered pain-free removal.

Key Points

- ▶▶ Pain is a common, distressing feature of chronic wounds.
- ▶▶ Minimising wound trauma and pain should be a key objective for healthcare professionals involved in the care of patients with chronic wounds.
- ▶▶ Numerous therapies including analgesics and psychological measures should be considered for the reduction of pain.
- ▶▶ A holistic approach to pain assessment and management must be taken in patients with chronic wounds.

Many of these findings may reflect the continued use of gauze as a wound dressing in many centres, despite the current recommended practice of using dressings that promote moist wound healing.

Removal of dressings that have adhered to the wound destroys newly formed granulation tissue and newly formed fragile capillary loops that have penetrated the dressing material (Collier and Hollinworth, 2000). Although use of gauze is particularly problematic, patients continue to experience pain and trauma with the use of some of the modern wound dressings, many of which can adhere to the wound if they dry out. It is therefore necessary to choose a secondary dressing carefully when required as this could have an effect on the moisture level maintenance at the wound bed and the overall performance of the primary dressing.

Adverse irritant or allergic reactions to wound dressings or auxiliary wound care products can occur. If the skin reaction is a result of an allergic rather than an irritant reaction, it may only be seen after a few days or on repeated application. Identification of the agent

causing the irritation/sensitisation reaction is desirable, so that wound care products can be chosen that do not contain this material (Conway and Whettam, 2002). Skin barrier function is compromised in skin that is subject to excoriation and stripping as a result of repeated application and removal of adhesive product and this increases the likelihood of adverse skin reactions. Different dressings vary considerably with regard to their skin-stripping potential and the level of discomfort experienced on removal. It should be considered standard practice to apply a skin barrier product to prevent this and to help extend the dressing wear time. However, at least on normal skin, these two properties appear to be poorly correlated. For example, Mepilex border (Mölnlycke, Dunstable) (a soft silicone adhesive product) produced less discomfort on removal than Duoderm Extra Thin (ConvaTec, Deeside), Biatain and Versiva (ConvaTec, Deeside) although peel forces were similar (Dykes and Heggie, 2003).

It is important that dressings are chosen that promote moist wound healing (WUWHS, 2004). By choosing a dressing that maintains a moist wound healing environment, and that does not dry out, the friction at the wound surface will be reduced and this will minimise wound trauma and pain on removal (Briggs et al, 2002). Choice of a dressing that can stay in situ for a longer period to avoid frequent removal may also be appropriate (Briggs et al, 2002). It is, of course, important that the dressings are changed before they become saturated, leak and allow spread of potentially corrosive exudate onto the periwound skin. If a skin barrier product was used this would not be an issue. Should soaking be required, or there is bleeding or trauma to the wound or surrounding skin, or pain is a problem on removal, the choice of dressing should be reconsidered (Briggs et al, 2002; WUWHS, 2004).

Fibrous products (alginates and hydrofibres) form a gel in contact with wound exudate, and are excellent non-adherent contact layers, and generally provide good pain relief (Reddy et al,

2003). However, they can also become strongly adherent and cause wound trauma on removal should they dry out, for example if the exudate level reduces. Hydrogel sheets and other non-adherent layers can also be used effectively for reducing adhesion to the wound and preventing damage and pain on removal.

Preventing trauma on removal from wounds and surrounding skin has led many manufacturers to modify their adhesive to reduce trauma on removal (Hollinworth, 2006). Soft silicone dressings were developed specifically with this in mind, and have low peel strengths to reduce damage to delicate periwound skin. Such dressings are now appropriately designated as 'atraumatic' dressings, and they are the first-choice dressing for preventing wound trauma. Mepitel was the first of the atraumatic dressings to be introduced. It consists of a flexible polyamide net coated with soft silicone. Mepitel has been shown to cause significantly less pain on removal from skin grafts, burns, surgical wounds, and traumatic wounds (Dahlström, 1995; Williams, 1995; Platt et al, 1996; Gotschall et al, 1998). This product also has been used successfully in the management of extensive mycosis fungoides (cutaneous T-cell lymphoma) of the face and scalp (Taylor, 1999). Further extensive evidence to support the use of soft-silicone dressings can be found in the reviews by Thomas (2003) and White (2005), and its safe use in a wide variety of wounds is reflected in a current clinical best practice statement (Independent Advisory Group, 2004).

Conclusion and summary

Pain is a frequent cause of psychological distress in patients with chronic wounds and can severely affect quality of life. Minimising trauma and pain should be a key objective of healthcare professionals involved in the care of patients with chronic wounds, and a major factor in relieving psychological distress, at, between, or in anticipation of wound dressing changes. Evidence to support the use of therapies (analgesics or psychological therapies) to relieve pain in chronic wounds is limited and mostly comes from extrapolation of results from studies of the treatment of

chronic pain in other diseases, and from expert opinion. It is recommended that a holistic approach should be taken to pain management.

It is important to understand the causes of the pain and provide, where appropriate, interventions to minimise pain, before, during and after wound care procedures. Analgesics should be chosen to relieve acute and persistent pain and adjunctive use of psychological and other non-drug therapies considered. As dressing changes are the most frequent cause of pain in wound management, particular attention should be given to the selection of a dressing and dressing change regimen that reduce the likelihood of trauma to the wound and the skin surrounding it. Dressings that provide moist wound healing should be chosen. Soft silicone dressings are recognised as the dressings least likely to cause trauma to the wound and surrounding skin, and should be considered as the first choice for the treatment of painful chronic wounds. **WUK**

References

- Abbas SQ (2004) Diamorphine-Intrasite dressings for painful pressure ulcers. *J Pain Symptom Manage* 28: 532-4
- Adams N, Poole H, Richardson C (2006) Psychological approaches to chronic pain management: part 1. *J Clin Nurs* 15(3): 290-300
- Ashburn MA, Staats PS (1999) Management of chronic pain. *Lancet* 353: 1865-9
- Ashfield T (2005) The use of topical opioids to relieve pressure ulcer pain. *Nurs Stand* 19: 90-2
- Benbow M (2006) Holistic assessment of pain and chronic wounds. *J Comm Nurs* 20: 24-8
- Betts J (2003) Review: wound cleansing with water does not differ from no cleansing or cleansing with other solutions for rates of wound infection or healing. *Evid Based Nurs* 6(3): 81
- Briggs M, Nelson EA (2003) Topical agents or dressings for pain in venous leg ulcers. *Cochrane Database Syst Rev* 1: CD001177. DOI: 10.1002/14651858.CD001177
- Briggs M, Torra I, Bou JE (2002) Pain at wound dressing changes: a guide to management. In: *Pain at Wound Dressing Changes. European Wound Management*

Association Position Document. Medical Education Partnership Ltd, London

Bugmann PH, Taylor S, Gyger D et al (1998) A silicone-coated nylon dressing reduces healing time in burned paediatric patients. *Burns* 24: 609–12

Carroll D, Moore RA, McQuay HJ, et al (2000) Transcutaneous electrical nerve stimulation (TENS) for chronic pain. *Cochrane Database Syst Rev* 4: CD003222. DOI: 10.1002/14651858.CD003222

Carroll D, Seers K (1998) Relaxation for the relief of chronic pain: a systematic review. *J Adv Nursing* 87: 476–87

Collier M, Hollinworth H (2000) Pain and tissue trauma during dressing changes. *Nurs Stand* 14: 71–3

Conway J, Whettam J (2002) Adverse reactions to wound dressings. *Nurs Stand* 16: 52–60

Dahlström KK (1995) A new silicone rubber dressing used as a temporary dressing before delayed split skin grafting. A prospective randomised study. *Scand J Plast Reconstr Surg Hand Surg* 29: 325–7

Doughty DB (2006) Strategies for minimizing chronic wound pain. *Adv Skin Wound Care* 19: 82–5

Dykes PJ, Heggie R (2003) The link between the peel force of adhesive dressings and subjective discomfort in volunteer subjects. *J Wound Care* 12: 260–2

Eccleston C (2001) Role of psychology in pain management. *Br J Anaesth* 87: 144–52

Fernandez R, Griffiths R, Ussia C (2002) Water for wound cleansing. *Cochrane Database Syst Rev* 4: CD003861 DOI: 10.1002/14651858.CD003861

Flanagan M, Vogensen H, Haase L et al (2006) Case series investigating the experience of pain in patients with chronic venous leg ulcers treated with a foam dressing releasing ibuprofen. *World Wide Wounds* www.worldwidewounds.com/2006/april/Flanagan/Ibuprofen-Foam-Dressing.html Last accessed on 23rd November 2006

Flock P (2003) Pilot study to determine the effectiveness of diamorphine gel to control pressure ulcer pain. *J Pain Symptom Manage* 25: 547–54

Frenay MC, Faymonville ME, Devlieger S, Albert A, Vanderkelen A (2001) Psychological approaches during dressing changes: a prospective randomised study comparing hypnosis against stress reducing strategies. *Burns* 27(8): 793–9

Furlan AD, Sandoval JA, Mailis-Gagnon A, Tunks E (2006) Opioids for chronic noncancer pain: a meta-analysis of effectiveness and side effects. *CMAJ* 174: 189–94

Gallagher RE, Arndt DR, Hunt KL (2005) Analgesic effects of topical methadone. A report of four cases. *Clin J Pain* 21: 190–2

Gilron I, Watson PN, Cahill CM, Moulin DE (2006) Neuropathic pain: a practical guide for the clinician. *CMAJ* 175(3): 265–75

Gotschall CS, Morrison MIS, Eichelberger MR (1998) Prospective randomized study of the efficacy of Mepitel and children with partial-thickness scalds. *J Burn Care Rehabil* 19: 279–83

Grey JE, Enoch S, Harding KG (2006) Wound assessment. *BMJ* 332(7536): 285–8

Hollinworth H, Collier M (2000) Nurses' views about pain and trauma at dressing changes: results of a national survey. *J Wound Care* 9: 369–73

Hollinworth H, Hawkins J (2002) Teaching nurses psychological support of patients with wounds. *Br J Nurs* 11(suppl): S8–18

Hollinworth H (2006) Addressing pain and tissue trauma during wound care. *Nurs Resident Care* 8: 259–64

Hollinworth H (2005) The management of patients' pain in wound care. *Nurs Stand* 20: 65–73

Independent Advisory Group (2004) *Best Practice Statement: Minimising Trauma and Pain in Wound Management*. Wounds UK Ltd, Aberdeen

Jørgensen B, Friis GJ, Gottrup F (2006) Pain and quality of life for patients with venous leg ulcers: proof of concept of the efficacy of Biatain-Ibu, a new pain reducing wound dressing. *Wound Repair Regen* 14: 233–9

Kammerlander G, Eberlein T (2002) Nurses' views about pain at dressing changes: a central European perspective. *J Wound Care* 11: 76–9

Krasner D (1995) The chronic wound pain experience. *Ostomy Wound Manage* 41: 20–5

Loeser JD, Melzack R (1999) Pain: an overview. *Lancet* 353: 1607–9

McKirdy L (2001) Wound Mangement; burn wound cleansing. *J Community Nurs* 15(5): 24–9

Moffatt CJ, Franks, Hollinworth H (2002) Understanding wound pain and trauma: an international perspective. In: *Pain At Wound Dressing Changes*. European Wound Management Association Position Document. Medical Education Partnership Ltd, London

Morley S, Eccleston C, Williams A (1999) Systematic review and meta-analysis of randomized controlled trials of cognitive behavioural therapy and behaviour therapy for chronic pain in adults. *Pain* 80: 1–13

Papantonio C (1998) Alternative medicine and wound healing. *Ostomy Wound Manage* 44: 44–55

Platt AJ, Phipps A, Judkins K (1996) A comparative study of silicone net dressing and paraffin gauze dressing in skin-grafted sites. *Burns* 22: 543–5

Popescu AP, Salcido R (2004) Wound pain: a challenge for the patient and the wound care specialist. *Adv Skin Wound Care* 17: 14–20

Price P (2005) An holistic approach to wound pain in patients with chronic wounds. *Wounds* 17: 55–7

World Union of Wound Healing Societies (2004) *Principles of Best Practice 2004: Minimising Pain at Wound Dressing-related Procedures*. A Consensus Document. MEP Ltd, London

Pudner R (2001) Low/non-adherent dressings in wound management. *J Community Nurs Online* 15(8) www.jcn.co.uk/j Last accessed 9th December 2006

Reddy M, Kohr R, Queen D, Keast D, Sibbald RG (2003) Practical treatment of wound pain and trauma: a patient-centred approach. An overview. *Ostomy Wound Manage* 49(4 Suppl): 2–15

Smith NK, Pasero CL, McCaffery M (1997) Non-drug measures for painful procedures. *Am J Nurs* 97: 18–20

Soon K, Acton C (2006) Pain-induced stress: a barrier to wound healing. *Wounds UK* 2(4): 92–101

Taylor R (1999) Use of a silicone net dressing in severe mycosis fungoides. *J Wound Care* 8: 429–30

Terrill PJ, Varughese G (2000) A comparison of three primary non-adherent dressings applied to hand surgery wounds. *J Wound Care* 9(8): 359–63

Thomas S (2003) Atraumatic dressings. *World Wide Wounds*.www.worldwidewounds.com/2003/january/Thomas/Atraumatic-Dressings.html Last accessed 23rd November 2006

Twillman RK, Long TD, Cathers TA, Mueller DW (1999) Treatment of painful skin ulcers with topical opioids. *J Pain Symptom Manage* 17(4): 288–92

White R (2005) Evidence for atraumatic soft silicone wound dressing use. *Wounds UK* 1: 104–9

Wiffen PJ, McQuay HJ, Moore RA (2005) Carbamazepine for acute and chronic pain. *Cochrane Database Syst Rev* 3: CD005451. DOI: 10.1002/14651858.CD005451

Williams C (1995) Mepitel: a non-adherent soft silicone wound dressing. *Br J Nurs* 4(1): 51–5

World Health Organization (2006) Palliative Care. Accessed from <http://www.who.int/cancer/palliative/en/> Last accessed 23rd November 2006