

# The psychological consequences of wounds — a vicious circle that should not be overlooked

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Wounds and wound healing are often considered to be purely medical phenomena, but there is growing evidence that the psychological impact on the patient is of equal importance. The psychological consequences of having a wound may include stress, sleep disturbances, negative mood and social isolation. These outcomes may be a result of the physical effects of the wound, such as pain or high levels of exudate. Wound management problems, mobility issues and malodour will also have an impact on the patient's psychological well-being. These consequences may, in turn, have a profound impact on the healing of a chronic wound and therefore affect an individual's quality of life.

There is considerable evidence that emphasises the importance of psychological variables in wound care. Psychological effects can take one of two forms:

- ▶▶ The impact that psychological factors may have on wound healing
- ▶▶ The psychological consequences that wounds and wound care have on the individual.

Although these can be considered separately, they are intimately linked and each has an impact upon the other:

## Psychological factors: impact on wound healing

There is a wealth of research to support the link between perceived stress and wound healing (Cole-King and Harding, 2001; Soon and Acton, 2006; Woo, 2010; Gouin and Kiecolt-Glaser, 2011). A recent systematic review and meta-analysis (Walburn et al, 2009) explored the relationship between stress on a variety of wound types in different contexts (for example, different types of acute and chronic wounds and experimentally created wounds such as punch biopsies). The findings demonstrated that the relationship between stress and wound healing is clinically relevant (Kiecolt-Glaser et al, 1995; Graham et al, 2006; Cole-King and Harding, 2001; Robles, 2007).

A study of 72 patients with burns who were given questionnaires measuring the perception of their burn, distress, trauma symptoms and concerns about appearance found that the greater the level of distress a person is under, the slower the wound healing process can be (Wilson et al, 2011). It is, therefore, imperative that clinicians minimise the stress of both living with a wound and the wound healing process. However, this is often easier said than done, as the very existence of a wound can have negative psychological consequences.

There is considerable evidence that wounds can lead to negative emotional states such as anxiety and depression (Guo and DiPietro, 2010), which in turn can affect wound healing. For example, Jones et al (2006) examined the prevalence of anxiety and depression in 190 patients with

chronic venous ulceration using the Hospital Anxiety and Depression Scale (HADS). Results indicated that 27% of patients were identified as depressed and 26% were identified as being anxious. Furthermore, research conducted by Cole-King and Harding (2001) suggested that delayed healing of a wound was associated with higher HADS scores — patients who scored in the top 50% were four times more likely to experience delayed wound healing than those in the bottom 50%.

In another study demonstrating the impact of negative emotions on mucosal wound healing, it was found that those individuals with high levels of dysphoria were almost 3.6 times more likely to be classified as slow healers. Such individuals also exhibited larger wound sizes (Bosch et al, 2007). Therefore, negative emotions such as anxiety and depression, which may be a consequence of having a wound, have a negative effect on the time it takes for a wound to heal. Hence, it is possible that a negative spiral will occur in which the wound causes a negative emotional state that has an impact on wound healing and which, in turn, leads to further negative emotions.

It has also been suggested that individuals who experience anxiety and depression as a result of high levels of stress, may also have a propensity to adopt negative health behaviours such as abusing alcohol and cigarettes, making poor diet choices and reducing the amount of physical exercise they take (Gouin and Kiecolt-Glaser, 2011). Although evidence suggests that such health behaviours do not completely

account for the negative effects of stress on wound healing, they may exacerbate the effects of stress and have a detrimental impact on the healing process (Ebrecht et al, 2004).

Stress and anxiety have been correlated with increased wound-related pain at dressing changes (Solowiej et al, 2009; Woo, 2010). This could occur if a patient is anxious about the level of pain they are likely to experience at dressing changes, particularly if this is based on a past experience (Mudge et al, 2008). Anxiety because of anticipated pain and stress levels at dressing changes may lead patients to fail to adhere to treatment regimens or to miss appointments.

### Psychological consequences of wounds

Wounds may have many psychological consequences. These may be a result of the wound itself, the pain associated with the wound, and the social or physical consequences of the wound. For example, malodour and high levels of exudate are common symptoms of chronic wounds. These may increase anxiety and depression, embarrassment, negative body image and social isolation, which can all impact negatively on quality of life (Hareendran et al, 2005; Herber et al, 2007). Some individuals may try different methods of coping with exudate and malodour. Such actions are often ineffective and, in some cases, can worsen the condition of the wound. For example, Lo et al (2008) reported the experiences of cancer patients living with a malignant fungating wound. Findings suggest that some patients would attempt to cover wounds to avoid leakage, would drink less fluid in the hope of reducing the amount of exudate produced and would remove bandages to help exudate disperse. Patients often feel embarrassed about exudate leakage and malodour and have difficulty maintaining dignity and outward appearances (Walshe, 1995; Hyde et al, 1999).

High levels of exudate and malodour can also lead to social isolation because of a negative body image and reduced self-esteem. This may be a result of changes in appearance and the fact that clothes or shoes no longer fit (Persoon

et al, 2004). Some patients feel unable to go out, adding to the levels of anxiety and feelings of helplessness experienced (Woo et al, 2009). Furthermore, social isolation may be an everyday experience for patients with wounds as they are forced to limit their activities to try to avoid pain (Herber et al, 2007; Woo, 2010). This can also have a detrimental effect on an individual's levels of physical activity and mobility (Solowiej et al, 2010).

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Social isolation can also affect social interaction, which may lead to a tendency for patients to keep problems to themselves (Mudge et al, 2008). It has been suggested that social support and emotional disclosure can help the healing process (Klyszcz et al, 1998; Goncalves et al, 2004). For instance, Weinman et al (2008) randomly assigned 36 participants to either an emotional disclosure intervention group or a non-intervention control group with all participants receiving a punch biopsy. It was found that participants who took part in the emotional disclosure intervention had smaller wounds than control participants at 14 and 21 days. These results suggest that reduced levels of social interaction result in higher levels of perceived stress, which consequently leads patients to have a slower wound-healing time, further affecting their quality of life.

Social isolation may also occur if an individual lacks energy because of sleep deprivation. Sleep plays an important role in the healing process and lack of sleep can interfere with the immune system (Kahan et al, 2010). Price and Harding (1993) suggested that among 80 patients with chronic wounds, 25% reported that at least three nights' sleep had been disturbed as a result of

their wound. Moreover, out of these, 49% had experienced disturbed sleep on six or more nights as a result of their wound.

Pain is usually reported as one of the main reasons why individuals with chronic wounds have sleep disturbances (Woo et al, 2008). Hyland et al (1994) reported that sleep disturbances were a major source of fatigue and worry, as patients spent a great deal of time thinking about their wounds. Similar results were found in research conducted by Harlin et al (2009), who suggested that patients with chronic wounds most frequently reported trouble sleeping, frustration, anxiety and mobility problems. Increased levels of anxiety and depression, which are shown to be more predominant in individuals with wounds, can add to the effects of sleep deprivation (Cole-King and Harding, 2001; Fagervik-Morton and Price, 2009). This can, therefore, have serious effects on an individual's quality of life (Mudge et al, 2008; Harlin et al, 2009).

Chronic wounds also affect an individual's ability to perform activities of daily living, further contributing to social isolation. It has been reported that individuals avoid certain activities such as shopping, walking or exercising because they cause or exacerbate pain (Herber et al, 2007). Persoon et al (2004) conducted a systematic review of patients with leg ulcers. They found that some patients avoided activity because they believed this would contribute to the development of further problems with their wounds. Studies have reported that between 63% and 81% of patients with leg ulcers report impaired mobility (Flett et al, 1994). Reduced mobility can also restrict an individual's ability to work (Harlin et al, 2009; Faria et al, 2011), perform household tasks (Woo et al, 2009; Leegaard et al, 2010) and attend to personal hygiene (Fox, 2002). It has been reported that patients describe mobility restrictions as one of the worst things about having a wound (Hamer et al, 1994), and can consequently affect independence (Mudge et al, 2008) and quality of life.

## Summary

Psychological stress, pain, negative emotions, malodour, high exudate levels, social isolation, sleep and mobility problems are all possible consequences of a wound. The subsequent psychological effects of a wound can have a severe impact on an individual's quality of life. The evidence suggests that these psychological factors not only influence the occurrence of further wounds, but they also exacerbate the severity of a wound and affect its ability to heal, resulting in the individual having to endure further psychological problems as a consequence — a vicious circle that clinicians must be aware of when treating patients with wounds. **WUK**

## References

- Bosch JA, England CG, Cacioppo JT, Marucha PT (2007) Depressive symptoms predict mucosal wound healing. *Psychosom Med* 69(7): 597–605
- Cole-King A, Harding KG (2001) Psychological factors and delayed healing in chronic wounds. *Psychosom Med* 63(2): 216–20
- Ebrecht M, Hextall J, Kirtley L-G, Taylor A, Dyson M, Weinman J (2004) Perceived stress and cortisol levels predict speed of wound healing in healthy male adults. *Psychoneuroendocrinology* 29(6): 798–809
- Fagervik-Morton, H, Price P (2009) Chronic ulcers and everyday living: patients' perspective in the United Kingdom. *Wounds UK* 21(12): 318–23
- Faria E, Blanes L, Hochman B, Filho MM, Ferreira L (2011) Health-related quality of life, self-esteem, and functional status of patients with leg ulcers. *Wounds UK* 23(1): 4–10
- Flett R, Harcourt A, Ipass F (1994) Psychosocial aspects of chronic lower leg ulceration in the elderly. *West J Nurs Res* 16(2): 183–92
- Fox C (2002) Living with a pressure ulcer: a descriptive study of patients' experiences. *Br J Community Nurs* 7(6 Suppl): 10–22
- Goncalves ML, de Gouveia Santos VL, de Mattos Pimenta CA, Suzuki E, Komegae KM (2004) Pain in chronic leg ulcers. *J Wound Ostomy Cont Nurs* 31(5): 275–83
- Gouin JP, Kiecolt-Glaser JK (2011) The impact of psychological stress on wound healing: methods and mechanisms. *Immunol Allergy Clin North Am* 31(1): 81–93
- Graham JE, Robles TF, Kiecolt-Glaser JK, Malarkey WB, Bissell MG, Glaser R (2006) Hostility and pain are related to inflammation in older adults. *Brain Behav Immun* 20(4): 389–400
- Guo S, DiPietro LA (2010) Factors affecting wound healing. *J Dent Res* 89(3): 219–29
- Hamer C, Cullum N, Roe BH (1994) Patients' perceptions of chronic leg ulcers. *J Wound Care* 3(2): 99–101
- Hareendran A, Bradbury A, Budd J et al (2005) Measuring the impact of venous leg ulcers on quality of life. *J Wound Care* 14(2): 53–7
- Harlin SL, Harlin RD, Sherman TI, Rozsas CM, Shafqat SM, Meyers W (2009) Using a structured, computer-administered questionnaire for evaluating health-related quality of life in patients with chronic lower extremity wounds. *Ostomy Wound Manage* 55(9): 30–9
- Herber OR, Schnepf W, Rieger MA (2007) A systematic review on the impact of leg ulceration on patients' quality of life. *Health Qual Life Outcomes* 5(44): 1–12
- Hollinworth H (2005) The management of patients' pain in wound care. *Nurs Stand* 20(7): 65–70
- Hyde C, Ward B, Horsfall J, Winder G (1999) Older women's experience of living with chronic leg ulceration. *Int J Nurs Pract* 5(4): 189–98
- Hyland ME, Ley A, Thomson B (1994) Quality of life of leg ulcer patients: questionnaire and preliminary findings. *J Wound Care* 3(6): 294–8
- Jones J, Barr W, Robinson J, Carlisle C (2006) Depression in patients with chronic venous ulceration. *Br J Nurs* 15(11): 17–23
- Kahan V, Anderson ML, Tomimori J, Tufik S (2010) Can poor sleep affect skin integrity? *Med Hypotheses* 75(6): 535–7
- Kiecolt-Glaser JK, Marucha PT, Malarkey WB, Mercado AM, Glaser R (1995) Slowing of wound healing by psychological stress. *Lancet* 346(8984): 1194–6
- Klyscz T, Jünger M, Schanz S, Janz M, Rassner G, Kohnen R (1998) Lebensqualität bei chronisch venöser Insuffizienz (CVI). *Hautarzt* 49: 372–81
- Leegaard M, Rustoen T, Fagermoen MS (2010) Interference of postoperative pain on women's daily life after early discharge from cardiac surgery. *Pain Manage Nurs* 11(2): 99–102
- Lo SF, Hu WY, Hayter M, Chang SC, Hsu MY, Wu LY (2008) Experiences of living with a malignant fungating wound: a qualitative study. *J Clin Nurs* 17(20): 2699–708
- Mudge E, Spanou C, Price P (2008) A focus group study into patients' perceptions of chronic wound pain. *Wounds UK* 4(2): 21–8
- Persoon A, Heinen MM, van der Vleuten C JM, de Rooij MJ, van de Kerkhof PCM, van Achterberg T (2004) Leg ulcers: a review of their impact on daily life. *J Clin Nurs* 13(3): 341–54
- Price PE, Harding KG (1994) The importance of Quality of Life measures in patients with granulating wounds. In: *Conference Proceedings: 3rd European Conference on Wound Management and Healing*. 62–4
- Robles TF (2007) Stress, social support, and delayed skin barrier recovery. *Psychosom Med* 69(8): 807–15
- Solowiej K, Mason V, Upton D (2009) Review of the relationship between stress and wound healing: Part 1. *J Wound Care* 18(9): 357–66
- Solowiej K, Mason V, Upton D (2010) Psychological stress and pain in wound care, part 2: a review of pain and stress assessment tools. *J Wound Care* 19(3): 110–15
- Soon K, Acton C (2006) Pain induced stress: a barrier to wound healing. *Wounds UK* 2(6): 92–101
- Walburn J, Vedhara K, Hankins M, Rixon L, Weinman J (2009) Psychological stress and wound healing in humans: a systematic review and meta-analysis. *J Psychosom Res* 67(3): 253–71
- Walshe C (1995) Living with a venous leg ulcer: A descriptive study of patients' experiences. *J Adv Nurs* 22(6): 1092–100
- Weinman J, Ebrecht M, Scott S, Walburn J, Dyson M (2008) Enhanced wound healing after emotional disclosure. *Br J Health Psychol* 13(1): 95–102
- Wilson, RH, Wisely JA, Wearden AJ, Dunn KW, Edwards J, Tarrier N (2011) Do illness perceptions and mood predict healing time for burn wounds? A prospective, preliminary study. *J Psychosom Res* 71(5): 364–6. Epub 2011 Jul 12
- Woo K, Sibbald RG, Fogh K et al (2008) Assessment and management of persistent (chronic) and total wound pain. *Int Wound J* 5(2): 205–15
- Woo KY, Coutts PM, Price P, Harding K, Sibbald RG (2009) A randomized crossover investigation of pain at dressing change comparing 2 foam dressings. *Adv Skin Wound Care* 22(7): 304–10
- Woo K (2010) Wound-related pain: anxiety stress and wound healing. *Wounds UK* 6(4): 92–98