

Reduction of pain in painful wounds: A multi-centred audit

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Introduction

Throughout history, there has never been such a plethora of wound treatment choices and it is now an exciting and expanding field of care. However, wound management is often undertaken by health-care professionals who have not received sufficient training in this specialty (King, 2000) and this undoubtedly means that dressings are sometimes used inadvisably or inappropriately (Bux and Malhi, 1996). Each dressing has been specifically designed for a purpose with the primary function being to prepare the wound bed for healing; this requires knowledge of the complications and physiological responses that occur in a wound with each different dressing type. One of the common complications of wound healing is pain which remains an integral part of wound diagnosis as well as local wound management (Sibbald, 2003) and, unfortunately, one area which is still neglected is pain control (Gould, 1999). ActiFormCool® is a hydrogel sheet dressing that is set to address this problem of pain.

It had been noted from the results of a clinical evaluation and an audit that ActiFormCool® appeared to reduce pain in painful wounds. However, pain is complex with multiple causes and no one dressing could possibly reduce pain in all painful wounds. Therefore, the objectives of this audit were to establish the effectiveness of ActiFormCool® hydrogel sheet dressing in reducing pain in painful leg ulcers and to establish what particular types of pain could be reduced. The results will be used as a basis for designing a pain tool for leg ulcers. Each patient in the audit was already being provided with ActiFormCool® as part of their general care, prior to the audit and, therefore, no changes to care were made.

The measured parameters were:

- pain levels during wear time
- the effect of the dressing regime on the patients' quality of life (reduction of pain, exudate and malodour)
- Exudate and malodour

The hypothesis of the audit was: Patients using ActiFormCool® hydrogel dressing as a primary dressing will experience less pain during wear time, improved healing and quality of life.

The study hypothesis was measured by the Verbal Descriptor Pain Scale 1-5, the subjects' self-report and the nurses reported their experience of using ActiFormCool®. The audit question reviewed whether the patient experiences more or less pain than with previous treatments during wear time, as measured by the 1-5 Verbal Descriptor Pain Scale (Nagata et al 1996).

35 nurses were approached to take part in the audit and 27 returned the completed audit form. The results were of 51 patients all of whom were being treated with ActiFormCool® on the day of the audit. The longest period of use was greater than 3 months and the shortest period was 7 days. The previous audit was of 69 patients throughout the UK and the clinical evaluation was of 13 patient with 16 wounds. Therefore, the total number of patients over the 3 trials was 133 patients.

Pain

The patient who is in pain may have delayed wound healing as this has a physiological stress response that can effect delivery of oxygen and nutrients to a wound (Hampton and Collins 2003).

Pain is the result of a complex sequence of physiological and psychological events with the release of histamine and prostaglandin playing a large role in the painful outcome. There are different types of fibres and pain receptors: each receptor acts at differing speeds of conduction leading to dissimilar experiences of pain sensation. Burning pain may be the result of polymodal C fibre nociceptor stimulation and pricking pain due to stimulation of Ad nociceptors. Therefore, it is possible that ActiFormCool® could decrease pain in certain pain types.

The outcome of this audit has provided details of pain types related to leg ulcers, and has provided a firm basis of information for a pain tool to be produced. It also demonstrated the usefulness of ActiFormCool® in painful leg ulcers.

Results

The results of the audit are presented in graph form (see above).

The pain in wounds with the previous dressing was on average (in all 51 wounds) 4 with a minimum of 2 and a maximum of 5. When ActiFormCool® was used, the average pain level was 2.2 with a minimum of 1 and maximum of 5. This confirmed the results of both the previous audit and the clinical evaluation results. Therefore, these results show that ActiFormCool® reduces pain in painful wounds.

Types of pain were audited as 'burning' 'sharp' 'stinging' 'aching' 'tingling'. ActiFormCool® performed well in each of these pain types but appeared to perform particularly well in 'burning' and 'sharp' pains. These 2 pain types were also the most painful on the visual analogue scale. The line graph shows the overall reduction in pain that occurred following ActiFormCool® treatment.

ActiFormCool® performed better in the comfort comparison, particularly in 'very comfortable' 'uncomfortable' and 'painful' assessments.

The audit confirmed the results of the previous 2 trials as the exudate levels reduced from copious and medium amounts to minimal and no amounts when ActiFormCool® was used and this result is reflected in the reduction of malodour that accompanied the exudate reduction.

showed improvements	46	90%
no improvement	3	5.80%
not sure	1	2%
discontinued	1	2%

90% of the wounds in the audit, showed signs of improvement when ActiFormCool® was used as primary dressing. One of the 90% healed fully. 1 patient was discontinued as the dressing 'did not suit her' and 5.8% showed little or no sign of improvement.

Conclusion

The 3 trials assessed pain, malodour and exudate in 133 patients and this audit completely concurs with the previous 2. The results of the 3 studies demonstrate that pain is reduced when ActiFormCool® is used on painful wounds. The action of this is unknown and further work needs to be conducted in vivo and vitro to establish the science behind these findings. Nevertheless, there can be little doubt that ActiFormCool® influences wound pain and that this is an important step forward in controlling pain in painful wounds.

References

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