# An evaluation of KerraMax Care in the management of moderate to heavily exuding wounds


## Abstract

Highly exuding wounds are common and can result in malodour, pain, maceration, infection and unsightly soiled dressings, as well as having a negative impact on an individual's quality of life. This communication reports on the findings from an evaluation by nurses regarding the clinical effectiveness and safety of superabsorbent dressing KerraMax Care and the patient experience of KerraMax Care in the management of moderate to highly exuding wounds. A total of 54 evaluations were completed. Nurses commented on the main benefits seen clinically with KerraMax Care as being reduced maceration, exudate managed and improved wound appearance. Other changes observed in wound appearance noted were visible granulation tissue and reduced pain. The evaluation demonstrates the positive impact that good dressing selection can have on the lives of patients, improving their wound–care experience and outcome.


Key words: Exudate management ■ Quality of life ■ Superabsorbent dressings


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Highly exuding wounds are common and can result in malodour, pain, maceration, infection and unsightly, soiled dressings. This can have a negative impact on an individual's quality of life, triggering feelings of self-loathing, disgust and low self-esteem (Jones et al, 2008). Increasingly, clinicians are turning their attention to the impact of these wound-related symptoms on the patient's ability to continue with daily living in aspects such as work (including housework), shopping, cooking and socialising with family and friends (Gorecki et al, 2009). The emotional aspects of caring for someone with a highly exuding wound are just as important as physically changing their dressing. For many patients, healing is not the primary outcome of concern—it is poor control of their symptoms, which has the potential to restrict day-to-day living. Dressings remain the mainstay and most accessible option for managing wound exudate. Good dressing selection makes a major difference to the progress of the wound and, importantly, the comfort and quality of life of the patient (Romanelli et al, 2010).

Patient comfort and acceptability are important factors when determining success or otherwise of a treatment regimen and in optimising their wellbeing (Wounds International, 2012). Clinicians have a responsibility to their patients to minimise the occurrence of harm by effective exudate management (Department of Health (DH), 2009). Wound care is estimated to cost the NHS £2.3–3.1 billion per year, representing up to 4% of the total NHS expenditure (Posnett and Franks, 2008; Dowsett and Shorney, 2010). It is incumbent on clinicians to be mindful of cost to the NHS, with dressings and nursing time being two of the greatest costs associated with wound care (Drew et al, 2007). A major factor influencing cost-effectiveness could arguably be the selection of an appropriate dressing in the first place.

KerraMax Care (Crawford Healthcare) is a superabsorbent dressing indicated for the control and removal of excess exudate in moderate to heavily exuding wounds. Uncontrolled exudate with its concomitant malodour, excoriated and macerated skin is acknowledged by clinicians to increase the daily burden of living with a wound for patients and so presents a key challenge for wound management clinicians. The advent of superabsorbent dressings ensures it is no longer acceptable for patients to suffer leakage and strikethrough of heavily soiled bandages, or soggy shoes and slippers from uncontrolled exudate, or for them to no longer wish to socialise because of the embarrassment of malodour. These

superabsorbent dressings absorb fluid from the wound and lock away potentially unhealthy and harmful exudate inside the dressing so that it cannot leak or drip, and the dressing remains dry to the touch. This article reports on the findings from an evaluation by clinicians of their experiences of using KerraMax Care in the management of exuding wounds.

## Superabsorbent dressings

Increasing the frequency of dressing changes should no longer be the first coping strategy initiated by clinicians to manage exudate. Indeed, this may not be the option of choice for the patient either. Not only does this add to the cost (as nursing time is the most expensive aspect of wound management), but dressing change is often a traumatic and painful time for patients (Meaume et al, 2004; Woo, 2010). A thorough assessment followed by careful dressing selection should therefore be the starting point. Butcher and White (2013) remind us not to neglect, or even disregard, the views and concordance of the patient in any decision-making process.

Four dressings are classified in the British National Formulary (BNF) (Joint Formulary Committee, 2013) as absorbent dressings for heavily exuding wounds. They are made of superabsorbent polymers (SAPs) with a greater absorption capacity than traditional foam dressings and the ability to bind or retain fluid by converting it into a gel, locking it away within the dressing. Jones and Barraud (2013) report the results of an evaluation by 21 experienced and specialist clinicians on their requirements and expectations for superabsorbent dressings in the management of exuding wounds of various aetiologies. It was postulated that dressing changes are not predominantly determined by dressings reaching capacity. Indeed, there may be a ceiling effect of 100 mLs with absorption beyond that capacity conferring no additional benefit. A greater consideration than absorption capacity is the ability of the dressing to retain wound fluid, especially under pressure.

Superabsorbents have the ability to trap unwanted components of the exudate, such as bacteria, proteases and inflammatory mediators, within the core of the dressing (Wiegand et al, 2011), reducing matrix metalloproteinase (MMP) levels (Eming et al, 2008); and they are designed to reduce potential leaks and risk of maceration. This translates to the ability to reduce dressing change frequency.

White and Cutting (2006) note that the challenge in managing heavily exuding wounds is to maintain a moist wound-dressing interface, while effectively absorbing and retaining excess exudate. The product needs to lock the exudate into the dressing in order to protect the wound bed and surrounding skin, to perform under compression, to be easy to remove and to be cost-effective. However, focusing on unit cost as the sole criterion for dressing choice is misguided. Using products correctly involves knowing what the product is able to do, e.g. whether it absorbs and retains the fluid. Cutting and White (2012) remind clinicians of their responsibility in identifying and selecting clinical interventions that achieve optimal patient outcomes in a given clinical circumstance. Superabsorbent dressings give good protection to the periwound skin from the corrosive and painful effect of the exudate (Langoen and Lawton, 2009). Poor symptom management can also cause patients to become non-concordant with therapy (Solwiej et al, 2010).

**Box 1. KerraMax evaluation form**

| | |
|---|---|
| **1.** | How long was the patient treated with KerraMax Care? |
| **2.** | Treatment regimen(s) used |
| **3.** | Please indicate the aetiology of the ulcer/chronic wound and circle best description of exudate: Serous (thin and straw coloured) or purulent (yellow and thicker) |
| **Questions 4–7:** Please circle the number that most closely reflects your opinion of KerraMax Care | |
| **4.** | Exudate control: How would you rate KerraMax Care in terms of managing the exudate from the wound compared to previous dressing choices?<br>1 2 3 4 5 6 7 8 9 10<br>(0: exudate was not managed very well. 10: exudate was managed very well) |
| **5.** | Patient acceptability of KerraMax Care: Please ask the patient how they rate KerraMax Care in terms of comfort compared to their previous treatment<br>1 2 3 4 5 6 7 8 9 10<br>(0: worse. 5: similar. 10: better) |
| **6.** | Convenience: Over the last week how convenient have you found KerraMax Care for the management of the ulcer (e.g. time spent dressing the wound, visits to the clinic, etc.)<br>1 2 3 4 5 6 7 8 9 10<br>(0: very inconvenient. 10: very convenient) |
| **7.** | 7. Surrounding skin. Has the condition of the surrounding skin changed during treatment with KerraMax Care?<br>1 2 3 4 5 6 7 8 9 10<br>(0: increased maceration. 10: reduced maceration) |
| **8.** | Please describe any changes in the wound's appearance over the course of the treatment |
| **9.** | Overall, how does KerraMax Care meet your expectations for your dressing requirements?<br>(Exceeds/meets/does not meet) |
| **10.** | Would you be happy to continue using KerraMax Care?<br>If 'yes', please specify what in particular you like about KerraMax Care.<br>If 'no', please specify why not. |
| **11.** | Any comments/suggestions |

## Evaluation of KerraMax Care

KerraMax Care is a new version of KerraMax superabsorbent dressing. KerraMax Care has an improved contact layer, together with a horizontal wicking layer to ensure even distribution of exudate. It also has heat-sealed borders to prevent leakage. KerraMax Care can be used as a primary or secondary absorbent layer, for example, over a cavity or where an antimicrobial is used as the primary dressing (Hampton et al, 2011).

The primary objective of the evaluation was to understand the experiences of clinicians regarding the clinical effectiveness and safety of KerraMax Care and the patient experience of KerraMax Care in the management of moderate to highly exuding wounds.

## Method

Clinicians who had previously used KerraMax were asked to complete one evaluation form per patient/wound treated about their experiences of managing wounds with KerraMax Care. The evaluation form consisted of 11 questions (*Box 1*). There were 2 questions (numbers 5 and 6) which required the clinicians to ask the patient their views on the new superabsorbent dressing. The design of the evaluation form reflected the key drivers in treating and documenting nurse interventions in wound management:

- Patient safety
- Patient experience
- Effectiveness of care

## Results

A total of 54 evaluations were completed, with 33 patients being treated with KerraMax Care for between 7 and 28 days. Only 5 patients required treatment for more than 42 days. While 17 patients required daily dressings, 15 patients had their dressing changed three times a week, with a further 15 only needing a visit twice a week.

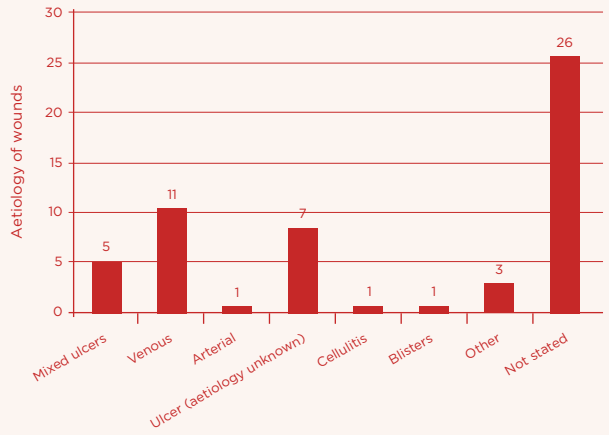
The majority of exuding wounds treated during the evaluation period were due to ulceration; however, 26 evaluations did not state the aetiology of the wound (*Figure 1*). The clinicians were asked to show whether the exudate was serous (defined as thin and straw coloured) or purulent (defined as yellow and thicker). In 25 of the wounds treated, the exudate was classed as serous, while in 17 cases it was defined as purulent. It was noted that all the wounds treated in this evaluation were moderate to heavily exuding wounds.

Clinicians were asked how they rated KerraMax Care in terms of managing the exudate from the ulcer (from 0 to 10, with 0 reflecting poor exudate management and 10 good management), compared with previous dressing choices. There were 43 nurses who scored the KerraMax Care between 7 and 10 for exudate management with a mean score of 7.5 and a median score of 8 (*Figure 2*). When asked by clinicians, patients rated KerraMax Care highly in terms of comfort and convenience, with a mean score of 7.2 (median, 7.5) for the former and a mean score of 7.5 (median, 8.0) for the latter (*Figure 3* and *Figure 4*, respectively). Any change in the condition of the surrounding skin was recorded by the clinician during treatment using a scale of 0 to 10, with 0 denoting that there was increased maceration with KerraMax Care and 10 that the maceration reduced. A mean score of 6.8, median of 7, was recorded (*Figure 5*).

Clinicians commented on reduced maceration (16), exudate managed (16) and improved wound appearance (13) as the main benefits seen clinically with KerraMax Care. Other changes observed in wound appearance noted were visible granulation tissue (5) and reduced pain (2).

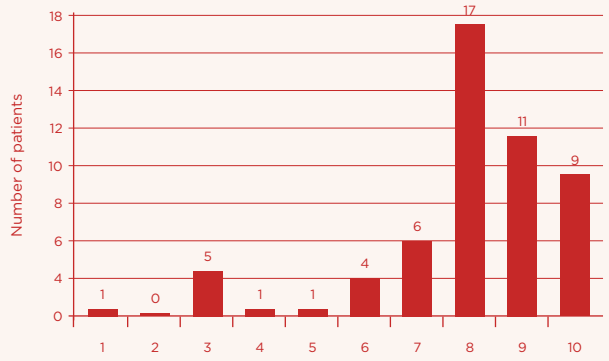
A total of 35 respondents felt that KerraMax Care met their expectations and 15 felt it exceeded them. The majority of clinicians (51 out of 54) would be happy to continue using KerraMax Care as their superabsorbent of choice. Reasons cited included patient comfort, high absorption, ease of use, reduced maceration, conformability, increased softness and flexibility over the original KerraMax, making it easier to

**Figure 1.** Aetiology of wounds




In 26 out of 54 cases surveyed, the aetiology was not given.

**Figure 2.** Effectiveness of care: exudate control



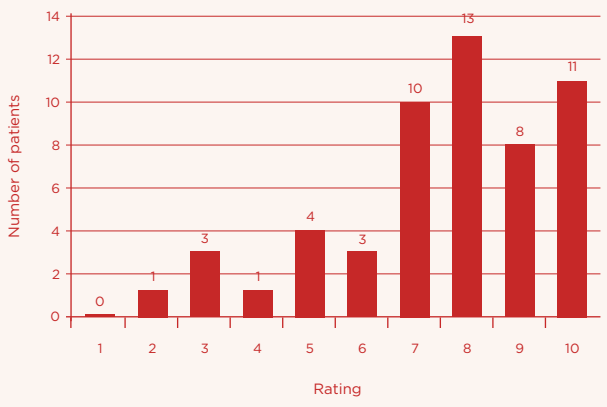

Clinicians were asked how they rated KerraMax Care in terms of managing the exudate from the ulcer (from 0 to 10, with 0 reflecting poor exudate management and 10 good exudate management).

mould around legs. Only 2 respondents would not be happy to continue using KerraMax Care but were unable to provide a reason, while 1 respondent remained undecided.

## Discussion

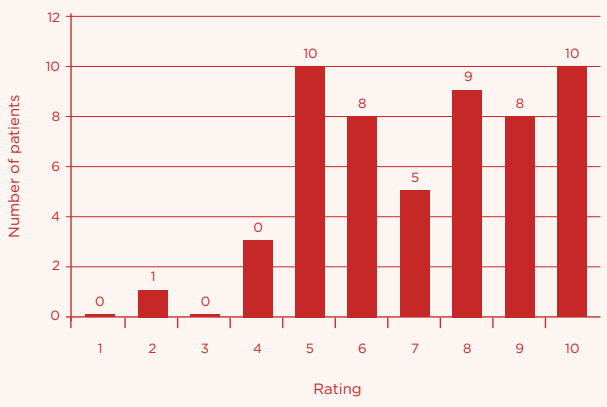
Nurses, with any aspect of health care, should aim to 'do the patient no harm'. This aspect of care is also taken very seriously by dressing manufacturers in ensuring the effectiveness and safety of their products in clinical practice. Dressing manufacturers frequently seek the opinions of clinicians and patients (through clinicians) on their products, to ensure the dressing is effective and safe, thereby meeting the needs of both the clinician and the patient. This short product evaluation is designed to evaluate the patient safety, patient experience and effectiveness of care with KerraMax Care. Such an evaluation enables clinicians to match dressing selection to the wound and assists in their documentation of treatment plans.

**Figure 3.** Patient experience: patient convenience




Patients rated KerraMax Care highly in terms of convenience.

**Figure 4.** Patient experience: patient comfort




Patients rated KerraMax Care highly in terms of comfort.

**Figure 5.** Patient safety: surrounding skin


Clinicians recorded that maceration of surrounding skin tended to be reduced.

KerraMax Care wicks horizontally, which slows the absorption of fluid, compared with superabsorbents that wick vertically. The main advantage of this is that there is no risk of gel-blocking, where superabsorbent material remains unused, as it is surrounded by hydrated gel. In vertically wicking dressings, often not all the dressing is used, and more viscous exudate is sometimes poorly absorbed. In this evaluation, there were 17 wounds where the exudate was described as purulent and therefore more viscous, but KerraMax Care was able to absorb and lock away this exudate.

Patient acceptability is vitally important in any dressing regimen, to ensure patient confidence and, ultimately, concordance with the treatment plan. Patients rated KerraMax Care positively for both comfort (compared with their previous treatment) and convenience in terms of time spent dressing the wound and visits to the clinic. A frequent side effect of uncontrolled exudate and/or poor dressing selection is sore and macerated skin around a wound, which not only causes potential damage to the skin but, more importantly, makes living with a wound almost unbearable for the patient. The use of KerraMax Care on moderate to heavily exuding wounds generally resulted in reduced maceration, indicating that the dressing was able to lock the exudate away from the wound and periwound skin. This evaluation of KerraMax Care, an improved superabsorbent dressing, has demonstrated the positive impact that good dressing selection can have on the lives of patients, improving their wound care experience and outcome.

## Conclusion

New products require robust evaluation, with an emphasis on the key drivers in wound management. Such an evaluation enables nurses to justify dressing selection and assist in their documentation of treatment plans. Clinicians and patients have provided positive feedback on the ability of KerraMax Care to improve comfort, control the exudate

and prevent maceration and surrounding skin problems. Important, too, is the need for fewer dressing changes, meaning less wound disturbance and decreased pain for the patient, as well as a reduction in cost of consumables and nursing time. Having a superabsorbent in the toolbox of dressings to help manage the challenge of moderate to heavily exuding wounds is important to clinicians and can make a significant difference to the lives of patients, improving their wound care experience and outcome. **CWC**

## KEY POINTS

- Uncontrolled exudate, with its concomitant maladour, and excoriated and macerated skin, increases the daily burden of living with a wound
- Managing a highly exuding wound significantly improves a patient's quality of life
- Increasing the frequency of dressing change is not an acceptable first-line strategy for managing exudate
- Selection of a superabsorbent dressing such as Kerramax Care has demonstrated improved patient comfort and control of exudate, with a reduction in dressing change

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