Suprasorb® P sensitive: A 51-wound clinical evaluation

KEY WORDS
- Clinical evaluation
- Exudate management
- Patient comfort
- Peri-wound skin

Dressings continue to be a key part of successful wound care, however, choosing the right product for the right patient at the right time can be challenging for the clinician (Hedger, 2014). Modern foam dressings have been widely available since the mid-1970s with the aim to manage light-to-heavy exuding wounds (Hedger et al, 2014). Historically, bordered foam dressings have utilised acrylic-based adhesives; however, these have been associated with increased risk of skin sensitisation and medical adhesive-related skin injuries (MARSI; Meuleneire and Rucknagel, 2013; Hedger et al, 2014; Mestach et al, 2018; Downie and Collier, 2021). A clinical evaluation was undertaken to detail the characteristics and performance of Suprasorb® P sensitive silicone foam dressing (L&R Healthcare). The evaluation comprised a minimum of four dressing changes over at least 2 weeks. Fifty patients (51 wounds) were included in the evaluation. At the final evaluation, 57% (n=29) of the wounds were recorded as improved, 37% (n=19) were recorded as static and 6% (n=3) were recorded as having deteriorated. Of the 27% (n=14) evaluations where patients reported self caring, 71% scored Suprasorb P sensitive as above average for ease of use, suggesting the dressing may be suitable for patients who were self-caring and can apply their own dressing. Suprasorb P sensitive performed well in all the parameters evaluated and may be considered where effective exudate handling, improved patient comfort and ease of handling is required.

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One of the main challenges in wound care is efficient exudate management. It is essential that effective wound care products are available to manage exudate, with the aim to improve patient outcomes and enhance patients' quality of life (World Union of Wound Healing Societies [WUWHS], 2019). A dressing's ability to effectively manage exudate to avoid excess moisture saturating the wound bed and peri-wound skin is important to avoid breakdown of the epithelium (Dowsett, 2011; Vowden, 2011; Gethin et al, 2014; WUWHS, 2019). If the dressing does not have good exudate handling properties and the surrounding skin becomes macerated, this leads to perceived wound deterioration, increased pain, increased risk of malodour and increased risk of infection (Gethin et al, 2014; Benbow et al, 2010).

A dressing must also be easy to handle, easy to apply and remove, and conformable to the body contours. These aspects are especially important for patients who are managing their own wounds or share care with their clinician. Also, from the patient's perspective, the dressing needs to be easy to remove without causing pain or trauma, and without leaving a residue on the skin (Dowsett, 2011; Vowden, 2011). Medical adhesive-related skin injuries (MARSIs) are traumas to the peri-wound skin caused by medical adhesives that can increase the risk of infection (Reinke and Sorg, 2012; Yates et al, 2012), delay healing and subsequently increase pain and discomfort for the patient, and increase financial burden (Fumarola et al, 2020). The prevalence of MARSIs is possibly under-estimated, but they should be considered a 'never' event in wound management and avoidable. Patients can often fear dressing changes due to thoughts of pain and negative previous experiences of dressings that adhered to the wound bed (European Wound Management Association, 2002; Berchert and Abraham, 2009; Gardener et al, 2017).

Considering these aspects, clinicians should choose a wound management product that effectively manages exudate and is easy to apply and remove, conformable and comfortable for the patient, and does not cause skin trauma on removal.

SILICONE FOAM DRESSINGS

Silicone foam dressings utilise silicone adhesive technology across the dressing and the border, and can minimise the risk of trauma when removing dressings on vulnerable skin susceptible to damage (Meuleneire and Rucknagel, 2013) (e.g. older people, the very young or those with genetic skin conditions such as epidermolysis bullosa).

Silicone foams are also suitable for many clinical indications and wound types for the management of wound exudate, e.g. leg ulcers including under compression therapy, pressure ulcers, traumatic wounds, gastrostomy and tracheostomy wounds, minor burns, skin grafts, donor sites and diabetic ulcers.

SUPRASORB® P SENSITIVE

Suprasorb® P sensitive (L&R Healthcare) is a primary wound foam dressing, which consists of a silicone wound contact layer, an absorbent polyurethane foam, a non-woven layer, a super-absorbent core and a protective backing.

The construction of this dressing is designed to facilitate exudate management, while also providing an optimal moist wound environment to promote wound repair and reduce the risk of peri-wound maceration. The outer layer is a waterproof polyurethane film with a high permeability to allow effective vapour transfer and this film also provides a bacterial barrier and is showerproof in the bordered version. The pad layers absorb and lock exudate away through superabsorbent polymers. The silicone wound contact layer utilises OptiSil technology that not only allows repositioning if required at dressing change without it affecting the adhesive quality, but also the use of the silicone adhesive minimises pain at dressing changes and prevents trauma to the wound bed and peri-wound skin. The dressing is indicated for most wound types with low to moderately high exudate, e.g. pressure ulcers, leg and foot ulcers, traumatic wounds, surgical wounds, donor sites, skin tears and burns (first and second degree). It is available in bordered and non-bordered versions, with a Lite version for low-exuding wounds.

The dressing can be used in combination with gels for necrotic wounds and with cavity fillers when indicated for deeper wounds. It has a wear time of up to 7 days dependent on wound condition and the level of exudate.

EVALUATION AIMS

This article details a real-time evaluation using Suprasorb P sensitive silicone foam utilising OptiSil technology. The aims of the evaluation of Suprasorb P sensitive were to capture ease of use, comfort, conformability, exudate management capabilities, wear time, the condition of the wound bed and peri-wound skin during use, and clinician and patient satisfaction.

METHOD

The evaluation was undertaken in a community setting and an acute Diabetic Foot Clinic. Each patient evaluation ran for a minimum of 2 weeks with a minimum of four contacts including the first contact and application of Suprasorb P sensitive. Images of the wound and dressing in place were taken at each contact point.

The bordered, non-bordered and Lite versions of Suprasorb P sensitive wound dressing were used in this evaluation:

- The bordered dressing was used mainly on leg ulcers and pressure ulcers
- The non-bordered dressing was used mainly used on the diabetic foot ulcers
- The bordered Lite version was considered suitable for the skin tears, trauma wounds and some of the surgical wounds, which had been considered lower exuding wounds.

Ethical approval was not required, as this was an evaluation of a wound dressing, which was already available on the drug tariff so could be prescribed.

Patient selection

All patients over the age of 18 years who had a wound with low to moderate levels of exudate were invited to be involved in the evaluation. The aim was to include at least 40% of patients with

friable and vulnerable skin, or who were known to have experienced MARSIs in the past. Patients were excluded from participating in the evaluation if they had local or systemic infection and/or a known sensitivity to silicone.

All patients had a full wound assessment following the National Wound Care Strategy Programme (2020) minimum data set for wound assessment.

The patients were provided with a verbal explanation of the product details, the rational for the evaluation and their role within the evaluation and were required to give consent. They were reassured that if they declined involvement in the evaluation it would not affect their ongoing or future wound treatment.

Clinician training

The clinicians were provided with a product overview, indications for use and defined assessment criteria. Clinicians were provided with an evaluation form to use at each dressing change, and instructions were provided on how to complete the form to maintain continuity and patient confidentiality.

Data captured

The baseline data captured included the patient's gender and age and the wound characteristics, such as wound aetiology, location, exudate level, size (≤10cm^2 or >10cm^2) and duration (0-7 days, 8–30 days, 30–90 days and >90 days). The frequency of dressing change and any adjunct therapies were also captured.

At each dressing change, the following parameters were recorded:

- Wound exudate on a 10-point Likert scale (0=no exudate, 10=heavy exudate)
- The wound bed composition was assessed as either epithelialising, granulating, sloughy or necrotic. Evidence of improvement or deterioration were also recorded
- The condition of the peri-wound was assessed as either excoriated (red and broken), macerated (soft and broken), erythematous (red/inflammed) or healthy
- Ease of application, re-positioning, exudate absorption of Suprasorb P sensitive, patient comfort (including softness of the dressing), ease of removal and conformability were rated as either Excellent, Very good, Good, Bad, Very bad or Terrible
- Wound pain on a 10-point Likert scale (0=no pain, 10=extreme pain)
- Clinician and patient satisfaction on the performance of Suprasorb P sensitive on a 10-point Likert scale (1=Terrible, 2=Extremely bad, 3=Very bad, 4=Disappointing, 5=Below average, 6=Satisfactory, 7=Above average, 8=Good, 9=Very good, 10=Excellent).

After the evaluation, patients completed a post-evaluation questionnaire to provide personal feedback on comfort, softness, removal, ease of use, ability for dressing to stay in place, if it was waterproof and their level of preference of Suprasorb P sensitive compared to their previous wound product used. The clinicians were asked to rate Suprasorb P sensitive compared to the equivalent product on their wound formulary as either better, equal or worse, and rate the overall clinical effectiveness and ability of Suprasorb P sensitive to stay in place. The clinicians were also asked if they would recommend Suprasorb P sensitive to other clinicians and provide any other feedback.

RESULTS: PRE-EVALUATION DATA

Five clinicians took part in the evaluation and each completed between five and 15 cases. Fifty patients were invited to take part in the evaluation, and there was a total of 51 wounds included. Of the 50 patients recruited (20 male, 30 female), the average age was 71 years (range, 42–99 years). The 50 patients presented with leg ulcers (15), pressure ulcers (11), diabetic foot ulcers (10), surgical wounds (7), skin tears (4) and trauma wounds (4). One patient had two pressure ulcers – one on each buttock. All the venous leg ulcers were receiving full or reduced compression therapy as appropriate. Fourteen of the patients were performing self-care of their wound.

There were 20 wounds located on the foot, 22 on the leg, three on the arm, three on the sacrum, two on the buttocks and one on the hip. The wounds had been present for a range of durations:

- 0–7 days = five wounds

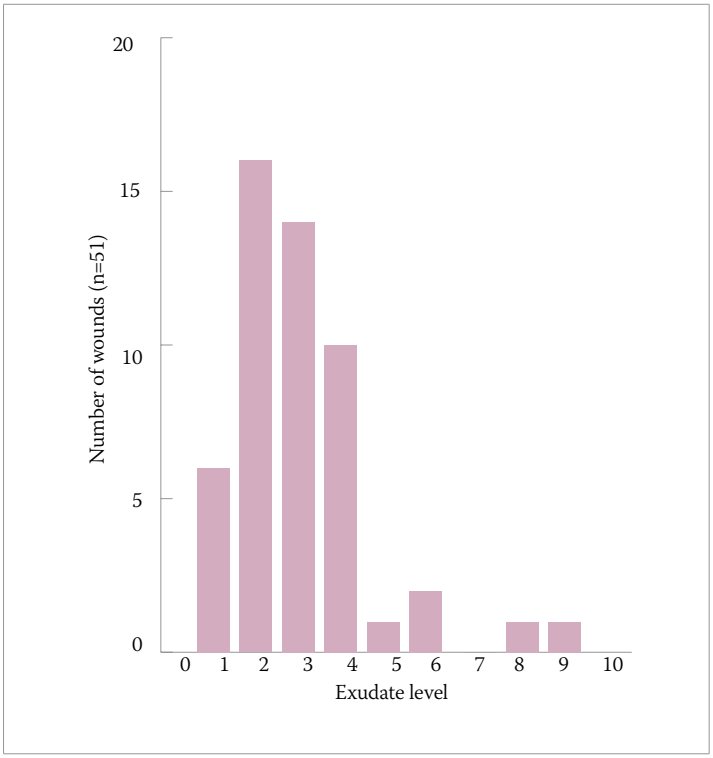


Figure 1: Exudate levels pre-evaluation (0=no exudate, 10=heavy exudate).

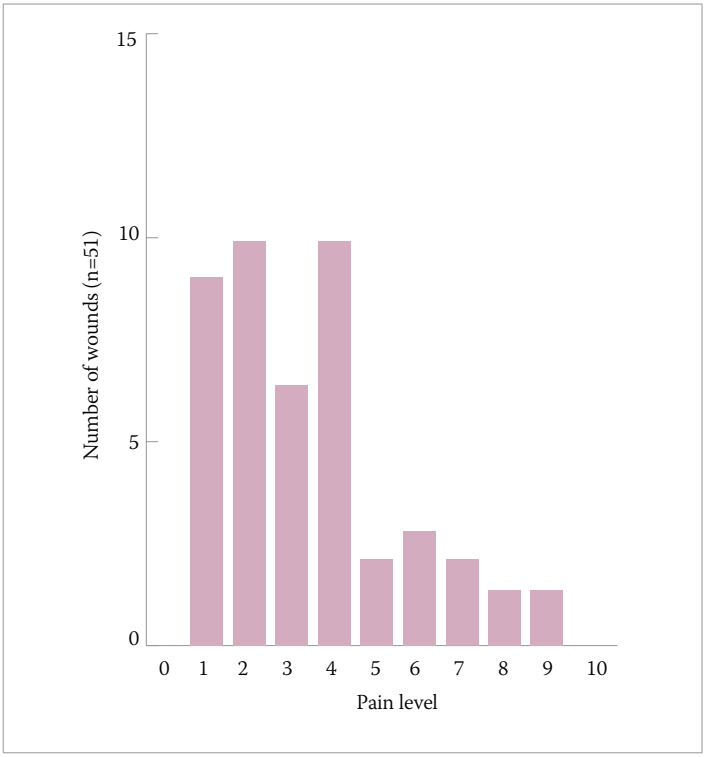


Figure 2: Pain levels pre-evaluation (0=no pain, 10=extreme pain).

- 8≤30 days = 18 wounds
- 31≤90 days = 22 wounds
- >90 days = 6 wounds

Three-quarters (74.5%; n=38) of wounds measured 10cm^2 or less, 8% (n=4) were more than 10cm^2, and for 17.5% (n=9) of wound, the size was unknown. A total of 96% (n=49) of wounds presented with low-to-moderate exudate levels (1–6 on the Likert scale) (Figure 1). The remaining 4% (n=2) included were of moderate-to-high exudate levels and were included to reflect treating a general wound-care patient population.

In terms of peri-wound skin condition, 49% (n=25) of wounds were described as healthy, 37% (n=19) were described as macerated, 10% (n=5) were described as erythematous and 4% (n=2) were described as excoriated. Pre-evaluation wound pain ranged from 1–9 on the Likert scale illustrating the range of pain that can be experienced by people with wounds (Figure 2).

Prior to the evaluation, the majority of wounds (n=44) were receiving dressing changes twice a week, two wounds were being dressed daily, and two wounds were dressed three times a week. The dressing change frequency was unknown for three wounds. Wound care dressings previously used included silicone foam, traditional foam, low-adherent contact dressing, super-absorbent, hydrocolloid, antimicrobial and alginate.

RESULTS: FIRST DRESSING CHANGE

For the evaluations that were completed after the first dressing change (data was missing for one wound evaluation):

- **Comfort (n=50)**: 18 evaluations recorded Suprasorb P sensitive as providing better comfort than the previous dressing, 32 recorded it as the same and no evaluation recorded it as worse.
- **Application (n=50):** 19 evaluations recorded the application of Suprasorb P sensitive as better than the previous dressing, 31 recorded it as the same and no evaluation recorded it as worse.
- **Conformability (n=50):** 20 evaluations recorded conformability of Suprasorb P sensitive better than the previous dressing, 30 recorded it as the same and no evaluation recorded it as worse.

POST-EVALUATION RESULTS

Condition of the wound bed and peri-wound skin

At the end of the 2-week evaluation period, the composition of the wound bed had improved in over half of the wounds (57%; n=29), remained static in 37% (n=19) and had deteriorated in 6% (n=3). The wounds that had deteriorated were found to have underlying inflammatory conditions and were referred to the dermatology department for biopsy.

There was also a 32% increase in the number of wounds with healthy peri-wound skin, a 26% reduction in the number of macerated wounds and a 80% reduction in the number of erythematous wounds. Post evaluation, the peri-wound skin was recorded as healthy in 33 wounds, macerated in 14 wounds, excoriated in three wounds and erythema was present in one wound (Figure 3).

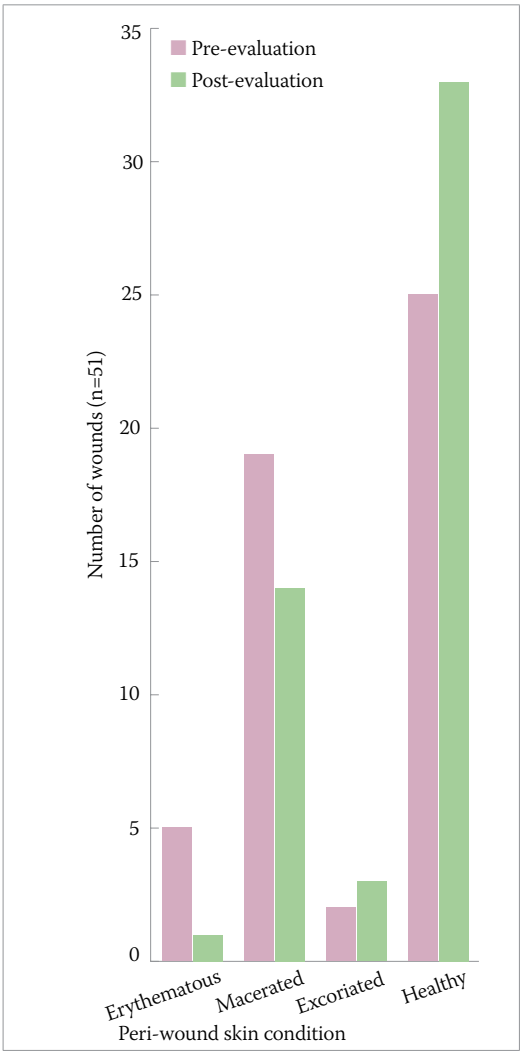


Figure 3: Peri-wound condition pre- and post-evaluation of Suprasorb P sensitive

Post-evaluation: Clinician ratings

- **Application:** For dressing application, 33% (n=17) of the wound evaluations rated Suprasorb P sensitive as excellent, 32% (n=16) as very good, 33% (n=17) as good and 2% (n=1) as poor.
- **Conformability:** For conformability, 37.5% (n=19) of the wound evaluations rated Suprasorb P sensitive as excellent, 27% (n=14) as very good and 35.5% (n=18) as good. No evaluations rated the conformability as poor.
- **Removal:** For dressing removal, 39% (n=20) of wound evaluations rated Suprasorb P sensitive as excellent, 27% (n=14) as very good, 32% (n=16) as good and 2% (n=1) as poor.
- **Absorption:** For absorption, 12% (n=6) of wound evaluations rated Suprasorb P sensitive as excellent, 37% (n=19) as very good, 43% (n=22) as good and 8% (n=4) as poor.
- **Adhesion:** For dressing adhesion, 90% (n=46) of the wound evaluations reported that Suprasorb P sensitive stayed *in situ.* For the five wounds where adhesion was rated as poor, the dressing's adhesion may have been affected by the use of emollients.
- **Clinical effectiveness:** Although limited by only four dressing changes over the evaluation period, 80% (n=41) of the wound evaluations reported that Suprasorb P sensitive was clinically effective. Twenty percent (n=10) of the wound evaluations cited issues with absorbency issues when the exudate present was thick, adherence and conformability, which could be due to the use of emollients on the skin.

Post-evaluation: Patient ratings

Fifty patients completed 51 wound evaluation forms and rated Suprasorb P sensitive using a 10-point Likert scale (1=Terrible, 10=Excellent) on a range of performance outcomes:

- 88% (n=45) of the completed wound evaluations rated the comfort when using Suprasorb P sensitive as satisfactory or above (i.e. 6 or above)
- 78% (n=40) of completed wound evaluations rated the softness of Suprasorb P sensitive as satisfactory or above (i.e. 6 or above)

- 78% (n=40) of patients rated ease of Suprasorb P sensitive removal as satisfactory or above (i.e. 6 or above)
- 69% (n=35) of completed wound evaluations rated the practical aspects of Suprasorb P sensitive and the ability of the dressing to stay in place as satisfactory or above (i.e. 6 or above)
- 69% (n=35) of completed wound evaluations rated the waterproof properties of Suprasorb P sensitive as satisfactory or above (i.e. 6 or above).

Of the 14 wound evaluations that stated that the patient participated in self care, 71% scored Suprasorb P sensitive as satisfactory or above (i.e. 6 or above) for the ease of use, suggesting it may be suitable for patients who are self-caring and applying their own dressing. Box 1 include two case studies from the evaluation.

DISCUSSION

Following this clinical evaluation, there was an

Box 1. Cases from the clinical evaluation

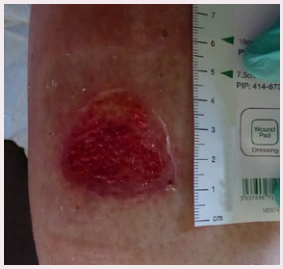
Case 1: 73-year-old male individual

An individual presented with a skin tear on his leg, which had been present for 3 weeks. The wound measured 4.2cm (length) x 3.5cm (width). The previous dressing regimen included a silicone dressing and Class 2 compression hosiery as the patient had signs of venous insufficiency.

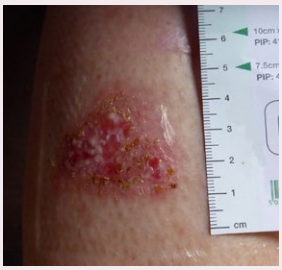
At initial assessment, the wound bed comprised 100% granulation tissue, and the peri-wound skin was macerated. The wound was moderately exuding (4/10; 0=no exudate, 10=heavy exudate) The wound was not painful (0/10: 0=no pain, 10=extreme pain). Compression therapy was continued and dressing change frequency with Suprasorb P sensitive was planned twice a week.

Ten days into treatment, at the third review of the clinical evaluation, the wound remained pain free and the wound status scored was "improving" and the peri-wound skin condition was "healthy". The wound had reduced in size to 3cm x 3cm, and the level of exudate had reduced (2/10).

At end of evaluation the clinician rated Suprasorb P sensitive as "very good" for ease of application, absorption, patient comfort, ease of removal and conformability. The clinician and patient both rated their overall satisfaction with the dressing as 9 out of 10 (1=Terrible, 10=Excellent).



Initial assessment

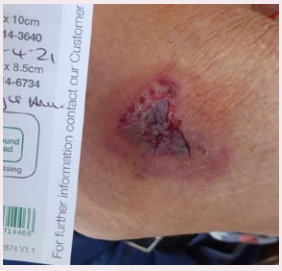


10 days of treatment

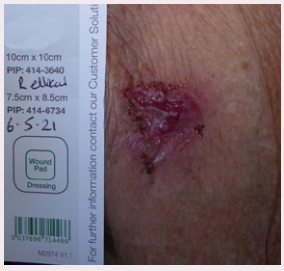
Case 2: 79-year-old male individual

The patient presented to the clinic with a skin tear on his right elbow, which had been present for 3 days. Until now, the wound had been dressed with a silicone foam dressing. Initial assessment of the wound identified that the wound bed comprised 50% granulation tissue and 50% devitalised tissue. The wound measured 3cm (length) x 2.5cm (width). The peri-wound skin was healthy. The patient reported the pain as very low (1/10: 0=no pain, 10=extreme pain), and there was very low exudate levels (1/10; 0=no exudate, 10=heavy exudate). The wound was cleaned with sterile water. The wound management plan included dressing the wound with Suprasorb P sensitive and changing the dressing twice a week.

After 11 days of treatment with Suprasorb P sensitive, the status of the wound bed was improving, and the wound size had reduced to 2.2cm x 1.5cm. The peri-wound skin remained in a healthy condition. At end of evaluation the clinician rated Suprasorb P sensitive as "excellent" for ease of application, absorption, patient comfort, ease of removal and conformability. The clinician and patient rated their overall satisfaction with the dressing as 9/10 and 10/10 (1=Terrible, 10=Excellent), respectively.



Initial assessment



11 days of treatment

increase in the number of wounds with a healthier wound bed appearance. There was also an increase in the numbers of wounds with healthy peri-wound skin condition and a decrease in the number of wounds where the peri-wound skin was erythematous or macerated, suggesting that the exudate was managed effectively. However, there were six instances where the wound bed appearance was reported to have deterioration, potentially due the development of inflammation or underlying conditions. These patients were referred to the Dermatology department for biopsy.

Overall clinician and patient satisfaction ratings using Suprasorb P sensitive were high: in three quarters of the completed evaluations, the clinicians were satisfied with the dressing rating it as 6 or above. In 90% (n=46) of evaluations, the dressing stayed in place and, in 80% (n=41) of the evaluations, the clinicians considered the dressing clinically effective with 79% (n=40) stating they would use it again.

Suprasorb P sensitive was rated highly in all aspects of comfort, softness, ease of removal and ability to stay in place with no reports of skin damage from the adhesive. In two evaluations, the patient rated the ease of removal of the dressing as below average compared to the previous dressing (i.e. 5 on the 10-point Likert scale). It is not possible from the data to explore these two incidences further, which may have been due to the underlying aetiology.

Nearly three-quarters of patients who were self-caring scored Suprasorb P sensitive as satisfactory or above for the ease of use. This could suggest the evaluation dressing may be suitable for patients who participate in self-care and can apply their own dressing.

LIMITATIONS

While the evaluation did measure the wound size, appearance of the wound bed and peri-wound skin, it was not intended to measure wound healing outcomes as the evaluation did not continue through to wound healing.

CONCLUSION

In this 51-wound evaluation, Suprasorb P sensitive performed well in patient comfort and ease of handling, exudate management and where there was existing poor peri-wound skin condition. Generally, the peri-wound skin condition improved, suggesting that Suprasorb P sensitive could be included as part of a holistic wound care plan to support effective exudate management and care of the peri-wound skin. WUK

Declaration of Interest

This in-practice evaluation was commissioned and funded by L&R, who are suppliers of the Suprasorb P sensitive silicone foam dressing range of products. Clinical evaluation services were provided by Wound Care Connections LTD and Independent editorial and writing support were provided by Lower Limb Consultancy Services LTD. The publication of this article was supported by L&R.

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