# A clinical evaluation of 20 patients when using a new absorbent silicone foam wound dressing: Cutimed Siltec B

KEY WORDS
- Absorbent silicone adhesive foam dressing
- Cutimed Siltec B
- Dressing change
- Evaluation
- Wounds

This article describes the evaluation in clinical practice of a new absorbent silicone adhesive foam dressing on 20 wounds over three dressing changes. Aspects of the evaluation included pain, ease of dressing removal, exudate handling, conformability of the dressing and ease of use.

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The number of wounds in the UK is increasing, which will impact significantly on NHS budgets. Posnett and Franks (2008) suggested chronic wound management was costing the NHS around £2.3 to £3.1 billion (based on 2006 prices), 3% of the healthcare budget and Vowden and Vowden (2009) estimated annual costs to be £2.03 million per 100,000 population again based on 2006/7 prices. More recently, the results of an economic analysis of the Health Improvement Network (THIN) database, which collects data from primary care, was published highlighting significantly higher costs associated with managing chronic wound. Guest et al's Burden of Chronic Wounds Study estimated there to be 2.2 million chronic wounds during the years 2012–13 in the UK with an annual associated cost of up to £5.3 billion (Guest et al, 2015). Following further analysis of the data, Guest suggested the prevalence of chronic wounds could be growing at a rate of 11% per annum and prophesied if this growth is allowed to continue there could be an estimated 3.7 million patients with a chronic wound in 2017–18 costing in the order of £8–9 billion per annum (Guest, 2017).

Another aspect of concern raised in the Burden of Chronic Wounds Study, was a lack of evidence of good wound assessment, resulting in a higher number of patients with wounds, where an underlying aetiology had not been established. In fact, only 16% of patients with a lower leg wound had a Doppler ultrasound recorded to assess arterial blood flow. NHS England has responded to this new evidence with the development of a clinical reference group and project board overseeing a number of work streams, as part of the Leading Change Adding Value programme. The work streams aim to address some of the failings highlighted and include an economic case analysis resulting in the publication of 'Bettys Story' (NHS England, 2017), the development of a Minimum Data Set (MDS) for wound assessment (Coleman et al, 2017), Commissioning for quality and innovation quality (CQUIN) indicators for wound assessment 2017–19 (NHS England, 2016), advice for commissioners when commissioning for wound care services, a framework for lower leg wound management (King et al, 2018) and recommendations for a minimum level of education for practitioners involved in wound care (Adderley et al, 2017).

Considering the potential growth in chronic wounds and the subsequent increasing demands on healthcare budgets, it is essential there is access to good quality effective wound management products. When considering spend on wound care the focus is often on the cost of the dressing but the costliest component of wound management is nursing time (Drew et al, 2007). Some of this cost could be reduced by using the most appropriate dressing for the wound and using it to its maximum effect to reduce unnecessary dressing changes, whilst also ensuring that local formularies are followed. Therefore, there should be evidence the dressing is safe to use and performs as described by the manufacturer when used on a range of different

**Box 1. Inclusion and exclusion criteria**

**Inclusion**:

- Diagnosis of an exudating wound with low to high levels, such as:
  - Venous and arterial leg ulcers
  - Pressure ulcers
  - Diabetic foot ulcers
  - Surgical incisions
  - Lacerations or abrasions
- Men and women > 18 years of age
- Signed informed consent

**Exclusion criteria:**

- Not willing to or unable to give consent
- Known allergy or sensitivity to one or more of the dressing products

wounds without causing pain and trauma to the patient. If products can be chosen carefully to meet the needs of the wound and used appropriately this may help to reduce some of the financial burden by reducing waste and promoting a wound environment conducive to healing.

## CUTIMED SILTEC B

This report describes an evaluation of Cutimed Siltec B, which is one of the Cutimed Siltec range. These are foam dressings with extra absorbency, due to the addition of superabsorbent adhesives strips on the top of the foam layer. There is a perforated silicone wound contact layer, which provides a soft tack to help secure adherence and the Cutimed Siltec B is a bordered version of the dressing. The silicone adhesive allows the dressing to be removed easily, as required, without causing trauma. There are perforations in the silicone, which combined with the large pores of the soft, polyurethane foam core, ensure even the most viscous exudate is managed well, by wicking fluid vertically away from the wound and thereby protecting the periwound skin. Fluid is then absorbed into the superabsorbent adhesive strips. The smooth, polyurethane top film is breathable, adapting and supporting moisture vapour transmission to saturation level, it is also showerproof. The top film of the dressing allows you to visualise the exudate, which has been absorbed by the dressing, therefore helps you determine when the dressing needs to be changed without unnecessarily disturbing the wound.

## AIMS OF THE EVALUATION

The aims of the evaluation of Cutimed Siltec B were to consider four important aspects related to the use of the foam dressing:

- Pain especially at wound dressing change
- Exudate handling
- Ease of use
- Conformability.

## METHOD

The evaluation was undertaken in Hull and East Riding. Ethical approval was not required, as this was an evaluation of a wound dressing product already available on the drug tariff so could be prescribed. It was also assessed as a suitable dressing for the requirements of the different wounds included in the evaluation.

Patients meeting the criteria *(Box 1)* were approached for their consent to be involved in the evaluation. A verbal explanation of the rationale for the evaluation was provided to the patient, which detailed what their involvement would entail and this was further discussed as required. Signed consent was obtained from the patient before they were included in the evaluation.

Twenty patients were approached and all agreed to participate in the evaluation. As the evaluation was intended to be undertaken on three dressing changes only, it did not intend measuring any aspects of wound healing. The clinicians managing the wounds were informed about the product, how it should be applied and recommended timescales for dressing changes.

An evaluation sheet, which did not contain any patient identifiable information, was completed at each dressing change. The evaluation sheet aimed to elucidate patient gender, age, wound aetiology and location, previous dressing product used and any adjunct therapy in use. Furthermore, exudate level and exudate viscosity, which was recorded as high, moderate or low, the condition of the edge of the wound, recorded as intact, macerated, red or ragged and the peri-wound skin recorded as, intact, macerated, dry/scaly, oedematous, red or moist.

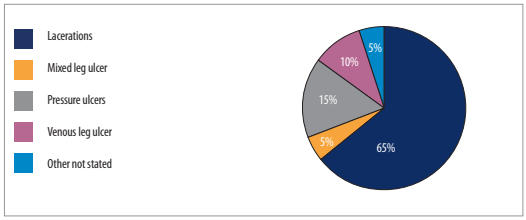


Figure 1. Wound type

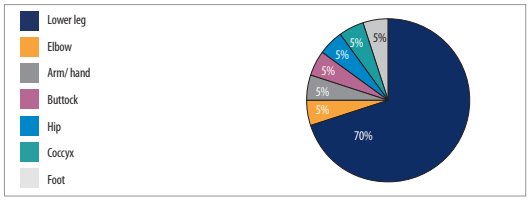


Figure 2. Wound location

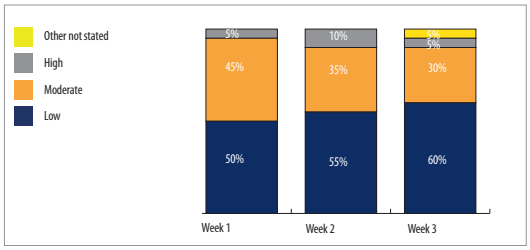


Figure 3. Exudate volumne

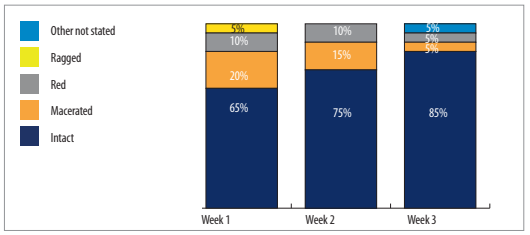


Figure 4. Wound margins

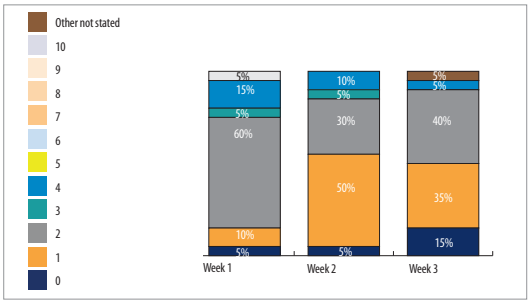


Figure 5. Pain generally

Table 1. Peri-wound skin (more than one descriptor could be selected)

| Peri-wound | Intact | Macerated | Dry/scaly | Oedema | Red | Moist |
|---|---|---|---|---|---|---|
| Week 1 | 13 (65%) | 3 (15%) | 1 (5%) | 1 (5%) | 4 (20%) | 2 (10%) |
| Week 2 | 15 (75%) | 2 (10%) | 1 (5%) | 0 | 2 (10%) | 0 |
| Week 3 | 16 (80%) | 0 | 1 (5%) | 0 | 2 (10%) | 0 |

Pain was recorded using a 0–10 point Likert scale, where 0 was no pain and 10 was worst pain imaginable. The patients' pain score was recorded generally and on dressing removal, there was also space to record how easy the dressing was to remove and described as either traumatic or atraumatic removal. Finally, the clinicians were asked to rate their opinion on the overall performance of the dressing, considering aspects such as conformability and handling properties and if it met their expectations.

## RESULTS

All patients were seen in primary care and for a variety of wounds *(Figure 1)*, in different anatomical locations *(Figure 2)*, with the majority 70% (14/20) located on the lower leg. Three of these were receiving treatment for venous hypertension using compression hosiery. The ratio of females to males was 14 to 6, respectively, with an average age of 85.6 years, age range 52 to 97 years with 45% over 90 years of age.

The majority of wounds had low to moderate levels of exudate *(Figures 3)*, which was of low to moderate viscosity and intact wound margins *(Figure 4)*. When describing the surrounding skin more than one description could be selected but the majority were recorded as being intact *(Table 1)*. The results identified a reported increase in intact skin margins and a reduction in the number of patients with poor peri-wound skin. There was also an improvement in the patients reported pain levels both generally *(Figures 5)* and at dressing change *(Table 2)*. The majority of clinicians rated their overall opinion of the dressings, as very satisfied or satisfied when considering wearability, ease of application and removal, absorption, fluid retention, fulfilment of expectations, absorption retention under compression, and overall satisfaction *(Table 3)*. One of the patients died during the evaluation, which was not related to the dressing product.

## DISCUSSION

Nineteen of the 20 patients completed the evaluation over three dressing changes. At the end of the evaluation, there was an increased number of patients with intact peri-wound skin from 13 patients at the start of the evaluation to

| Table 2. Pain at week 2 and 3 on removal of Siltec | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pain** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Wk 2** | 1 (5%) | 9 (45%) | 6 (30%) | 1 (5%) | 2 (10%) | 1 (5%) | 0 | 0 | 0 | 0 | 0 |
| **Wk 3** | 3 (15%) | 7 (35%) | 8 (40%) | 0 | 1 (5%) | 0 | 0 | 0 | 0 | 0 | 0 |

| Table 3. Overall performance<br>1= very satisfied, 2 = satisfied, 3 = slightly satisfied, 4 = neutral, 5 = slightly dissatisfied, 6 = very dissatisfied (Note reduced number reported in section for retention under compression as only 3 in compression) | | | | | | |
|---|---|---|---|---|---|---|
| **Aspect** | 1 | 2 | 3 | 4 | 5 | 6 |
| **Wearability** | 19 (95%) | 1 (5%) | 0 | 0 | 0 | 0 |
| **Application** | 18 (90%) | 2 (10%) | 0 | 0 | 0 | 0 |
| **Removal** | 18 (90%) | 2 (10%) | 0 | 0 | 0 | 0 |
| **Absorption** | 4 (20%) | 16 (80%) | 0 | 0 | 0 | 0 |
| **Fluid retention** | 4 (20% | 16 (80%) | 0 | 0 | 0 | 0 |
| **Fulfilled expectation** | 16 (80%) | 3 (15%) | 1 (5%) | 0 | 0 | 0 |
| **Overall** | 17 (85%) | 3 (15%) | 0 | 0 | 0 | 0 |

17 at the last dressing change. No patients were described as having macerated skin at the last dressing change, whereas there were three at the first dressing change, which would suggest the dressing met the criteria of exudate handling.

Pain and exudate affecting quality of life are key factors frequently identified by patients, as aspects, which cause them the most concern (Wounds International, 2004; Romanelli et al, 2010; Palfreyman, 2008). There was an overall improvement in pain scores with only one patient scoring above 2 (pain score 3) at week three, whereas 4 patients had scored above 2 at the previous dressing change. This would support the claim that the silicone adhesive was atraumatic to remove. From the scoring system for overall performance of the dressing, this was rated highly by the majority of clinicians choosing very satisfied.

For the three patients in compression hosiery, the scores were either very satisfied (in 2 cases) and satisfied (in 1 case) for the ability of the dressing to absorb exudate under compression and also to retain exudate under compression.

When considering conformability and ease of handling of the dressing, it is also important to consider the clinicians using the product, anecdotally clinicians will discard dressings or choose alternatives if the dressing is difficult to use and apply and if it does not conform easily. Clearly, this would lead to the possibility of dressings being wasted. Comments added by the clinicians included describing the dressing as comfortable, conformable, atraumatic, good absorbency of viscous exudate, stays insitu and the only pain was mainly due to the patient's general pain and no pain was caused by the dressing. There was one patient with poor concordance but this wound was considered to have an increased bacterial burden, which required alternative treatment. There were no negative aspects reported.

## LIMITATIONS

This was only a small evaluation undertaken on 20 wounds and for a short period of three dressing changes only. A longer follow-up would have enabled the wound outcome to be considered.

## CONCLUSION

Nurses are expected to give high-quality evidence-based care, which is essential in wound care. This article has described the evaluation in clinical practice of a new absorbent silicone adhesive foam dressing, Cutimed Siltec B and considered aspects of pain, ease of dressing removal, exudate handling, conformability of the dressing and ease of use over three dressing changes. An important part of wound management is ensuring that the underlying cause of the wound has been identified and any factors impacting on wound healing have been addressed where possible. However, Cutimed Siltec B has shown, in this small evaluation to be an acceptable alternative to other similar products in terms of patient comfort, exudate handling and clinicians satisfaction. WUK

**Conflict of Interest**

*The evaluation and write up was funded by BSN Medical Ltd.*

## Case Study

This case study describes a 51-year old male (MC) who was assessed in September 2017 for the management of wounds on his left lower leg, which had been caused by welding sparks some five months previously.

On presentation, MC had a medical history, which included a diagnosis of type 1 diabetes mellitus (managed with insulin) and peripheral neuropathy. His only other medication was Naproxen for painful neuropathy. MC gave a history of being involved in a road traffic accident two years previously when he sustained a fracture in his left ankle. As a result, this ankle joint was fused and he has poor calf muscle function.

At assessment, he reported a good nutrition and had a BMI of 42.4. A full leg assessment was undertaken, his foot pulses were all palpable and a Doppler Ankle Brachial Pressure Index was recorded as 1.45 on the left and 1.5 on the right. These readings could be considered elevated, and the presence of calcification in the vessels (there is an increased risk in patients with diabetes) had to be considered. However, the audible sound of the signals was reported to be triphasic, which would be more unusual in the presence of calcification. Due to the presence of diabetes and neuropathy, he was to be going to be referred for a full Duplex scan. On examination, he had lipodermatosclerosis to the left leg in the gaiter region and hemosiderin staining to the anterior shin, gaiter and medial aspect of the ankle and an ulcer was present in each of these areas. MC was considered to have venous hypertension, which was affecting wound healing.

The ulcers measured 2 cm by 1 cm upper wound (pre-tibial area), 1 cm by 0.5 cm middle wound (anterior gaiter) and 1 cm by 1 cm lower wound on the medial aspect of the ankle. The wounds were granulating but dark in colour and had been static for some time. The exudate level was reported as moderate and viscous and the skin surrounding the ulcers was reported as intact but the condition was poor with evidence of some peri-wound maceration and other areas of dry skin present. He scored his pain as six on a scale of 0 to 10 where 10 is the worst pain imaginable. MC had self-treated the wounds with a shop bought antiseptic (Germaline) and had been prescribed three courses of antibiotics over the five-month period and described repeated improvement and then deterioration. Due to his employment, he had declined earlier attempts to refer him to the leg ulcer clinic. His right leg was healthy.

Cutimed Siltec B was commenced on the 15th September 2017, *Figure 6a* shows the wounds at presentation and *Figure 6b* the Cutimed Siltec B dressings in place. A 40mm/Hg compression system was applied to the leg and MC returned at three days *(Figure 6c)* four days *(Figure 6d)* and seven days *(Figure 6e)*. By the third visit, his pain score had reduced to two and the condition of the peri-wound skin had improved. The dressings ability to manage the exudate and retain this under compression was reported as satisfactory and the comfort, ease of removal and application and overall fulfilment of expectations were considered very satisfactory. All the ulcers had healed by the 16th October 2017.

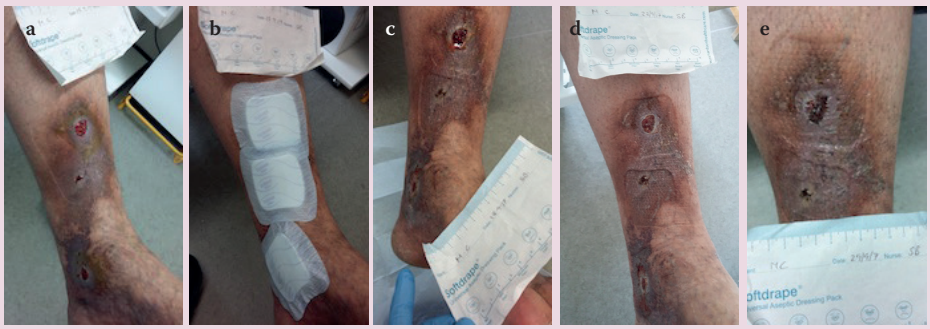


**Figure 6. (a) at presentation; (b) dressing in place; (c) 3 days; (d) 4 days and (e) 7 days after compression system as applied**

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