Clinicians practising in tissue viability are increasingly seeing more patients with wounds that are accompanied by a complicated array of co-morbidities, in part due to the growing older population and the availability of medications that prolong life. As a result, the management of these wounds is becoming increasingly complex.

The principles of evidence-based wound management centre around the importance of removing the underlying causes of the wound, optimising the local wound environment and preventing further tissue breakdown. The wound should also be considered in the context of the whole patient, with patient/carer involvement encouraged and support provided if required (Flanagan and Fletcher, 2006).

Local wound management should use products that are clinically and cost-effective, and acceptable to both patients and practitioners.

In this paper, the authors present a series of case reports that evaluate the use of the Cutimed® Sorbact®, Cutimed® Sorbact® gel, (Table 1) and Cutimed® Siltec foam (Table 2) dressing ranges (BSN medical Ltd) on a range of complex wounds of varying aetiology. These cases are the latest findings in an ongoing evaluation of the products by various clinicians across the UK.

Pirie et al (2009) reported that Cutimed Sorbact gel was used successfully to treat complex, chronic wounds in which critical colonisation, local and spreading infection, in addition to underlying co-morbidities, were providing a barrier to healing. In the case reports presented, Cutimed Sorbact gel was seen to successfully reduce wound bioburden to a level that minimised the volume of exudate produced, and in turn the associated damage to the peri-wound area, allowing the wounds to progress towards healing.

Stephen-Hayes and Timmons (2009) evaluated the use of Cutimed Siltec foam dressing and found that its use had successfully promoted wound debridement, and handled large volumes of exudate well, leading to a resolution of maceration. The use of the dressing resulted in no damage to the wound bed or surrounding tissue on removal, and provided a moist wound environment that promoted wound healing.

In this third paper, the authors present a further selection of complex wounds in which products from both ranges are evaluated.

**CASE REPORT 1**

A 70-year-old female presented with a pressure ulcer to her...
Complex wounds

Figure 2. Cutimed Siltec foam dressing.

Table 2
Cutimed Siltec foam dressings

Cutimed Siltec foam dressings [BSN medical Ltd] have a silicone wound contact layer which provides gentle adherence plus minimises pain and trauma at dressing change. In addition, there is a layer of super absorbers above the polyurethane foam core. These allow the dressing to lock exudate into the dressing, preventing the wound bed from drying out and the surrounding skin from becoming macerated. The breathable, upper film layer also allows moisture levels to be managed, and provides a bacterial barrier. The dressings are available as bordered and non-bordered, in standard or thinner versions depending upon the levels of exudate.

sacrum. She had suffered a major cerebrovascular accident some years previously, which had left her severely disabled. For over four years the pressure ulcer had resisted all treatments including topical negative pressure therapy. MRI scans ruled out underlying osteomyelitis and the wound frequently became infected.

The patient was catheterised and had a regular bowel management plan in place to prevent wound contamination or peri-wound excoriation. Given the chronic nature of the wound, and the high volume of exudate and accompanying malodour, it was defined as being critically colonised.

On first review, the wound had an opening of 0.5cmx0.5cm leading to a 4cmx2cm cavity, which was 1cm deep. The high volume of exudate produced was resulting in excoriation to the peri-wound area (Figure 3).

The wound was packed with a Cutimed Sorbact ribbon dressing and covered with a non-adhesive absorptive pad. The wound was redressed daily, with standard skin care carried out using foam cleansers and barrier cream according to local best practice. After four weeks of treatment, the cavity had reduced in size to 1cmx2cmx1cm deep and the peri-wound area had improved (Figure 4). This progress towards healing in combination with a reduction in exudate volume indicated that the wound bioburden had been successfully reduced by the use of Cutimed Sorbact ribbon.

Case report 2

A 75-year-old male with acute myeloid leukaemia developed a large abscess on the inner aspect of his right thigh at the onset of his illness. He later developed a deep vein thrombosis requiring anticoagulant therapy, which presented a further barrier to wound healing. Following debridement of the wound bed using larvae therapy, a sinus was noted on the upper left quadrant of the wound margin. This was explored by sinogram and a cavity measuring 4cmx2cmx2cm was observed.
identified. The sinus was packed using a variety of anti-microbial dressings but did not reduce in size over a two-month period. Given the very slow rate of progress and the high volume of exudate produced, it was assessed as being critically colonised, necessitating antimicrobial intervention (Figure 5).

This sinus and cavity were packed using Cutimed Sorbact ribbon every second day for four weeks.

Figure 6 shows the sinus almost closed following four weeks of treatment. The sinus had healed and the cavity had closed. In this patient the use of Cutimed Sorbact ribbon allowed the bioburden of the sinus and cavity to be reduced, which facilitated healing, despite the patient’s declining condition.

CASE REPORT 3

A 72-year-old female patient presented with puncture wounds on the outer aspect of her left leg. On presentation the wounds were producing blood-stained fluid and scans ruled out any involvement of underlying structures. The puncture wounds undermined into an area measuring 3cmx3cm. The presence of blood-stained fluid and the failure of the wound to respond to previous antimicrobial treatments resulted in the decision to treat the wound using Cutimed Sorbact gel as this treatment allowed the introduction of an antimicrobial into a small space, which could be easily removed at dressing change (Figure 7). The wound was covered with a Cutimed Siltec foam dressing to absorb exudate and reduce the risk of maceration.

After seven days of treatment the wounds had reduced in size, with the undermined area measuring 0.75cmx0.5cm (Figure 8). Following a further seven days of treatment, the peri-wound area was healthy and the smaller puncture wound had closed. The larger of the two wounds was granulating, with the undermined area having healed, resulting in a wound depth of less than 1mm (Figure 9). The patient had not developed an infection so treatment could be discontinued.

CASE REPORT 4

A female patient aged 76 years presented with a large area of ulceration across the calf area of her right leg. The patient had extensive rheumatoid arthritis with a history of developing wounds secondary to her condition, and a slow response to treatment. On first review the wound measured 12cmx12cm, was producing a high volume of low viscosity exudate and was covered with slough. The wound was inflamed at the margins and thought to be at risk of developing infection (Figure 10). The wound was treated using Cutimed Sorbact gel with a Mesorb® (Mölnlycke Health Care) pad used as a secondary dressing, which was held in place using toe-to-knee Tubifast. The dressings were changed every second day. After seven days the wound was found to have reduced in size to measure 10cmx12cm and the amount of slough had reduced (Figure 11). Treatment was continued for a further seven days, after which the wound had reduced slightly at the margins to measure 10cmx11cm and an increased amount of epithelisation was present (Figure 12). At this point it was felt that the risk of infection had greatly reduced and as the wound was progressing towards healing, the use of the dressings had achieved the goals of treatment.

CASE REPORT 5

A 57-year-old male presented with two open wounds sustained
Complex wounds

Post-cannulation for treatment of acute myeloid leukaemia. The condition had resulted in bilateral arm swelling. Previous dressings used on the cannulation wounds had adhered to the skin causing skin stripping. Both lesions were producing significant amounts of fluid secondary to the oedema in the limbs and the surrounding skin was fragile and susceptible to further damage. For this reason it was decided to manage the wounds with Cutimed Siltex foam dressings, which have a silicone wound contact layer, to reduce the possibility of further peri-wound damage.

In both the right (Figure 13) and left arms (Figure 14), swelling and bruising is evident in the surrounding tissue and the fragility of the skin resulting from the extra pressure placed upon it by the oedema can be noted. The main wound on the right arm measured 2.5cmx1.3cm and involved exposed dermis. On the left arm the wound measured 1.5cmx1.1cm also with swelling, bruising and fragile skin present. The wounds on both arms were not infected.

After seven days of treatment with Cutimed Siltex foam dressings (Figures 15 and 16), the wounds had healed and the patient was advised to apply moisturiser to the left arm as the epithelium was dry. The peri-wound areas did not suffer any further damage as the silicone layer on the foam dressing reduced the potential for further damage, while successfully retaining the leaking fluid.

CASE REPORTS 6 AND 7

The management of peri-wound maceration presents a frequent challenge and in the next two cases Cutimed Siltex foam dressings were used to reduce its impact.

Case report 6
A 75-year-old man with pre-existing cardiac disease and diabetes post-cannulation for treatment of acute myeloid leukaemia. The condition had resulted in bilateral arm swelling. Previous dressings used on the cannulation wounds had adhered to the skin causing skin stripping. Both lesions were producing significant amounts of fluid secondary to the oedema in the limbs and the surrounding skin was fragile and susceptible to further damage. For this reason it was decided to manage the wounds with Cutimed Siltex foam dressings, which have a silicone wound contact layer, to reduce the possibility of further peri-wound damage.

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Case report 6
A 75-year-old man with pre-existing cardiac disease and diabetes
presented with a 1cmx1cm wound with peri-wound maceration of 0.5cm circumferentially. The wound had previously been managed using a foam dressing, which had not successfully prevented maceration.

At first review the heel wound bed was covered with granulation tissue, was producing a moderate volume of low viscosity exudate and measured 1cmx1cm. The wound was not infected. It was surrounded by thick white macerated tissue (Figure 17).

After seven days of treatment with Cutimed Siltec foam dressings, the peri-wound maceration had been completely resolved (Figure 18).

**Case report 7**
A 78-year-old female with a history of cardiovascular accident and cardiac disease presented with a long-standing leg ulcer. At first review the wound measured 6cmx5cm and was covered by 50% slough and 50% granulation tissue with no evidence of infection (Figure 19). The wound was macerated, particularly on the lower aspects as a result of gravity pulling the exudate downwards.

After seven days of treatment the maceration had been reduced significantly, along with the amount of slough present on the wound bed (Figure 20).

**CONCLUSION**
The cases presented in this article and those reported upon by Pirie et al (2009) and Hayes and Timmons (2009) are representative of the wounds seen across the UK each day. Complex wounds present an ongoing challenge for clinicians working in tissue viability and are increasingly set to do so, as more patients live for longer with associated co-morbidities and general ill-health.

The cases presented describe the successful use of the Cutimed Sorbact, Cutimed Sorbact gel and Cutimed Siltec foam dressing ranges in a variety of complex wound types. The results described support the findings reported by Pirie et al (2009) and Stephen-Haynes and Timmons (2009). In wounds that were non-healing as a result of bioburden, bacterial load was successfully reduced using Cutimed Sorbact and Cutimed Sorbact gel dressings.

Furthermore, the cases presented here demonstrate the successful use of the products in complex wounds further complicated by the presence of sinuses and cavities, which are particularly challenging wounds to manage. In the cases where exudate presented a challenge, Cutimed Siltec foam dressings have promoted exudate absorption and protection of the peri-wound area.

The findings of these evaluations continue to indicate that Cutimed Siltec and Cutimed Sorbact dressings are suitable for the management of chronic, complex wounds. The authors plan to provide further information as the evaluations progress.

**REFERENCES**

Innovative wound management ranges for all phases of wound healing.

Cutimed® - Wound Management in a New Light