The use of debridement pads in the management of children with severe Epidermolysis Bullosa (EB)

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Introduction
Epidermolysis bullosa (EB) is an umbrella term for a large group of genetically determined skin fragility disorders. There are four major types of EB: each being comprised of several distinct sub-groups. The effects of EB vary between simple blistering of the hands and feet to, in its most severe form, death in early infancy.

Wound management requires a wide variety of dressing materials and topical preparations. Healing is compromised by continual trauma, the underlying gene defect and the impact of additional factors such as anaemia, pruritus and malignancy. Dressing changes for those with severe forms of EB are painful and time consuming and often need to be undertaken on a daily basis.

As a result of the lack of cleansing, the resulting accumulation of slough and topical products predispose to colonisation and infection (Figure 1). It is also important that all crusts are removed to enable inspection of the skin for early signs of squamous cell carcinoma, which is a later sinister complication for those with severe EB.

The study aims and objectives were to evaluate the effectiveness of debridement pads on cleansing both the wound and the peri wound skin and to assess the level of pain and trauma experienced.

Method
Children with severe forms of EB were selected for the study. The debridement pad was moistened with saline or water and the wound and surrounding skin, if contaminated by exudate, were wiped using minimal gentle pressure in a single direction. Parents are mindful of the expense of prescribed products, but were advised not to cut the pads but to fold them when cleansing a small area and not to wash and re-use them.

Factors considered were to assess any reported pain by verbalisation or using a validated pain scoring system; effective debridement of non-viable tissue and trauma to the wound bed or peri wound skin.

Results
The debridement pads proved easy to use and effectively cleansed the wounds. The surrounding skin was not damaged and dried exudate was removed from the peri wound skin without skin stripping or redness (Figure 2). Pain was minimal or not reported.

Discussion
Introducing new products to older children who have experience of pain and trauma from other methods of wound cleansing and debridement may result in refusal to use the product. Introducing new products to younger children with no prior experience of cleansing with debridement pads should therefore be commenced from infancy.

Case study
Emily is the second child of unrelated parents. She was born via a normal delivery following an uneventful pregnancy. She was noted to have inflamed nail beds on all digits shortly after birth. Skin fragility following handling progressed to affect her napkin area, umbilicus, ears and scalp and all nails were rapidly lost, leaving exposed nail beds. Internal blistering caused development of blistering on the oral mucosa, dyspnoea and failure to thrive.

Analysis of a shave skin biopsy showed Emily to have absent laminin 332, giving the diagnosis of Herlitz junctional EB, which carries a very poor prognosis; with death anticipated within the first two years of life.

Her nail beds were problematic with a build-up of anti-microbial products and powders which parents used to control the bleeding (Figure 3). Attempted cleansing, using solutions and soft gauze, caused pain (a score of 6 on the Neonatal and Infant Pain Score (NIPS) indicating severe pain (despite opioid analgesia) and bleeding. Her parents understandably became reluctant to continue this practice.

Parents were shown debridement pads and were reassured by the softness and minimal pain scoring system. The debridement pads proved effective in wound management of this challenging patient group.

Conclusion
Debridement pads have proved effective in wound management of this challenging patient group. Use of the pads will hopefully help in early detection of squamous cell carcinoma, as these tumours are often concealed beneath crusts and debris.

* Denso® from Activa Healthcare.