

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

Great Ormond Street   
Hospital for Children  
NHS Foundation Trust

  
for people whose  
skin doesn't work  
we do

**Jackie Denyer, EB Senior Clinical Nurse Specialist, Great Ormond Street Hospital for Children NHS Foundation Trust, London & DEBRA UK.**

## 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, pruritis 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.

Cleansing and debridement of wounds is frequently refused by the child with severe EB due to anticipatory fear and pain and sometimes previous experience of stinging from cleansing products. Many children are unable to bathe or shower due to difficulties in getting in and out of the bath, a reluctance to expose all wounds at any one time and problems with adequate pain control throughout the lengthy procedure. Many children prefer dressing changes on a limb by limb 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.

Cleansing with debridement pads should therefore be commenced from infancy. Use of the pads will hopefully help in early detection of squamous cell carcinoma, as these tumours are often concealed beneath crusts and debris.

## Conclusion

Debridement pads have proved effective in wound management of this challenging patient group.

## 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 Hertz 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 1). 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 pressure needed to use them effectively. They tried them on some of Emily's minor wounds with no harmful effects and then progressed to using them on her nail beds (Figure 3 & 4).



Figure 1 Accumulation of products prior to debridement



Figure 3 After repeated daily debridement

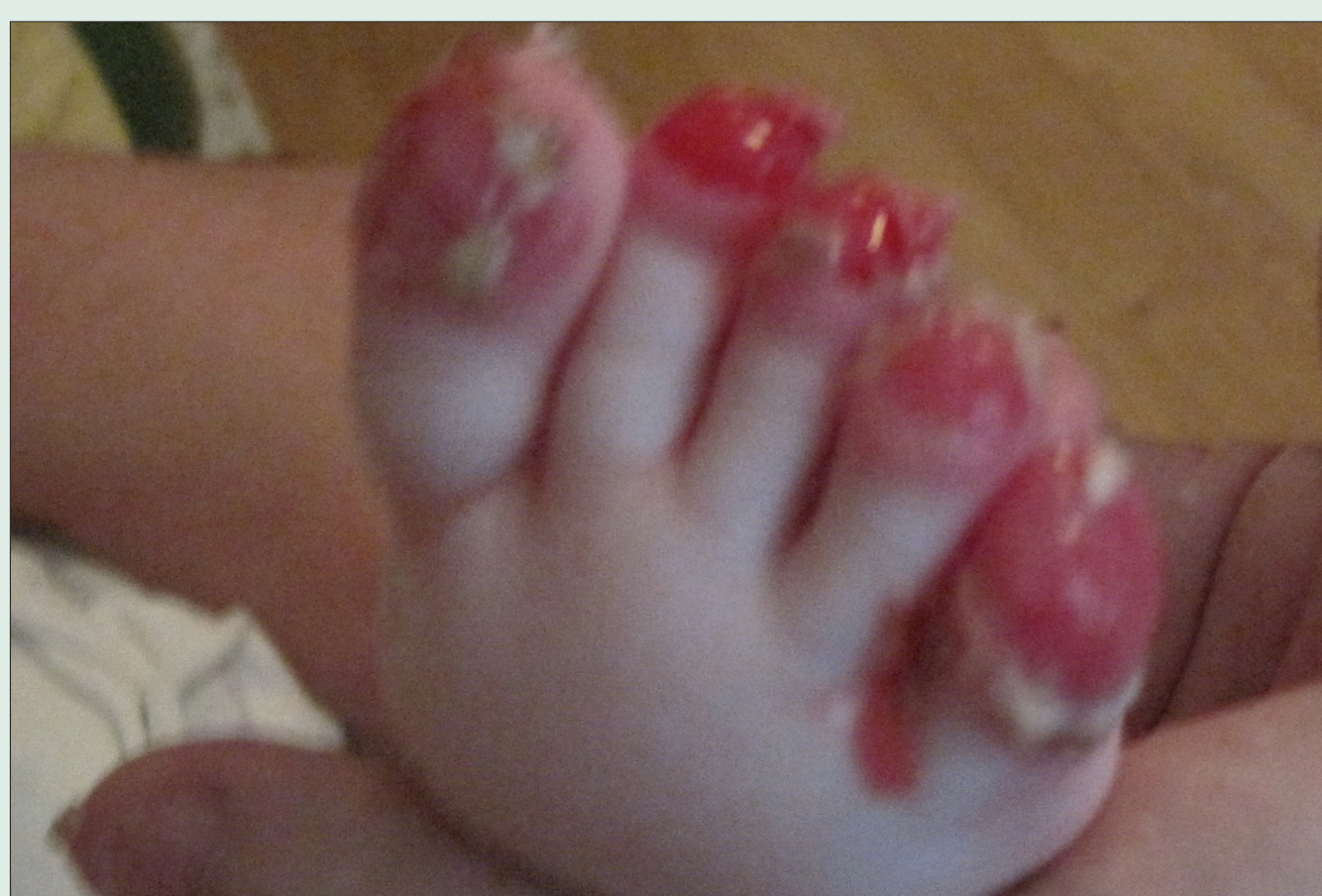


Figure 2 After the first clean with the debridement pad



Figure 4 After 12 weeks



Figure 5 Good healing after 6 months

Pain score on the NIPS decreased to 3 (mild pain).

The clean wounds were covered by polymeric membrane dressings, with cleansing and dressing changes continuing daily.

Good healing resulted, despite increasing failure to thrive and respiratory distress (Figure 5).