

# SIX YEARS' EXPERIENCE OF POLYMEM DRESSINGS USED ON CHILDREN WITH EPIDERMOLYSIS BULLOSA (EB)



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## INTRODUCTION

PolyMem is a multifunctional polymeric membrane dressing composed of a hydrophilic polyurethane matrix that contains a mild non toxic cleanser, a soothing moisturizer and a super absorbent starch co-polymer with a semi permeable backing. The cleansing agent within the dressing is activated by moisture from the wound bed effectively reducing the necessity to clean the wound during dressing changes; therefore avoiding disruption of healthy tissue.

This is a retrospective study to evaluate the effectiveness of PolyMem dressings in the management of acute and chronic wounds in children with epidermolysis bullosa (EB). Our evaluation of PolyMem commenced in 2009 when we introduced this dressing into the treatment regimen for severely affected neonates. Extensive wounds maybe present in the neonate with EB. These result from inter-uterine movements and birth trauma.

## METHOD

All children who had been using PolyMem since birth over the last 6 years were evaluated with reference to healing rates, trauma of dressing changes and duration of dressing changes. Comparison was made to previously recommended regimen such as a variety of wound contact layers, creams, soft silicones and hydrofibers. We also looked at;

- Ease of application and removal.
- Control of odour and exudate.
- Quality of healed skin
- Reduction in pain. (Using FLACC, a validated behavioral scale for scoring pain in young children with a scale from 0 to 10)

## RESULTS

In comparison with the previous dressing choice and regimen, PolyMem was more effective in the rate of healing, the wounds improved within a matter of days instead of weeks. The length of dressing changes was dramatically reduced due to the ease of application and removal of PolyMem, and, the use of a single sheet dressing rather than a wound contact layer plus a secondary dressing. In some cases we saved almost up to an hour. Dressing changes resulted in minimal trauma in this vulnerable patient group.

Initially the wound exudate seemed to increase but the thicker version, PolyMem MAX, handles the exudate quite well and help reduce frequency of dressing change.

By using PolyMem on healed areas for protection we have noted where a new lesion develops the action of the PolyMem appears to prevent infection or critical colonisation making development of chronic wounds less likely. Pain scoring using the FLACC scoring system on average reduced from 8 to 4.

## CONCLUSION

Based on our experience, PolyMem remains our dressing of choice. For the past six years all infants with wounds resulting from inter uterine trauma and damage from delivery have been successfully treated with PolyMem.

- PolyMem proved easy to apply and remove, reducing trauma and greatly reducing duration of dressing changes from previously recommended multi-layer dressings.
- Healing rates were accelerated compared to previously recommended dressings.
- The continual cleansing action provided by the inherent surfactant was advantageous in eliminating the need to cleanse the wound, further reducing pain, trauma and dressing times.

## DISCUSSION

Many dressings are unsuitable for children with EB due to the extreme fragility of their skin. An atraumatic wound contact layer is often required to prevent adherence of dressings. PolyMem is suitable for direct wound contact therefore reducing complex and lengthy dressing changes. The inherent cleanser removes the need for wound cleansing, reducing pain and distress. Based on 6 years' experience PolyMem continues to be our dressing of choice for this complex patient group and interestingly it seems to be the parents' choice as well.

Newborn infants in caseload (2009-2015)	Newborn infants using PolyMem	Infants and children deceased during the study	Discontinued use of PolyMem (due to improvement)	Children continuing to use PolyMem
26	24	5	1	18

*These figures are based on my caseload of the most severely effected patients from the South of England between 2009 and 2015. Of the 24 children using PolyMem only one patient has discontinued (due to skin improvement and not needing dressings any more).*

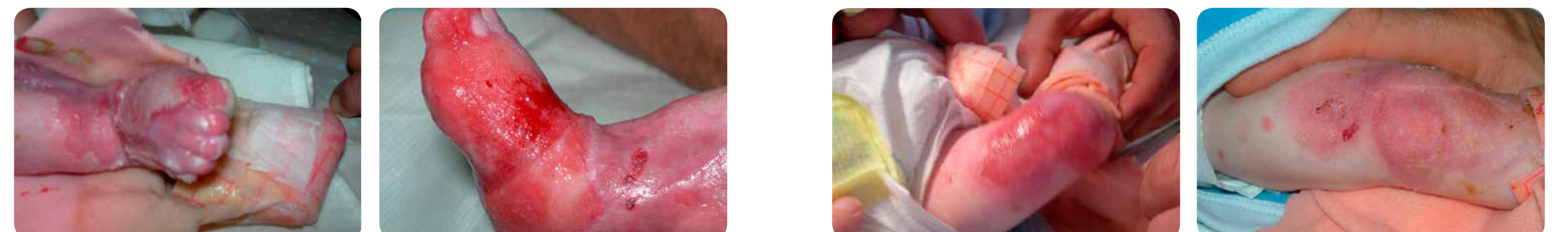
### Example 1

M was born at term following an uneventful pregnancy and uncomplicated normal vaginal delivery. At birth extensive wounds were noted over both legs. Subsequent handling resulted in further skin loss and blistering and oral feeding led to blistering on the mucosa.

The wounds were initially dressed with soft silicone mesh and covered with soft silicone foam. M was reviewed by the EB nurses at 2 days of age, the wounds had developed an offensive exudate and dressing changes were complicated and prolonged. We then started using PolyMem to dress all wounds.

A template was used to cut the dressing shape in advance further reducing duration of the dressing change. Initial high volumes of exudate initiated a change to the more absorbent PolyMem Max by day 5 reducing dressing changes to alternate days. Most of the wounds were clean and healed within 3 weeks.

M is now aged 6 years and continues to use PolyMem on all his wounds and blister sites.



We started to use PolyMem when M was a neonate. Left photo shows one of the first dressing changes on his foot, the image to the right shows the same foot a week later.

Right knee and thigh; six weeks in-between these images.



In-between digits hydrofiber and soft silicone, the hand is then wrapped with PolyMem. As he grew older the dressing technique changed. Recently M has had surgery on both hands and they are healing very well.

### Example 2

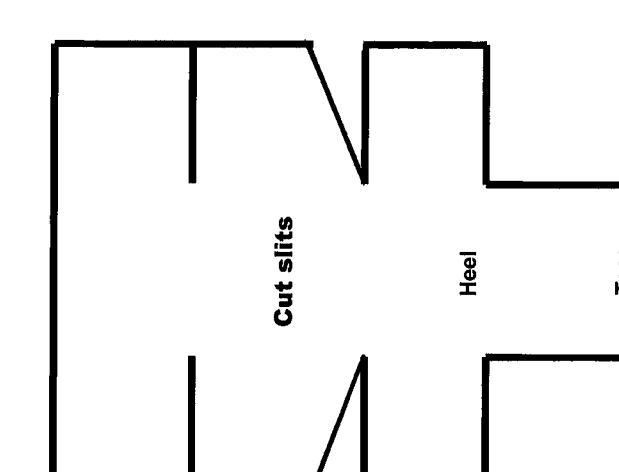
G had generalised severe junctional EB. He was born with a deep, extensive wound covering his left leg. Experience has shown that prenatal wounds in this type of EB do not heal and are generally present until the infant dies. In general we find that many of the atraumatic dressings used today prevent extension of the wound but have no impact on healing. PolyMem dressings were applied at the first dressing change and changed daily due to the large volume of exudate. The wound remained clean and healed rapidly. We have never had this positive experience in a baby with this form of EB before.



After 3 days use of PolyMem

After 12 days

After 6 weeks with PolyMem



Example of a template for the foot and leg. We usually cut slits in the dressing over the joints to allow for movement and wrap firmly around the foot and leg.