Excellent Healing of Pediatric Wounds Using Polymeric Membrane Dressings* 

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CASE SERIES

PROBLEM

Treating wounds in an active pediatric population presents special challenges to clinicians. Pain relief, not just during dressing changes, but especially then, greatly enhances compliance. Dressings must conform well to the wound surface to prevent contamination during exuberant activity. The toxicity of substances used in cleansing or dressing wounds is a serious concern, because young children absorb chemicals through the skin more easily than adults and their immature organs are less able to cope with them. Brisk healing is a major asset as well.

RATIONALE

Toxic polymeric membrane dressings often provide dramatic, drug-free pain relief by inhibiting nocicceptor application at the site. Their non-adherent design makes dressing removal comfortable as well. They contain a built-in wound cleanser, so manual wound cleansing is usually needed during dressing changes, allowing for less disruption of new growth at the wound bed and quick and easy dressing changes.

In addition to the built-in wound cleanser, polymeric membrane dressings contain glycerol and a super-absorbent starch. These hydrophilic dressing components draw fluid from the body into the wound bed, floating the slough loosened by the cleanser and pulling it into the dressing with excess wound fluid. The fluid is locked into the dressing as a gel. This fluid flux concentrates the body’s natural healing nutrients in the wound bed, safely supporting very rapid wound healing. The glycerol soothes and hydrates dry wounds while the super-absorbent starch takes up excess wound fluid, balancing moisture superbly.

METHODOLOGY

After initial cleansing and/or debridging, the wound, polymeric membrane dressings were applied to exposed surfaces of wound; changed when saturated. Since polymeric membrane dressings usually eliminate the need for wound cleansing at dressing changes, interested parents or older siblings were able to dress the wounds, eliminating long walks to the clinic.

OBJECTIVES / PURPOSE

1. Discuss how well polymeric membrane dressings maintain good contact in complex wounds in mobile, active patients.

2. Consider the advantages of using polymeric membrane dressings in terms of passive continuous cleansing of the wound bed, which usually eliminates painful and time-consuming wound cleansing during dressing changes.

3. Note that non-toxic polymeric membrane dressings are able to donate moisture to dry wound areas while absorbing excess fluid as needed, promoting rapid wound healing.

RESULTS

In our clinic in rural northern Ghana, our pediatric patients’ wounds, many of which had been chronically infected, stayed clean and healed quickly when we used polymeric membrane dressings and cavity filler. We found that our pediatric patients frequently developed fungal and bacterial infections under conventional modern moist dressings, but we rarely encountered infections under polymeric membrane dressings. The dressings and dressing changes were comfortable to the children, leading to good compliance.

CONCLUSION

Polymeric membrane dressings were an elegant solution to the challenges presented by pediatric patients at our clinic in West Africa and quickly became our dressing of choice for both acute and chronic pediatric wounds. With the current increase in CA-MRSA, the author feels this unique dressing will quickly gain prominence in developed countries as well.

BIBLIOGRAPHY


This case series was unsponsored. The clinic receives donations from many sources, including Ferris Mfg. Corp., who contributed to this poster presentation. Gloves were often in short supply.

*A simple insect bite can lead to cutaneous herpes infection if not properly addressed. This wound has been left open 0.7 cm deep. Children are unaware of the risk to thoracotomy incision wounds, and do not wish to partake in procedures. After cleansing, we placed polymeric membrane wound. Non deep in the wound with a standard polymeric membrane dressing wound. In one patient, the wound closed in three weeks.

This schoolgirl came to the clinic to have a boil on her elbow, which caused her significant discomfort. Severe. Using polymeric membrane dressing permitted us to completely avoid disturbing the wound bed at dressing changes. The wound healed quickly. The initial scar is small and far.

Local wound treatments with boiled pressed bubbles relief and I have supported many infections. The wound dressings, from the original to after through wound dressing, shows the progression caused by the present eschar. The first photos were taken only four days later. Polymeric membrane dressing will not be needed for only two days. Healing will heal.

This child elaid open a scar with a cuticle while cutting grass. Since the wound was clean, there was no need to attend the clinic frequently. Easier than polymeric membrane dressings absorb more exudate than standard dressings, so they allow for longer intervals between dressing changes. These photos were taken during days past. A new dressing is applied.