

# Two Stage III and One Stage IV Pressure Ulcers on 90 year old Malnourished Patient Closed with Polymeric Membrane Dressings\*

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## Introduction

A 90 year-old immobile, bedridden woman with severe contractures due to end-stage Alzheimer's Disease developed a malodorous stage IV coccyx pressure ulcer and a stage III ulcer on her scapula from poor pressure redistribution and extreme malnutrition. Shortly after the first wounds she also developed a new pressure ulcer on her left trochanter.

Her home was poorly ventilated and very hot and humid with no air conditioning. She was cared for by her family who washed her and changed her iodine/gauze dressings and tried to feed her with mashed food with the help of a syringe.

Due to deterioration of the wounds and the patients increased moaning, which the family felt indicated pain, they asked for help with the wound care at home.

## Aim

Our primary aim was to provide the family with means to take care of the patient at home, increase the patients nutritional intake and to help diminish the patients pain by improving the wounds.

## Method

The caregivers were showed how to reposition the patient every three hours and feed the patient protein supplements. Pressure relieving aids were demonstrated and provided. Only the initial coccyx was surgically debrided prior to the first PolyMem application. Daily dressing changes were performed by visiting nurses. They used PolyMem<sup>®</sup> Wic which is a cavity filler covering it with a standard PolyMem<sup>®</sup> or PolyMem<sup>®</sup> MAX which is a thicker version.

PolyMem<sup>®</sup> dressings contain several components that help optimise wound healing. The wound cleanser in the dressing is activated by moisture, continuously cleansing the wound whilst in place, often eliminating the need for cleansing at dressing changes, (therefore saving nursing time and avoiding disruption of the wound bed). The glycerol in the dressings help keep the wound moist due to its hygroscopic properties and prevents the dressings from sticking to the wound surface.

PolyMem<sup>®</sup> dressings often provides dramatic drug-free pain relief which is ideal for debilitated patients. They also help protect the wound area from pressure and shear during movement and provide a cushioning effect, which is important for malnourished patients.

### STAGE IV COCCYX

It is unclear how long this pressure ulcer took to develop. According to the family it had been getting worse and seemed more painful the past two weeks prior to the health workers becoming involved. The patient was constantly moaning and her body posture contracted and stiff.



**November 2007**

The initial appearance of the pressure ulcer. Up until now only gauze had been used to cover the ulcer. The wound was cleaned with Iodine and sharp debridement performed. Once debrided it was covered with PolyMem<sup>®</sup> Max which is slightly thicker than the standard PolyMem<sup>®</sup>. Daily dressing changes were initiated.



**December 2007**

It is clear from the patients body posture and lack of moaning that she is no longer in pain. PolyMem<sup>®</sup> MAX is changed daily, most of the time there is no need to cleanse the wound during the dressing changes. The inserted photo shows the wound a couple of weeks later, most of the slough is gone. PolyMem<sup>®</sup> WIC is used in the undermined areas.



**January 2008**

The wound is now more shallow and new granulation tissue is filling the area rapidly. A combination of PolyMem<sup>®</sup> WIC and PolyMem<sup>®</sup> MAX is used on a daily basis due to the location of the wound. The family is very happy over the progress in spite of the patients poor nutritional status.



**June 2008**

Seven months since the initial debridement of this huge pressure ulcer and it has almost closed. New granulation tissue has filled the cavity and epithelialisation is progressing well. The standard version of PolyMem<sup>®</sup> is used with changes every second day. This ulcer progressed to total closure a few months later.

### STAGE III SCAPULA

This pressure ulcer was discovered by the family three weeks after the health workers had become involved. During this time regular off-loading and re-positioning of the patient was performed. The theory was that during the first three weeks the pain due to her sacral ulcer had diminished (much less moaning) making it easier to inspect the entire body.



**December 2007**

Since PolyMem<sup>®</sup> was being used with good results on the first pressure ulcer, the family applied PolyMem<sup>®</sup> on this ulcer as well as soon as it was discovered. Note the swollen appearance of the surrounding tissue, this resolved after 10 days with PolyMem<sup>®</sup>. No surgical debridement was performed on this wound.



**January 2008**

A thin layer of slough still covers the wound surface, however a week later it had liquefied and been absorbed into the dressing. PolyMem<sup>®</sup> MAX is used and changed 3-4 times a week without any additional cleansing. There is some undermining on the top of the wound where the cavity version, PolyMem<sup>®</sup> WIC was used.



**April 2008**

The undermining is now resolved. The ulcer is granulating and filling up the cavity in spite of incomplete off-loading. In some areas the wound edges have started to epithelialize. The regular PolyMem<sup>®</sup> is being used now with changes every other day.



**May 2008**

This is six months after the initial ulcer appeared and the stage III scapula ulcer has completely closed. Different versions of PolyMem<sup>®</sup> have been used from the start until complete closure as the wound shows signs of improvement at every dressing change.

### STAGE III LEFT TROCHANTER

The family were progressing well with the treatment of the first two wounds. On several occasions they had performed the dressing changes without the help of the home care nurses and the wounds were cleaning up nicely. The main problem was the nutrition, they could only get about 450 kcal/day into the patient. This new pressure ulcer came as a great disappointment.



**February 2008**

The patient was well taken care of with regular re-positioning and off-loading but was still severely malnourished. This new pressure ulcer was covered with PolyMem<sup>®</sup> by the family as soon as it was detected.



**March 2008**

No debridement has been performed, the necrotic tissue has gradually become liquefied and absorbed into the PolyMem<sup>®</sup> dressing. After removing the old dressing a new one is applied without cleansing the wound in between the changes. Shortly after this photo was taken bone exposure was detected so the ulcer was reclassified as a stage IV.



**May 2008**

PolyMem<sup>®</sup> has been changed on a daily basis. The family is closely involved in most dressing changes and do not need as much help from the district nurses any more. Despite the bone exposure and malnutrition there have been no complications with infection. Most of the defect is now filled with granulation tissue.



**August 2008**

After 5 months the ulcer is very superficial and almost fully covered by new fragile epithelial tissue. Due to the patients very low calorie intake we did not expect any of the wounds to actually close but they all did and it definitely had to do with the dressing that were used. A couple of months later the ulcer was fully closed.

## References

- Beitz AJ et al. A polymeric membrane dressing with antinociceptive properties: analysis with a rodent model of stab wound secondary hyperalgesia. J Pain 2004 \_feb;5(1):38-47.
- Agathangelou C. Increased Quality of Life with the help of a Polymeric Membrane Dressing. Poster presented at EWMA 2008 in Lisbon.
- Agathangelou C. Large Necrotic Malodorous Pressure Ulcer Closed Using a Polymeric Membrane Silver Cavity Filler. Poster presented at EWMA 2008 in Lisbon.
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## Results

PolyMem<sup>®</sup> dressings debrided and cleaned the pressure ulcers while controlling exudate, odour and pain.

Most of the ulcers had dressing changes on a daily basis. However, the extra cost of the dressings was nothing compared to the savings made by less nursing time, faster, pain-free dressing changes (no cleansing needed making it easier for the family to perform the changes), increased quality of life as the patient could keep living at home instead of becoming hospitalised and, last but not least, all the wounds closed!

## Discussion

Although the patient received only about 450 kcal/day, which is about one-third the minimum required for this patient, all the deep wounds steadily closed. This was totally unexpected for everyone involved.

Everyone is convinced that PolyMem<sup>®</sup> had an important role in healing this patients wounds. However, more studies are needed to understand how the different components in PolyMem<sup>®</sup> interact to achieve these results.

\*PolyMem<sup>®</sup>, PolyMem<sup>®</sup> WIC Cavity and PolyMem<sup>®</sup> MAX Wound dressings Manufactured by Ferris Mfg Corp, Burr Ridge, IL 60527 USA. This case study was unsponsored. Ferris Mfg. Corp. contributed to this poster design and presentation.