

# CASE STUDY

## **PolyMem® WOUND DRESSING IN DIABETIC FOOT CARE**

### Ferris Mfg. Corp., Burr Ridge, IL

#### **INTRODUCTION:**

Despite rapidly advancing research, prevention of diabetic peripheral vascular disease and peripheral neuropathy have not been accomplished, resulting in a multitude of diabetic foot problems. Fifteen percent of all diabetics develop foot ulcers, primarily because of trauma and repetitive stress to insensible feet.

Of the total diabetic patient population 20 percent are admitted to hospitals for foot problems and 30 percent have peripheral vascular disease. Six of every thousand diabetics undergo amputation. Over 40,000 major amputations in diabetics take place each year in the United States<sup>1</sup>. The hospital cost for amputations in the U.S.A. is probably about \$1.2 billion per year.

#### **CASE STUDY:**

A 50 year old male with a long history of peripheral vascular disease resulted in the amputation of the toes on the right foot. In this case many different modalities were employed to resolve this wound that existed for more than five years.

Unsuccessful therapies included creams, wet-to-dry treatment and calcium alginate dressings. In concert with a joint diabetic foot study being conducted at a major hospital, this patient was treated with PolyMem membrane dressings<sup>2</sup>.

The first picture shows the foot as it looked at the start of using PolyMem dressings. The second picture shows the foot after only one month and the third picture shows the foot after two months.

#### **DESCRIPTION OF POLYMEM WOUND CARE PRODUCTS:**

*PolyMem* Dressings consist of a Polyurethane membrane matrix on a semipermeable thin film backing. The hydrophilic membrane contains a cleanser, a moisturizer and a superabsorbent starch copolymer.

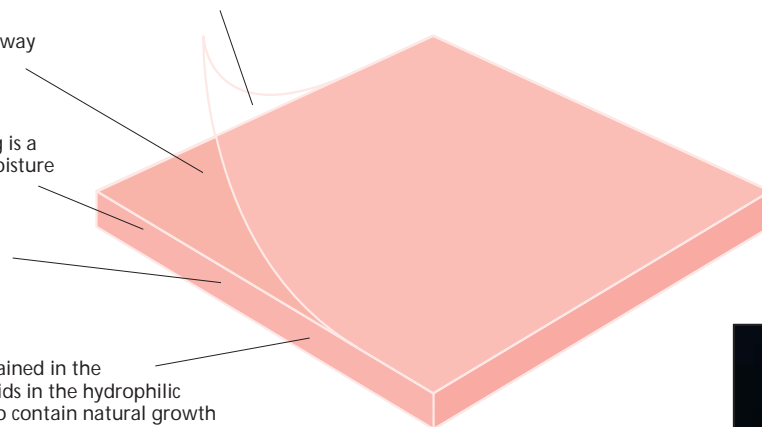
The **Semipermeable Film Backing** provides a bacterial barrier while allowing gas (O<sub>2</sub> and CO<sub>2</sub>) exchange and maintaining an ideal moisture vapor transmission rate. The transparent film backing allows visual inspection of the membrane to determine the need for a dressing change.

The **Polyurethane Membrane Matrix** wicks away up to ten times its weight in exudate. The membrane contains a cleanser, moisturizer and superabsorbent starch copolymer.

The **F68 Surfactant** contained in the dressing is a mild wound cleansing agent activated by moisture and gradually released into the wound bed.

The **Glycerin**, a moisturizer contained in the dressing, keeps the dressing from adhering to the wound bed. Glycerin also reduces odor, conserves living fat cells, reduces hypergranulation, soothes traumatized tissues and supports autolytic debridement.

The **Superabsorbent Starch Copolymer** contained in the dressing draws, absorbs and holds excess fluids in the hydrophilic membrane. These fluids, which are known to contain natural growth factors and nutrients, concentrate at the wound site.



**BEFORE  
POLYMEM  
DRESSING**



**ONE MONTH  
OF USING  
POLYMEM  
DRESSINGS**



**TWO MONTHS  
OF USING  
POLYMEM  
DRESSINGS**

#### **CONCLUSIONS:**

- Faster rate of diabetic wound closure
- Pain relief to the patient
- Ease of application and removal
- All-in-one dressing eliminates the need for most other wound care products

#### **REFERENCES:**

1. Levin, M.E. "The Diabetic Foot" 1988, 4:9.
2. Blackman, J.D., Senseng D., Quin, L., Mazzone, T., "Clinical Evaluation of a Semipermeable Polymeric Membrane Dressing for the Treatment of Chronic Diabetic Foot Ulcers" Diabetes Care 17:4, April 1994.

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