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Evaluation of Superabsorbent Polymer Wound Dressings Zetuvit® Plus and Zetuvit® Plus Silicone Border in the Long-Term Acute Care Hospital Setting

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INTRODUCTION

The majority of patients in a long-term acute care hospital (LTACH) have previously been in an acute care facility and require ongoing care for an extended period of time due to a serious medical condition. The patient population generally has multiple diagnoses and comorbid conditions, placing them at high risk for existing wound complications and future alterations in skin integrity. Approximately 60% of patients admitted into the LTACH environment have an existing wound that requires nursing care and treatment.[1] All types of wounds and skin alterations are seen in the LTACH environment and include pressure ulcers/injuries, surgical wounds, grafts, circulatory ulcers, traumatic wounds, and others.

According to the Centers for Medicare and Medicaid Services (CMS), the average length of stay in an LTACH is more than 25 days.[2] With medically complex patients, not all chronic wounds are expected to be healed in this short time. The discharge goals for patients with unhealed wounds are to have progress in healing, low bioburden in the wound bed, and healthy peri-wound skin. The LTACH employs clinical best practices and quality treatment products for wound management that promote healing and prevent wound and peri-wound deterioration. These facilities are committed to evaluating products with demonstrated evidence of quality, efficacy for the patient population, nurse satisfaction, and cost effectiveness.

PRODUCT/SERVICE/METHODOLOGY

The HARTMANN Zetuvit® Plus product line has demonstrated evidence as a superabsorbent polymer (SAP) dressing for wounds with moderate to heavy exudate. The products are available in a variety of configurations including a non-adhesive, a silicone adhesive in bordered and non-bordered versions, and a range of sizes. The bordered version is showerproof and breathable. To improve patient quality of wound and peri-wound care, reduce frequency of wound healing interruptions with dressing changes, and improve nursing satisfaction with wound dressings, the Zetuvit® Plus product line was evaluated at two (2) LTACHs in the Mountain West area of the United States.

The LTACH clinical and operational leadership teams identified several patients at each of the LTACH locations who had existing wounds with heavy exudate and were anticipated to be in the facility for at least 20 days. The Chief Clinical Officer assisted in patient selection and personally observed the wounds at the beginning of the product evaluation and periodically throughout the trial period. This extra step was implemented in order to reduce variance of clinical opinions among several nurses and wound care providers. The direct care nursing staff were provided with on-site education by HARTMANN clinicians and trained sales account managers, to ensure

understanding of the dressings and competency in application and care. To help eliminate the inadvertent use of the incorrect product during the evaluation, Central Supply personnel were instrumental in exchanging foam dressings in the inventory with the appropriate Zetuvit® Plus replacement. To ascertain professional experiences and opinions with the products, nursing satisfaction and comments were collected during the first 30-days of the evaluation. Weekly calls between the LTACH clinical leadership team and the HARTMANN clinicians were valuable for discussing progress and barriers throughout the evaluation. Nursing wound documentation was reviewed by the LTACH clinical leadership team, pre- and post-evaluation for each of the participating patients. Additionally, observations by LTACH clinical leadership were collected for comparison of baseline wound status through the end of evaluation wound status.

As responsible stewards of limited healthcare financial resources, the LTACH clinical and operational leadership team wanted to evaluate the cost impact of the Zetuvit® Plus product line. To achieve this assessment, real costs were obtained through the existing distributor for the usage of silicone foam dressing (Optifoam®, Medline Industries, Inc. Mundelein, IL) and Abdominal (APD) pads. The incumbent products were replaced with Zetuvit® Plus Silicone Border and Zetuvit® Plus respectively. Cost allowances were normalized for sample products provided by HARTMANN at the onset of the evaluation and for leftover inventory at the conclusion of the trial period.

CASE STUDIES

Patient 1:

Admitted to the LTACH with a Stage III pressure injury (PI) to the coccyx, with peri-wound maceration and moderate to heavy drainage. Pressure injury measured 4cm x 2.25cm x .2cm on October 7th at initiation of treatment with Zetuvit® Plus Silicone Border and PluroGel® (Medline Industries, Mundelein, IL). Per wound nurse documentation, on October 18th the amount of drainage from the PI had decreased to moderate. Peri-wound maceration had resolved. No change to initial wound dimensions. Prior to discharge to a lower level of care on October 26 (~2.5 weeks), the PI was documented as having no drainage, no peri-wound maceration, and wound size decreased to 3.5cm x. 2.25cm x .1cm (56% reduction in size) with granulation tissue in the wound bed and significant improvement noted.

Patient 2:

Admitted to the LTACH on November 29 with a Stage III pressure injury (PI) to the coccyx with heavy drainage and significant peri-wound maceration. Upon admission the PI measurements were 4cm x 5cm x .2cm. Treatment was initiated with Zetuvit® Plus Silicone Border and PluroGel®, three times per week. On December 20 (3 weeks later), measurements had decreased to 1cm x 0.8cm x .1cm (98% reduction in size). The peri-wound maceration was resolved, and wound drainage was scant.

KEY FINDINGS

Clinical Evaluation Summary

Based on the 32 clinical evaluation forms received from direct care nurses who used Zetuvit® Plus and Zetuvit® Plus Silicone products, the ratings for all measured indicators were overwhelmingly positive. The scale used was 1 = poor rating, 5 = excellent rating. Additional feedback was obtained from the LTACH clinical leadership team, who consistently reinforced the findings of the evaluation forms. The HARTMANN clinical team conducted post-evaluation period informal interviews with the direct care staff, who consistently stated the product was superior to the replaced foam dressings. Additionally, the average desire to continue use of the product was 4.5/5.0 across both facilities.

Table 1: LTACH Clinical Evaluation Summary October 15 – November 11, 2021

Number of returned evaluation forms	**32**	15	17
	Average Both Facilities	**Facility #1**	**Facility #2**
Overall satisfaction	**4.6**	4.3	4.6
Would like to continue to use	**4.5**	4.1	4.8
Available sizes meet needs	**4.5**	4.2	4.7
Ease of application	**4.6**	4.3	4.8
Ability to absorb exudate	**4.5**	4.1	4.8
Prevents peri-wound skin damage	**4.5**	4.2	4.6
Extended wear times	**4.5**	4.2	4.8
Manages odor	**4.5**	4.3	4.6
Ease of removal	**4.6**	4.4	4.8
Stays intact during incontinence episodes	**4.0**	3.7	4.4

Additional benefits of the products were identified through nursing documentation reviews and direct user comments and feedback:

- Reduction in skin maceration and reoccurrence rate while using Zetuvit® Plus products.
- A chart review of a subset of total patients showed that 6 of 7 wounds decreased in size while using Zetuvit® Plus products.
- Measured wound sizes decreased by an average of 51%; normalized to 60% over a 30-day period.
- Comment: When used in combination with PluroGel®, there was a noticeable reduction in necrotic tissue.
- Comment: Zetuvit® Plus Silicone Border adheres well and is yet gentle on skin at time of removal. Foam dressings that were used prior to the evaluation were reported to be frequently found loose in the bed, due to poor adherence.
- Less frequent dressing changes required due to adherence and exudate management performance.
- Reduction in malodorous wounds and complaints of foul-smelling dressings.

Our overall favorable experience related to exudate management, dressing performance, and patient satisfaction is similar to previously published observational studies on the Zetuvit® Plus family of dressings.[3,4]

Cost Benefit Analysis

Despite one outlier patient who was admitted into the evaluation group with 22 wounds (14 of which were treated with the Zetuvit® Plus product line), the cost savings were significant. Calculations were completed using baseline pre-evaluation average monthly costs with previous silicone foam dressings, and a stable average daily census. Following the 2-month product evaluation, costs were reduced by at least 15%. If the outlier patient is removed from the analysis, the average cost reduction moves to a more realistic 21% across both facilities.

Table 2: Pre-evaluation spend of Optifoam® Silicone Foam Dressings (sizes 3" x 3" , 4" x 4", and 6" x 6")

Facility	Spend/month
LTACH Facility #1	$998.21
LTACH Facility #2	$1,489.84
TOTAL	**$2,488.05**

Table 3: Normalized spend comparison after 2 months of usage

Facility	Zetuvit® Plus Spend	Baseline Calculation	Actual Saving (%)
Facility #1	$1,350.57	$1,996.42	32%
Facility #2	$2,888.58	$2,979.68	3%
TOTAL	**$4,239.15**	**$4,976.10**	**15%**

Based on the above assumptions of stable census and consistent patient population/ length of stay, the annualized savings for wound exudate management is conservatively estimated to be more than $6,000/year.

When the facilities return to full bed-capacity, the savings are estimated at $10,808/ year. Finally, extrapolated savings for a typical 100 bed high acuity facility is $18,013 based on the results from these two sites (60 beds).

Consistent with Zetuvit® Plus dressing clinical performance and evaluation, actual and projected cost savings are driven by a reduction in dressing utilization (i.e. less frequent dressing changes). Table 4 compares actual Optifoam® dressing usage with the corresponding Zetuvit® Plus Silicone Border cross-reference. The two LTACH facilities that participated in the evaluation should expect to see an annual reduction in usage of 31%.

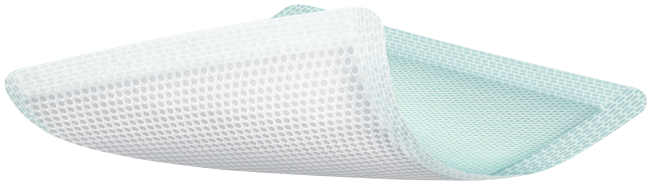
Table 4: Annual Silicone Foam Dressing Usage Comparison				
Current Foam Dressing	**Annual Dressing Usage**	**HARTMANN SAP Dressing Cross-Reference**	**Estimated Annual Dressing Usage**	**Usage Reduction**
3” x 3” Optifoam Gentle EX Bordered Foam Dressing (MSCEX33)	17,670	4” x 4” Zetuvit Plus Silicone Border SAP Dressing (413119)	10,600	40%
4” x 4” Optifoam Gentle EX Bordered Foam Dressing (MSCEX44)	56,520	5” x 5” Zetuvit Plus Silicone Border SAP Dressing (413120)	40,690	28%
6” x 6” Optifoam Gentle EX Bordered Foam Dressing (MSCEX66)	26,780	7” x 7” Zetuvit Plus Silicone Border SAP Dressing (413121)	18,750	30%
TOTALS	**100,970**		**70,040**	**31%**

Upon presentation of data and analysis to the LTACH clinical and operational leadership team, the path forward was an easy decision. The desired goal to find a superior exudate management dressing that would provide better patient outcomes, increased staff satisfaction on a range of indicators, and a cost savings was clearly achieved.

Key Takeaways

- Zetuvit® Plus products are preferred by direct care nursing staff for the care and treatment of wounds with heavy exudate.
- Zetuvit® Plus products provide superior patient wound outcomes and protection of the peri-wound skin.
- Zetuvit® Plus products represent a significant cost savings compared to current silicone foam dressings on formulary.
- Estimated annual savings in exudate management wound dressings for both facilities are $6,205. If patient census returns to full capacity, estimated savings increase to $10,080/year.
- Overwhelming nursing response to continue use of Zetuvit® Plus products.

Zetuvit® Plus Silicone Border



Zetuvit® Plus Silicone

Zetuvit® Plus

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