

# Evaluating the Efficacy of a Uniquely Delivered Skin Protectant and Its Effect on the Formation of Sacral/Buttock Pressure Ulcers

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## BACKGROUND:

- Sacral/buttock pressure ulcer prevention identified as an area that needed improvement at Fulton County Medical Center's Long Term Care Unit (McConnellsburg, PA), a rural, 57-bed SNF attached to 25-bed acute care hospital. Average daily census is 55 to 57 and average length of stay is 1.3 years.
- Prevention strategies already in place: daily skin assessment, use of standardized pressure reducing support surfaces, documented repositioning, dietary monitoring, treatment/maintenance of concurrent diseases, and use of pads/briefs. Incontinent residents cleaned at soiling, checked at least every 2 hours for wetness.
- Incontinence care protocol involved disposable wipes (Tena® Skin-Caring<sup>®</sup>) and moisturizing lotion to remove stubborn fecal matter. Restore® Barrier Cream (active ingredient: 1.5% dimethicone) used to treat damaged skin, but not recommended for preventive care (perceived as cost-prohibitive). In fact, product utilization data revealed that the protectant was almost never applied. Staff survey: time and inconvenience of barrier cream often inhibited application.
- Decision made to purchase Comfort Shield® Perineal Care Washcloths (Sage Products, Inc., Cary, Ill.; active ingredient: 3% dimethicone), thick, disposable washcloths that cleanse and moisturize while applying skin protectant. All-in-one product chosen to control process variation by removing inhibitors of time and inconvenience of applying a separate product; thus, ensuring greater consistency of skin protectant application.
- Although the ultimate goal of changing incontinence care protocols was to reduce nosocomial sacral/buttock pressure ulcers, the observed reduction—no new pressure ulcers—was unexpected. A study was designed to determine if the decreased incidence could be related to use of the new skin protectant.

## METHODS:

- Developed a quasi-experimental, retrospective study to look at study population (90-day period of exclusive new product use) and historical control population (90-day period before new product) to determine if patient risk differences could account for 3-month absence of sacral/buttock pressure ulcer formation.
- To define historical monthly incidence of sacral/buttock pressure ulcers on incontinent residents, medical record charts from July 2000 to March 2001 were reviewed.
- Subjects: All current and newly admitted residents incontinent of urine, stool or both in LTC unit for at least 30 consecutive days during study (30 residents) or control (34 residents) period. Twenty-six were members of both the control and study groups.

## RESULTS:

- 9-month review of historical incidence revealed avg. of 31 incontinent residents/month; 12 incontinent residents developed 15 superficial sacral/buttock pressure ulcers (13% Stage I and 87% Stage II), usually due to moisture/enzymatic damage. Avg. monthly incidence: 4.7% for 9-month period.
- Residents in both study populations were at high-risk for pressure ulcers (94% had 5 or more of 9 possible risk factors).
- None of the 30 residents in study group developed pressure ulcers; 5 (14.7%) of 34 residents in control group developed 10 pressure ulcers (20% Stage I and 80% Stage II).

## DISCUSSION:

- Despite 100% reduction in incidence of sacral/buttock pressure ulcers, it is questionable if this can be maintained over time. For a more practical representation of long-term implications, average monthly incidence for 9-month historical baseline (4.7%) was compared with 6-month use of protectant for prevention, with an additional 3 months of (0.5%) extracted from medical records. This represented an 89% reduction in average monthly incidence when skin protectant was applied.
- Study demonstrated direct association between use of skin protectant and decrease in incidence of superficial pressure ulcers. When consistently applied, any FDA-identified skin protectant could achieve similar results. However, delivering skin protectant with a disposable washcloth simplified process considerably and led to adoption as the new standard of care.
- During exclusive new product use, incontinence wipe use decreased by 50% for an annual estimated savings of \$3,700.
- Based on diaper/pad usage, an estimated 107 incontinent episodes occur per day for 29 to 31 incontinent residents. Cost of new product: \$1.07 to \$1.15 per day per incontinent resident. Cost of pre-study skin protectant (16 uses per 4-ounce tube): \$1.56 to \$1.67 per day per incontinent resident (assuming same level of compliance/episodes).

## CONCLUSION:

- In the presence of a comprehensive pressure ulcer prevention program, preventive use of the skin protectant significantly reduced the number of sacral/buttock pressure ulcers.
- This finding adds to the body of evidence-based strategies for prevention of pressure ulcers. It also supports AHRQ guidelines related to use of a protectant moisture barrier to protect skin from effects of prolonged exposure to moisture.

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