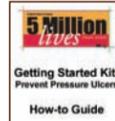


# It's Easy: Preventing Incontinence-Associated Dermatitis and Early Stage Pressure Injury

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## BACKGROUND

- **Incontinence is common in the acute- and long-term care settings.**
  - In a survey of nursing home patients, Bliss et al<sup>1</sup> found that 63.2% were incontinent.
  - In an acute care setting, Junkin and Selekof<sup>2</sup> found 19.7% of patients were incontinent of stool, urine, or both.
- **Incontinence-associated dermatitis (IAD) is an inflammatory condition of the skin that is associated with fecal or urinary incontinence.<sup>3</sup>**
  - As many as 54% of patients with incontinence have skin injury in the perineal area.<sup>1</sup>
  - Morbidity associated with incontinence includes increased risk for pressure ulcers.<sup>4</sup>
- **Skin cleansing and skin protection has been shown to decrease skin breakdown due to incontinence.<sup>5</sup>**
  - Due to the association between IAD and pressure ulceration, the 5 Million Lives Campaign of the Institute for Healthcare Improvement (IHI) recommends cleaning the skin with a mild cleanser, and using a topical agent that moisturizes the skin and acts as a barrier to moisture from incontinence.<sup>6</sup>



The goals of the intervention were improved patient care, IAD prevention, and efficiency of healthcare staff, while containing costs. In addition, the intervention trialed an all-in-one bathing product and all-in-one incontinence cleanup and skin barrier product, in part due to concerns of bacterial cross-contamination with bath basins.<sup>7</sup>

## METHODS

The initial intervention was implemented in a 25-bed subacute medical unit (peritoneal dialysis patient subpopulation) from 7 May 2007 to 4 June 2007 followed by a continuation of the protocol and data collection for 11 months. Surveys were conducted in all incontinent patients to determine the presence or absence of skin injury before and after the intervention.

The staff were trained on how to use the all-in-one bathing and incontinence-care products (Comfort Shield<sup>®</sup> Barrier Cloths with Peri Check<sup>™</sup> guide and Comfort Bath<sup>®</sup> Cleansing Washcloths; Sage Products Inc, Cary, IL), and how to implement the bathing and incontinence-care protocols.

Incontinence cleanup care was standardized. In patients with stool incontinence, a standard washcloth with soap and water was first used to remove the bulk of stool. The all-in-one barrier cloths were used until the skin was clean, and disposed of as they became soiled. The skin was allowed to air dry.

The patients were bathed with the all-in-one prepackaged bath daily, unless the patient had a shower.

Staff and patient satisfaction was determined by using a 5-point Likert-type scale survey, to which the possible responses were 1 = strongly agree, 2 = agree, 3 = unsure, 4 = disagree, and 5 = strongly disagree.

Communication among the staff was enhanced with a variety of tools, including the use of a sticker on the all-in-one barrier cloths. The caregiver identified and marked the patient's skin condition on the sticker after each incontinence cleanup episode, and then the sticker was added to the patient's chart.



## RESULTS

The average number of inpatients on the unit during the intervention was 25, with an average of 14 who were incontinent. At baseline, the patient population consisted of 53.3% women and 46.7% men. Most of the patients were older than 80 years: 6.7% were aged 50-59 years, 6.7% were aged 60-69 years, 20.0% were aged 70-79 years, and 66.7% were aged 80 years. Many of the patients (53.3%) were incontinent of both stool and urine.

### Prevalence of IAD

The pre-intervention skin survey found that 58.3% (7 of 12) of the incontinent patients had IAD. A follow up skin assessment survey 1 month post-intervention revealed only 6.7% (1 of 15) of patients had IAD, and a decrease in the number of affected areas and intensity of the redness of the skin. At 6 months post-intervention, 21.4% (3 of 14) of the incontinent patients had IAD. By the 11th month, only 13.3% (2 of 15) of the incontinent patients had IAD. This equated to a **77.7% reduction in cases of IAD**. No allergic reactions to the products were observed.

### Staff Acceptance of the Product and Costs

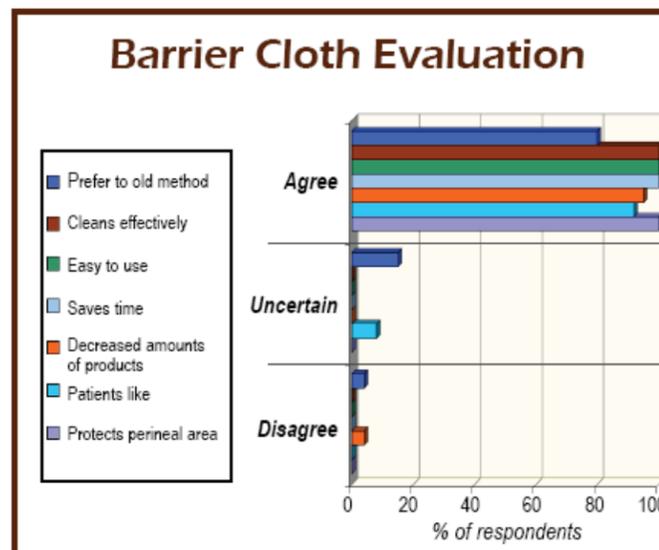
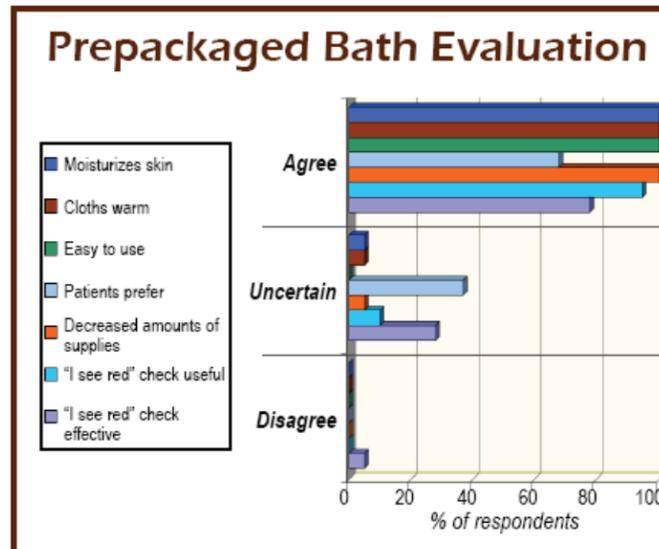
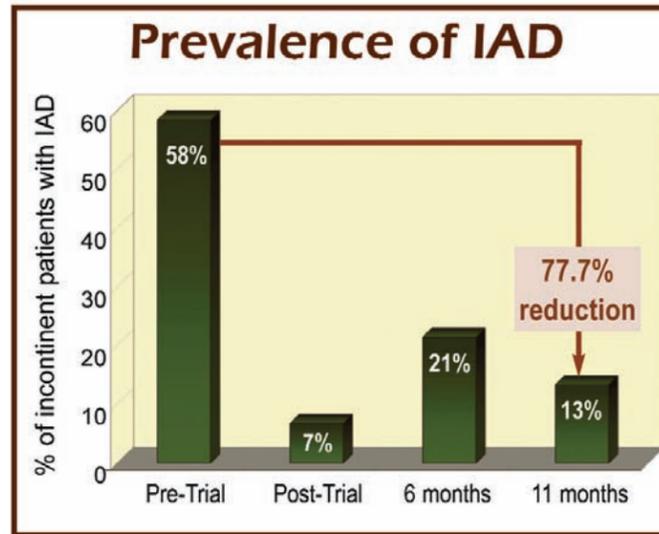
For 8 of the 10 questions on the satisfaction survey concerning the prepackaged bath product (n = 25), >90% of the staff responded they "agreed" or "strongly agreed" (64% satisfaction in response to 2 questions). For 9 of the 10 questions on the satisfaction survey concerning the barrier cloth product (n = 25), >96% of the staff responded that they "agreed" or "strongly agreed" (80% satisfaction in response to 1 question).

On the basis of the survey results and discussions, it was apparent that the staff liked the product. However, the cost of the product did not initially fit the budget; therefore, the staff looked for ways to cut costs to allow them to continue to use the product. To reduce costs, 8-pack cloths were replaced with 5-pack cloths, bath basins were no longer needed and were removed from the units, fewer linen (e.g., towels) were used, smaller incontinence pads were used, and the use of other supplies, such as skin creams, was minimized. These measures resulted in cost savings sufficient enough to allow the continued use of the products.

Indirect cost savings that are difficult to measure include the costs associated with the prevention of pressure ulcers. Although it was not possible to extrapolate from our data the number of pressure ulcers that were prevented, the potential savings are considerable given that the cost of care per ulcer is estimated to be \$15,760.<sup>8</sup>

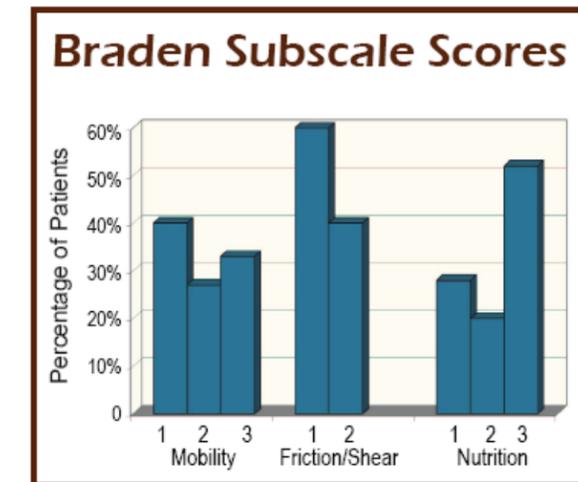
### Bathing Time

Prior to the initiation of the all-in-one prepackaged bathing, baths took on average 15-20 minutes from start to finish. Creams and lotions were wasted, and bathing practices were inconsistent because of workload issues. Post-intervention, baths take on average 6-8 minutes. This equated to a 60% reduction in bathing time.



### Braden Scores and Risk of IAD

Logistic regression modeling techniques were used to assess risk factors for IAD identified in the Braden Score. None of the individual Braden Score components (Mobility, Friction/Shear, and Nutrition) were found to be significantly associated with IAD; however, when risks were combined, patients with lower nutrition scores were more likely to experience IAD (P=0.0452). The average nutrition score was 1.6 (standard deviation [SD] = 0.81) in patients without IAD and was 2.2 (SD = 0.77) in patients with IAD.



## DISCUSSION

Our intervention of an all-in-one incontinence barrier cloth that includes a skin protectant led to a 77.7% reduction in IAD. The prepackaged bath product resulted in enhanced productivity and cost savings. Furthermore, the staff found the products convenient and easy to use.

### Specific benefits associated with the use of the product:

- Improvement in the condition of the patients' skin
- More efficient bathing protocol, which met staff approval
- Daily bathing of patients, even during busy times
- Consistent application of a barrier product after incontinence episodes
- Reduction in the potential for skin recontamination
- Improvement in staff collaboration
- Improvement in staff communication staff about the patients' skin condition
- Potential cost savings associated with the prevention of complications of IAD, such as pressure ulcers

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