

Improving Resident Care through Use of a Barrier Cream with Durable Properties

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Statement of Problem

In October 2001, a 204-bed, long-term care facility relocated to a new care setting designed in small group living units. Each household was home to 14 residents. This model expanded upon nursing assistants' traditional roles. For example, two nursing assistants were responsible for washing personal clothing and doing mealtime dishes for the residents of their household. These responsibilities were added to traditional nursing assistant tasks such as providing direct resident care, passing between-meal fluids and assisting residents with incontinence hygiene needs.

Each household was stocked with supplies, including skin care and incontinence care products. Nursing assistants independently selected from the available products when providing incontinence care or if a resident had peri-anal skin irritation. There was no standardized product or treatment protocol. Only if skin integrity failed to improve or worsened did a nurse become involved in managing the problem.

Two concerning trends were noted with this change in physical environment and care provision. A decrease in peri-anal skin integrity was noted as the number of residents with denudement and Stage II pressure ulcers increased. Additionally, the incidence of urinary tract infections (UTIs) rose from an average of 10 per month to 13 per month.

A study was undertaken to determine if the use of a protective barrier product with durable qualities,* requiring only two applications per day, would affect these trends. Would the consistent application of a durable barrier product result in improved peri-anal skin integrity for the residents? Would the time saved in product reapplication affect the time available for the staff to deliver fluids to the residents, therefore decreasing the incidence of UTIs?

Rationale

Protocols have been successfully used in long-term care to facilitate appropriate incontinence product selection and improve peri-anal skin integrity.¹ A skin care protocol was designed for this setting with the goal of standardizing the treatment for protection of at-risk skin and triaging residents with concerning skin denudement to appropriate professional nursing staff for assessment and individualization of treatment plans. Working from the assumption that educating staff on key issues can change staff behaviors, education was an integral part of this study. By educating the direct care staff, safe, consistent resident care delivery could be realized.

Extended exposure of the skin to moisture weakens the naturally resilient properties of the epidermis, the top layer of skin. Incontinence garments may effectively contain urine and stool, but create an occlusive, warm and moist

environment which contributes to the potential breakdown of skin.¹ Current barrier products were occlusive ointments such as zinc oxide; these can transfer from skin to briefs and required reapplication with each incontinent episode.

Figure 1. Mobility Status of Residents Requiring Assistance to Obtain Fluids

	Uses Wheelchair, Walker, Crutch or Cane	Ambulatory but Requires Assistance	Uses a Device and Requires Assistance
Number of Residents Total = 129	65	27	36

Increasing fluid intake has been documented to reduce the risk of UTIs.^{3,4} In this facility, according to MDS data, 129 of 203 residents required some type of assistance in obtaining fluids due to physical deficits (Figure 1). For a resident to obtain the amount of fluid necessary to maintain dilute urine, assistance must be provided with between-meal fluid supplementation.² Fluid administered at regular intervals is necessary.

Methodology

Seventy residents who were frequently incontinent or had a history of skin breakdown related to incontinence comprised the sample group of this observational study. At the initiation of the study, professional and direct care staff received training on the topic of incontinence, skin integrity, and urinary tract infections. Material covered included the anatomy and physiology of the urinary system, etiology of urinary tract infections, anatomy of the skin and the effects of incontinence on skin integrity. The incontinence skin care protocol was reviewed. The protocol included instruction on the use of a new barrier product with durable properties* that required twice daily application instead of reapplication with each incontinence episode, thus saving assistant time. This product was selected, in part, because it did not clog the pores of the incontinence briefs. Coating the surface of the brief impairs wicking that is intended to prevent peri-anal irritation. Nursing assistants were instructed to notify the professional nursing staff if the resident developed skin irritation. If the treatment outlined by the nursing staff did not show improvement within 3–5 days, the resident was referred to the wound care team for evaluation.

Following staff educational efforts, various skin care products were removed from the households and each was restocked with the new barrier product. In an effort to track

usage, the empty tubes of barrier cream were returned to the neighborhood nurse in exchange for a new tube. Additionally, the time a nursing assistant spent on resident care per incontinence episode was measured by direct observation of care.

The importance of offering residents fluids between meals was emphasized as an expectation of the direct care staff. Residents were offered water, juices or other supplemental beverages at mid-morning, during shift change, mid-afternoon and in the evening.

The incidence of peri-anal denudement and UTIs was tracked from November 21 through December 20, 2002.

To motivate and inform the nursing staff during the study, the progress of the study was placed in each household and in the staff break room.

Results

During the course of the study, three residents participating in the study group developed skin breakdown; this was due to a combination of friction and moisture. These residents were referred to the professional nursing staff for further assessment and intervention. All three were subsequently treated with an alcohol-free barrier film** and healed. During the study, 15 residents who did not receive the durable barrier cream were referred to professional nursing staff with concerns related to peri-anal denudement.

Improvement in the timeliness of reporting skin damage to the professional staff was noted.

Time spent by nursing assistants on application of skin care products following incontinence care averaged two minutes per incontinence episode. Because the barrier product required reapplication only two times per day, 6–8 minutes per resident were saved per day. This time added to the time available for focusing energy on other efforts including offering fluids to residents between meals and in the evening. The incidence of urinary tract infections for the entire facility dropped from 13 per month to eight per month (Figure 2).

Conclusion

A team approach was used to create a solution for two concerning problems—increased incidence of UTIs and the increase in peri-anal skin breakdown in this long-term care setting. By incorporating an education effort and developing a standardized plan of care for residents with incontinence-related skin concerns, a noticeable improvement in both areas of concern was obtained. These results contributed to the overall goal of care providers, namely improving the quality of life for their residents.

* 3M™ Cavilon™ Durable Barrier Cream

** 3M™ Cavilon™ No Sting Barrier Film

Figure 2. Incidence of Urinary Tract Infections (UTIs)

Number	August	September	October	November 21 to December 20
14				
13				
12				
11				
10				
9				
8				
7				
6				
5				
4				
3				
2				
1				

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70-2009-5984-2