

**Adult Barrier Spray**  
Brings Efficiencies and  
Cost Reduction in  
Prevention and Treatment  
of Incontinence-Associated  
Dermatitis

# Adult Barrier Spray Brings Efficiencies and Cost Reduction in Prevention and Treatment of Incontinence-Associated Dermatitis

Incontinence-associated dermatitis (IAD) is one of the most pervasive conditions in long-term care (LTC) settings. With studies finding IAD symptoms present in nearly 23 percent of LTC patients, and nearly half of the nursing home population being incontinent in urine or feces, the need for effective protocols for prevention is clear.<sup>1,2</sup> According to Lambert (2012, p. 25) “Prevention of IAD is crucial, as it is a major risk factor for pressure ulcers, which can easily become infected and lead to loss of life. Furthermore, caring for a patient with skin breakdown or pressure ulcers is time-consuming and increases the cost of providing care.”<sup>3</sup>

## IAD Costs and Complications

**APPROXIMATELY 60,000 PATIENTS DIE AS A DIRECT RESULT OF PRESSURE ULCERS EVERY YEAR, MAKING THEM A SIGNIFICANT RISK FOR PATIENTS IN LTC SETTINGS.**

IAD can be an extremely uncomfortable condition that causes redness, irritation and pain. It can also result in more serious complications such as infections or pressure ulcers. Excessive moisture increases skin permeability and reduces its ability to form an effective barrier. This can be a major factor in the development of pressure ulcers and may ultimately lead to discomfort, infections, and amputation, or even death. Approximately 60,000 patients die as a direct result of pressure ulcers every year, making them a significant risk for patients in LTC settings.<sup>4</sup> That’s why it’s critical that nursing staff focus on prevention.

The condition can also have a major impact on the finances of healthcare facilities. It is estimated that pressure ulcers cost \$9.1 to \$11.6 billion per year in the United States alone, and that costs range from \$20,900 to \$151,700 per ulcer treated.<sup>4</sup> These wounds can also be extremely time consuming for nursing staff, as they must regularly change dressings, treat infections, and perform other laborious tasks.

**BY FOCUSING ON PREVENTION, THE INCIDENCE OF COMPLICATIONS ASSOCIATED WITH IAD MAY BE REDUCED.**

## The Benefit of a Touch Free Spray Application

By focusing on prevention, the incidence of complications associated with IAD may be reduced. However, the effectiveness of protocols and products to prevent IAD and its complications is severely lacking.<sup>1</sup> Current protocols have typically used creams and ointments after brief changes on adults to help prevent IAD. This is an effective way to reduce skin irritation and the development of pressure ulcers. However, there are drawbacks to properties of the current products including the difficulty to remove them and the application method of applying by hand which can lead to cross contamination.

Recently, a new 10 percent zinc oxide adult barrier spray was tested in a clinical setting during a utilization trial within a nursing home. Qualitative results taken from surveys completed by the nursing staff showed a strong preference for the spray application. It provided an easier, more effective delivery method for preventing IAD in at-risk patients. In addition, the data collected demonstrated an improvement in prevention and healing of IAD, reported no incidences of urinary tract infection (UTI), and was thought by caregivers to require less work.

## STUDY SHOWS ADULT BARRIER SPRAY TO BE AN EFFECTIVE AND PREFERRED METHOD FOR TREATMENT AND PREVENTION OF IAD

In order to determine the effectiveness of adult barrier spray in the prevention and treatment of IAD and its associated complications, a utility trial was conducted. For 30 consecutive days a total of 56 long-term care facility residents in Katy, Texas, participated in a study using Dr. Smith's® Adult Barrier Spray. Caregivers were trained on the use of the spray and shown how to record data on the condition of the residents using several data points. Additional training was provided as needed to new or temporary staff members during the trial period.

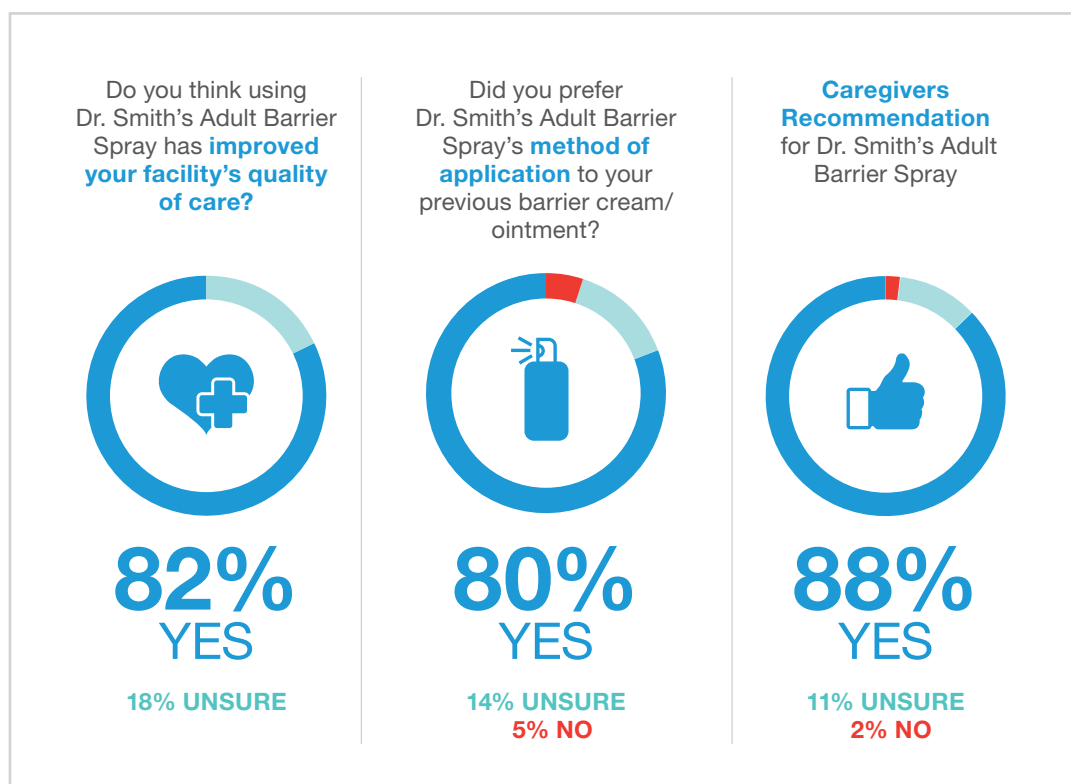
Dr. Smith's Adult Barrier Spray was used in place of the previous barrier creams or ointments in their protocol. Each spray can was labeled and placed in the room of each resident. Additional spray cans were issued as needed by the charge nurse. Data sheets filled out by the caregivers collected data on the status of the residents including the time of the brief changes and the time of the use of the adult barrier spray. The presence and severity of IAD was noted twice a day, once in the morning and once in the afternoon. In all, 25,000 points of data were collected for the study. The data allowed for a quantitative analysis of the average number of uses from each can of Dr. Smith's Adult Barrier Spray, the severity and duration of IAD in study participants during the 30-day trial and the rate of UTIs in participating residents. The caregivers were also given questionnaires before and after the study to collect their qualitative impressions of using the barrier spray and how residents perceived it.

## Nursing Staff Preferred Adult Barrier Spray

The study revealed that nursing staff and other caregivers preferred using the adult barrier spray when compared with traditional barrier cream (Figure 1). During the course of the study, there were a total of 1,523 resident days of data. Of those, IAD instances were noted on 216 of those days. Of the 56 participants, 24 residents had the presence of IAD observed during the morning or afternoon shift, eight of which were present on the first day of the trial. The remaining 32 resident participants exhibited no presence of IAD at any point during the trial.

FIGURE 1:

### Caregiver Comparison of Dr. Smith's® Adult Barrier Spray to Current Products

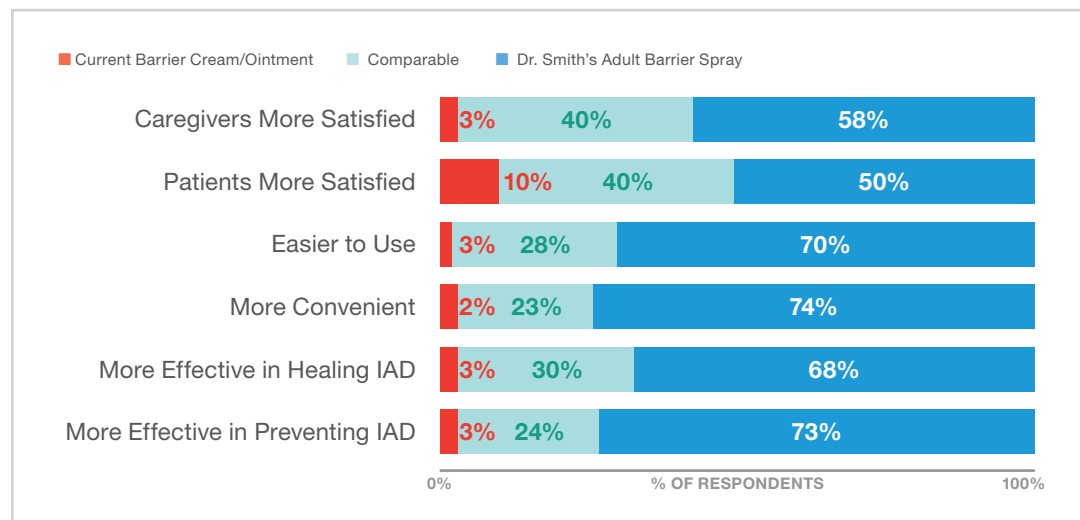


There were 48 separate episodes of IAD with an average duration of 3.27 days. Of those cases, 74.1 percent were observed as being Severity 1, the least severe, defined as a slight redness developing in a small area. Severity 2 IAD cases, which included mild redness and flaking over a larger area, accounted for 18.5 percent of the incidents. Severity 3 cases of IAD were measured at 2.8 percent of the cases with moderate redness, flaking and chafing over a large area. Severity 4 cases with severe redness, flaking, chafing and open blister over a large area made up 4.6 percent of the IAD cases observed during the trial.

**OVER 70 PERCENT OF THOSE SURVEYED SAID THAT USING THE SPRAY WAS EASIER AND MORE CONVENIENT THAN USING CREAM, POTENTIALLY PROVIDING TIME SAVINGS.**

To capture a qualitative perception of the adult barrier spray, caregivers were surveyed about comparisons between the ointments and creams they had previously used as part of the protocol to using the adult barrier spray (Figure 2). The survey found that 58 percent of the caregivers were more satisfied with using the barrier spray, 70 percent reported that it was easier to use and 74 percent said it was more convenient. Those who found the spray more effective in healing IAD made up 68 percent of those surveyed and 73 percent said they believed it was more effective in preventing IAD.

**FIGURE 2:**  
**Caregiver Comparison of Dr. Smith's® Adult Barrier Spray to Current Products**



**Barrier Spray is Effective** - The greatest concern when introducing a new product is its efficacy at treating and preventing IAD. Nurses found the barrier spray to be more effective at preventing IAD than the products traditionally used. Nursing staff who responded reported that traditional cream products could be sticky, take too long to work, were hard to take off, and led to worries about cross contamination. Comments on the barrier spray used during the study were that “it works great and faster,” was easy to apply and that it doesn’t stick to the resident’s clothing.

**Barrier Spray Designed to Reduced Risk of Infection** - While creams are in open containers and may become infected by foreign material which can be carried to patients’ skin by caregivers, the closed canister of the barrier spray provides a more hygienic environment, potentially reducing the risk of infection (Figure 3).

**FIGURE 3:**  
**Resident Treatment Data: Incidence of IAD and UTI**

There were no instances of UTI or other infections related to the use of Dr. Smith’s Adult Barrier Spray during the course of the study.\*

	Instances of UTI	Episodes of IAD	Average Duration of IAD Episode	% of Resident Days with IAD
Study	0	48	3.27 days	10.31%

\*The nurses reported that their patients, while using Dr. Smith’s Adult Barrier Spray, did not have any UTI. This is not a UTI drug or preventative device, but that was what was reported in the usage study.

**Barrier Spray Can Save Caregiver Time** - In a facility where 77 percent of the residents are incontinent, the time and cost associated with brief changes and application of creams and ointment barriers is significant. Over 70 percent of those surveyed said that using the spray was easier and more convenient than using a cream or ointment. The adult barrier spray took less time to apply and remove thereby providing potential time savings.

**Barrier Spray Can Reduce Waste** - Due to the nature and application of the cream and ointment products, there is substantial waste from product left on the gloves or in the tube. This was not experienced with the spray as it is a touch-free application and practically all of the product in the canister is used. These savings may also become more significant with greater experience using the product. Data collected showed that the number of uses per can increased from from 54 uses to 61 during the course of the study, an increase of 13 percent, suggesting that caregivers became more efficient in using the spray.

## CONCLUSIONS

IAD is a major concern for nursing staff and other healthcare workers in LTC settings. Discomfort, pain, infection, and pressure ulcers may result, all of which can lead to far more serious and costly complications. In order to manage costs, save time, and improve patient outcomes an effective protocol for treatment and prevention is critical.

A touch free barrier spray provides a more effective option for treatment and prevention of IAD while reducing time spent on application and saving financial resources. This is the first zinc oxide spray developed for use in a long-term care setting. Efficiency, cost-effectiveness and superior IAD prevention were all in evidence during the course of the study. Past evidence has supported the effectiveness of preventing IAD using a regimen of cleansing with a properly pH-balanced soap and water following a brief change, moisturizing and keeping the skin moisture barrier protected and applying a barrier substance as needed.<sup>5</sup>

The use of the adult barrier spray after each brief change, even with high frequency, aided in the prevention of IAD during the 30-day course of the study. The application of the spray as part of the brief change protocol helped shorten the healing time of IAD in study participants and no incidences of UTI were reported. The barrier spray was also easy to apply for the caregiving staff and was more cost effective than conventional ointments because of the application method and amount of uses from each spray can. This makes using adult barrier spray an overall superior choice when compared to conventional creams and ointments for treating and preventing IAD.



**If you'd like to learn more about how adult barrier sprays can be used to effectively treat and prevent IAD, contact a representative from Mission Pharmacal today.**

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**IF YOU WOULD LIKE SAMPLES OF DR. SMITH'S ADULT BARRIER SPRAY FOR TRIAL, PLEASE CLICK HERE.**

## DISCLOSURES

The primary research was conducted by Life Science Strategy Group LLC on behalf of Mission Pharmacal, developers of Dr. Smith's Adult Barrier Spray. Neither the caregivers nor the long-term care facility where the study was conducted received remuneration as part of the study or the surveys. Mission Pharmacal provided the samples of the barrier spray during the study period.

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