Laboratory Measurements and User Appreciation of a Novel Ostomy Pouch Additive with Both Lubricating and Deodorizing Benefits

Richard I. Murahata, Ph.D., Bettakeri Udayakumar, Ph.D., Michael Riemer, B.S.,
and Thomas Nichols, M.S., M.B.A. • Hollister Incorporated, Libertyville, Illinois USA

Abstract

Odor associated with discharge and difficulty in emptying fecal matter from their pouch are two issues that people with ostomies must deal with on a frequent and regular basis. While commercial products and home remedies can be used to address these issues individually, there were no commercial products available to provide a solution to both. A novel product has been developed to address both of these problems, as well as those associated with fecal material adhering to the walls of the pouch, a condition commonly referred to as "pancaking". The results of a battery of laboratory tests and the in-use experience of people with ostomies from several countries are reported here.

Benefits

The benefits of this product were demonstrated in controlled laboratory test methods and observations were validated by data collected from people with ostomies who trialed the product. In laboratory testing, this product significantly reduced the time required for simulated fecal material to drop to the bottom of the pouch and, subsequently, to flow out of a drainable pouch. This lubricating benefit is reflected by users reporting less pancaking and easier draining. Laboratory tests showed an ability to reduce malodor and this was also noted by users. Overall, the product was reported to be easy to use. Laboratory testing showed that the product did not adversely affect the integrity of the pouch which can occur with the use of oil-based materials sometimes used as a home remedy for these problems.

Conclusion

In conclusion, the user feedback confirms the laboratory predictions that this product is effective for both pouch lubrication and odor neutralization without risk of damaging the integrity of the pouch.

Introduction

Problems People Wearing An Ostomy Pouch Face Everyday:

- Odor associated with discharge
- Fecal matter adhering to the pouch wall opposite the stoma (also known as "pancaking").
- Difficulty emptying a drainable ostomy pouch – feces sticking to the pouch.

How People Have Addressed These Problems:

- Odor – Add deodorants into the ostomy pouch. Spray deodorants/masking agents in the room.
- Pancaking – Lifting the pouch manually on a periodic basis. Spraying oil inside the pouch.
- Difficulty Emptying – Flushing with water or soap solution or treating the pouch with oil.

Problem With The Practice:

- Vegetable oil and mineral oil may weaken the heat seals of the ostomy pouch – a possible cause of accidents.
- Cleaning the pouch with water/soap solution is messy and not practical in public toilets.
- No single product that addressed both the odor and lubrication needs.

Solution To The Problem - Lubricating Deodorant (LD)* – A Dual-Function Ostomy Pouch Additive:

- Neutralizes the malodor by reacting with the odor-causing molecules. – Not a perfume or masking agent.
- Coats and lubricates the inner walls of the ostomy pouch – alleviates pancaking. Facilitates emptying in drainable pouches.
- Water based product does not degrade the ostomy pouch. ■ Biocompatible. ■ Fragrance Free. ■ Latex Free. ■ No Animal Derivatives.

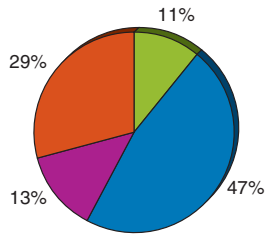
* Adapt Lubricating Deodorant, Hollister Incorporated

Hollister

Attention to Detail. Attention to Life.

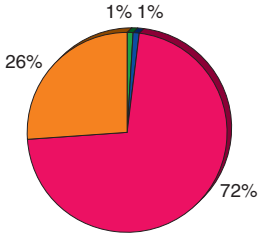
Comparison of Laboratory Evaluation Results to Survey Feedback from People with Ostomies

Country of Participants



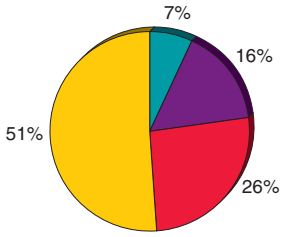
- United States 29%
- Canada 11%
- Japan 47%
- Other 13%

Type of Ostomy



- Colostomy 72%
- Ileostomy 26%
- Urostomy 1%
- Multiple 1%

Type of Pouch Used



- Closed One-Piece 7%
- Closed Two-Piece 16%
- Drainable One-Piece 26%
- Drainable Two-Piece 51%

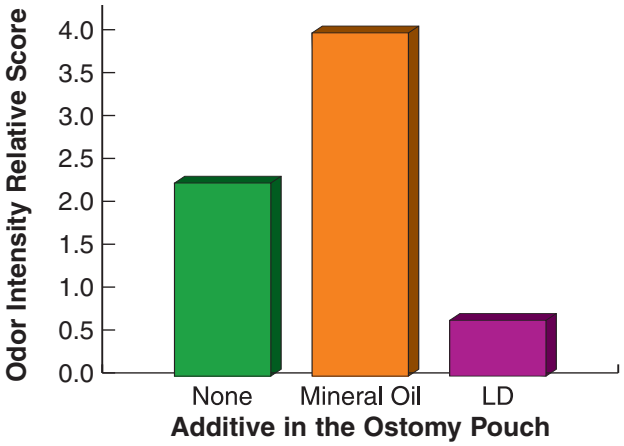
Survey Method:
People with ostomies were surveyed at national or international meetings or via retailer distribution. Participants used the Lubricating Deodorant (LD) according to product instructions and the assessment was done following pouch draining or pouch change. Responses were chosen from five-point rating scales with anchors; the three most positive ratings were categorized as favorable and the two least positive ratings were categorized as negative.

Survey Participant Details

Average age - 61 Years
Average height - 165 cm (65 inches)
Average weight - 64 kg (141 lb.)
Average number of years since stoma surgery - 7.7 Years

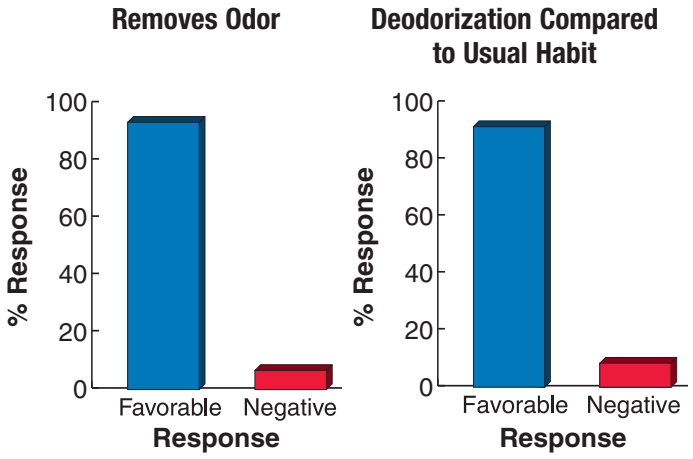
Deodorizing Effect of Lubricating Deodorant (LD)

Laboratory Evaluation



Lubricating Deodorant (LD) neutralizes sulfur odor efficiently. Chopped garlic or onion was used as source of sulfur odor. Volunteer panel evaluated the odor intensity by sniff test.

User Evaluation

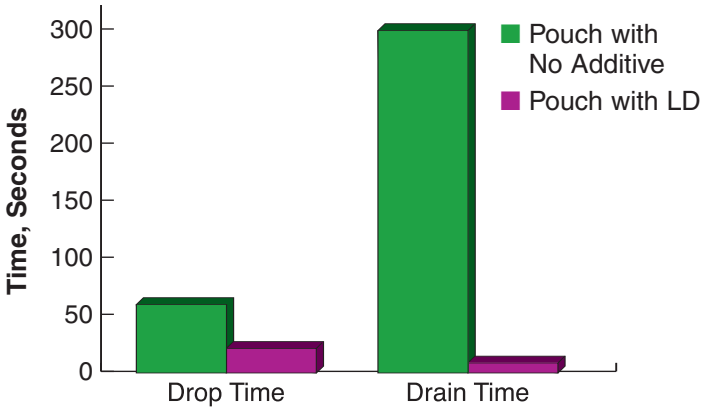


Approximately 93% of participants had a favorable response to LD's ability to address their odor issue (above left).

When asked to compare the deodorizing ability of LD to the product that they are using currently, 92% of the participants rated LD favorably (above right).

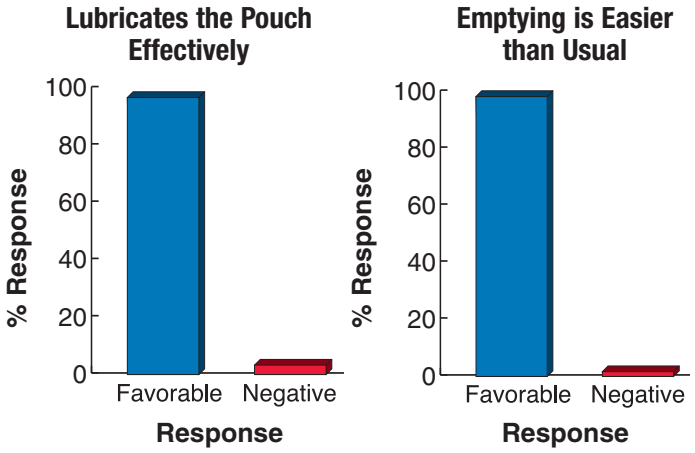
Lubricating Effect of LD

Laboratory Evaluation



Lubricating Deodorant (LD) provides excellent lubrication to the walls of the ostomy pouch. Simulated feces was loaded into the pouch through the barrier opening. Time that elapsed to reach the bottom of the pouch was measured as Drop Time. After opening the bottom clamp of the drainable pouch, the time to empty without manual push was measured as Drain Time. [Note: If the simulated feces did not drain in 5 minutes, the experiment was terminated and a drain time of 300 seconds was assigned.]

User Evaluation

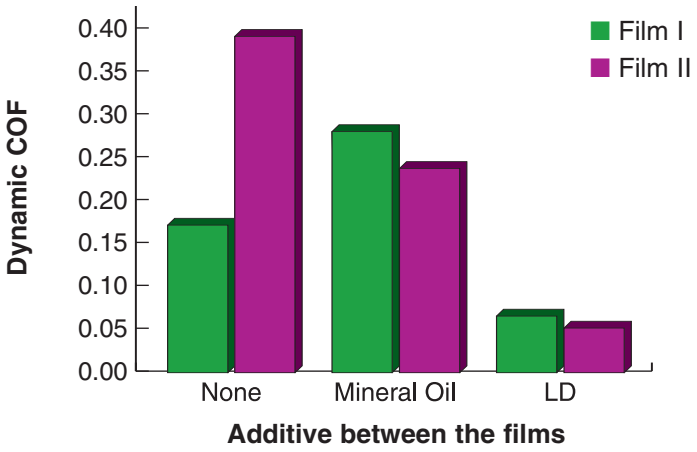


About 97% of the participants rated LD favorably as an effective lubricant in helping the pouch-emptying process (above left).

Approximately 98% of survey participants indicated that with LD, the emptying process became easier than usual (above right).

Lubricating Effect of LD

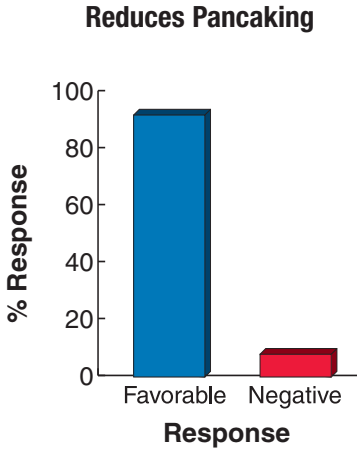
Laboratory Evaluation



Dynamic Coefficient of Friction

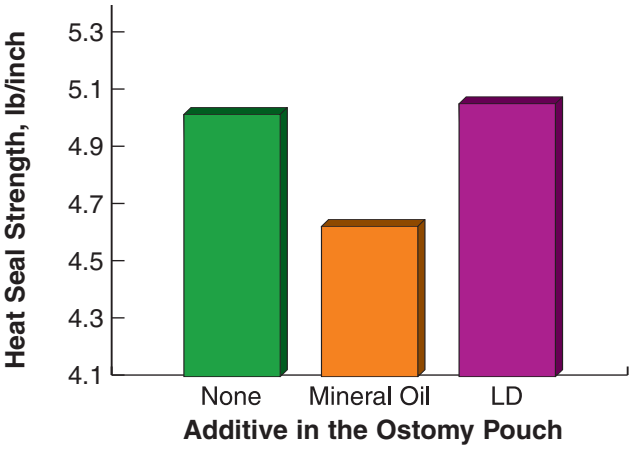
The lubricating effect of Lubricating Deodorant (LD), (the ability to keep the two walls of the pouch separate) was demonstrated by measuring the dynamic coefficient of friction between the film surfaces. None refers to no additive between the film surfaces.

User Evaluation



The ability of Lubricating Deodorant (LD) to coat the ostomy pouch wall and reduce “pancaking” was surveyed. Approximately 92% of the people responded favorably about the ability of LD to reduce pancaking.

Effect of LD on Ostomy Pouch Heat Seal Strength



Lubricating Deodorant (LD) does not attack and weaken the heat seals of the pouch, unlike mineral oil. The heat seal strength of the pouch treated with Lubricating Deodorant (LD) is comparable to the untreated control (no additive).

Summary and Conclusions:

- Lubricating Deodorant (LD) meets the dual needs of people with ostomies – odor control and ease of emptying the pouch.
- Lubricating Deodorant (LD) reduces "pancaking".
- Lubricating Deodorant does not attack the ostomy pouch material or its heat seals.
- User evaluation survey results match closely with the laboratory test predictions.

As presented at
WOCN Society 38th Annual Conference
Minneapolis, Minnesota June 24–28, 2006

Hollister

Hollister Incorporated
2000 Hollister Drive
Libertyville, Illinois USA 60048
1.800.323.4060

Distributed in Canada by
Hollister Limited
95 Mary Street
Aurora, Ontario L4G 1G3
1.800.263.7400

www.hollister.com