

Abstract:

The importance of maintaining peristomal skin health in ostomy care cannot be overstated. However, maintaining healthy peristomal skin can be a challenge for the patient and the STN. Because skin barriers used to support pouching systems occlude peristomal skin for extended periods, any person with a stoma is at risk of peristomal skin challenges. Despite advances in skin barrier formulations, their ongoing use may inflict certain histological changes including: thickening of the skin, inflammatory cell infiltration, and epidermyolysis (when the epidermis easily detaches from the dermis and forms blisters)¹.

Leakage and mechanical trauma can also directly impact healthy peristomal skin. Leakage leads to contact with stool or urine under the skin barrier leading to PMASD (Peristomal Moisture Associated Skin Damage)¹. This may include irritant contact dermatitis, maceration, and fungal infection. Mechanical trauma from repeated skin barrier removal can result in skin stripping - MARS (Medical Adhesive Related Skin Injury)². Although there may be no visible damage with skin barrier removal, there is constant "exfoliation" of the outer skin layer during repeated removal. This may result in an elevated TEWL (Trans-Epidermal Water Loss) due to layer loss of the stratum corneum.³

This poster illustrates findings from nurses involved in an Australian evaluation of a new ceramide infused skin barrier (CeraPlus, Picture 1)⁷ and its impact on peristomal skin condition.



Picture 1: CeraPlus Skin Barriers⁷ – Flat & Convex

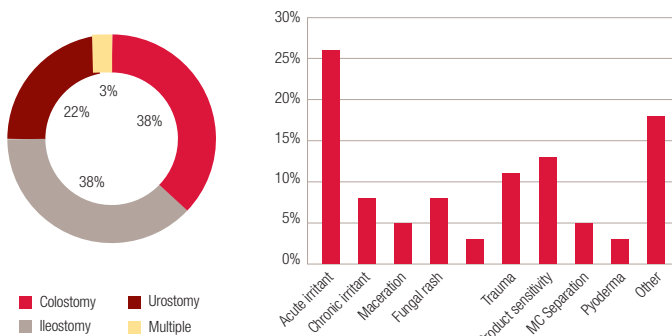
Methodology:

The product evaluation was conducted in Australia using CeraPlus two-piece skin barriers in conjunction with the Ostomy Skin Assessment Tool (DET Score -Discolouration, Erosion & Tissue Overgrowth) for qualitative skin peristomal skin assessment.

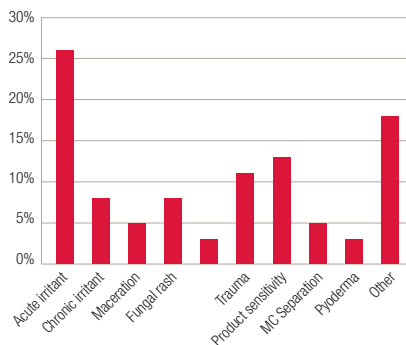
The evaluation program CPEP (CeraPlus Evaluation Program) was part of a larger scale evaluation involving other countries. The data represented here is the Australian data only.

Stomal Therapy Nurses (STNs) were provided with CeraPlus skin barriers and asked to select patients for evaluation as matter of standard care. Patient selection was not randomised and it was an assessment of the clinicians per patient experience using the CeraPlus skin barrier.

Issues of concern for the assessment were: peristomal skin condition as assessed using DET Score and qualitative rating (pre and post use), reasons for removal, average change frequency, likelihood of continued use, satisfaction with the barrier, and any changes in accessory usage.



Picture 2: Stoma Type

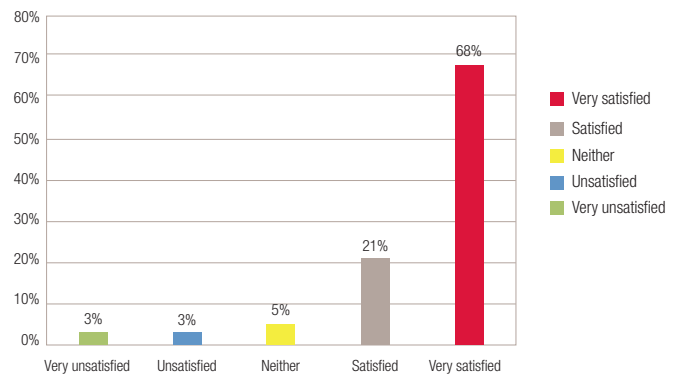


Picture 3: Diagnosed Peristomal Skin

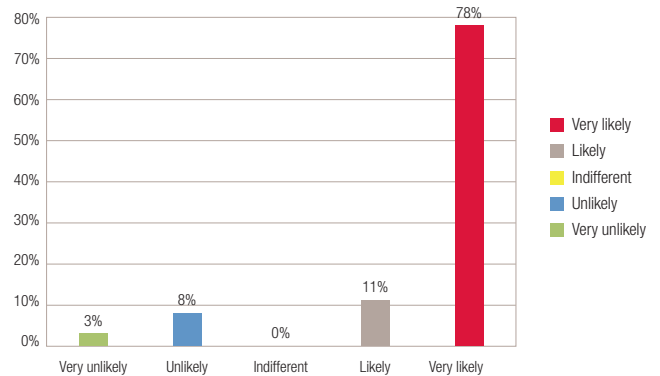
References: 1. Source: Web Dictionary. 2. Gray M, et al. Peristomal Moisture-Associated Skin Damage in Adults with Fecal Ostomies. JWOON 2013. Jul-Aug;40(4):389-99. 3. McNichol L, et al. Medical Adhesives and Patient Safety: State of the Science. JWOON Vol. 40 No. 4 July/August 2013 p.367. 4. Page A. Understanding Skin Barriers. Ostomy Wound Management.55:5, pp. 10. May 2009. 5. Murahata, R, Taylor, M, Darnia, J., Houser, T., & Grove, G. Studies on Skin Biophysics and Ostomy Skin Barriers: Comparison of Peel Force Measurements and Skin Structure between Peristomal and Normal Surrounding Skin. Hollister Incorporated. 2009 (poster presentation WOCN). 6. Codrich, L, Lopez, O., de la Maza, A. and Parra, J. Ceramides and Skin Function. American Journal of Clinical Dermatology;4: 2, pp 107-29. 2003. 7. Hollister, logo & CeraPlus are registered trademarks of Hollister Incorporated, Libertyville, Illinois, USA. Data on file. 8. Coloplast, Ostomy Skin Assessment Tool, & DET Score are registered trademarks of Coloplast A/S, Humlebaek, Denmark. Trademarks: Hollister & Logo are all registered trademarks of Hollister Incorporated, Libertyville, IL, USA. AUH065.

DET Scores					
	Mean	Standard Deviation	Lower 95% CL for Mean	Upper 95% CL for Mean	Statistical Significance
DET Prior to CeraPlus	3.71	3.27	2.51	4.91	
DET Post to CeraPlus	1.97	2.83	0.93	3.01	
Change in Score	1.74	2.92	0.67	2.81	
					p = 0.0042

Picture 4: DET Scores Pre & Post CeraPlus Use



Picture 5: Satisfaction with CeraPlus Skin Barriers



Picture 6: Likelihood of continued use of CeraPlus Skin Barriers

Conclusions:

DET Scores overall showed statistically significant improvements in peristomal skin condition after using CeraPlus skin barriers infused with ceramide. (See Table Picture 4)

Ceramide is a natural component of human skin that plays a critical role in skin health. Ceramides and other lipids link the cells of the epidermis to form a waterproof protective barrier that can minimise the impact of the external environment and assist in preventing TEWL.^{3, 4} Studies show ceramide levels are abundant in healthy skin, but lower in damaged or diseased skin.⁵

Clinicians in Australia involved in this evaluation experienced good results during this evaluation so much so they were very likely or likely in 89% of cases to continue to use CeraPlus for these patients (See Graph Picture 6). This rate would likely have been even higher as verbatim feedback on evaluation forms indicated continued use if had been made available in a one-piece product offering.