Intraoperative Use of a Ceramide Infused Soft Convex Ostomy Skin Barrier to Address Post-operative Leakage: A Case Series

Rosemary Hill, RN, BScN, NSWOC, WOCC(C)

Statement of Clinical Problem

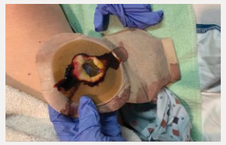
In my practice I have been observing more recently that within 24-48 hours post-operatively, leakage of effluent frequently occurred under a flat ostomy barrier, which could then come into contact with the midline incision.

Leakage of stomal effluent is also a significant risk factor in the development of peristomal skin complications (PSCs). PSCs are associated with impairments in physical function, multiple components of health related quality of life, and higher costs.[1]

LEAKAGE WITHIN **24-48 hrs**

Description of Past Management

Standard practice included application of flat ostomy skin barriers in the operating room for patients undergoing ileostomy, colostomy and urostomy surgery.



New Clinical Approach

A recent convexity consensus publication concluded that "a convex ostomy pouching system can be safely used regardless of when the stoma was created".[2]

A decision was made to apply a ceramide infused soft convex skin barrier, with a slim barrier ring, on all ostomy patients in the operating room.

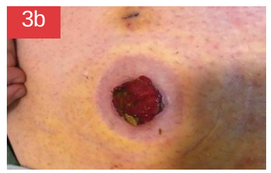
A case series of seven patients (2 urostomy, 4 ileostomy, 1 colostomy) was undertaken at a large teaching hospital in Western Canada. Ages ranged from 55 to 85 years old with varying etiologies including Crohn's, diverticular disease, rectal cancer, bladder cancer and pancreatic cancer.

Case Study 1-2

Two patients with a **urostomy** were the first to receive a ceramide infused soft convex skin barrier with a slim barrier ring (1a) in the operating room (1b). Image 1c shows healthy peristomal skin post stent removal (images for case 2 not shown).

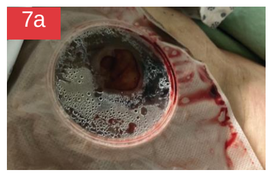
Case Study 3-6 Four ileostomy patients.

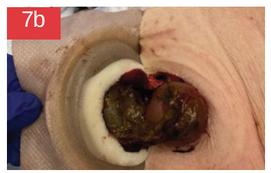
Case 3: Patient with a BMI of 46, which puts them at a higher risk for PSCs[3], on POD 1 (3a) and with no mucocutaneous separation noted on POD 3 (3b). **Case 4**: High output in OR (4a) and the back of the skin barrier on POD 3 (4B) **Case 5**: End stoma during surgery in OR (5a) and after surgery in OR (5b). **Case 6**: End stoma during pouch change, on POD 3 (6a) and with creases and folds, on POD 3 (6b).



Case Study 7

A patient who had an abdominal perineal resection with a **colostomy** on POD 1 (7a). No leakage was noted on POD 3 (7b). Patient went home seven days later without any episodes of leakage.





Patient Outcomes

By changing my clinical approach to using a ceramide infused soft convex skin barrier, with a slim barrier ring, on all ostomy patients immediately post op, **no evidence of leakage was noted**.

All patients exhibited intact peristomal skin during the first barrier removal which occurred during post operative period.

Conclusion

Based on the outcomes presented in these cases, it is my observation that the use of a ceramide infused soft convex skin barrier, with a slim barrier ring, can help to prevent leakage which can cause peristomal skin complications.

These case studies represent individual nurse/patient experience and are not intended to suggest all patients will obtain the same experience/results.

INCREASED WEAR TIME

Vancouver Coastal Health

References:

1. LeBlanc K., Whitely I., McNichol L., & Gray M. (2019). Peristomal medical adhesive-related skin injury: Results of an international consensus meeting. Journal of Wound, Ostomy and Continence Nursing, 46(2), 125-136.
2. Colwell J. et al. Use of a Convex Pouching System in the Post Operative Period. A National Consensus. JWOCN 2022;49(3):240-246.
3. Braumann C., Muller V., Knies M., et al. (2019). Complications after ostomy surgery: Emergencies and obese patients are at risk. Data from the Berlin Ostomy Study (BOSS). World J Surg., 43(3), 751-757.

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