



Perianal Maceration in Pediatric Ostomy Closure Patients

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Introduction

- Perianal dermatitis is one of the main postoperative complications of ostomy reversal in ages three years and under.
- In 2019 at UPMC Children's Hospital of Pittsburgh, there were ($n=30$) ostomy closures ages three years and under.
 - 15 of the 30 patients (**50%**) had severe diaper dermatitis that required additional intervention despite the use of Stoma Powder, 3M No-Sting, Critic-Aid Thick Barrier Paste, and homemade water wipes postoperatively.
- Applying stool from the stoma bag to the perianal area preoperatively to condition the skin is a suggestion made by surgeons/support groups.
- Presented as a preventative measure.
- No evidence supports this practice, yet it's being done.
- Lack of research and utilization of anecdotal evidence is problematic.
- Further high level research is needed to identify the best prevention practice.

Literature

- Diaper dermatitis is one of the most common skin complications in infants, yet there are limited evidence-based interventions on prevention.²
- Diaper dermatitis often affects healthy children; however acutely and chronically ill children may be at a higher risk.⁴
- Neonates, particularly premature neonates, are at a greater risk.³
- There is no specific treatment for perianal dermatitis.¹
- There were no studies related to applying stool preoperatively in pediatric ostomy closure patients to condition the perianal skin.
- There is a process called the "hardening phenomenon," which is adaptation of the skin to repeated exogenous irritants.⁵
- Fecal contents/consistency affect perianal skin permeability, such as elevated pH and activation of fecal lipase.¹
- Increased excretion of electrolytes (Na/Cl/Ca) in loose stools.⁷

Design/Methodology

- Design:** Quasi-experimental, descriptive, pilot study using a 2 group comparison design including an intervention & control group. Registered clinical trial.
- Sample:** Convenience; Ostomy closure patients ages 3 years & under, colostomies & ileostomies.

Intervention ($n=2$)	Control ($n=4$)	Both ($n=6$)
Applied stool from the stoma bag to the perianal area 3-4 weeks prior to ostomy closure, twice daily, for 10 minutes at a time.	Did not apply stool from the stoma bag to the perianal area preoperatively.	Received standard of care postoperatively: <ul style="list-style-type: none">3M No- StingStoma PowderCritic-Aid ThickHomemade water wipes

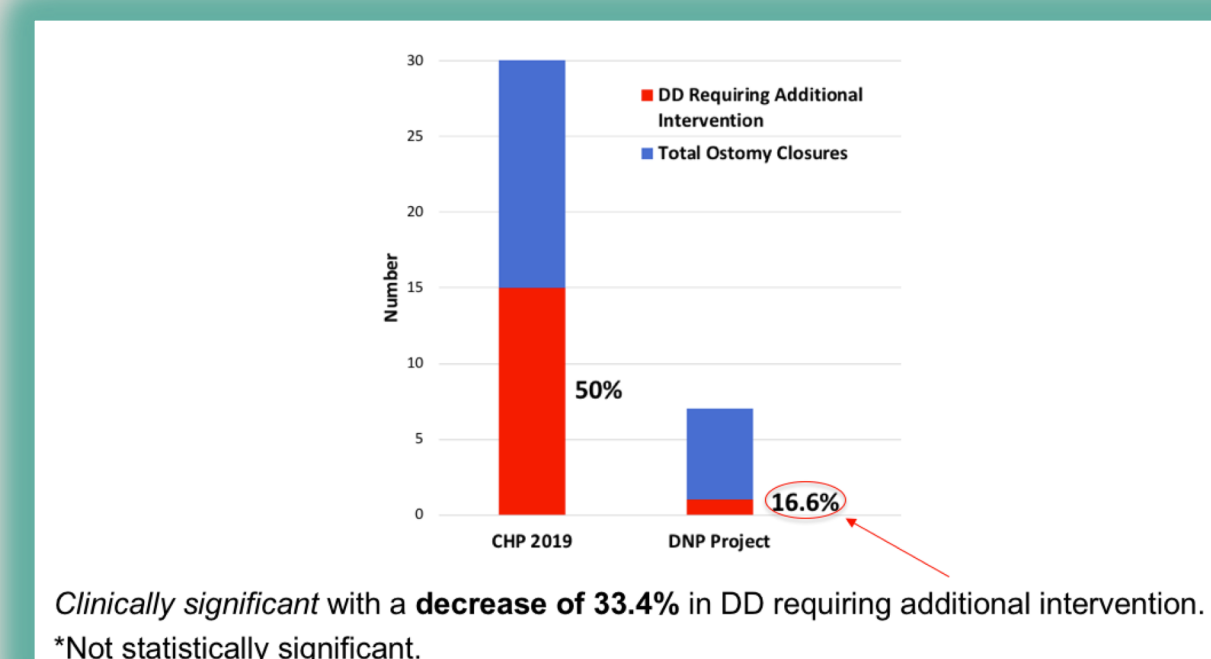
- Instruments:** A validated diaper dermatitis scale to score perianal skin preoperatively & postoperatively. Performed a retrospective chart review.
- Assignment:** Intervention or control group via every other technique to keep a 50/50 sample.



Results

Intervention			Control & Intervention		
Postoperative Findings of Intervention Group: Inpatient vs Outpatient			Postoperative Findings of Control, Intervention, and Both Groups		
Inpatient ($n=1$)	Outpatient ($n=1$)	Both ($n=2$)	Control ($n=4$)	Intervention ($n=2$)	Both Groups ($n=6$)
Compliance (%)	94	96	95	100	100
Who Applied It (%)					
Nurse	100	0	50	100	100
Parent	0	100	50	100	100
Time on Buttocks in Minutes (M)	10.00	10.11	10.05	100	100
DD Score Preop (M)	0	1.16	0.58	0	50
DD Score Postop (M)	0.63	1.86	1.24	0	43

Diaper dermatitis score postoperatively in both groups ($n=6$) was < 1 (0.70).
Clinically significant not statistically significant.



Conclusion

- The intervention group had a higher postoperative DD score than the control group, however limited by small sample size.
- Only 1 out of 6 patients had perianal maceration related to suspected *Candidiasis* infection.
- No occurrence of preoperative DD requiring additional intervention in the intervention group.
- 95% compliance overall with performing intervention.
- Implications for Clinical Practice/Further Research**
 - The potential to change practice/improve patient outcomes.
 - Increases prioritization of skincare in this patient population.
 - Supports nurse practitioners to engage in interprofessional practice.
 - Fosters a culture of evidence based practice.
 - Larger sample size is needed.
- This pilot study could lead to larger randomized control trials and a multicenter study.

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Received permission to use scale from author, Brian Buckley.

Other references available upon request.

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