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### Perineal Skin Care for Patients With Frequent Diarrhea or Fecal Incontinence

HAUGEN, VICKI BSN, RN, OCN, CETN

#### Author Information

About the author: Vicki Haugen, BSN, RN, OCN, CETN, is an ET Nurse at Fairview Southdale Hospital in Edina, Minnesota.

Received September 4, 1996. Accepted February 24, 1997.

Address correspondence to: Vicki Haugen, BSN, RN, OCN, CETN, ET Nurse, Fairview Southdale Hospital, 6401 France Avenue South, Edina, MN 55435.

#### Abstract

In this article, the author presents an overview of normal skin and a description of perineal skin injury. The focus is to identify the goals for treatment for persons with frequent diarrhea or fecal incontinence as it relates to their perineal skin care. Specific algorithms for acute care and ambulatory settings are defined, and two case studies are presented. The treatment goals include evaluation of and recommendations for reviewing and choosing perineal skin products.

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#### Intended Audience

This independent study offering is appropriate for nurses engaged in any aspect of gastroenterology or endoscopy nursing.

#### Objective:

After reading this article, the learner should be able to identify how he/she will apply what was learned into his/her practice.

Many patients suffer painful skin injury related to multiple causes of frequent contact with stool. Diarrhea or fecal incontinence can occur with inflammatory bowel disease, influenza, infection (especially *Clostridium difficile*), ileal anal reservoir, diabetes, liver failure, cancer therapies, gastrointestinal bleeding, and multiple others. Healthcare professionals need to be knowledgeable about products and treatment protocols for patients in both the acute care and ambulatory settings. In this article, the author reviews the mechanisms that injure the skin, offers a specific algorithm and recommendations for treatment, and presents two case studies of perineal skin care-related problems with diarrhea and fecal incontinence.

#### NORMAL SKIN

It is important to understand the characteristics of normal skin so that perineal skin injury can be treated. Healthy skin is the first protective mechanism against trauma or disease. It functions to regulate temperature, excrete waste, provide input for sensation, synthesize vitamin D, and is of important cosmetic value. The skin of an average adult covers about 3,000 square inches. Skin weighs about 6 pounds and receives one third of the body's circulatory blood volume (Bryant, 1992). It forms a protective barrier from the external environment while maintaining a homeostatic internal environment. Skin is capable of self-regeneration and can stand limited mechanical and chemical assaults (Bryant, 1992). The skin is divided into three layers: the epidermis, the dermis, and the subcutaneous tissue (Habif, 1990). The outermost layer, the epidermis, is avascular and is composed of stratified squamous epithelium (Bryant, 1992). The dermis is the thickest layer. It is composed of collagen and elastin proteins that provide the supporting matrix for the epidermis (Bryant, 1992). The subcutaneous layer, the hypodermis, attaches the dermis to the underlying structures (Bryant, 1992). The dermis ranges from 0.3 millimeters to 3.0

millimeters (Habif, 1990). The thinness of these layers makes it easy to understand why loss of these protective tissues is of such concern with skin damage from frequent stool content.

The skin also needs to maintain an acid mantle with a pH between 4 and 6.8 to discourage infection from bacteria. Skin must also retain moisture to prevent cracking and fissures (Fiers, 1996).

There are expected changes in the skin as aging progresses. These include a loss of oils, loss of subcutaneous fat, and loss of elasticity. In young adults, epidermal turnover takes about 21 days, but by 35 years of age, this turnover time is doubled. Barrier function is reduced and can increase the risk of irritation (Bryant, 1992). There is both a slower immune response and healing process (Fiers, 1996).

## SKIN INJURY

Frequent or repeated contact with diarrhea or fecal incontinence of liquid stool damages the perineal tissues if they are not properly protected. Pain, erythema, and stripping of the epidermis can happen fairly rapidly. Patients need prophylactic care and expedient treatment if they suffer from perineal skin exposure to liquid stool.

An individual's skin may be exposed to a variety of substances that are moist: urine, stool, perspiration, or wound drainage. Although these substances may contain factors other than moisture that irritate the skin, moisture alone can make the skin more susceptible to injury (Agency for Health Care Policy and Research [AHCPR], 1992).

Moisture and friction between the skin surfaces of the perineum compound the problem. Also, if there is a mixture of urinary and fecal incontinence, the release of ammonia from urea reactivates the proteolytic and lipolytic digestive enzymes that then further injure the perineal skin (Fiers, 1996). Although the focus of this article is the topical protection and treatment of the skin, it is imperative that the cause of the liquid stool be identified and treated as effectively as possible. No protection can ever be as successful as removing the irritant itself.

## GOALS FOR TREATMENT

Frequent stooling requires frequent cleansing. Repeated contact with soap and water can actually dehydrate the skin. Choosing an appropriate cleansing product depends on an understanding of the pH of the skin. Products that fall within the pH acid mantle range of 4 to 7 will not disturb the integrity of the skin. More alkaline products or solutions require the skin to be able to recover its normal state. This process is even slower in older patients (Fiers, 1996).

Many skin care manufacturers make no-rinse skin cleansers. These can be soothing and effective. Generally, these skin cleansers have surfactants that help emulsify and loosen stool to cleanse the skin. Check with the manufacturer's representative or product literature to determine the pH of the product. Common soaps that fall within the pH range of 4 to 7 are Dove Soap and Body Wash (Lever Brothers Company, New York, NY) and Johnson's Baby Bath (Johnson & Johnson, Skillman, NJ) (Fiers, 1996). Many ambulatory patients are helped by a warm, not hot, tub bath. They also may wish to use premoistened, alcohol-free towelettes rather than toilet tissue.

Cleaning and maintaining the moisture of the skin are primary but just as important is protecting the skin with a barrier cream or ointment. Patients with frequent stooling cannot possibly maintain pain-free, intact skin if it is untreated long enough. Preventing skin injury with onset of symptoms is much more effective for cost and quality of life than waiting to treat injured skin. A range of products from off-the-shelf pharmacy-type products to medical supplier-type products can be tried. There are petroleum- or cream-based products and thicker, paste-like products. Finding a balance between a reasonably priced product that is effective in appropriate applications is the challenge for a quality and overall cost-effective product. Hospitals and clinics can easily get samples to try with patients by contacting the manufacturing company. Trying several different types of products with different types of patients allows a broader base from which to make a decision. The products stocked in a hospital or clinic may be different from the ones recommended to the ambulatory population depending on institutional contracts, access, and cost per unit of supply. It may be possible to stock only a small number of products in an acute care setting, but it is helpful to provide several types of products for the ambulatory patient, guidelines regarding accessibility, and characteristics of each.

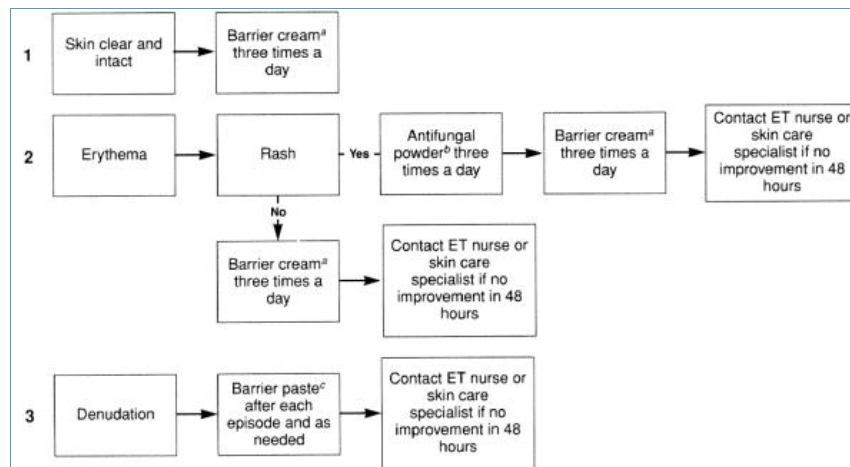
In the acute care setting, frequent diarrhea or incontinence of liquid stool along with the mechanical injuries of pressure, shear, or friction compounds the damage to the skin and highlights the need for proper interventions. The amount and the length of pressure to the perineal area need to be relieved with proper positioning or support surface therapy such as a pressure-reducing bed or overlay. The frequently repeated trauma of shear and friction as the patient shifts in bed or the chair needs to be decreased as much as possible. Using lift sheets for transfer decreases shear. Keeping the head of the bed less than 30 degrees reduces shear and is the goal of the AHCPR set for bedridden

patients (AHCPR, 1992). The use of a transparent dressing or a petroleum product on the sacral area can also decrease friction to the buttocks region (AHCPR, 1992).

Absorbent pads, diapers, or underpads will help wick liquid stool away from the body tissues. In the acute care setting, an open, disposable diaper or a reusable absorbent underpad can be a more absorbent wick than the frequently available blue, plastic-type disposable underpads with the thin, white absorption layers. Many times, these particular pads are purchased because they are economical, but they are essentially like wrapping your patient in a plastic sheet, which increases the moisture and the irritation to the skin. There are many disposable underpads on the market, however, that provide a wicking layer between the patient and the protective under layer. These products can be used in both the acute care and ambulatory settings. Outpatients can purchase them through local medical suppliers. Choosing a particular absorption product can be of significant benefit if it properly wicks fluids away from the perineal tissues.

## TREATMENT

The algorithm in Figure 1 was developed for an acute care 300-bed hospital for the treatment of diarrhea and fecal incontinence. The specific products are listed, but the algorithm itself is a genetic decision tree. The nursing staff learned about the algorithm in an inservice class and then the algorithm was incorporated into the hospital's skin care guidelines.



\*Sween Baza® Pro Cream, Coloplast Corporation, Marietta, GA.

†Criticaid® Paste, Coloplast Corporation, Marietta, GA.

‡Micro-Guard® Powder, Coloplast Corporation, Marietta, GA.

Figure 1. Acute care: Topical perineal skin care for diarrhea/incontinence.

These acute care indicators were used to develop written guidelines for the ambulatory setting (see Table 1). These can be used with patients in outpatient and clinic settings as well as for community education classes. The guidelines can be explained to patients and given to them as a handout.

Skin Condition	Skin Care
<ul style="list-style-type: none"> <li>• With or without mild redness or chafing</li> </ul>	Use barrier cream <sup>a</sup> two times a day
<ul style="list-style-type: none"> <li>• Redness or minimal open, weepy skin lesions</li> </ul>	Use barrier paste <sup>b</sup> after each leakage episode or with pad changes; reapply as necessary
<ul style="list-style-type: none"> <li>• Rash but no open areas</li> </ul>	Use antifungal powder <sup>c</sup> and cover with barrier cream <sup>a</sup> three times a day; if no improvement in 2 days, seek medical attention

<sup>a</sup>Sween Baza<sup>®</sup> Pro Cream, Coloplast Corporation, Marietta, GA.  
<sup>b</sup>Criticaid<sup>®</sup> Paste, Coloplast Corporation, Marietta, GA.  
<sup>c</sup>Micro-Guard<sup>®</sup> Powder, Coloplast Corporation, Marietta, GA.

Table 1 Ambulatory/Community Care: Skin Care Recommendations for Persons With Diarrhea/Incontinence

## CASE STUDIES

Two case studies are presented to illustrate the results of using these prevention and treatment guidelines.

### Case 1

This first case describes a prevention protocol used with a patient after the surgical procedure of an ileal and reservoir (Parks Pouch). Patients with a history of chronic ulcerative colitis are candidates for this procedure in which the colon is removed, a reservoir is constructed from the ileum, and connected to the rectal cuff. After surgery, these patients may have 10 to 20 diarrhea stools per day until the reservoir adapts by stretching and absorbing increasingly more water.

David X was admitted to the hospital for a Parks Pouch procedure. He is a single man in his early twenties. After the procedure, David experienced approximately 10 to 12 stools per day. His perineal skin was clear and intact. He was sent home with instructions to apply Sween Baza<sup>®</sup> Pro Cream (Coloplast Corporation, Marietta, GA) three times a day and as needed to protect his skin from contact with stool.

David returned to the clinic 1 week later. He continued to have approximately 10 stools per day. He has had no problems with incontinence or pain in the perineal area. His skin remained clear and intact. He was instructed to continue the Sween Baza<sup>®</sup> Pro Cream three times a day.

One month later, David returned for his final appointment. At this time, he was having an average of six stools per day. The stools had changed from a liquid to a mushy consistency. He never experienced skin breakdown related to the frequent liquid stooling. The barrier cream was discontinued.

### Case 2

The second patient had very severe skin injury from both fecal incontinence and a *Candida* infection before the enterostomal therapy (ET) nurse was called for a consultation. The patient was a 68-year-old woman with a postbowel rupture who underwent emergency surgery. She had a recent history of *Candida albicans* infection before admission to the acute care hospital. She was alert but weak and unable to control her bowels after surgery.

In addition to her fecal incontinence, she occasionally had periurethral leakage around her urinary catheter. The following scenario shows her treatment and progress.

On the first day of the ET nurse's consult, Mabel Z presented with intense erythema of the perineal and perirectal areas extending up the gluteal fold. A candidiasis rash with satellite lesions extended over both buttocks. She had frequent liquid stool incontinence and occasional periurethral urine leakage. Instructions were given to

cleanse the area, apply Micro-Guard® Powder (Coloplast Corporation, Marietta, GA), which is an antifungal powder, dust off the excess, and then apply a layer of Sween Baza® Pro Cream. This was to be repeated three times a day and with each incontinent episode.

By the next day, Mabel's rash was 75% resolved. There was slightly less erythema, but demarcated skin lesions had appeared. The peri area was painful when exposed to air or touched. The frequency of the treatment protocol was increased to four times a day and as needed.

On the third day, the rash had resolved entirely. Erythema was primarily present in the perirectal area. The skin lesions had healthy granulation wound bases. When seen on the fourth day, the patient's erythema had resolved, the pain had decreased, and the skin lesions were 50% healed with new epithelial tissue.

The last ET consult was done on the fifth day. The treatment protocol was maintained to prevent recurrent candidiasis and future skin injury from incontinence.

## CONCLUSION

The most important effort in preventing or treating skin injury for liquid stool contact is to eliminate or control the cause. The priority beyond that is the appropriate use of products to prevent actual tissue damage. Should injury occur, multiple products and selective intervention regimens can restore the integrity of the perineal skin and improve the quality of life for patients.

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## IMAGE GALLERY

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Table 1

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