

Understanding peristomal skin complications

Using the Ostomy Skin Tool, clinicians may be able to detect these complications earlier, improving quality of life for ostomy patients.

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Any patient with a fecal or urinary ostomy may experience complications on the skin surface around the stoma. These complications may occur lifelong, although they're more common during the first 5 years after the initial ostomy surgery. Causative factors include infection, trauma, certain diseases, and chemical irritation; most of these problems stem from the pouching system or pouch leakage.

Peristomal skin complications can cause a wide range of signs and symptoms, from skin discoloration to polyp-like growths, from erythema to full-thickness wounds. They can lead to discomfort, pain, poor self-image, social isolation, and impaired quality of life, not to mention additional care costs.

Incidence and types of these complications are hard to compare or contrast across multiple patients. Until recently, no standardized assessment or documentation tools were available to characterize or define complications. For this reason, reported rates ranged widely, from 10% to 70%. And because no designated common language or categories related to peristomal skin complications existed, documentation was inconsistent.

Ostomy Skin Tool

In the late 2000s, a group of nurses experi-

Download "How to Use" education program for the Ostomy Skin Tool



enced in caring for ostomy patients worked with the World Council of Enterostomal Therapists to develop a resource called the Ostomy Skin Tool, which clinicians can use to categorize and describe peristomal skin complications in a consistent, objective manner. The tool also provides a common language for documentation.

The Ostomy Skin Tool has three major assessment domains—discoloration (D), erosion/ulceration (E), and tissue overgrowth (T), known collectively as DET. The DET combined rating ranges from

normal, rated 0, to the worst condition possible, rated 15. Mild DET complications are documented as less than 4, moderate as less than 7, and severe as 8 or higher. (See *Using the Ostomy Skin Tool*.)

The tool describes four categories of peristomal complications:

- chemical irritation
- mechanical trauma
- disease-related complications
- infection-related complications.

Chemical irritation

Chemical irritation can stem from irritants (as in contact dermatitis) or allergic reactions (allergic dermatitis). The most likely cause of chemical dermatitis is effluent leakage (feces or urine) from the colostomy, ileostomy, or urostomy, in which effluent comes in contact with peristomal skin. Other potential causes include contact with soap, certain adhesives, and adhesive removers.

The major treatment of chemical irritation is identification and removal of the offending agent, followed by patient and caregiver education on the new pouching procedure the patient must use. Follow-up assessment also is recommended. In a 2010 study that followed 89 patients for 1 year after ostomy surgery, about 50% of subjects experienced peristomal skin complications, most of them from pouch leakage. Another investigator estimated that 85% of ostomy patients experience pouch leakage at some time during their lives. Pouch leakage usually occurs when stool is extremely liquid (for instance, ileostomy effluent). Other causes of pouch leakage include wearing a pouch more than half full of effluent and abdominal contours that aren't level. Besides changes in the pouching system, treatment may entail adding products to the pouching system or removing certain agents.

Some patients experience allergic dermatitis in reaction to products used in the pouching system (such as skin barriers,

Using the Ostomy Skin Tool

This instruction sheet describes how to use the Ostomy Skin Tool to evaluate the condition of peristomal skin.

How to use this tool

- 1 Examine the peristomal skin (not the mucosa) and evaluate the skin based on the descriptions in the three domains.
Maximum points in each domain:
 - 3 points for the size of the affected area
 - 2 points for the severity.
- 2 Assess the size of the area affected and score based on the key (at bottom). Assess the severity in each domain using the definitions and the photographs as a guide.
 - If the area score is 0, then the severity score within that domain will automatically be 0 as well.

Domain 1: Discoloration

Estimate the size of the area affected by discoloration (score 0-3). If the patient has no discoloration at all, the skin is normal and the total score will be 0.

- If the patient has discoloration, assess the severity (score 1 or 2).

Domain 2: Erosion

Estimate the size of the area affected by erosion (score 0-3). If the patient scores 0, move on to domain 3.

- If the patient has erosion, assess the severity (score 1 or 2).

Domain 3: Tissue overgrowth

Estimate the size of the area affected by tissue overgrowth (score 0-3). If the patient scores 0, the total score can now be calculated.

- If the patient has tissue overgrowth, assess the severity (score 1 or 2).

3 Calculating the total score

- Calculate the total score by adding all of the scores from each domain together.
- Please go through the descriptions for each score in the scoring system every time you assess a patient.

Area* affected	Score	
Unaffected	0	*Area is defined as the peristomal skin area that is covered by the skin adhesive (e.g., <25% affected area implies that less than 25% of the adhesive area is affected).
<25%	1	
25-50%	2	
>50%	3	

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Using the crusting technique

If your patient's peristomal skin is denuded or the ostomy appliance (skin barrier) won't adhere to the skin, try the crusting technique. This method involves use of a skin-barrier powder to absorb moisture from macerated or excoriated peristomal skin and enhances adherence of the skin barrier to peristomal skin. Follow these steps:

1. Clean denuded or excoriated skin with water or a skin cleanser; avoid using soap.
2. Let the skin dry.
3. Sprinkle a skin-barrier powder (such as karaya gum or Stomahesive® powder) onto denuded or excoriated skin. In patients with fungal infections, you may use an antifungal powder instead.
4. Allow the powder to adhere to the moist skin to form a crust.
5. Dust excess powder from the skin.
6. With a blotting motion, apply a polymer skin barrier (such as an alcohol-free skin sealant or a polymer skin-barrier wipe) on top of the crusted area.
7. Allow the area to dry.
8. Repeat steps 3 to 6 two to four times to achieve a crust.
9. Apply an appropriate ostomy appliance (pouch) on top of the crust.

belts, pouch closures, or adhesives). However, allergic dermatitis is rare. One 2010 study suggested allergic reactions to these products occur in only about 0.6% of patients with peristomal skin irritation. Most major ostomy product manufacturers provide a patch test on request to help identify allergic conditions. Once the offending product is discontinued, allergic dermatitis should resolve rapidly.

Mechanical trauma

Mechanical trauma usually results from either the pouching system itself or its removal. It also may result from harsh or multiple skin-barrier removals, pressure from convex rings or pouches, and abrasive cleansing techniques. Some researchers believe the stronger the adhesive barrier and the more often a pouch is changed, the greater the risk of epidermal damage.

Mechanical trauma may present as a partial-thickness ulcer caused by pressure, shear, friction, tearing, or skin stripping. Patients with fragile skin are susceptible to mechanical trauma, so less aggressive pouching systems may be preferred for them. Of course, if the pouching system is changed, the patient or caregiver needs to learn about the new system.

Disease-related complications

Disease-related peristomal complications may be linked to preexisting skin conditions, such as psoriasis, eczema (atopic dermatitis), or seborrheic dermatitis. Hyperplasia also may occur. This overgrowth of cells, which may appear as gray or reddish brown pseudoverrucous lesions, usually is linked to urinary ostomies, although it can occur with fecal ostomies as well. Vinegar soaks are the recommended treatment, in addition to a change in the pouching system and corresponding patient education.

Occasionally, other disease-related complications occur, including primary adenocarcinoma of the peristomal skin and peristomal pyoderma gangrenosum, a painful and problematic condition that presents as peristomal ulcers. Ulcer borders are well-defined with a bluish purple coloration at the edges. Infection must be ruled out, as this condition usually is linked to an autoimmune condition. Treatment includes pain management and, in most cases, a topical corticosteroid. Crohn's disease also may manifest as a peristomal skin ulcer.

Infection-related complications

Infection-related complications may be bacterial or fungal. Two common peris-

tomal skin infections are folliculitis and *Candida* fungal infections. An infection of the hair follicle that causes pustules, folliculitis usually stems from traumatic hair pulling in the peristomal area during pouch removal. It may warrant a prescribed antibiotic, along with patient teaching regarding proper hair removal using an electric razor.

Candida infections may arise because peristomal skin provides a warm, dark, moist environment that promotes fungal growth. These infections appear as erythema with pustules or papules and satellite lesions. Treatment usually involves antifungal powder and use of the crusting technique to secure the pouching system. (See *Using the crusting technique.*)

Management

Many complications are well advanced by the time patients seek assistance, perhaps because they don't understand the significance of their symptoms and think they can manage the problem themselves. In some cases, they don't know where to turn for assistance. Commonly, the complication progresses to the point where the patient goes to the emergency department or (particularly during the immediate post-operative period) needs to be readmitted for treatment. The best way to manage peristomal skin complications is to prevent them in the first place. (See *Preventing peristomal skin complications.*)

Patient education

Over the past 20 years, hospital stays for ostomy surgery patients have decreased from about 2 weeks to less than 5 days. Reduced stays decrease the time available for caregivers to teach patients and family members how to empty and change the pouch. They need alternative education covering (among other topics) how to recognize peristomal skin complications and when to seek help. Not only do these complications require vigilant self-observa-

Preventing peristomal skin complications

Prevention is most effective when a trained ostomy specialist routinely:

- assesses peristomal skin
- evaluates the pouching system, including checking for undermining of the skin barrier to identify possible leakage
- provides patient and caregiver education.

tion, but many patients don't understand their implications or how rapidly they can worsen. In some cases, the first symptoms are itching and redness under the skin barrier. Fortunately, some patients may know or remember that itching, burning, stinging, reddened, or weeping peristomal skin requires professional attention. They can avoid serious complications by seeking assistance early, such as right after noticing pouch leakage.

Early treatment can reduce the cost of treatment. In a 2012 study, researchers estimated care costs related to peristomal skin complications for a 7-week treatment period, using the Ostomy Skin Tool as a reference. Severe complications (those with a DET score above 8) cost six times more to treat than mild cases (those with a DET score below 4) and 4.5 times more than moderate cases.

Along with early intervention by a trained ostomy care specialist, self-assessment by ostomy patients promotes a better quality of life, reduces pain, and may de-

Over the past 20 years, hospital stays have decreased from about 2 weeks to less than 5 days.

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Topics include:

- *C. difficile* in pediatrics and skilled nursing facilities
- pathogenesis and changing epidemiology of *C. difficile* infection diagnosis
- environmental control
- new and emerging technologies
- tools and examples to help apply preventative measures, such as hand hygiene monitoring, environmental cleaning, and isolation compliance.

2013 Guide to Infection Prevention in Emergency Medical Services

This guide includes infection-prevention standards, regulations, and best practices, as well as instructions, examples, and tools to conduct surveillance and risk assessments.

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crease care costs. Clinicians' use of the Ostomy Skin Tool to assess and document peristomal skin complications promotes more reliable, objective, comparable assessment data for reporting. ■

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Making health care safer

“Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices,” from the Agency for Healthcare

Research and Quality, covers several topics of interest, such as preventing in-facility pressure ulcers, promoting a culture of safety, and human factors and ergonomics. The report lists 22 patient-safety strategies that are ready for adoption. You can **access more information** about these strategies, read a related **special supplement** from the *Annals of Internal Medicine*, and read a thoughtful commentary about the report, **“Treat the system, not the error: Patient safety in 2013.”** ■



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