



## **Peristomal Skin Complications**

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Joy Hooper RN, BSN, CWOCN, OMS, WCC

Wound Care Education Institute

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Wound Care Education Institute (WCEI)  
25828 Pastoral Dr.  
Plainfield, IL 60585

Phone: 855-391-1556

Fax: 877-649-6021

Email: [Info@wcei.net](mailto:Info@wcei.net)

Website's: [www.wcei.net](http://www.wcei.net)      [www.woundcentral.com](http://www.woundcentral.com)

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## Peristomal Skin Complications

Joy Hooper RN, BSN, CWOCN, OMS, WCC

Wound Care Education Institute [www.wcei.net](http://www.wcei.net)

Upon completion of this activity, participants will be able to:

- Identify clinical characteristics of 3 or more peri-stomal skin complications.
- Choose treatment plans for peri-stomal skin complications based upon etiology and clinical characteristics.

### I. Introduction

A. Stoma or Ostomy? —The terms ostomy and stoma are general descriptive terms that are often used interchangeably, though they have different meanings:

1. Ostomy relates to the surgical procedure.
  - a. Ostomy is a term used to describe a general surgical procedure. The surgery creates an alternative exit route from internal organs or segments of the urinary tract, diverting the flow of body waste such as urine and feces to the external surface of the body. Where and how the opening is created depends on the pathology of the associated disease process. The small intestine, colon, ureter, or bladder is surgically manipulated through an incision in the abdominal wall. The surgical procedure is called an ostomy.<sup>1</sup>
2. Stoma refers to the opening where the bowel or ureter can be visualized protruding through the abdominal wall. The word stoma is derived from the Greek word meaning “mouth” or “opening”. The stoma is the mucous membrane or the lining of the intestine or the lining of the urinary tract that is exposed to the abdominal surface.<sup>1</sup>

### B. Definitions

1. Appliance -refers to the entire containment system, the pouch, and the skin barrier; can be either a one piece or two piece systems; can also come in ‘closed end’ or ‘drainable’ models. Also known as (AKA) pouching system.
2. Pouch –AKA bag (However do not refer to it as a “bag”); designed to catch and contain stoma effluent (stool/urine). The pouch is made of plastic and is held to the body with an adhesive, (skin barrier).
3. Skin Barrier –AKA ‘barrier’, ‘wafer’, or ‘faceplate’; is adhesive; adheres to the skin around the stoma; helps to protect skin from stoma output, and attaches the pouch to the body.
4. Effluent - Terminology used to describe the discharge, output from a stoma; waste material such as fecal matter, mucous, or urine; may be a liquid, solid, or gaseous emission.

### C. What is considered Peristomal skin?

1. Area of skin surrounding the stoma that has contact with skin barrier of the pouching system.<sup>3,4</sup>
2. In adults, this surface area extends out of approximately 4x4 inches (102mm x 102mm)<sup>3,4</sup>

### D. Peristomal Skin Complications

1. Peristomal skin complications have been estimated as high as 57% for patients with ileostomies, 48% with ileal conduits and 35% with colostomies.<sup>5</sup> Of the diagnoses of skin disorders, 77% could be related to contact with stoma effluent.<sup>5</sup>
2. Peristomal skin problems are frequently unrecognized, underreported, and untreated, even in populations with ready access to ostomy specialists.
  - a. Many patients with peristomal complications do not necessarily perceive early signs of skin irritation as problematic.<sup>6,7</sup>
  - b. Herlufsen, et.al. documented that up to 80% of participants with peristomal complications did not seek professional help.<sup>5,6,7</sup>
3. These skin complications and associated symptoms (e.g., pain, irritation, and odor) can significantly interfere with daily physical activities, leading to social isolation, anxiety, depression, reduced quality of life

and the financial burden associated with additional ostomy appliance changes from peristomal skin disorders is substantial.<sup>4-7</sup>

4. Patients who present with a skin complication will usually fall into one of five categories: (as in the mnemonic “MINDS©” proposed by Woo, et.al.)<sup>6</sup>
  - a. M - Mechanical trauma from the ostomy equipment and skin stripping
  - b. I - Infection (bacterial and fungal)
  - c. N -Noxious chemical and irritants including strong alkaline, feces, or urine
  - d. D - Diseases of the skin that are common in persons with ostomies, such as pyoderma gangrenosum, psoriasis, etc.
  - e. S - Skin allergens

## II. Mechanical - Peristomal skin trauma

### A. Results from pressure, friction, or shear<sup>8</sup>

1. A pressure ulcer in the peristomal skin caused from the ostomy appliance, belt, or increased pressure in the peristomal area related to convexity of skin barrier would be considered a medical device-related pressure ulcer.<sup>4</sup>

### B. Contributing factors include:<sup>8</sup>

1. Abrasive cleansing technique
2. Convex pouching systems
3. Ill-fitting pouching system
4. Ostomy belt - appliance belt that is either worn too tightly or does not remain in the 3 o'clock and 9 o'clock position to provide equal support
5. Skin stripping due to improper removal of pouching system
6. Frequent appliance changes

### C. Characteristics

1. Tissue damage can range from partial to full-thickness and may be painful.
2. Margins of lesions usually have irregular borders.
3. If the injury is from skin stripping associated with adhesive removal, the area will present with erythema and some loss of the epidermis.

### D. Management includes:

1. Identification of the causative factor
  - a. Observe technique in removing and applying pouching system and in cleaning the skin.<sup>8</sup>
  - b. Patients may strip their appliance off their abdomen as quickly as possible without supporting the skin.<sup>9</sup>
  - c. Vigorous rubbing of the skin when cleaning to ensure that all traces of effluent are removed, can also lead to damage.<sup>9</sup>
  - d. Difficulty in removing the stoma appliance, which can result in: pulling it too hard causing skin stripping, or “picking” in one area to remove the appliance, resulting in ulceration of that area.
2. Examine the fit of the pouching system.<sup>8</sup>
  - a. Start by looking at the patient’s abdomen with the appliance still on. Observe the patient in different positions. Watch how the appliance changes, moves and molds to the contours of the patient’s shape in these different positions.<sup>9</sup>
  - b. Inspect abdominal contours and look for presence of hernias. (Use of convex pouching systems with parastomal hernia can increase pressure on the skin and lead to ulceration.)<sup>8</sup>
  - c. Inquire about the frequency of pouching system changes.<sup>9</sup>
    - 1) When an appliance is changed too frequently, the outer skin cells (stratum corneum) are constantly being stripped off.
  - d. Observe for a relationship between the injury and specific components of the pouching system.<sup>8</sup>
    - 1) Other pouching accessories that may cause trauma are belts or abdominal binders.

### E. Prevention<sup>4,8,9</sup>

1. Gently cleanse the skin, avoiding scrubbing or “picking” of residual skin barriers, pastes, and other adhesives.
2. Silicone based products

- a. New to USA
- b. TrioOstomy™ – Siltac® Cohesive Seals, Silvex™ Convex Seals, Silvex® Flange Extender, Silken® Silicone Stoma Gel
- c. Benefits
  - 1) Instant adhesion due to low surface energy and high flexibility of silicone polymers
  - 2) No significant change in adhesion over time (cross-linked polymer)
  - 3) Non-absorbent but breathable to moisture
  - 4) Maintains integrity and shape in the presence of feces and urine allowing for one-piece removal – leaves no residue
- d. <http://shop.trioostomy.com/>

- 3. Gently remove pouching system in direction of hair growth. Consider use of adhesive remover. Consider use of skin sealants under adhesives.
- 4. Avoid use of additional adhesives, such as cement and sprays.
- 5. Ensure proper fit of pouching system.
- 6. If belt is used, ensure that it is snug but not too tight. Consider use of a wider belt.
- 7. Reevaluate need for convexity.

#### F. Treatment

- 1. Eliminate causative factor.
- 2. Treat denuded areas under skin barrier by dusting skin with skin barrier powder.
- 3. For ulcerations, consider use of calcium alginates, hydrofiber, or hydrocolloid dressings, before pouching system is applied.<sup>8</sup>
- 4. Avoid use of skin sealants containing alcohol as they will create a burning sensation.
- 5. If the trauma is a result of pressure from pouching products, relieve the pressure by adjusting the depth or firmness of the convexity.
- 6. Some patients will report feeling dirty with feces sitting in the appliance on their abdomen and they only feel clean when they changed the appliance resulting in frequent appliance changes, or over-vigorous removal and cleaning. Consider two-piece appliances, where the skin barrier can be left in place for several days, and the patient can change the pouch as needed, will allow the skin to repair itself in-between skin barrier changes.<sup>9</sup>
- 7. Educate patient/caregiver.
- 8. Develop another pouching procedure and teach the new procedure to the patient and caretaker.<sup>3,10</sup>

### III. Peristomal Candidiasis

- A. Peristomal candidiasis as an overgrowth of a *Candida albicans* of sufficient magnitude to cause an inflammation, infection, or disease on the skin surrounding a fecal or urinary diversion.<sup>11</sup> The warm, moist dark area under the skin barrier nurtures fungal growth.

#### B. Causes

- 1. Excess moisture as result of perspiration under occlusive appliances
- 2. Pouch leakage from an ill-fitting skin barrier or pouch
- 3. Denuded skin
- 4. Pro-longed wear time
- 5. Pre-disposing Conditions/ High Risk<sup>4,11</sup>
  - a. Antibiotic therapy
  - b. Corticosteroid therapy
  - c. Diabetes mellitus
  - d. Immunosuppression
  - e. Myelosuppression
  - f. Use of oral contraceptives

#### C. Characteristics<sup>6,8</sup>

- 1. Candidiasis presents on peristomal skin as a circumferential rash in area of solid discoloration, with either redness or darker pigmentation.
- 2. Extra- follicular papules or pustules may be present.

3. Red papules have a white top. Maceration may occur with satellite lesions common at the periphery.
4. Patients may complain of burning or itching.
5. The area can appear anywhere on the peristomal skin, but is commonly found under the skin barrier or under the pouch itself where it touches the abdomen. The inflammatory margin ends where the skin is dry.

D. Management includes:

1. The goal of care is to identify the cause of moisture.
  - a. Is it from a leak under the skin barrier?
  - b. Excessive perspiration?
  - c. Exercise?
  - d. A change of climate?
  - e. A recent history of antibiotic therapy?
  - f. Are there other areas on the body with similar rashes? Inspect other body areas prone to fungal infection (e.g., axillae, groin, perianal, abdominal skin folds, under breasts, in mouth [appears as white patches], under incisional dressings).
  - g. Predisposing conditions?
2. If the causative factor appears to be leakage under the skin barrier, the stoma should be re-measured and the pouching system evaluated for leakage problems. Once identified, modifications in the system should be made.
3. Following clinical assessment, skin scrapings and culture should be obtained to confirm fungal infection.<sup>6</sup>
4. Topical anti-fungal powder can be dusted on the peristomal skin at each pouch change.<sup>6,8</sup>
  - a. Candida can be effectively treated with nystatin powder which is both fungistatic and fungicidal against a wide variety of yeasts and yeastlike fungi.<sup>6</sup>
  - b. Skin sealants are sometimes used over the antifungal powder to prevent further moisture problems.<sup>6</sup>
  - c. Once the infection has resolved however, the powder should be discontinued.
  - d. Topical anti-fungal creams and ointments should be avoided as their use on the peristomal skin will impede pouch adherence to the skin.<sup>11</sup>
5. In recalcitrant, severe cases, or if more than one body area is involved treatment options may include systemic agents with fluconazole (Diflucan).<sup>6,11</sup>
6. Tightly control blood sugar for patients with diabetes mellitus.<sup>6</sup>

IV. Folliculitis

A. Folliculitis involves the inflammation and often infection of the superficial hair follicle preceded by chemical irritation or physical injury.<sup>6</sup> The most common bacteria are Staphylococcus aureus, streptococci, or pseudomonas aeruginosa.<sup>8</sup>

B. Causes<sup>6,8</sup>

1. Result of shaving the peristomal skin too often or too roughly
2. Ripping the skin barrier from skin
3. Friction and occlusion of hair follicles under the skin barrier
4. Predisposing factors include: Antibiotics, Diabetes mellitus, Immunosuppression

C. Characteristics

1. Isolated pustules, papules, and erythema or darker pigmentation at the hair follicles are present.<sup>8</sup>
2. When pustules are unroofed the resulting moisture may lead to crust formation.<sup>8</sup>
3. May be pruritic and painful.<sup>8</sup>

D. Management includes:

1. Hair should be shaved with an electric razor, as straight-edge razors should be avoided as they tend to cause small nicks and subsequently spread the bacteria.<sup>6</sup> Shaving only with an electric razor should not be performed more than once a week to reduce trauma to the skin.<sup>11</sup>
2. Shave in the direction that the hair grows.<sup>8</sup>
3. Reduction in episodes of shaving by clipping hair above the skin level may also reduce incidence.<sup>8</sup>
4. Alternatively, hair can be removed by chemical depilatory, electrolysis or laser removal but are a risk for skin irritation or allergic reactions.<sup>6</sup>

5. Use of adhesive remover wipes may prevent pulling on hair and reduce manual trauma with gentle pouch removal.
6. Washing the area with antimicrobial soap is advised.<sup>4,10,11</sup>
7. In severe cases, antibacterial powder may be prescribed and sprinkled over the area of inflammation.<sup>8</sup> A possible alternative is the use of controlled-release particles of ionic silver in an alginate powder.<sup>6</sup>
8. Because the rash can take on a similar appearance as candidiasis, cultures may provide the definitive differential diagnosis.<sup>6</sup> If left untreated, extension of infection can progress to more serious problems, such as furuncle (boil) or carbuncle (deep abscess) formation.

#### V. Peristomal Irritant Contact Dermatitis

- A. Irritant contact dermatitis is an inflammatory reaction caused by a chemical – in the case of peristomal irritant dermatitis; the chemical could be soap, solvents, adhesives, or even the stomal output (aka, moisture associated skin damage) most frequently from a poorly fitting pouch or seal.<sup>6,8</sup>
  1. The effluent of ileostomies is strongly alkaline and contains unabsorbed waste products and enzymes that break down protein.<sup>6,9</sup> Protein is a major constituent of the outermost layers of the skin and protects the skin from harmful substances. The stratum corneum is resistant to quite acidic fluid, but it is more vulnerable to alkaline substances.<sup>9</sup>
  2. Urine that is in prolonged contact with the skin will lead to maceration in patients with a urostomy. An alkaline urinary pH of 7–8 can lead to complications with the peristomal skin and stoma, such as stomal bleeding and ulceration.<sup>12</sup>
  3. As many as 50% of patients with a stoma have irritant contact dermatitis after ostomy surgery.
- B. Other causes include poor technique, wearing the pouching system too long, chronic leakage, inappropriate use of tape, adhesives, or skin care products.<sup>13</sup>
  1. Some patients may have difficulty in lining up the aperture with the stoma, and may be placing it off-center, thereby exposing the skin to effluent on one side.<sup>9</sup>
  2. A circumferential ring of denuded skin would indicate that the patient is cutting the aperture in the appliance too large for the stoma, allowing skin to be exposed to fecal or urinary effluent.<sup>9</sup>
  3. Some patients try to use fewer pouches to save money, while others may think that it only needs to be changed when it begins to leak.<sup>9</sup>
  4. Of more concern are the people that find their stoma so abhorrent that they try to ignore it, rather than face changing the appliance.<sup>9</sup>
- C. Characteristics<sup>8</sup>
  1. Well-defined erythema, edema, or loss of epidermis
  2. Papules and vesicles are often present.
  3. Pruritus, redness or darker discoloration, crusting, oozing, or dryness may be present.
- D. Management
  1. Check for pouching system leakage.
  2. Compare size of stoma and opening in the pouching system.
  3. Observe technique in removing and applying pouching system and in cleaning the skin.
  4. Revise pouching system to ensure that the peristomal skin is protected from the drainage from the stoma.<sup>6</sup> Consider correct sizing of pouching system, using convexity or belt, or modification of pouching system.<sup>8</sup>
  5. Patients who experience difficulty lining the aperture with the stoma may find a mirror useful, or a two-piece appliance where they can line the aperture and the stoma up and then clip the bag in place.<sup>9</sup>
  6. Patients should be advised to use warm water (no soap) to clean their ostomies and surrounding skin unless there is retained fecal material or debris that needs to be removed. Burrow's solution (aluminum subacetate solution) is an astringent that can be used to gently remove particulate matter.<sup>6</sup>
  7. Treatment of the damaged skin involves:
    - a. Application of a non-oily steroid cream such as Kenalog.
    - b. Application of a powder skin barrier to absorb the moisture.
  8. If moisture under the appliance is an issue, aluminum chloride hexahydrate antiperspirants can be applied.<sup>6</sup> Examples: Drysol®, Driclor®

#### VI. Hyperplasia *aka* Pseudoverrucous Lesions

- A. This is also known as pseudoverrucous lesions, hyperkeratosis, “dishpan hands, granulomas, chronic papillomatous dermatitis, pseudo-epithelial hyperplasia, exuberant tissue growth, and proud flesh.
- B. Areas or patches of discolored thickened epidermis in the peristomal skin that has an appearance similar to a wart. They may appear as papule, a small, firm lump on the skin or as a nodule.
- C. Causes
  - 1. The most common cause of these lesions is chronic irritation and prolonged skin exposure to urine and moisture resulting in a thickening of the epidermis.
  - 2. It usually results from the use of a pouch that is cut too large for the stoma or patients with high output liquid stool -- from a jejunostomy or ileostomy. Also may occur in the peristomal skin of urostomy patients if the skin is in contact with alkaline urine, flush or retracted stoma.<sup>14</sup>
- D. Characteristics
  - 1. Wart-like papules, nodules, or both, with a white gray or reddish-brown discoloration are present.<sup>8</sup>
  - 2. Lesions develop at the mucocutaneous border and conform to the base of the stoma and stomal opening in the pouching system.<sup>8</sup>
  - 3. May be partial or circumferential.<sup>8</sup>
  - 4. May be painful or hypersensitive.<sup>8</sup>
  - 5. Bleeding from lesions may occur.
  - 6. These appear as a deposit with a crystal-like appearance with urostomy patients.
- E. Management includes:
  - 1. Correctly size the stoma opening in pouching system to minimize skin exposure to drainage and/or minimize trauma to stoma from improperly fitting pouching system.
    - a. Refitting the pouching system to cover the lesions and shortening the pouch change intervals to 3 to 4 days until lesions resolve.<sup>13</sup>
  - 2. Skin barrier powder is used to absorb moisture in the fissures of the lesion; its irregular surface can be covered with strips of extended-wear skin barrier.<sup>13</sup>
  - 3. Although usually not necessary, silver nitrate cauterization may be helpful for lesions that are considerably raised and hemorrhaging.<sup>8,13</sup>
    - a. Chemical Cauterization with Silver Nitrate - Since silver nitrate is a corrosive substance, it should be applied only to tissue to be treated, and care must be exercised both in confining it to the desired area by a suitable barrier such as petroleum jelly or ringed plaster, and in preventing any excess from wandering by covering as necessary afterwards.
    - b. Silver salts stain tissue black due to deposition of reduced silver. The stain gradually disappears within a period of two weeks.
    - c. Excess silver nitrate can be neutralized with 0.9% or stronger saline, and washed away with water.
      - Procedure:
        - 1) Slightly moisten the caustic tip by dipping (tip only) in (preferably distilled or de-ionized) water.
        - 2) Apply the moistened tip to the tissue; two minutes' contact time is typically sufficient (The degree of caustic action depends on the actual quantity of silver nitrate applied, which in turn is governed by the length of time the moistened tip is left in contact with the tissue)
        - 3) To apply to tissue, rub and rotate tip of applicator along tissue to be debrided.
        - 4) Gently clean treated area after application with damp saline gauze. Pat dry to avoid trauma to surrounding tissue.
        - 5) Repeat as needed
  - 4. Use an extended wear skin barrier, if the drainage dissolves the current skin barrier.
  - 5. Urinary diversions/stomas
    - a. Use bedside drainage during hours of sleep for urinary stomas.
    - b. For urinary diversions, increase fluid intake unless contraindicated and consider the use of cranberry juice to reduce the risk of urinary tract infection.
    - c. For urinary stomas, use a pouch with an antireflux valve.
    - d. Maintain the pH of the urine at about 6.0 and providing adequate fluid intake.
    - e. Vitamin C may also be helpful.



f. Use vinegar soaks (half vinegar and half water) to treat hyperplasia around urinary stomas. Apply the vinegar soaks directly to the area of hyperplasia for 20 minutes 2 to 3 times daily until resolved.<sup>8</sup>

6. Use skin barriers made from acidic materials.<sup>6,48</sup>

#### VII. Alkaline encrustations

- A. This is a complication unique to urostomies with crystal-like formation on the exposed peristomal skin of patients with a urostomy. Stoma bleeding can occur when crystals are manipulated.<sup>10,13</sup>
- B. Associated with pseudoverrucous lesions, alkaline urine and/or concentrated urine that pools on the peristomal skin, renal calculi or kidney stones and urinary tract infections.<sup>10,13</sup>
- C. Management of these lesions includes:
  - 1. Ensure that the patient uses a pouching system with an anti-reflux mechanism.
  - 2. Adjustments to the pouching system to control moisture and prevent effluent from leaking on the peristomal skin are necessary. A short wear time is also indicated.
  - 3. Maintaining the pH of the urine at about 6.0 and increasing oral fluid intake and acidifying urine with a maintenance dose of 1g daily of ascorbic acid.<sup>13</sup>
  - 4. Apply a 33% or 50% vinegar soak to the area with pouch change. Apply a vinegar soak during pouch change two times for five minutes and then lightly rub the area to remove the encrustations.<sup>10</sup>
  - 5. If bleeding is problematic, silver nitrate application may be indicated.<sup>6,48</sup>

#### VIII. Peristomal pyoderma gangrenosum

- A. Peristomal pyoderma gangrenosum is an ulcerative autoimmune disease condition. It manifests as extremely painful ulcers that may become full-thickness and excavate under the skin.<sup>6,8,13</sup>
- B. Pyoderma gangrenosum is an inflammatory skin disease with an unknown etiology. However, it has a 50% incidence of occurrence with underlying inflammatory bowel diseases such as Crohn's disease and ulcerative colitis.<sup>6,13</sup>
- C. Characteristics
  - 1. Ulcers present with full-thickness circular, well-defined wounds. They begin as pustules that continue to a full-thickness ulcer. The ulcers may be solitary or multiple.<sup>6,8,13</sup>
  - 2. Ulcer margins are red to purplish, well demarcated, ragged, and irregularly shaped.<sup>6,8,13</sup>
  - 3. There can be undermining, with a boggy, necrotic base and surrounding erythema, bloody and purulent exudate.<sup>8</sup>
- D. Diagnosis is often by exclusion. There is no absolute diagnostic test for PG and the diagnosis is one that is based on a combined assessment of clinical and histological features.<sup>15</sup> Biopsy can exclude other causes but can also act as a pathergy and increase the problem.<sup>8</sup>
- E. Management of peristomal pyoderma gangrenosum:
  - 1. Treatment of pyoderma gangrenosum should address and correct the underlying disease that may involve the active inflammatory bowel disease in patients with ostomies.<sup>6</sup>
    - a. Prescribing clinician should be consulted for management as both topical anti-inflammatory agents and systemic steroid drug therapy may be necessary. See article for detailed medications and doses: *Wu X, Shen B. Diagnosis and management of parastomal pyoderma gangrenosum. Gastroenterology Report. 2013.*<sup>17</sup>
    - b. Local first-line therapy often includes topical or intralesional steroids. The intralesional steroids (e.g., triamcinolone) are injected locally under the surface layer of the skin to decrease the inflammation with relatively minimal systemic adverse effects.<sup>6,8</sup>
  - 2. Topical Treatment
    - a. Apply topical anesthetic if ordered, prn.
    - b. Fill lesions with wound care products such as absorptive powder, granules, calcium alginate, or hydrofiber.
    - c. Cover the peristomal skin with a powder skin barrier or apply a hydrocolloid dressing to the wound after cutting an opening to fit the stoma.
    - d. Apply pouching system, covering the treated lesions.
  - 3. The goal is the management of the wound while maintaining a competent pouching system. Pouch changes may be more often while the ulcers are healing.

## IX. Peristomal allergic contact dermatitis

- A. Allergic contact dermatitis is an allergic reaction to one or more of the components of the pouching system or other products used during the pouching process.
  - 1. The etiology is an immune response to a substance that can cause an allergy or hypersensitivity. The immune system recognizes these products as foreign objects. Most patients may not develop a contact allergy on first exposure, but only after repeated exposure to the allergen or if they are sensitized to a related cross-reacting substance.<sup>6</sup>
- B. Characteristics
  - 1. The peristomal skin presents with erythema and the patient complains of itching.
  - 2. Erythema has less distinct, more blurred margins that may correspond to the shape of the contact surface.
  - 3. Papules and vesicles are often present, redness or darker discoloration, crusting, oozing, or dryness may be present.
- C. Management
  - 1. Management of allergic contact dermatitis requires the elimination of the offending product. Attempt to identify the product causing the allergic reaction. Stop using this product.
    - a. True allergic dermatitis will resolve when the patient is no longer exposed to the allergen.<sup>9,14</sup>
  - 2. Identify all pouching and skin care products used including soaps, moistened wipes, pouch deodorants, and adhesive removers.
    - a. While patients can develop an allergy to stoma appliances, it is more common to develop an allergy to a stoma accessory, such as a fragranced stoma bag deodorizer.<sup>9</sup> In several European studies, fragrances have been demonstrated to be a leading cause of allergic contact dermatitis.<sup>9,14</sup>
  - 3. Ask if rash is associated with a new pouching system, new skin product, or new batch of a product.
  - 4. If multiple products are used at one time, patch test can be done on other areas of the body in order to identify the offending product.<sup>6</sup>
    - a. Secure a sample of the suspected product on the skin on the opposite side of the body of the current skin reaction.<sup>8</sup>
    - b. Remove the patch test after 48 hours and assess skin.<sup>8</sup>
    - c. Dermatology consultation may be needed for extensive allergy testing.
  - 5. Apply a non-oily steroid cream such as Kenalog.
  - 6. Apply a powder skin barrier to absorb the moisture.
  - 7. Develop another pouching procedure and teach the new procedure to the patient and caretaker.<sup>6</sup>

## X. Suture granulomas

- A. Suture granulomas are granulation tissue at the suture skin interface.
- B. These present as scattered, red areas of friable granulation tissue in the area of the mucocutaneous junction where sutures are present.<sup>11</sup>
- C. The etiology is a cutaneous reaction to the suture material.<sup>11</sup>
- D. Management of suture granulomas:
  - 1. Evaluate the area to ensure this is granulation tissue.
  - 2. Remove all suture material after securing a physician's order.
  - 3. If necessary, consult the physician for silver nitrate application or cauterization. In most cases, these procedures will have to be done by the physician.<sup>6,11</sup>

## XI. Peristomal Fistula

- A. Peristomal fistula is an abnormal passage between the stoma and/or intestine and the peristomal skin.
  - 1. Effluent drains onto the peristomal skin through an opening in the peristomal skin.
  - 2. Complete fistula – 100% of the effluent drains through the peristomal skin fistula.<sup>11</sup>
  - 3. Partial fistula - Only a portion of the effluent drains through the fistula and the remainder from the stoma lumen.<sup>11</sup>
- B. Incidence/Etiology
  - 1. Peristomal fistulas rarely occur but are usually noted in ileostomies or patients with inflammatory bowel disease.

2. The most common cause of these fistulas is Crohn's disease. In a patient with Crohn's disease, a peristomal fistula in conjunction with an ileostomy is almost invariably the result of recurrent Crohn's disease, as peristomal fistulae may occur in 7 to 10% of patients with an ileostomy in the setting of Crohn's disease.<sup>16</sup>
  3. Occasionally, improper suture placement may also result in fistula formation.
- C. Characteristics
1. The first sign and symptom noted by the patient may be adherence issues with the pouch.<sup>11</sup>
  2. Stoma effluent drains from an area other than the stoma lumen
  3. The patient will complain of pain or burning in the area of the peristomal skin as the effluent will likely irritate the peristomal skin.
  4. A stoma fistula may occur. This is an abnormal connection or communication pathway other than the stoma lumen where fecal material or effluent exits from another area of the stoma.
- D. Management
1. Most fistulas will require surgical intervention for stoma reconstruction or stoma relocation.
  2. Some superficial fistulas will heal spontaneously.
  3. A pouching system should be revised to include not only the stoma but also the fistula.
  4. Eakin® Fistula pouch [www.eakin.eu](http://www.eakin.eu)
  5. Convexity should be considered if the fistula is actually on the lateral stoma.<sup>6</sup>
- XII. In summary, many complications affecting the peristomal skin require adjustments to the pouching system. The goal with any peristomal skin condition is to promote healing while maintaining adequate wear time of the pouching system.

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