Ostomy Care Challenges - Obesity, Hernias, Skin Issues and More

I. Terminology
   a. Ostomy: The term used to describe a general surgical procedure. Ostomy surgery creates an alternative route for urine or feces to exit the body. The surgical procedure is referred to an ostomy surgery.
   b. Stoma: The opening into the body created by bringing the end of, or a loop of intestines or the trachea to the skins surface. Can be constructed differently, however, the end and loop are most common.
   c. Effluent; terminology to describe the discharge, output from the stoma. May be liquid, solid, or gas emission.

II. Surgical Procedures & Anatomy
   a. Colostomy: Surgically created opening into the colon (large intestine). Results in the creation of a stoma to allow the effluent to exit the body. Can be further defined by the area of the large intestine where the surgery is performed.
   b. Ileostomy: Surgically created opening into the last section of the small intestine, the ilium.
      i. Stoma construction
         1. End stoma: one stoma with one opening. The end of a section of intestine is brought through a small incision in the abdominal wall where it can be turned under, like a cuff and sutured to the outer abdominal wall.
         2. Loop stoma: One stoma with two different openings. An entire loop of intestine is brought out through the abdominal surface through one incision and then opened exposing two pathways into the bowel; a proximal (functional) opening and a distal (nonfunctional) opening. The proximal opening expels stool as it travels down through the bowel and the distal opening allows mucus to exit the distal or lower portion of the intestine. A small rod, piece of soft tubing, or other device is typically placed under the loop of intestine outside the abdomen to prevent retraction of the bowel back into the abdomen and to provide support; it is usually removed after surgery within the first two weeks.
            a. More common for ileostomy.
            b. Frequently done for temporary procedures.
            c. Loop stoma promotes blood flow with less risk of impairment to circulation.
   c. Urostomy- Surgical procedure that diverts urine away from a diseased or non-functioning bladder. The procedure uses a surgically removed section of intestine to create a passage (conduit) for urine to pass from the kidneys to the outside of the body through the urinary stoma. This surgery may include the surgical removal of the bladder.
   d. Stoma Protrusion

1. Flush – stoma level with surrounding skin.
2. Moderate protrusion – 1-3 cm
3. Long protrusion – greater than 3 cm
4. Retracted – below skin level
5. Prolapsed – telescoped away from the abdominal surface

e. Anatomical shape - Adipose tissue
   i. Irregular peristomal plane
   ii. Creases/scars in peristomal plane
   iii. Flush or retracted stoma

III. Skin care for the bariatric population
   a. Treatment of preexisting skin conditions and prevention of further skin breakdown and is a primary focus of peristomal skin for the patient with obesity.
   b. Increased weight, excessive moisture from sweating, reduced skin perfusion, and reduced oxygenation all increase the patient's risk for skin injury.
   c. Protect the pH balance of the skin to help maintain skin integrity. Use pH balanced skin cleanser or pH balanced disposable wipes.
   d. Consider wicking products to absorb moisture between skin folds.

IV. Convexity
   a. Back of skin barrier has an outward protrusion
      i. Used for flush or retracted stomas
      ii. Curves outward toward the skin
      iii. Outward curve presses the skin down around the stoma and helps the stoma to protrude out more
   b. Goal
      i. Increase protrusion of the stoma and raise it above the surrounding surface
      ii. Enhance effluent into the pouch
      iii. In skin folds it "reaches down" to the stoma
   c. Indications for using convexity
      i. No protrusion
      ii. At skin level
      iii. Retracted
      iv. Below the skin surface
      v. Stomas with lumens on the side of stoma
      vi. Peristomal fistulas
      vii. Stomas that protrude less than one inch above the skin
      viii. Peristomal area with soft or poor muscle tone
      ix. Uneven areas
      x. Urostomies – light convex appliance new recommendation
   d. Contraindications for convexity
      i. Normal Stomas
      ii. New Stoma (Less than 1 week postop)
      iii. Peristomal Hernia
      iv. Stomal Prolapse

v. Pyoderma Gangrenosum
vi. Mucocutaneous Separation
vii. Peristomal Varices
viii. Crohn's ulcer

e. Use of belt or binder may be necessary
f. Routinely follow up with patients, convexity is a medical pressure device
g. Convex appliances are widely used and accepted, however remember they are pressure devices and should be reviewed frequently Convex products may leave an imprint on the skin.
h. Monitor for signs of excessive tissue pressure
    1. Skin breakdown
    2. Reddened skin
    3. Bruising
    4. Pain
i. Convex rings
    1. Most have memory and retain original shape
    2. Can be stacked together
    3. Placed directly on skin or skin barrier
    4. Used to adjust skin barrier contour thickness for deeper convexity
    5. Create a custom fit
    6. Silicone formulation available

V. Getting a seal over creases, scars, and uneven areas
a. Shaving
    i. Electric or battery trimmer recommended
        1. Not more than once weekly, shave in direction of hair growth.
    ii. Clip hair with scissors
    iii. Chemical depilatory
    iv. Electrolysis/laser treatments
    v. Improper hair removal can increase risk of folliculitis
b. Stoma powder
    i. Only used with skin irritation
    ii. Hydrocolloid powder used to absorb moisture in the peristomal area.
    iii. Crusting, a technique to provide an environment to allow the skin to heal. Apply powder to irritated area and allow denuded skin to absorb powder. Brush away excess powder. Lightly dab or spray no-sting skin barrier film over the powder and allow to dry. May build up 2-4 layers. Allow to dry before applying pouch.
c. Skin Barrier Film
    i. Contains polymers and plasticizers
    ii. Available in wipe, swab, spray, rub-on bottle
    iii. Liquid that dries leaving a waterproof film which acts as a protective interface between the skin and adhesive products, friction, and effluent.
    iv. Used with stoma powder and powder medications to create crust.
d. Paste

        i. Use as caulking to fill gaps and crevices
        ii. Not an adhesive product
        iii. Paste is not recommended for persons with a urostomy
        iv. Multiple formulations
            1. Pectin
            2. Karaya – all natural
            3. Non-Alcohol
e. Barrier Sheet
        i. Used under skin barrier, provides extra protection to peristomal skin.
        ii. Can be cut to fit where needed
        iii. Can be placed beside stoma
        iv. Some brands have elastic and will stretch, multiple sizes available.
f. Moldable Ring
        i. Moldable adhesive alternative to using paste
        ii. Can be cut, bent, molded, stacked
        iii. Can be placed beside stoma
        iv. East to use with poor dexterity
        v. May prolong wear time
        vi. Leaves less residue of skin
        vii. Available alcohol free
        viii. Silicone formulation
g. Silicone gel
        i. New technology. Fills creases and skin folds, non-adhesive. Cures under appliance and comes off in one piece.
h. Barrier Strips
        i. Available in elastic form
        ii. Available in multiple sizes and shapes
        iii. Adds stability and security
        iv. Supports longer wear by preventing peeling at outer edge.
i. Adhesive Remover
        i. Available in spray, wipe, or liquid formula
        ii. Assists in the removal of tape or other adhesives and residue in the peristomal area.
        iii. Helpful with skin sensitivity to reduce trauma from removal
        iv. Cleaning with soap and water required with solvent residue before application of the next pouching system to prevent nonadherence and chemical dermatitis.
        v. Silicone-based alcohol-free adhesive remover leaves no residue; may not need additional cleaning.
j. Belts
        i. Can increase wear time and confidence
        ii. Manufacturer belt
            1. Many similar and can be used with multiple brands, some specific to their brand.

2. Belts that contain and support appliance

VI. Hernia

i. A hernia is a type incisional hernia that allows loop(s) of intestine to protrude through the opening in the muscle that was created for the stoma to pass through.
ii. Causes an uneven and changing peristomal plane that decreases wear time and can be difficult to achieve a seal.
iii. Can be painful
iv. Management
    1. Ostomy support belt – custom fitted
    2. Binders
    3. Prevention
    4. Education exercise program and rehabilitation
    5. Surgery final option
        a. High reoccurrence rate after surgery, even with relocation to opposite side of abdomen.

VII. Common Peristomal Skin Complications r/t contours

a. Contact Irritant Dermatitis
    i. Immunologic; Response to an irritant or an allergen
    ii. 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 most frequently from a poorly fitting pouch or seal.
    iii. The effluent of ileostomies is strongly alkaline and contains unabsorbed waste products and enzymes that break down protein.
    iv. 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.
    v. Urine that is in prolonged contact with the skin will lead to maceration in patients with a urostomy.
    vi. An alkaline urinary pH of 7–8 can lead to complications with the peristomal skin and stoma, such as stomal bleeding and ulceration.
b. Mechanical trauma
    i. Mechanical trauma from the ostomy equipment and skin stripping. Caused by: Friction, pressure, laceration & improper pouch removal, frequent appliance changes
    ii. Management:
        1. Consider two-piece system for frequent pouch removal
        2. Educate caregivers/patient on proper pouch removal techniques
        3. Treat peristomal skin irritations/lesions/ulcers – use products that can be placed under the appliance and remain for 2-3 days if possible, for lesions with depth.

4. Check current system, revise appliance as needed

c. Yeast/fungal irritation
   i. Clinical appearance: Red papules, erythema - or darker color, burning, itching, satellite lesion
   ii. Caused by moisture. Perspiration, pouch leakage, denuded skin, Prolonged wear time, or erosion
   iii. Can be painful
   iv. Apply topical antifungal powder and rub into skin, seal with skin sealant.
   v. Refit pouching appliance as necessary.

VIII. Colostomy Irrigation

a. Insertion of water into stoma to clean-out bowel
b. Purpose - Bowel management method used by some individuals with permanent colostomy to control fecal output
   i. Irrigation stimulates peristaltic wave and evacuates feces from the distal colon
   ii. Feces to pass only when the colon stimulated by instillation of water.
   iii. Eliminate the need to wear standard appliances
   iv. Wear only a stoma cap between irrigations
c. Indications
   i. Left side colostomy; descending or sigmoid.
   ii. Formed feces
   iii. Willing to dedicate time to procedure
d. Contraindications
   i. Liquid stool
   ii. Stoma prolapse
   iii. Severe hernia
   iv. Active diverticular disease, Crohn's
   v. Potential of fluid overload (cardiac or renal disease)
e. Additional Info information can be found at ostomy.org

LeBlanc, K, Whiteley, I., McNichol, L, Salvadalena, G, & Gray, M. Peristomal medical adhesive-related skin injury: Results of an international consensus meeting. *J of Wound, Ostomy and Continence Nursing*, 2019: 46(2); 125-136.

Morgan, N. Understanding the crusting procedure. *Wound Care Advisor*, 2014, 3(5), 17-18.

Salvadalena, G. (2016). In *Core Curriculum: Ostomy Management*. (p.177), Philadelphia: Wolters Kluwer

Wound, Ostomy and Continence Nurses Society. (2018). *Basic Ostomy Skin Care: A Guide for Patients and Health Care Providers.* Mt. Laurel, NJ: Author.