



## **Stoma Assessment**

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Joy Hooper RN, BSN, CWOCN, OMS, WCC  
Wound Care Education Institute

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**Acknowledgements:** This handout and presentation was prepared using information generally acknowledged to be consistent with current industry standards. The authors whose works are cited in the Bibliography Section of this manual are hereby recognized and appreciated.

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

Fax: 877-649-6021

Phone: 877-462-9234

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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## Ostomy 101: Key Steps for an Accurate Stoma Assessment

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

- 1) Define key terminology used in ostomy management
- 2) Identify five clinical characteristics assessed during a stomal and peristomal skin assessment

### I. Definitions

- A. The terms ostomy and stoma are general descriptive terms that are often used interchangeably, though they have different meanings.<sup>1</sup>
  1. What is an Ostomy? – Ostomy is a term used to describe a general surgical procedure operation in which an artificial opening is formed.
  2. What is a stoma? — A mouth-like opening; orifice, or opening on a surface; visible part of an ostomy. Fecal and urinary stomas consist of mucous membrane or the lining of the intestine that is exposed to the surface.
- B. What is 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 a Diversion? - Surgical creation (ostomy) of an alternative route for effluent (waste products) of the gastrointestinal tract or of the Urinary Tract and can be described as “Continent or Incontinent”.
  1. Continent diversion - where the effluent flow can be managed without external pouches or collection devices by the creation of internal reservoirs (pouch)
  2. Incontinent diversion – effluent waste products flow from the body spontaneously
- D. Pouching Systems
  1. 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).
  2. 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.
  3. 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.

### II. Stoma Facts

- A. Stool and flatus or urine passes through the stoma after surgical intervention rather than through the rectum or bladder.
  1. There is no voluntary control of gas or stool expelled through the stoma.
- B. There is no sensation in the stoma because there are no sensory nerve endings in this area.
- C. The stoma has a mucous-lined inner surface that continually produces mucous, a normal function of the intestines, which cleanses the stoma.
  1. The small amounts of mucous produced can be wiped clean or rinsed with water.
- D. Rectal discharge of mucous may occur with some patients with a stoma.
  1. Mucous varies in consistency from clear “egg white” to opaque, thick “sticky glue” both of which are considered “normal”.
- E. Stomas are vascular and may bleed slightly when rubbed or irritated—this is normal.

### III. Stoma Assessment

- A. Collection of data that characterizes the status of the stoma and the surrounding peristomal skin.
- B. Performed by inspection (looking), palpation (touching), listening, and smell.
- C. Purpose

1. Identification of signs and symptoms of complications
  2. Foundation for product selection - choices based upon thorough clinical assessment
  3. Essential for tracking progress or deterioration of the stoma
- D. Frequency – Based upon care setting
1. Immediate Post-Op
    - i. Assess stoma every 4 hours x 24 hours and then every 8 hours/prn
    - ii. Per Facility Policy
  2. Matured Stoma
    - i. Assessment upon each appliance change/patient visit, and documented weekly at minimum
- E. Ideal Stoma Characteristics<sup>2</sup>
1. Moist, round, beefy red, budded shape
  2. Appearance similar to a rosebud
  3. Protrusion 2-3cm (20-30mm)
  4. Located on smooth portion of abdomen, away from beltlines, bony prominences, suture lines, and umbilicus
  5. Lumen in center of stoma
    1. Adequate surface area - two to three inches of flat surface surrounding stoma
  6. Location - Easily seen by patient - For many people, the best location is in the lower quadrant
- F. Be methodical with assessment. Start in center of stoma and assess outward ending with surrounding tissue.
- III. Location of Stoma
- A. Abdominal Quadrant
    1. Four quadrants of the abdomen include the: Right upper quadrant, Left upper quadrant, Right lower quadrant, Left lower quadrant
    2. Imaginary line from the sternum to the pubis, through the umbilicus. Second imaginary line is perpendicular to the first, horizontally across the abdomen through the umbilicus.
  - B. Umbilicus
  - C. Skin Fold
  - D. Beltline
  - E. Bony Prominence
- IV. Type of Diversion
- A. Intestinal
    1. Colostomy
      - i. Ascending - located on the right side of the abdomen; effluent is high volume with a liquid-mush consistency
      - ii. Transverse – located upper abdomen, either in the middle or toward the right side of the body; effluent is a paste-like, soft substance
      - iii. Descending – located left lower side of abdomen (LLQ); effluent formed and solid
      - iv. Sigmoid - located left lower side of abdomen few inches below descending colostomy (LLQ); effluent formed and solid
    2. Ileostomy – located right lower quadrant of abdomen(RLQ); effluent is semi-liquid to soft, semi-fluid, paste-like consistency
    3. Continent Fecal Diversions
      - i. Continent Ileostomy (Kock Pouch) – located right lower abdomen just above pubic hair line; effluent is liquid
      - ii. Ileoanal Reservoir (J-Pouch) – no stoma
  - B. Urinary
    1. Urostomy
      - i. Ileal conduit – located on the Right lower side of abdomen (RLQ)

- ii. Ureterostomy – two stomas; one on the right side of the abdomen and one on the left side of the abdomen
  - 2. Continent Urinary Diversions
    - i. Indiana Pouch – located on the right lower side of abdomen or at umbilicus
    - ii. Mitrofanoff - located on the right lower side of abdomen or at umbilicus
    - iii. Orthotopic Neobladder – no stoma
- V. Stoma Construction
  - A. Temporary or Permanent
  - B. The type or construction of the stoma: end stoma, loop stoma, or a double-barrel stoma.
    - 1. End stoma – one stoma with one opening
      - i. A stoma is created from one end of the bowel. The other portion of the bowel is either removed or sewn shut (Hartmann's procedure).
    - 2. Loop stoma - one stoma with two openings; one discharges stool, the second mucus.
      - i. A loop stoma is a stoma where both the upstream (proximal) and downstream (distal) openings of the bowel are brought out through the same place in the abdominal wall. The proximal opening of the stoma drains stool from the intestine, while the distal opening of the stoma (the mucous fistula) drains mucus.
      - ii. Immediately after surgery presents with a rod or bridge. This device is left in place until healing is accomplished.
      - iii. Usually created for a temporary ostomy
    - 3. Double-barrel stoma – two distinct stomas; one discharges stool, the second mucus.
      - i. The bowel is severed and both ends are brought out onto the abdomen and two distinct stomas are made.
      - ii. The stomas may or may not be separated by an expanse of skin.
      - iii. One stoma is usually called the proximal stoma, while the other is called the distal stoma.
      - iv. The proximal opening of the stoma drains stool from the intestine, while the distal opening of the stoma (the mucous fistula) drains mucus.
- VI. Rods or Stents in Place
  - A. Assess type, location and scheduled removal date.
  - B. Bridge or Rod (Loop Stoma)
    - 1. Short, hard plastic tube or flexible plastic catheter that is placed under the loop of the stoma
      - i. L shaped bridge - A flat rod with one swivel end. The rod holds a loop of bowel above the skin. (Skin barrier should be applied to cover the bridge)
      - ii. Butterfly shaped bridge - folds in half along a hinge and forms a convenient curved shape. It securely opens along its hinge and lays flat on the abdomen.
      - iii. Plastic Rod with Rubber Tubing: The rubber tubing is connected to both ends of the rod to prevent the rod from slipping out. The rod may be gently slid vertically to provide care to stoma site.
    - 2. The rod should slide easily back and forth under the stoma.
    - 3. The stoma should be over the middle of the rod and not pushed to one end of the rod. If the stoma rubs up against the end of the rod the stoma can sustain damage in the form of ischemia causing the tissue to die and slough off.
    - 4. Usually removed 7-14 days post op
  - C. Stents
    - 1. Fine bore catheters inserted in urostomy surgery to prevent stenosis of the anastomosis between the ureter and the bowel.
      - i. The ureteral stents originate in the renal pelvis, extend down the ureters, and exit through the stoma.<sup>3</sup>
    - 2. May expel spontaneously, do not re-insert. Notify surgeon.

3. Stents should drain urine all the time. Decreased urine output should be investigated. It can be caused by mucus plugs or dehydration.<sup>3</sup>

#### VII. Stoma Lumen

- A. The stoma lumen is the opening from which the effluent drains.
- B. Locations
  1. Descriptors: Centrally located, side, level with skin
  2. Ideally the lumen should empty from the top of the stoma
  3. Location of the lumen should be noted using the "clock method" with the patient's head referenced as the 12 o'clock position.
- C. Number of lumens
- D. Stenosis – narrowing of the lumen

#### VIII. Stoma Mucosa

- A. Color
  1. Red - Healthy
  2. Dark Pink – Healthy
  3. Pale Pink – Healthy Urinary stoma; Fecal stomas: anemia, low hemoglobin
  4. Dark red/purplish tint - bruising
  5. Purple or Blue - lack of blood supply to the stoma
  6. Brown - melanosis coli a discoloration from excessive laxative use; lack of blood supply to the stoma
  7. Black – Necrosis; lack of blood supply to the stoma
- B. Appearance
  1. Shiny
  2. Taut – tight; stretched
  3. Edematous – normal finding post-op; gradually decreases over 6-8 weeks after surgery
  4. Dry
  5. Moist - The stoma is a mucous membrane and should always be moist with its own natural lubrication
  6. Textured – grooves; creases; rosebud appearance
  7. Smooth
  8. Bloody - superficial bleeding from the stoma during routine cleaning is normal. Stoma tissue is highly vascularized, fragile and does bleed occasionally.
    - i. Superficial bleeding that does not stop spontaneously, excessive bleeding, or prolonged bleeding may be indicative of a stoma complication.
    - ii. Bleeding as a stoma complication can result from inadequate hemostasis during stoma construction, portal hypertension, trauma, underlying disease, and because of some medications, such as prolonged use of analgesic anti-inflammatory drugs, blood thinners, and chemotherapy.<sup>4</sup>
    - iii. Luminal bleeding (bleeding that comes from the lumen of the stoma) is often associated with underlying disease. The clinician should always notify the surgeon regarding luminal bleeding.<sup>4</sup>
  9. Lacerated - stoma has been cut or torn
  10. Granuloma - small, red, raised areas on or around the stoma
  11. Necrosis - discolored and may be dark red, bluish, purple, or black. The stoma will be limp, loose and flabby
  12. Varices - Purple skin discoloration with dilated, tortuous veins on the stoma<sup>5</sup>
- C. Shape
  1. The shape of a stoma is round, oval, or irregular.
  2. Shape can vary with peristaltic movements of the intestine

- i. It is normal to be able to see movement of the stoma; stomas expand and contract in a "wave-like motion" due to peristalsis. Some patients can see this motion.
      - 3. The shape of the stoma is also affected by the individual's body composition and type of ostomy
- IX. Stoma Size and Protrusion
- A. Protrusion
    - 1. The height or protrusion of the stoma is important not only for proper drainage but also to conceal the stoma.
    - 2. The protrusion varies in length and can slightly retract or extend throughout the life of the stoma.
    - 3. The stoma height should be measured at the mucocutaneous junction where it attaches to the skin to top of stoma.
    - 4. A stoma can be:
      - i. Flush — at skin level
      - ii. Moderately protruding — one to three cm (10-30mm)<sup>7</sup>
      - iii. Long protrusion — greater than three cm (30mm)<sup>7</sup>
        - a. Greater risk for injury from trauma, laceration or being folded or bent over into the pouching system<sup>7</sup>
      - iv. Retracted — below skin level
      - v. Prolapsed — telescoped away from the abdominal surface
  - B. Size
    - 1. The size of the stoma varies due to the anatomic location of the ostomy.
      - ii. An ileostomy will have a smaller stoma. The width of the small intestine is about 2.5 cm.<sup>8</sup>
      - iii. Colostomy size varies as the width of the colon varies and therefore, stoma size will vary. The colon can be anywhere from 2.5 cm at the small intestine junction, up to 6.3 cm in the transverse colon.<sup>8</sup>
      - iv. Loop stomas are larger than end stomas. Loop stomas are constructed with side of intestine rather than the end.<sup>8</sup>
      - v. Ureterostomy is a small stoma as it is created from the ureter which has small diameter, compared to the ileal conduit which is created from the wider ileum.<sup>8</sup>
    - 2. Round stomas are measured by circular diameter.
    - 3. Irregular or oval stomas are measured using the clock method with for length and width.
  - C. Measurement
    - 1. Accurate measurements of the stoma are important to track the progress of the ostomy but also to determine the correct size of the skin barrier and pouching system.<sup>8</sup>
    - 2. Measurements should be done frequently during the first six to eight weeks of the post-operative period. (With each appliance change)
    - 3. The stoma should be measured at the base from mucosa to mucosa.<sup>8</sup>
    - 4. Size is documented in millimeters or inches. (Skin barrier and appliance sizing are classified according to either "mm" or "in"
      - i. 1 inch = 25.4 millimeters
      - ii. 1 centimeter = 10 millimeters
    - 5. Round Stoma Measurement
      - i. For appliance sizing measurement, use manufacturers stoma measurement guides.
      - ii. For other diameter measurements, use transparent circular measurement rulers.
        - a. Line the center of the transparent ruler over the center of the stoma and measure according to ruler instructions.

6. Oval/Irregular Stoma Measurement
  - i. For appliance sizing measurement irregular stomas should be traced and a copy of the tracing should be recorded for appliance fitting.
    - a. Use a piece of plastic transparent material and place over stoma. (May use the clear plastic packaging cover or paper backing from the skin barrier)
    - b. Trace around perimeter of stoma onto transparency with pen or indelible marker.
    - c. Label tracing indicating location of: head, feet, pouch side, skin side.
    - d. To create skin barrier template: Cut out the center of the tracing. Place the template/stencil on the back of the skin barrier wafer. Trace the completed pattern on the back of the skin barrier faceplate. Be sure to line it up so that the tail of pouch will be in the appropriate direction.
  - ii. For detailed documentation measure length and width using the clock method.
    - a. Consider stoma as face of clock. 12:00 points to patients head, 6:00 points toward the patient's feet
    - b. Length = 12:00 - 6:00 patients head & feet as guides
    - c. Width = 3:00 - 9:00 side to side
7. Stoma Measuring Cards
  - i. Most of the manufacturers will provide them free of charge, and most cut-to-fit products will contain one per box.
  - ii. The card comes with numerous pre-cut holes, measured in millimeters and/or inches.
  - iii. Select the hole in the card that fits closest around the base of the stoma without touching it. (approximately 1/8" larger than the stoma)
  - iv. Most common sizes:
    - a. 5/8" (16mm)
    - b. 3/4" (19mm)
    - c. 7/8" (22mm)
    - d. 1" (25mm)
    - e. 1 1/8" (29mm)
    - f. 1 1/4" (32mm)
    - g. 1 3/8" (35mm)
    - h. 1 1/2" (38mm)
    - i. 1 5/8" (41mm)
    - j. 1 3/4" (45mm)

## X. Stoma Effluent

### A. Fecal Stoma

1. Amount of output
  - i. Postop Colostomy - There may be no fecal output for several days. First 24-72 hrs. post-op may have a serosanguineous discharge then begins to expel formed stool as food intake increases.
  - ii. Postop Ileostomy - Initial output: usually 12 –24 hours postop –dark green, viscous, odorless<sup>7</sup>; as the patient eats the output will thicken.
2. Consistency of output – Thick, Viscous, Liquid, Pasty, Oily, Formed, Soft, Thin, Tarry, Bloody
3. Odor
  - i. Presence or Absence
  - ii. Strong, foul, pungent, fecal, musty, sweet
4. Flatus
  - i. Present
    - a. Post op flatus is the first sign that the bowel is starting to function again.
    - b. Bowel sounds may not return until 24 to 72 hours after surgery.<sup>9</sup>



- ii. Amount: Large, Moderate, Minimal
      - a. The average number of gas passages is about 13 to 21/day. Objectively recording flatus frequency (using a diary kept by the patient) is a first step in evaluation if perceived excessive.<sup>10</sup>
  - B. Urinary Stoma
    - 1. Post Op Urostomy – Functions immediately, for 24-36 hrs. the output is blood-tinged and contains mucus threads
    - 2. Volume
    - 3. Consistency – Gritty, cloudy, crystals, mucous
    - 4. Color – Straw, amber, clear, blood tinged
    - 5. Odor
      - i. Presence or Absence
      - ii. Musty, fishy, fecal, fruity, ammonia, acidic
  - C. Stoma Function Status: Non-functioning (not passing flatus or stool)
- XI. Mucocutaneous Junction
- A. Definition: The skin/stoma junction where the mucosa of the stoma is approximated to the skin surrounding the stoma.<sup>8</sup>
  - B. In the initial postoperative period, sutures will be present.
    - 1. This area should be treated as a wound until the junction of the skin and the mucosa are healed and sutures are removed.
    - 2. Document number and status of sutures. *e.g. 5 sutures noted around perimeter base of stoma, all sutures intact and free from redness, drainage, and crusting.*
  - C. Normal appearance is distinct difference in stoma tissue and surrounding skin.
    - 1. The mucocutaneous junction should be free of tension, infection, and skin breakdown.
    - 2. Stoma should be intact with surrounding skin.
  - D. If a separation is noted between stoma and surrounding skin, document measurements (width and depth) and location of the separation.<sup>8</sup>
- XII. Peristomal Skin
- A. Peristomal plane – surface area that extends out from the base of the stoma in area of approximately 4x4 inches (102mm x 102mm)<sup>8</sup>
    - 1. Assess peristomal plane at a minimum and extend assessment outward as needed based upon findings.
    - 2. The skin around the stoma should be intact, without erosion, rashes or lacerations.<sup>8</sup>
  - B. Assess for:
    - 1. Color
      - i. Healthy (no difference from adjacent skin surface)
      - ii. Dusky (pale to bluish color)
      - iii. Erythema (red)
        - a. Redness may be caused by infection, irritation from drainage, urine/feces, dermatitis/trauma from tape or dressing
        - b. Redness from infection may be seen as diffuse and indistinct, or as intense with demarcated borders, red streaking. In dark skin, the skin may appear purple or a gray hue or deepening of the ethnic skin color
      - iv. Bruised (Purple to yellowish color)
      - v. Jaundice (yellow)
      - vi. Staining
    - 2. Integrity
      - i. Intact (no breakdown in skin)
      - ii. Macerated (white friable skin, too much moisture)
      - iii. Denuded (superficial skin damage)
      - iv. Lesions

- v. Ulceration (a wound through the dermis layer)
  - vi. Incision
  - vii. Scars - connective tissue reflective of dermal damage; new scars are pink and thick, over time become white and atrophic
3. Texture
    - i. Moist
    - ii. Crusty
    - iii. Warm
    - iv. Weepy
  4. Turgor
    - i. Normal (soft, good elasticity)
    - ii. Flaccid (weak and flabby)
    - iii. Firm (hard)
    - iv. Edema
    - v. Induration - process of the skin "becoming hard"; hardened mass with defined edges; detected by palpation (feeling)
- C. Peristomal Pain
1. PQRST Assessment
    - i. P = Provokes
      - a. What causes pain?
      - b. What makes it better?
      - c. Worse?
      - d. Onset duration, variations, patterns
    - ii. Q = Quality
      - a. What does it feel like?
      - b. Is it sharp?
      - c. Dull?
      - d. Stabbing?
      - e. Burning?
      - f. Crushing?
      - g. Throbbing, aching, squeezing, constant, intermittent, spasmodic, tender, crushing?
      - h. Try to let patient describe the pain.
    - iii. R = Radiates
      - a. Location of pain - one site, several sites, does it move or radiate to another site, generalized or specific area
      - b. Where does the pain radiate?
      - c. Is it in one place?
      - d. Does it go anywhere else?
      - e. Did it start elsewhere and now localized to one spot?
    - iv. S = Severity
      - a. How severe is the pain on a scale of 1 - 10?
      - b. Utilize pain severity scale, be consistent with the scale with each assessment, assess for severity at present, worst, and least levels.
    - v. T = Time
      - a. Time pain started?
      - b. How long did it last?
  2. Other questions to ask and look for...
    - i. Vital signs – pulse, blood pressure, and respirations
    - ii. Document verbal and nonverbal responses to pain
  3. Pain History
    - i. Present pain management regimen and effectiveness

- ii. Pain management history - medications, interventions, etc.
- iii. Effects of pain - impact on ADL's such as sleep, appetite, emotions, concentration, social interactions
- 4. Patients pain goals
  - i. Attitude toward use of pain medications
  - ii. Family expectations and beliefs
  - iii. Typical coping response to stress or pain
  - iv. Knowledge about and preferences for pain management methods
- D. Peristomal Skin Assessment Tools
  - 1. The Ostomy Skin Tool
    - i. Developed as a comprehensive tool to use for documentation and grading of the peristomal skin.
    - ii. The scoring system allows the health care provider to compare and contrast the condition of the peristomal skin from one assessment to the next and make adjustments to care as necessary.
    - iii. The tool provides consistency to the peristomal skin documentation process.<sup>15,16</sup>
    - iv. The tool includes two simple approaches for obtaining information on the condition of the peristomal skin:
      - a. The DET (Discoloration, Erosion, Tissue overgrowth) Score – provides a standardized and validated way to score the peristomal skin through objective observations
      - b. The AIM (Assessment, Intervention and Monitoring) Guide for Peristomal Skin Care – allows categorization of the peristomal skin disorder according to its cause and offers guidance on care
    - v. Ostomy skin tool and instructions can be downloaded for free at:  
<http://www.coloplast.com/ostomycare/topics/educationtools/theostomyskintool/>
  - 2. The SACS™ Instrument<sup>18</sup>
    - i. The SACS™ Instrument was developed to help establish a standard language for the assessment and classification of peristomal lesions
    - ii. Provides operational definitions for the consistent interpretation of peristomal skin lesions
    - iii. A content validated measurement instrument to classify lesion type and location
    - iv. An objective classification system to document the incidence of peristomal skin lesions
    - v. <https://www.convatec.com/ostomy/patient-support-information/resources/the-sacs-instrument/>

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**Contact Information:**

Wound Care Education Institute  
 Fax: 877-649-6021  
 Phone: 855-391-1556  
 Email: [Info@wcei.net](mailto:Info@wcei.net)  
[www.wcei.net](http://www.wcei.net)