

Spotlight on **O**stomy

It isn't uncommon for nurses to feel ill-prepared to care for patients with ostomies. We give you the information you need.

By Sherry Keck Doty, MSN, RN, CHC, CNS-BC, CWOCN

In the US, upwards of 100,000 ostomy surgeries are performed annually. Fecal and urinary ostomies are created to eliminate stool and urine from the body. Ostomies are either temporary or permanent and continent or incontinent. Most incontinent ostomies require the use of an external pouching system. Incontinent ostomies and pouching systems will be our focus in this article.

Fecal and urinary ostomy basics

During ostomy surgery, a portion of the bowel is brought through the abdominal wall and sutured into place on the surface of the abdomen. The opening that's created is known as a stoma. Exactly which segment of bowel is used for ostomy construction is determined by the surgeon and based on the patient's underlying medical condition.

Examples of medical conditions that may necessitate an ostomy include:

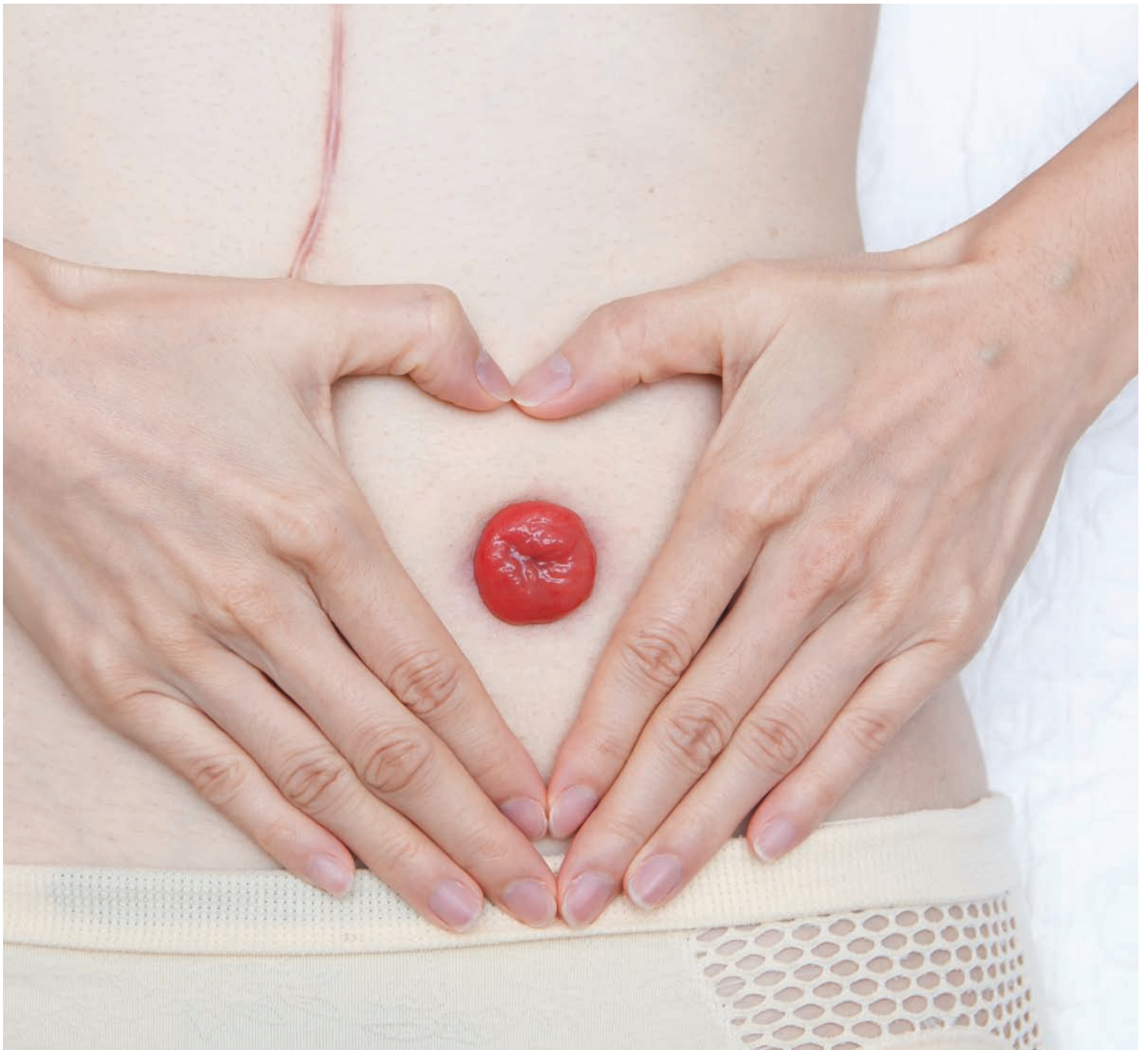
- rectal or colon cancer
- traumatic injury to the bowel or rectum such as gunshot wounds
- bowel perforation from a ruptured diverticulum or abscess
- bladder cancer.

The three most common ostomies are ileostomy, colostomy, and urostomy

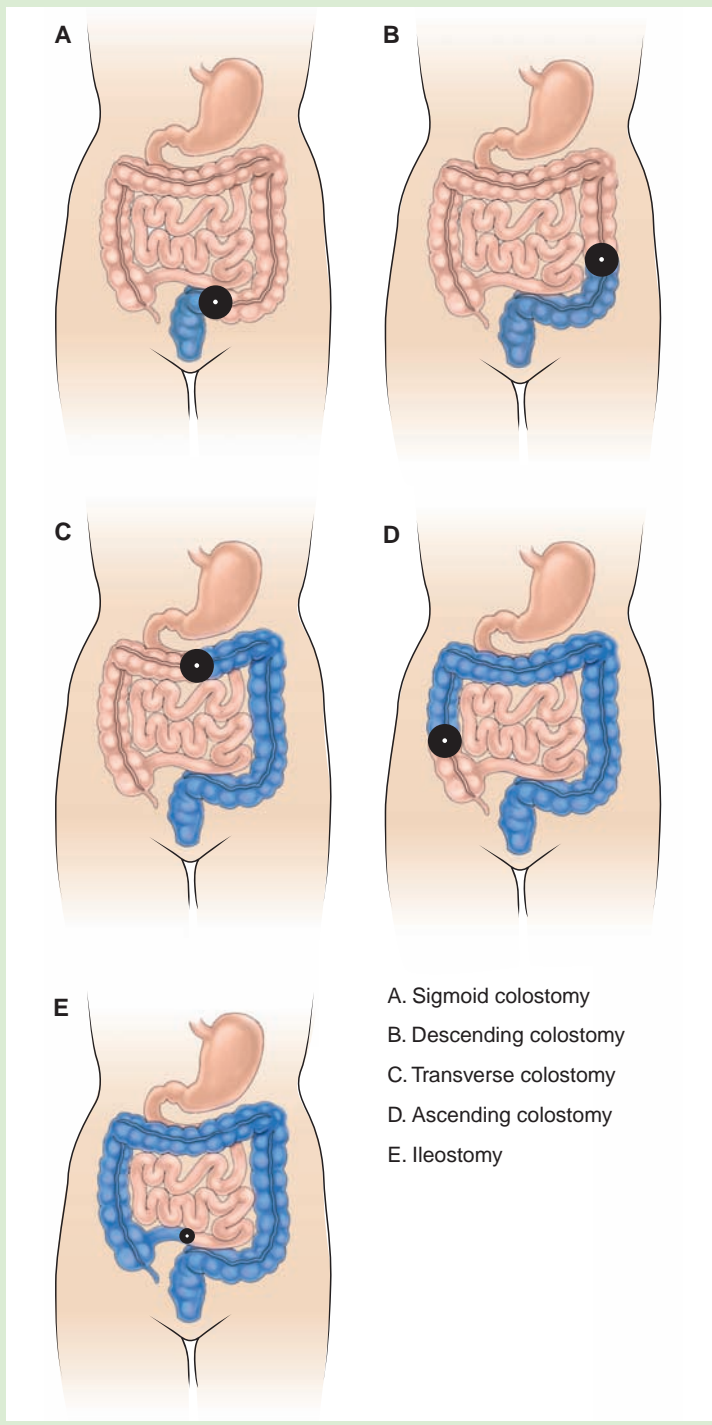
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care



Picturing colostomy and ileostomy



- A. Sigmoid colostomy
- B. Descending colostomy
- C. Transverse colostomy
- D. Ascending colostomy
- E. Ileostomy

Source: Taylor C, Lynn P, Bartlett JL. *Fundamentals of Nursing: The Art and Science of Person-Centered Care*. 9th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2018.

(see *Picturing colostomy and ileostomy* and *Picturing urostomy*). These ostomies don't have sphincters—the muscles that surround the anus and urethra that, when properly functioning and sufficiently contracted, allow us to delay urination, defecation, and passing of flatus. Because there are no sphincters, the patient can't prevent the passage of urine, stool, or gas, which happens spontaneously.

Ileostomy

An end ileostomy is made from the ileum (the last section of the small intestine) and has one opening for fecal elimination. Ileostomies always require a pouching system to contain the liquid fecal waste (effluent), which is high in digestive enzymes. When digestive enzymes come into contact with tissues outside the intestinal tract, such as the skin around the stoma, tissue destruction can occur. The longer the effluent is in contact with peristomal tissue, the greater the destruction.

Colostomy

An end colostomy is constructed from the ascending, transverse, descending, or sigmoid colon and has one opening for fecal elimination. Patients with an end descending or sigmoid colostomy may be able to irrigate the bowel for scheduled defecation, resulting in modified continence and eliminating the need to wear a collection pouch. In these cases, patients may choose to wear a "cap" to cover the stoma rather than a pouch. The cap absorbs mucus secreted by the intestine, provides a protective covering over the stoma, and helps keep clothing clean and dry.

Urostomy

A urostomy, or ileal conduit, also has one opening. To create a urostomy, the surgeon removes a section of the ileum and surrounding mesentery, sutures one end closed, attaches the distal ends of the

ureters to it, and brings the other end through the abdominal wall to create a stoma. The section of ileum used for this purpose becomes a conduit through which urine continually drains, therefore requiring a pouching system.

Stoma 101

Stoma assessment accuracy can be improved and documentation time reduced by using a standardized tool (see *Stoma assessment at a glance*).

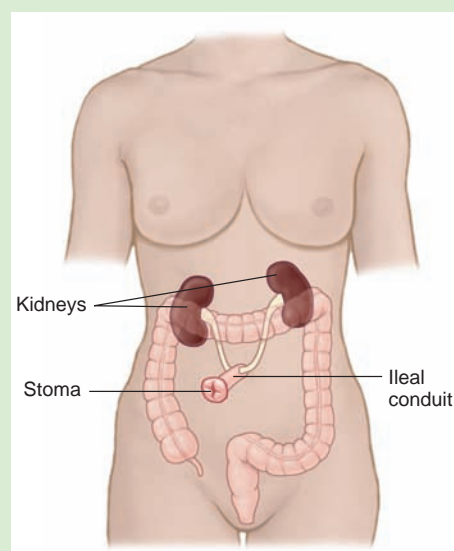
Appearance

A normal, healthy stoma is dark pink or red in color, shiny, moist, nonulcerated, and painless to touch. Immediately following surgery, the stoma is swollen (edematous) and larger than it will be after several weeks. It generally takes about 6 weeks for the stoma to mature, edema to resolve, and changes to slow or cease. During this 6-week period, it isn't uncommon for the size and shape of the stoma to change, sometimes rather significantly. Stomas that appear any way other than described as normal should be brought to the attention of the healthcare provider and wound, ostomy, and continence nurse if available.

Ideally, the stoma will be budded, which means that it sits above the level of the skin. Typically, this makes it easier to pouch. It's recommended that the height be at least 2 cm above the level of the skin surface for a mature ileostomy and urostomy, and 1 cm for a colostomy. These heights can be difficult to achieve in patients who are obese, those with shortened intestinal mesentery, and situations involving tumors.

Flush stomas level with the surrounding skin and retracted stomas below the skin level pose greater pouching challenges than budded stomas. It isn't uncommon in flush and retracted stomas for urine or stool to work underneath the pouch and cause leakage. If a once-budded stoma becomes retracted, it may

Picturing urostomy



Source: Gregory D, Stephens T, Raymond-Seniuk C, Patrick L. *Fundamentals: Perspectives on the Art and Science of Canadian Nursing*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2019.

signal evolving internal abdominal complications and should be reported.

Prolapsed stomas in which a segment of bowel hangs out can be visually alarming and impressive in length. Weak or strained abdominal muscles, obesity, pregnancy, increased intra-abdominal pressure, and some surgical techniques may contribute to prolapse. These stomas can be manually reduced (replaced) by having the patient lie down, positioning the bowel over the opening, and applying gentle downward pressure with the hand. Other ways to reduce a prolapsed stoma include sprinkling sugar on it or placing a cold compress to it. Both methods reduce swelling and may be helpful if swelling is contributing to the prolapse. Sugar acts to osmotically draw fluid out of the bowel and a cold compress reduces blood flow to the bowel, both of which result in decreased size and swelling. Sugar should be avoided if skin irritation, stoma inflammation, or contact dermatitis is present because it can proliferate bacterial and

Stoma assessment at a glance

ILEOSTOMY/COLOSTOMY

Date created _____

Stoma location

RUQ RLQ LUQ LLQ

Stoma type

Budded Flush Retracted Prolapsed

Peristomal skin intact and normal color Yes No

Stoma color

Dark red/pink Pale pink Gray Black

Support rod present Yes No

Sutures present Yes No

Sutures intact Yes No

Pouch characteristics

One piece Two piece Flat Convex Intact
 Leaking Changed

Output characteristics

None Dark red Bright red Brown Green Yellow

Output amount

None Scant/drops Small Moderate Large

UROSTOMY

Date created _____

Stoma location

RUQ RLQ LUQ LLQ

Stoma type

Budded Flush Retracted Prolapsed

Peristomal skin intact and normal color

Yes No

Stoma color

Dark red/pink Pale pink Gray Black

Stents in place Yes No

Stents draining Yes No

Number of stents _____

Support rod present Yes No

Sutures present Yes No

Sutures intact Yes No

Pouch characteristics

One piece Two piece Flat Convex Intact
 Leaking Changed

Output characteristics

None Dark red Bright red Yellow

Output amount

None Scant/drops Small Moderate Large

fungal growth. To prevent injury to the bowel, cold compresses shouldn't be left in place for longer than 5 minutes. Prolapsed stomas are subject to compromised blood flow, trauma from the pouching system, and decreased functioning; report prolapse immediately. Prolapse may be due to a parastomal hernia that can be managed with a hernia belt; surgical revision may be necessary for severe cases.

Location

Stomas can be located in any of the four abdominal quadrants. It's good practice to identify and document the type of ostomy present, as well as the quadrant in which it's located because some patient conditions may necessitate multiple ostomies. For example, in a total pelvic exenteration surgery, the bladder, urethra, ovaries, uterus, fallopian tubes, rectum, anus, and a portion of the colon are removed. This requires creation of a urostomy and a colostomy. Documenting ostomy type and location supports communication and tracking of stoma characteristics, output, and complications that may occur.

Output

During the immediate post-op period, patients are N.P.O. (nothing by mouth) and it's normal for fecal ostomies to have very limited (scant) amounts of dark or bright red output. As fluids and foods are allowed, output increases and typically changes color to dark green, then brown, and eventually becomes identifiable stool. Fecal odor increases as oral intake and stool production increase; odor often becomes a major concern for patients who are embarrassed by it. Fortunately, products are available that can be safely placed in the pouch to reduce odor. Patients may also find using room air fresheners to be helpful.

Stool characteristics are based on the section of bowel involved in ostomy creation: ileostomies produce liquid feces, ascending and transverse colostomies



produce semiformal stool, and descending and sigmoid colostomies produce stool that's more solid. Patients should be educated on what type of stool can be expected from their specific ostomy.

Urostomies function differently than fecal ostomies when it comes to output. A urostomy should immediately begin producing urine. It's normal for the urine to contain a small amount of blood in the early post-op period. Urostomy output contains strands of mucus produced by the ileum and washed out by the urine into the collection pouch. The presence of mucus in the urine is a normal finding; the amount of blood should decrease during the post-op phase.

To prevent occlusion of the tiny ureters that drain the kidneys, stents are placed during surgery and brought out through the stoma. These stents are soft, flexible tubes that remain in place for several days, usually until the first follow-up visit with the surgeon when they're removed. Some, but not all, stents may have a visible string that can be seen hanging outside of the stent itself. In the immediate post-op period, it's important to verify how many stents are present and that each has urine dripping from it. Notify the healthcare provider if a stent becomes dislodged or urine isn't draining. Either of these circumstances can create urine backup into the renal pelvis and place the patient at risk for complications.

Peristomal complications

The most common peristomal skin complication following ostomy creation is irritant contact dermatitis (ICD), which results from contact of effluent with the skin, often from pouch leakage and improper fitting of the pouching system. ICD is the most common source of patient dissatisfaction, estimated to affect 55 of every 100 ostomy surgery patients. ICD is characterized by redness; loss of epidermal tissue; pain; and open, moist areas. Untreated or improperly treated

did you know?

A large stoma with two openings, a loop ostomy is for diversion of feces through the ileum or colon. Mucus is expelled through the opening of the distal end (closest to the anus) and stool is eliminated through the proximal opening. A support rod may be used based on the surgeon's preference to prevent the loop of bowel from retracting back into the abdominal cavity while the suture line heals. These rods can be flexible or rigid but, in either case, must be inserted inside the pouch. Support rods are typically removed 7 to 10 days after surgery.

Getting a good pouch fit around a loop stoma with a support rod can be difficult and increases the likelihood of leakage. Difficult-to-fit stomas increase the risk of ICD, which can range from mild to ulcerated and infected. A hypoallergenic pouching system that fits and prevents leakage is vital to maintaining intact peristomal skin and preventing complications.

ICD increases the likelihood of more leakage, followed by more irritation. It isn't uncommon for inexperienced patients and caregivers to increase the size of the pouching system opening to get a better seal and stop leakage. However, this only contributes to more skin breakdown and expansion of the irritated area. Peristomal skin should have the same color and texture as normal, intact abdominal skin.

Mucocutaneous separation is a complication that can occur if the sutures securing the stoma to the abdomen become too taut or if blood flow to the area is compromised. The result is loss of suture integrity and the formation of an open pocket to the side of the stoma in the area adjacent to the missing sutures. The open pocket requires filling with an absorbent product such as an alginate, followed by a cover dressing such as a hydrocolloid, then the pouching system. Without appropriate treatment, pouch leakage will increase and peristomal skin irritation will occur.

Other complications include:

- stoma stenosis—contraction of the stoma opening
- stoma necrosis—characterized by dark brown to black stoma coloration
- allergic contact dermatitis—redness and open, moist areas typically from a reaction to the wafer or tape border

- peristomal varices—enlarged blood vessels around the stoma
- folliculitis—inflammation of hair follicles
- pyoderma gangrenosum—an inflammatory condition characterized by painful ulcers around the stoma, associated with ulcerative colitis, Crohn disease, and arthritis.

Pouching must-knows

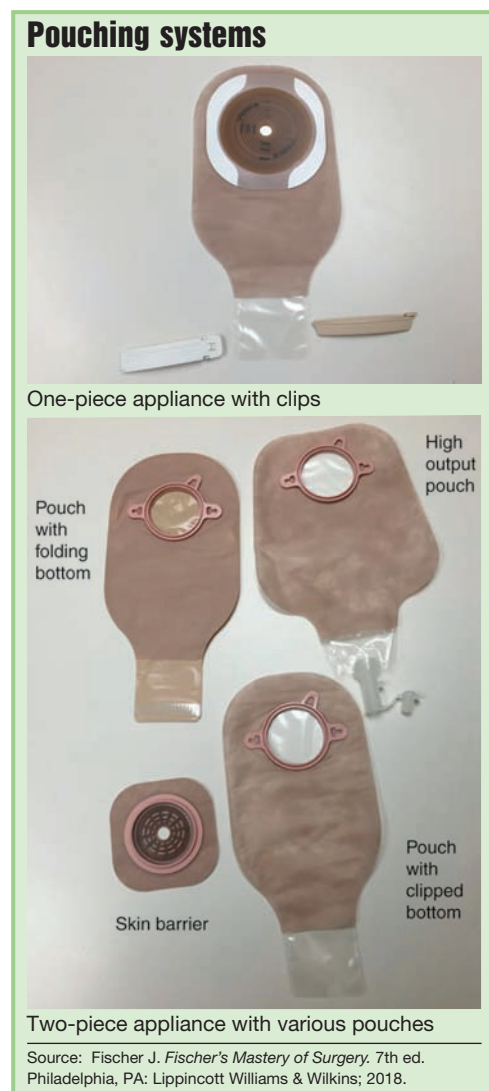
Ostomy pouching systems are designed for fecal or urinary collection and containment, aren't interchangeable, and have some important differences.

Types

Fecal ostomy pouches may have an open or closed bottom. An open-bottom pouch can be emptied without removing the pouch. This type of pouch must be closed after each emptying; some products require folding the open end and snapping together closure strips, whereas others use a clamp to close the pouch. A closed-bottom pouch requires removal of the pouch every time it needs emptying. Ostomy pouches are manufactured to be odor-proof. As long as there are no leaks and the exterior of the pouch is free from stool, there shouldn't be an odor.

Urinary ostomy pouches can be easily identified by looking for the "spout" on the bottom of the pouch through which urine is emptied. Fecal pouches don't have spouts. To empty urine out of the pouch, the spout must be in the open position. Urinary ostomy pouches also have an anti-reflux baffle inside the pouch. The baffle prevents the backflow of urine toward the stoma, which maintains one-way urine drainage away from the body. A connector can be placed on the spout to allow a larger, bedside collection bag or leg bag to be used to increase urine storage capacity. Using a bedside collection bag while sleeping reduces the number of times a person must get up to empty the pouch. A leg bag used during waking hours also provides additional storage capacity, reduces the number of times the pouch must be emptied, and can be concealed by clothing.

Pouching systems are designed as one- or two-piece systems (see *Pouching systems*). In a one-piece system, the barrier wafer that adheres to the skin and the pouch are molded together as one piece. In a two-piece system, the wafer and pouch are two distinct pieces that must be put together. Wafers can be flat or convex. Convex wafers are rounded like the bottom of a bowl and are often used for flat or retracted stomas or stomas that are located inside a body fold. Wafers have either a presized round opening or a



cut-to-fit opening. Cut-to-fit wafers allow users to size and shape the opening and may be helpful in getting a good fit. Ideally, the wafer opening shouldn't expose more than one-eighth inch of peristomal skin to help prevent pouch leakage and reduce the likelihood of ICD. Getting good adhesion of the wafer to peristomal skin can be challenging (see *Wafer adhesion tips*). Knowing when to empty or change a pouch also helps with adhesion and leak prevention.

Emptying and changing

The pouch needs to be emptied when it's about one-half full. As the pouch fills, it gets heavier; the more weight that the wafer must support, the greater the stress on the adhesive seal. Over time, this increases the likelihood that the wafer will pull loose, resulting in leakage. It's better to prevent leakage by routinely emptying the pouch and not allowing it to get more than half full.

If leakage occurs, the system must be changed; no amount of tape will stop a leak once it's started. If a one-piece system is being used, the entire system must be removed and replaced. In a two-piece system, the wafer must be removed and replaced at minimum. The pouch may be able to continue to be used if it's in good shape.

Pouching systems can typically be left in place for 2 to 3 days before being changed as long as there's no leakage. This isn't always clear to patients and families. Many patients and families talk about "changing the bag" when really what they mean is emptying the pouch. That's why it's important to use accurate, consistent language to educate patients and families about ostomy care activities, including clarifying emptying versus changing. Although pouching systems are designed to remain in place for 2 to 3 days, patients can experience leakage anytime, anywhere and should always be instructed to carry extra supplies with them everywhere they go.

Wafer adhesion tips

- Cleanse around the stoma with water only. Avoid soaps, lotions, and creams on the area covered by the wafer because these products leave a residue that will prevent the wafer adhesive from sticking to the skin.
- Pat, don't rub, the skin dry after cleansing.
- Wipe away all ostomy drainage and get the skin completely dry before applying the new wafer. Moisture of any kind under the wafer will prevent a good seal and increase leakage.
- After adhering the wafer to the abdomen, place the palm of your hand over the wafer and hold it there for 3 to 5 minutes. The warmth of your hand will help facilitate a good seal between the wafer and the skin. If using a two-piece system, attach the pouch to the wafer before placing your hand on the wafer.
- Convex wafers, moldable seals, and ostomy belts are products to consider if leakage is a problem.
- Open, moist areas covered by the wafer will prevent adherence. "Crusting" these areas with a stoma or barrier powder and water, or powder and nonalcohol skin-prep spray, provides a dry layer to promote adherence.
- If a wound, ostomy, and continence nurse is available, consult with him or her about questions, concerns, or complications.

Avoiding pop off

One common cause of fecal ostomy pouch failure is gas buildup within the pouch. If left unvented, the gas can cause the wafer to lose its seal and pop off like overinflating a balloon. Some pouches have built-in filters that allow deodorized gas to escape. There are also filters that can be applied to pouches without integrated ones. Filters typically work well as long as they remain dry. Teach patients to watch for gas buildup and instruct them to open the pouch and let the gas out to help prevent pop off.

Psychological and psychosocial concerns

Even in the best of circumstances with a perfect stoma, location, and pouching system; no post-op complications; and good family support, ostomy surgery requires huge adjustments. Patients struggle with major changes in self-care, body image, self-esteem, and personal relationships. As nurses, a major component of our responsibility is supporting these patients with technical aspects, such as pouching and stoma care, and navigating the psychosocial

hurdles they'll face. Here are some ideas for how to support patients with an ostomy.

First, ask the patient if he or she wishes to have privacy before performing stoma care with family or friends present. Treat this just as you would any toileting need. Stress the importance of minimizing a negative impact on the patient's independence and personal relationships. Never tell the patient "I know how you feel." You don't. Find out what the stoma and surgery mean to him or her. You could start the conversation by asking, "What does this stoma/surgery mean to you?" Then listen for the answers. Sometimes the real answer is subtle and buried. It can be scary and overwhelming to come right out and tell someone you barely know what you're most scared of or worried about. In general, concerns will fit into three categories.

Self-care

Patients are often anxious about everything there is to learn about pouch emptying, changing, and maintenance; ordering supplies; skin care; incision care; and even just having enough energy to get through the day. The key is getting them involved in their care early. Encourage patients and their support persons to learn at least one new step of the process every day. Let them know from the beginning that the goal is to perform a complete pouch change before they leave.

Do a question-and-answer or demonstration session every time you participate in the patient's care. For example, after you show the patient and his or her support person how to let the air out of the pouch, ask them to show you how to do it. Or ask them to verbalize the steps of pouch removal for you. And don't forget to encourage patients to be active in their learning.

Body image/self-esteem

Ostomy surgery is a body-altering procedure that can have a major impact on how patients perceive themselves. Body image—how individuals see themselves

on the web

American Cancer Society:

www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/ostomies

American Society of Colon and Rectal Surgeons:

www.fascrs.org/patients/disease-condition/ostomy

United Ostomy Associations of America:

www.ostomy.org

Wound Ostomy and Continence Nurses Society:

www.wocn.org



when they look in the mirror or how they picture themselves in their mind—may take a huge hit. Patients may need help identifying things they like about themselves. It may be helpful for them to write down the things they like as they think of them and then review them periodically. If patients have negative self-talk—the script we play in our heads about ourselves—help them develop positive affirmations they can say when the negativity starts to play. And encourage them to surround themselves with positive people. A patient's self-esteem—his or her self-respect and confidence in abilities—can also be boosted with these approaches.

Personal relationship concerns

It's natural for patients in a personal relationship to worry about whether their partner will find them attractive and how the stoma will affect sexual intimacy. Two essential ingredients for success are understanding and communication. Couples have to be able and willing to keep communication channels open and strive for understanding from both perspectives.

For patients who are dating, when and how to tell someone about the stoma is a common concern. Patients have to decide what's right for them and be prepared in the event that what they share isn't well received. Role playing may provide an

opportunity to rehearse this type of personal sharing and prepare for possible responses.

It's important to let patients know there are companies that make intimate apparel to conceal the pouch and keep it close to the body during intimacy. It's also a good idea to tell them to empty the pouch before sex and never use the stoma for intercourse. Teach patients to always carry pouching supplies with them everywhere they go. Having supplies available reduces the likelihood of embarrassing situations of clothing being soiled by stool or urine.

Be informed

Caring for ostomy patients can be challenging. Knowledge of basic ostomy terms, normal versus abnormal assessment findings, and pouching processes can go a long way to reduce confusion and increase confidence. A well-informed nurse is vital in providing optimal care to patients and contributing to excellent outcomes. ■

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Sherry Keck Doty is a Wound, Ostomy, and Continence RN at Cone Health in Greensboro, N.C.

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