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Containment methods for incontinence

Read about evidence-based nursing care for urine and stool collection to improve quality of life, promote independence, and reduce complications.

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Nearly 40 years ago, British physician and researcher Archie Cochrane proposed that international collaboration and systematic review of clinical trials were needed to provide an evidence-based approach to optimizing patient treatment decisions. The shift from experiential-based treatment to evidence-based decision-making resulted in the creation of the widely used and respected Cochrane Library. Roughly 2 decades after this initiative began, the term *evidence-based medicine* (EBM) was coined and gained traction, further underpinning the shift in patient treatment to clinically relevant scientific research. In 1996, Canadian American physician D.L. Sackett incorporated individual patient values and circumstances into EBM, further honing EBM into our current version that seeks to apply research findings to individual patient circumstances.

Throughout the years, other health professions adopted the concepts of evidence-based patient care and decision-making, including the nursing profession. Nursing research into patient care outcomes was influenced by the development of "never events" by the Centers for Medicare and Medicaid Services, a quality initiative that began in 2006. Never events should never happen in healthcare, such as amputating the wrong foot, transplanting the wrong organs into the wrong recipient, or development of a stage 3 or 4 pressure injury.

In 1998, the American Nurses Association created the National Database of Nursing Quality Indicators® (NDNQI®) specifically to develop knowledge related to factors that influence nursing care quality by drilling down to unit-level data. One focus of the NDNQI is catheter-associated urinary tract infection (CAUTI) rates. Various initiatives have sought to reduce the number of days an indwelling urinary catheter (IUC) remains in place to reduce the incidence of CAUTI, and success has been reported.

A challenging question for clinical nurses is: Once the IUC is removed, how should urinary incontinence (UI) be managed? What interventions and approaches

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are supported by research-based evidence? A scoping review of the literature pertaining to this subject was conducted and the results reported in late 2020. Through a two-stage article screening process and multiple reviews of article content by task force members, it was determined that none of the 1,478 articles selected for consideration contained direct evidence to guide bladder or incontinence management after IUC removal. However, the literature review was used to develop seven consensus statements for the following areas: assessment, toileting, absorbent under pads and support surfaces, external collection devices, body worn absorbent products (BWAPs), intermittent catheterization, and indications for referral.

This article presents containment methods for incontinence, including external collection devices for UI, internal and external collection devices for fecal incontinence (FI), and BWAPs.

External collection devices for UI

UI can raise the skin pH; damage the epidermal layer; and result in pain, itching, burning, infection, or pressure injuries. External urinary collection devices can help reduce these symptoms and should be considered for patients with UI who are unable to be managed through a toileting program and/or for whom monitoring of urinary output is necessary (see *Guidelines for use of external urinary collection devices*).

Female patients

Two female external urinary collection systems are available that rely on a dedicated, continuous suction system to wick the urine away from the patient's skin and into a suction canister. Regardless of which system is used, there are important guidelines nurses should be aware of. These include:

- Make sure that the skin of the genitalia and perineum is intact and inflammation-free and the vagina is free of discharge.
- Follow the manufacturer's guidelines for suction levels; a dedicated suction canister and tubing system for the device is required.
- Remove the device and perform perineal care at least every 8 to 12 hours and when soiled with blood or feces. Assess the skin during perineal care for signs of breakdown.
- Avoid fecal contamination to the urethra when removing the device.
- Don't insert the device into any orifice.
- Don't use if the patient has vaginal prolapse with the vaginal wall outside the vagina.
- Don't use for patients placed in the prone position.
- Reassess the device and tubing with position changes, ensuring that the tubing isn't beneath the patient.

External urinary collection devices can be helpful for female patients by avoiding the use of IUCs and thereby reducing CAUTI and skin injury from UI. These devices may also help prevent sleep loss and subsequent development of delirium and improve patient satisfaction.

Male patients

The most frequently used method of external urinary collection for male patients is the condom catheter. This device can be used for short- or long-term incontinence management and consists of a sheath that fits snuggly over the penis with a tube at the tip to drain urine into a collection bag. The shape and materials have changed over the years; early versions were made of latex; had an adhesive coating; and were often rigid, uncomfortable to wear, or caused allergic reactions. Recent versions are made of hypoallergenic silicone and are flexible and easier to apply. Different sizes and designs are available.

There are several nursing challenges that may occur during application and usage.

Guidelines for use of external urinary collection devices

Female	Male
• Examine the skin of the genitalia and perineum. • The skin should be intact and inflammation-free. • The vagina should be free of discharge. • Avoid using in cases of vaginal prolapse with exposed vaginal wall.	• Examine the skin of the genitalia and perineum. • The skin should be intact and inflammation-free if using a condom catheter. • Determine the diameter of the penis by measuring at the base to ensure proper size selection of the condom catheter.
• Follow the manufacturer's guidelines for the amount of suction used and suction cannister/tubing.	• Follow the manufacturer's guidelines for the amount of suction used and suction cannister/tubing if using an external system connected to suction.
• Don't insert into any orifice.	• Avoid use of adhesives or securement products to prevent medical adhesive-related skin injuries.
• Don't use if the patient is in the prone position.	• Ensure that the tubing is over the leg, not under, to avoid medical device-related pressure injuries and enhance drainage.
• Remove the device and perform perineal care every 8 to 12 hours. • Remove promptly if the device is contaminated by feces or blood.	• Remove the device and provide hygiene to the penis every 24 hours. • If the patient is uncircumcised, ensure that the foreskin is fully extended over the glans penis during application.
• Reassess the device and tubing with position changes. • Ensure that the tubing isn't beneath the patient.	• Consider the use of an external collection pouch/system for male patients with buried penis; follow the manufacturer's guidelines.

First, it's important to obtain a proper fit for the collection device, which depends on using the correct size and application technique. The size is determined by penis diameter at the base of the shaft. The goal is to achieve a reasonable seal while maintaining a minimal amount of pressure on the skin of the penis. Apply following the manufacturer's guidelines and don't use additional adhesive or securement products on the penis because this may cause medical adhesive-related skin injuries.

Second, it's important to assess skin integrity and maintain cleanliness of the penis. Removing any moisture buildup is necessary for prevention of moisture-associated skin breakdown and infection. If a man is uncircumcised, the foreskin must be fully extended during application. Retraction of the foreskin can result in swelling of the penis and development of maceration or pressure injuries. Most vendors recommend changing the condom catheter every 24 hours.

Third, position the drainage bag to avoid pulling on the condom catheter, which must be secured in a way that promotes unimpaired drainage to either a leg bag or a bedside drainage bag. The drainage bag must be emptied frequently to prevent backflow of urine, which can lead to possible infection.

Although the condom catheter appears to be a safe alternative to insertion of an IUC, it does have significant risks. Forty percent of patients with condom catheters develop urinary tract infections and 15% develop inflammation, ulcerations,

necrosis, gangrene, or constriction of the skin of the penis.

The traditional condom catheter can't maintain a seal for men who have a penis that's retracted into the scrotum. A buried penis refers to a normal-sized penis that's hidden under the skin of the abdomen, thigh, or scrotum. It's difficult to visualize the meatus and this condition is frequently associated with urinary leakage and skin breakdown. These patients are good candidates for an external urinary management system, which can be applied to male patients who have smaller penis circumference sizes or obese men who have a buried penis. The device attaches over the base of the penis using an adhesive barrier and drains into a collection pouch or can be attached to a suction cannister; this helps decrease the occurrence of moisture-associated skin damage.

The penis and surrounding skin should be inspected for possible breakdown before application. Clip any excessive hair, cleanse the skin and pat dry, and apply following the manufacturer's guidelines. The silicone adhesive pads keep the device in place and allow for easy application and removal with a one-size-fits-all opening. Don't use additional adhesive or securement products on the penis; this may cause medical adhesive-related skin injuries.

Place the penis into the opening and apply pressure to warm and activate the adhesive in the wafer. If attaching to suction, always use the minimal amount possible to drain the urine. The expected wear time is 24 hours, and the device should be replaced if soiled with stool. The external urinary management system isn't appropriate for patients who have urinary retention or those who are placed in the prone position.

Internal and external collection devices for FI

When patients experience FI, it can be challenging to contain, which may lead to more severe skin damage from proteolytic enzymes found in liquid stool. The incidence of FI occurs in approximately 18% to 37% of patients in acute care facilities. Stool management systems are designed to contain incontinent stool for immobile patients. The goal is to keep the skin clean and dry, reduce skin breakdown, and prevent moisture-associated skin damage and pressure injury development (see *Guidelines for use of fecal collection devices*).

Internal

An indwelling fecal collection device is appropriate for patients with liquid and semiliquid stool. Patients are appropriate if they have three or more episodes of incontinent liquid stools within a 12-hour period. When the stool begins to become solid, the device should be removed. An indwelling fecal collection device isn't intended for use in patients who are younger than age 18. It's also contraindicated in patients who have inflammatory bowel conditions, rectal ulcerations or injuries, hemorrhoids of a significant size, or rectal tumors or those who've had colon or rectal surgery within the past year.

Before insertion, a digital exam must be performed to assess rectal tone and rule out a possible stool impaction. If impaction is present, check with the healthcare provider to determine if disimpaction is appropriate. If the patient has poor or absent rectal tone, the device shouldn't be used because it won't remain in place after insertion.

Gently insert the device into the rectum following the manufacturer's guidelines and inflate the balloon with the recommended amount of water to maintain the internal position. The tubing should be positioned to avoid kinks and the collection bag hung lower than the patient to allow for unobstructed flow. Change the collection bag when full. Small amounts of leakage around the tubing near the rectum is expected. Apply barrier cream to the perianal area to repel moisture and protect the skin.

Guidelines for use of fecal collection devices

Internal	External
• Indwelling fecal collection devices are appropriate for liquid and semiliquid stool. Patients are appropriate if they have three or more incontinent liquid stools within a 12-hour period.	• If stool is too thick for an indwelling fecal collection device to be used, then use an external rectal pouch.
• When the stool begins to become solid, the device should be removed.	• Trim hair around the rectum to help the wafer adhere to the skin, if necessary.
• These devices are contraindicated for patients with inflammatory bowel conditions, rectal ulcerations or injuries, hemorrhoids of a significant size, or rectal tumors or those who've had colon or rectal surgery within the past year.	• The device should be applied to clean, dry skin; it should cover the skin without any gaps or creases.
• Before insertion, a digital exam must be performed to assess rectal tone and rule out a possible stool impaction.	• Always remove and replace the pouch if any stool has leaked to protect the skin from developing areas of breakdown.
• If the patient has poor or absent rectal tone, the device shouldn't be used because it won't remain in place after insertion.	• Adhesive may cause damage to fragile skin surrounding the perirectal area; it's important to avoid use of any additional products to attempt to maintain a seal.
• Before removing the device, the balloon must be deflated.	• Upon removal, slowly use a push-pull motion and adhesive remover wipes or spray to avoid creating medical adhesive-related skin injuries.
• Care should be used when patients are on anticoagulation therapy; if rectal bleeding occurs, the device should be discontinued.	• It's difficult to have enough surface area for application of the flexible wafer on patients who have a very narrow bridge of skin between the vagina or scrotum and the rectum.
• If the patient experiences perirectal pain or develops bruising, necrosis, or ulcerations near the insertion site, remove the device.	• The pouch isn't appropriate for use if the skin is constantly moist, macerated, or has partial-thickness wounds on the perirectal area because these are barriers to maintaining a seal.
• The device can't remain in place longer than 29 days.	• The pouch may stay in place up to 7 days.
• Follow the manufacturer's guidelines.	• Follow the manufacturer's guidelines.

Before removing the device, the balloon must be deflated. If the tubing appears to be blocked, irrigation may be necessary to flush the tubing and allow an improved flow of stool into the collection bag. Care should be used when patients are on anticoagulation therapy; if rectal bleeding occurs, the device should be discontinued. If the patient is experiencing pain in the perirectal area or develops bruising, necrosis, or ulcerations near the insertion site, the device should be removed. The device can't be used for longer than 29 days and must be discontinued at that time.

External

If stool is too thick for an indwelling fecal collection device to be used, consider an external rectal pouch. These devices help

key points

Nursing assessment of incontinence and delivery of care

- Determine the type, severity, and frequency of incontinence.
- Low volumes or low frequency will likely not require an internal or external collection device.
- Determine skin integrity of the genitalia and rectum.
- Intact skin integrity and low-volume, low-frequency incontinence will likely need only quality skin care cleansing and protection to maintain skin pH and moisture.
- Use caution for use of external collection devices or indwelling fecal collection systems in patients with nonintact or inflamed skin in the genital/rectal areas; follow other manufacturer guidelines for these products.
- Evaluate the patient for a toileting program, including a bedside commode, urinal, bedpan, and assistance with hygiene and clothing.
- BWAP selection is based on sex, volume, and frequency of incontinence and should be size-appropriate for the patient's waist or hip circumference, or BMI.

prevent stool from leaking onto skin and are designed for immobile patients. They're useful to promote healing when patients have developed moisture-associated skin damage or to protect pressure injuries from becoming soiled with stool.

The pouch, which has a flexible wafer with an opening in the center, should be applied to clean, dry skin. Spread the buttocks apart, expose the rectum, apply the wafer over the opening, and hold gentle pressure to obtain a seal, following the manufacturer's guidelines. The device should cover the skin without any gaps or creases. Trim hair around the rectum to help the wafer stick better to the skin if necessary. One side of the wafer adheres to the skin around the rectum and the other side is connected to a drainage bag. These devices may stay in place up to 7 days. Always remove and replace the pouch if any stool has leaked to protect the skin from developing areas of breakdown.

There are disadvantages when using external rectal pouches; the adhesive may cause damage to fragile skin surrounding the perirectal area. It's important to avoid use of any additional products to attempt to maintain a seal. Upon removal, slowly use a push-pull motion and adhesive remover wipes or spray to avoid creating medical adhesive-related skin injuries. It's difficult to have enough surface area for application of the flexible wafer on patients who have a very narrow bridge of skin between their vagina or scrotum and the rectum. These devices aren't appropriate for use if the skin is constantly moist, macerated, or has partial-thickness wounds on the perirectal area because these are barriers to maintaining a seal.

BWAPs

BWAPs are the most prevalent strategy for adults with UI or FI. When selectively used in acute care settings, these products assist in protecting patient privacy and enhancing dignity, reducing environmental contamination from urine and feces, and wicking moisture away from the skin to reduce the development of incontinence-associated dermatitis—an inflammatory process that results from ongoing exposure to urine and/or feces affecting skin pH, which can lead to erythema, edema, and increased susceptibility of skin to damage from pressure, friction, and shear.

Guidelines for use of BWAPs for UI

Light UI (less than 100 mL)		Moderate-to-heavy UI (greater than 100 mL)	
Female	Pads	Female and male	Pull ups/briefs
Male	Guards/shields	Male	Wraps for additional containment

Just like the scarcity of evidence-based research in care post IUC removal, little evidence is available pertaining to BWAPs. Efforts to shed light on assessment, selection, use, and evaluation of these products were undertaken by a task force and reported in 2018. Review of evidence and creation of consensus-based statements resulted in guidance for clinical decision-making for BWAPs.

Patients with incontinence that can't be managed by an external collection device during activities, such as ambulation, participation in therapy, or when the patient is off the unit for a procedure, should be provided with a BWAP. Recommendations for product selection include amount of incontinence (light, moderate, heavy); whether incontinence occurs during the day or at night; sex; waist or hip circumference, or body mass index (BMI); mobility; dexterity; cognition; patient preference; and goals of care. BWAPs aren't to be used for staff convenience and they shouldn't interfere with patient participation in a toileting program.

Multiple types of BWAPs are available, including incontinent briefs (incorrectly referred to as adult diapers), products that can be pulled on, pads, shields, and male guards. Variability exists among products for volume of fluid that can be absorbed before leakage and breathability of the outermost layer. In general, BWAPs are comprised of four layers. The innermost layer that's next to the skin, followed by an acquisition layer designed to transfer fluid to the next layer known as the absorbent core, and the outermost layer that provides a barrier against leakage and some degree of airflow to the inner layers (see *Guidelines for use of BWAPs for UI*).

Optimal outcomes

Providing optimal care for patients with incontinence can be challenging and time-consuming. Scheduled toileting should always be the first-line strategy to decrease the occurrence of incontinence episodes for patients who are able to get out of bed and use the bathroom or a commode chair with assistance. Bedpans and urinals are still an option for patients who are alert and unable to get out of bed. A scheduled toileting program includes assisting patients at arranged intervals, such as every 2 hours. However, if a patient is cognitively impaired or confused, or has fractures or other medical conditions that limit their mobility to use a toilet, urinal, or bedpan, the methods of collecting urine or stool discussed here are helpful tools for nurses to use for containment, skin protection, and reduction of further skin and tissue destruction.

Remember to provide privacy before applying any of the devices, just as you would with toileting assistance. Many patients are extremely private and are embarrassed or anxious about having another person present during these bodily functions. It's important to respect the patient's body image and maintain their self-esteem and independence whenever possible.

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on the web

Agency for Healthcare Research and Quality Toolkit for Reducing CAUTI

The resources module of the toolkit links to additional resources for CAUTI prevention.

www.ahrq.gov/hai/tools/cauti-hospitals/toolkit-resources.html

Wound, Ostomy, and Continence Nurses Society Body Worn Absorbent Product Guide

This guide is an evidence- and consensus-based algorithm for selection, use, and evaluation of BWAPs for the management of patients with UI and/or FI.

https://bwap.wocn.org/#home

Wound, Ostomy, and Continence Nurses Society Interventions Post Catheter Removal (iPCaRe)

The iPCaRe tool is a consensus-based algorithm for acute care settings focusing on patient assessment and the selection and use of bladder management strategies after IUC removal.

https://ipcare.wocn.org/#home

we, the authors, still have difficulty at times finding reliable and effective incontinence management techniques. However, when nurses have a good understanding of available devices, techniques, and decision-making processes, patients remain cleaner, drier, and more comfortable and experience less skin damage. ■

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