Cleveland Clinic

Ileal Conduit: Obtaining a Sterile Urine C&S

R. B. TURNBULL JR. MD WOC NURSING EDUCATION PROGRAM

Cleveland Clinic

This lesson will describe the technique for obtaining a sterile urine specimen from a urinary diversion. We use as an example the ileal conduit as this is the most common type of urinary diversion, and the principles learned will apply to any urinary stoma.

Objectives

- State the WOCN™ best practice recommendation for obtaining a urine culture from an ileal conduit
- Demonstrate aseptic technique in obtaining a urine sample for culture and sensitivity from a urinary diversion

Cleveland Clinic

The objectives for this lesson can be seen above. You will have an opportunity in either the clinical area or through simulation to demonstrate your technique for obtaining a urine specimen for culture and sensitivity from a urinary stoma. Remember the definitions for aseptic versus sterile technique. Asepsis is the removal of pathogenic bacteria, while sterile is the removal of all microorganisms. These words are generally used interchangeably.

WOCN™ Best Practice

- Double lumen sterile catheter inserted into the stoma
- When double lumen catheter not available, straight catheterization with sterile technique
- Never obtain specimen from bedside drainage bag or urostomy pouch

Cleveland Clinic

The WOCN guidelines recommend the use of a double lumen, that is a catheter within a catheter for use in obtaining cultures from a urinary stoma. This is supported by limited evidence; these catheters are not readily available in the clinical area. When a double lumen catheter is not available, use of a straight catheter using sterile technique is advised. It is never appropriate to obtain the urine specimen from a bedside drainage bag or urostomy pouch; a specimen obtained in this manner tells you the microbes that are present on the inside of these devices, not within the urine.

Why?

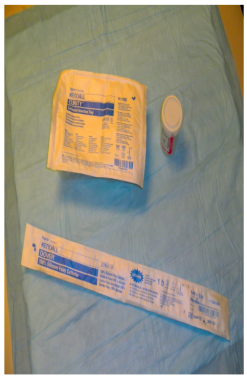
- 80% of persons with a urinary diversion have asymptomatic bacteriuria
- Having a urinary diversion increases the risk of UTIs
  - UTI symptoms
    - Increased mucus in urine
    - Cloudy, strong smelling urine
    - Fever, confusion
    - Loss of appetite
    - Blood in urine
    - Nausea/Vomiting, back pain

Cleveland Clinic

When obtaining a urine specimen, it is important to obtain urine from within the diversion in order to determine the pathogens responsible for the individual's symptoms as well as to determine the sensitivity of these microbes to antibiotics, so the correct antibiotic can be used. Individuals with a urinary diversion are at increased risk for urinary tract infections. Symptoms are in some ways similar to those with a bladder and include: increased mucus in the urine; cloudy, foul smelling or strong smelling urine, fever, mental confusion particularly noted in the elderly; loss of appetite; blood in the urine; loss of appetite plus or minus nausea or vomiting, and back or flank pain.

Equipment

- Foley catheter, 16-18 French
- Catheterization tray –chlorhexidene lollipops, water soluble lubricant, sterile container.
- Sterile gauze
- Sterile gloves
- No sterile gloves
- Urinary appliance for repouching



Cleveland Clinic

The equipment needed to obtain a sterile urine sample is listed in this slide. Use of a 16 French catheter is the norm;. On occasion, it may be difficult to pass a 16. In this case, a smaller size is acceptable.

It is important to obtain all of the needed equipment prior to entering the patient's room.

Procedure

1. Explain procedure to patient
2. Wash hands
3. Offer glass of water if permitted (optional)
4. Place patient in supine position
5. Open catheterization tray using aseptic technique; place sterile gauze on sterile field
6. Protect bed linen with upper towel from tray
7. Apply non-sterile gloves
8. Remove urinary appliance; remove gloves and wash hands

Cleveland Clinic

The next few slides will delineate the steps of the procedure. It is helpful to use an over bed table or tray; clean the table off of extraneous materials, clean the area if necessary, and use this as your working space. It is also helpful to have the patient drink a glass of water prior to beginning the procedure, if he or she is able; this helps in obtaining an adequate amount of urine for the test. Hands can be cleansed with soap and water or with foam cleansers. It may be helpful to have an extra pair of sterile gloves available in case they are needed.

Patients tend to become a bit nervous that the conduit will function while the pouch is off. Make sure you pad the patient and the bed well; placing a pad beneath the patient on both sides and one across his or her lap will help to allay the individual's anxiety about this. It is advisable to place clean gauze over the stoma once the pouching system is removed. If the patient is alert and willing to help, you can have the patient remove the gauze for you when you are ready to begin the procedure. Otherwise, you will need to remove the pad prior to removing your gloves and cleansing your hands.

Procedure

9. Apply sterile gloves.
10. Apply fenestrated towel around stoma (optional).
11. Lubricate catheter; place open end of catheter inside sterile container
12. Cleanse stoma and peristomal skin with chlorhexidene lollipops (contained in kit).
    - Circular motion begin in center of stoma cleaning outward (approximately 2” on peristomal skin)
    - Use separate lollipop for each stroke
    - Blot the stoma with sterile gauze when done cleansing
    - Other solutions used for cleansing include betadine, soap and water (Mahoney et al., 2012)

Cleveland Clinic

The stoma is cleansed from the stomal opening outward, extending about 2” onto the peristomal skin. One usually uses three cleansing sticks or lollipops when cleansing, each time starting centrally and working outward. The solution is then blotted off of the stomal mucosa with a sterile gauze pad. If an individual is sensitive to chlorhexidene, alternate solutions include betadine and soap and water.

Procedure

14. Gently insert tip of lubricated catheter into stoma. Pass the catheter as far as it will go easily (no more than 2-3 inches [5.0-7.5 cm]). Do not force catheter.
15. Hold the container below stoma level.
    - Pinch catheter when sufficient amount of urine is obtained.
    - Siphon urine by pinching catheter while removing it from the stoma Hold catheter straight up and allow urine to drain into container.
    - If multiple specimens are required, using aseptic technique pour portion of urine into other sterile containers. Place lid on containers.
    - Label appropriately (in front of patient); place in specimen bag with requisition

Cleveland Clinic

The catheter should be well-lubricated with water soluble lubricant prior to insertion into the stoma. The stoma is inserted no more than two to three inches into the stoma. The catheter should never be forced as perforation is a possibility. The dominant hand should be the one directing the catheter into the stoma; the non-dominant hand holds the container and end of the catheter lower than the stoma to have gravity assist the urine in moving into the container. When urine flow is completed, pinch the catheter, remove the catheter and quickly straighten the catheter. Release the "pinch" and any urine residual in the catheter will flow into the container. This technique is helpful is you are not seeing an adequate amount of urine in the container; there is usually enough trapped in the catheter for a C & S specimen.

If one requires multiple specimens, the urine can be poured into other sterile containers using aseptic technique. Be sure to close the lids tightly, and place the appropriate label(s) on the containers while you are with the patient; double check that the appropriate requisition is with the specimen. Send to the lab via your institutions approved method.

Procedure

19. Note amount and color of urine obtained. 2 cc is needed for C&S.
    - If residual is greater than 30cc, notify MD
20. Apply clean pouching system
21. Remove gloves
22. Discard waste in appropriate container
23. Wash hands
24. Document procedure, refrigerate specimen or send to lab using institution's approved method

Cleveland Clinic

It is important to note the amount of urine obtained; this is referred to as the residual urine. A residual of more than 30cc in a conventional, incontinent stoma indicates the conduit may be functioning as a reservoir. The physician or appropriate licensed independent practitioner needs to be notified. These individuals would then determine what, if any action would be required. Once the specimen is obtained, the peristomal skin is cleansed, a stomal and peristomal skin assessment is completed, and the appropriate pouching system is applied. The procedure would be documented in the patient's medical record per institutional policy.

Problem Solving

- If resistance is met while inserting catheter
  - Have patient take deep breaths to relax rectus muscle
  - Change angle of catheter insertion
- If low volume of urine have patient:
  - Cough
  - Laugh
  - Turn on stoma side

Cleveland Clinic

There are times that problems can occur when obtaining the urine specimen. This includes resistance when the catheter is inserted and low volume. When resistance is met, have the patient relax the rectus muscle; one way is to have the patient deep breathe. It may be necessary to change the angle of insertion; you can "feel" the path of the stoma through your fingers, so gently maneuver the catheter to find the passageway through the muscle. Sometimes one needs to use a smaller sized catheters. Patients can generally tell you if there was past difficulty in placing the catheter, and can guide you as to the direction you should take.

Having the patient drink prior to the catheterization can help with low volume. Having the patient laugh or cough increases intraabdominal pressure, which can help in obtaining more urine. Sometimes having the person turn from side to side can also help.

WOCN™ Best Practice

- If catheter of any type unavailable:
  - Remove pouch, wash hands, apply sterile gloves
  - Use sterile technique, cleanse stoma as previously noted
  - Allow a few drops of urine drip onto sterile gauze
  - Hold sterile cup under stoma; collect 5-10cc of urine (takes 5-15 minutes on average)
  - Repouch; label specimen in front of patient and specimen to lab

Cleveland Clinic

If a catheter of any type is not available or you are not able to get a catheter passed the rectus muscle, cleanse the stoma as described earlier, allow a small amount of urine, a few drops will do to drip onto your sterile gauze. Hold the sterile container beneath the stoma and collect approximately five to 10 cc of urine, label the container in front of the patient, repouch, and send the specimen to the lab per institutional policy. Most labs require a minimum of two ccs of urine for a culture specimen and 10 ccs for a urinalysis.

The WOCN best practice document for obtaining a urine C & S is published in WOCN's ostomy management core curriculum textbook, see reference slide.

Reference

Mahoney, M. F. (2022). Appendix D: Catheterization of an ileal or colon conduit stoma: Best practice for clinicians. In J. Carmel, J. Colwell, & M. T Goldberg (Eds.), *Wound, Ostomy, and Continence Nurses Society core curriculum: Ostomy management* (2nd ed., pp. 322-325). Wolters Kluwer.

.

Cleveland Clinic