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ABSTRACT

This module is designed to teach the fundamentals of clean intermittent urinary catheterization for the disabled child, particularly in the school setting. The text includes information on proper hand washing techniques, the supplies needed, suggested settings, and the preparations required before and after the catheter is inserted into the bladder. The steps of clean intermittent urinary catheterization are listed in sequence to facilitate learning. The module is self-contained and was pretested on a select group of learners. The module includes goals and objectives, an overview, practice exercises, a post-assessment exercise, a summary, and answers to exercises. (Author/KC)

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# CATHETERIZATION



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## ABSTRACT

"Catheterization" is a module designed to teach the fundamentals of how to do clean intermittent urinary catheterization for the disabled child, particularly in the school setting. The text includes proper hand washing techniques, the supplies needed, suggested settings and the preparations required before and after the catheter is inserted into the bladder. The steps of clean intermittent urinary catheterization (C.I.U.C.) are listed in sequence to facilitate learning.

This module is self-contained and was pre-tested on a select group of learners.

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## **INTRODUCTION:**

The focus of this module is on catheterization. It is designed for non-medical persons performing clean intermittent catheterization for the disabled child, particularly in the school setting. Traditionally, urinary catheterization was considered to be a sterile procedure. It was performed using sterile techniques. Today, this procedure can be performed using clean techniques anywhere the child's privacy is assured.

## PREREQUISITES:

It is essential that you have some basic knowledge and understanding of the functioning of the urinary system in order to successfully complete this module. Be sure you are able to answer the following questions before beginning to work on the module. If you need help to meet the prerequisites, suggested resources are given.

1. What is the purpose of urinary catheterization?
2. Name the organ that stores the urine.
3. Name the components of the urinary system.
4. State the purpose of the following organs: The kidney, the ureters, the bladder and the renal blood vessels.
5. What is the purpose of the urinary system?

## Sources for satisfying the prerequisites:

1. Brunner, S. Suddarth, S. (1984) Text Book of Medical-Surgical Nursing. (5<sup>th</sup> Edition). Philadelphia. J. B. Lippincott.
2. Haynis, M. (1989). "Children Assisted by Medical Technology in Educational Setting: Guidelines for Care." Health Resources and Service Administration. New York, Dyson Foundation.
3. Kelalis, P. P., King, L. R., and Belman, A. B.: Clinical Pediatric Urology, 2nd Edition, Volumes I and II. Philadelphia, W. B. Saunders, Company 1985.

**DIRECTIONS:**

1. This module is designed to be self-instructional with all the necessary information presented in this booklet.
2. As you read the text, you are asked to complete the practice exercises at the end of each section.
3. Correct answers are found at the end of each section.
4. This module should take approximately thirty to forty-five minutes to complete.
5. This module is yours. Write your responses in the booklet. Writing helps reinforce learning. The references can be used as needed.
6. A post-assessment exercise is found on page 25 of this module. The answers to the post-assessment are found on the following page.

## GOAL AND OBJECTIVES

### TERMINAL GOAL:

Upon completion of this module, non-medical personnel will be able to perform clean intermittent catheterization for the disabled child.

### OBJECTIVES:

1. Before beginning the procedure, the learner will demonstrate proper hand washing technique as described in the booklet. (See page 8)
2. Given a list of supplies, correctly select the items needed to perform the procedure plus state the reasons why items should be assembled for easy reach.
3. After the supplies are assembled, the learner will list the three suggested positions and settings for catheterization as stated on page 12 of the module.
4. Before doing the procedure, the learner will correctly describe the procedures to be completed before the catheter is inserted.
5. Upon completing the procedure, the learner will correctly describe the process of cleaning or discarding the catheter, then prepare to return the student to his/her activity.

TURN PAGE AND CONTINUE READING

6. After completing the procedure, the student will express the importance of clean intermittent catheterization as it relates to his/her specific job.

**TURN PAGE AND CONTINUE READING**

## OVERVIEW

Clean intermittent catheterization (C.I.C.) is a procedure used to empty the bladder when the normal micturation (urination) process is interrupted. It prevents overflow incontinence and helps prevent urinary tract infection. When the bladder remains filled with stagnant urine for long periods of time, it can lead to rapid bacteria growth and infection.

The bladder should be emptied every three to four hours to reduce the stagnation of urine in the bladder.

The urinary system filters waste material from the blood and removes it from the body through the process of micturation (urination).

The kidneys regulate the amount of water in the body and filter out waste products from the body.

The ureters are narrow tubes that conduct the urine from the kidneys to the bladder.

The bladder is a reservoir for holding or storing urine until it is ready to be removed for the body.

The meatus in the female is the external opening between the labia above the vagina. In the male it is the external opening at the tip of the penis.

The renal blood vessels carry blood to and from the kidneys.

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**POINTS TO REMEMBER:**

1. Report to the nurse or parents any problems associated with catheterization of the child.
2. Record your observations.

**TURN THE PAGE TO CONTINUE READING**

## HAND WASHING TECHNIQUES:

After reviewing the material on the proper hand washing technique, complete the practice exercise at the end of the section.

Hand washing has long been recommended as an effective way of reducing the overall spread of an infection. It is a simple task and when done properly, is the most effective way to break the "cycle of infection".

The hands should be washed before and after performing the procedure. Hand washing is the single most effective way to prevent the spread of bacteria causing infection in the body.

The following techniques are suggested for hand washing:

1. Wet hands, apply soap and work up a lather.
  2. Using friction, wash hands 10 - 20 seconds, be sure to include under the fingernails.
  3. Rinse the soap thoroughly from the hands, using warm water.
  4. Pat dry hands with disposable paper towel. Using the same paper towel, turn faucet off and discard towel.
- Using friction (rubbing hands together) cold or warm water can be used to wash hands. Hand washing is best done, however, using warm water.

TURN THE PAGE FOR PRACTICE EXERCISE #1

**PRACTICE EXERCISE #1**

Complete the Practice Exercise:

For questions 1 - 5, decide if the statement is True or False and **CIRCLE** your choice. Write the word or statement that will make the False statement True.

1. The hands should be washed for 10 - 20 seconds.

T or F

2. Wash the hands only after the procedure is done.

T or F

3. Washing under the fingernails should not be included.

T or F

4. Friction should be used when washing hands. T or F

5. Disposable paper towels should be used to pat dry the hands. T or F

For questions 6 & 7, fill in the blank to complete statement.

6. Effective hand washing is best done using \_\_\_\_\_  
\_\_\_\_\_.

**TURN THE PAGE TO CONTINUE READING**

7. The single most effective way to prevent the spread of bacteria causing infections and break the "cycle of infection" is \_\_\_\_\_.

**TURN THE PAGE FOR ANSWERS TO PRACTICE EXERCISE #1**

## Answers to practice exercise #1

### True/False

1. True - The hands should be washed 10 - 20 seconds.
2. False - The hands should be washed before and after the procedure is done.
3. False - Under the fingernails should be included when washing the hands.
4. True - Friction should be used to wash hands.
5. True - Disposable paper towels should be used to pat dry the hands.

### Fill in the blank

6. Hand washing is best done using warm water.
7. The single most effective way to prevent the spread of bacteria causing infections and break the "chain of infection" is proper hand washing.

Congratulations, you correctly answered all the questions in this exercise. Continue reading. If, however, you did not correctly answer all the questions, return to page 6, review the material, then complete the exercise again. See the instructor if you are unable to complete the exercise after reviewing the material a second time.

## **SUPPLIES, POSITIONS AND SETTINGS**

After receiving the material on assembling supplies, positions and settings, complete the practice exercise at the end of the section. Follow the instructions to complete the exercise.

This section of the module is designed to assist you in selecting the needed items, the positions and the settings for catheterization. Supplies should be within easy reach to avoid contamination of items and to avoid prolonging the procedure.

Catheterization can be done in the regular toilet facilities, in the home, the school, in the nurse's office or any other facility where privacy is assured. Proper adaptations such as doors, screen or curtains should be used if recommended areas are not private. Catheterization may be performed sitting, standing or lying down. If the client is unable to sit, lying is the position of choice. The following is a list of necessary items to perform the procedure. Refer to Appendix I, page 30.

1. Lubricant (water soluble gel)
2. Catheters (plastic or rubber)
3. Wet wipes or cotton balls (non sterile), plus a mild soap and water.
4. Storage receptacle for catheter. (plastic bag)
5. Receptacle (container) for urine.
6. Gloves (non sterile)

**TURN THE PAGE TO CONTINUE READING**

**Points to remember:**

Explain the procedure, tell the child what you are going to do. Use words the child will understand.

**TURN THE PAGE FOR PRACTICE EXERCISE # 2**

## PRACTICE EXERCISE #2

### True/False

For questions 1 - 6, decide whether the statement is True or False and **CIRCLE** your choice. If the statement is False, write the word or statement that will make it True.

1. In order to avoid contamination, supplies should be assembled for easy reach. T or F
  
2. Gloves should not be used during this procedure.  
T or F
  
3. Soapy cotton balls or wet wipes are recommended for this procedure. T or F
  
4. You can perform catheterization for a person sitting, lying down or standing. T or F
  
5. Adaptations should not be used when recommended sites do not assure privacy. T or F
  
6. Lying down is the position of choice if a person is unable to sit. T or F

TURN THE PAGE TO CONTINUE READING

Fill in the blanks for questions 7 through 10.

7. \_\_\_\_\_ are to be worn to perform the procedure.
8. \_\_\_\_\_ should be assembled and should be within easy reach to avoid contamination and prolonging the procedure.
9. Catheterization can be done in the \_\_\_\_\_, in the \_\_\_\_\_, the \_\_\_\_\_ the \_\_\_\_\_ or any regular toilet facility where privacy can be assured.
10. If recommended areas are not private, proper adaptations such as \_\_\_\_\_, \_\_\_\_\_ or \_\_\_\_\_ should be used.

TURN THE PAGE FOR ANSWERS TO PRACTICE EXERCISE #2

## ANSWERS TO PRACTICE EXERCISE #2

### True/False

1. True - Equipment should be within easy reach to avoid contamination.
2. False - Gloves should be worn during this procedure.
3. True - Soapy cotton balls are recommended for this procedure.
4. True - Catheterization may be done sitting, lying down or standing.
5. False - Doors, screens, curtains or mats can be used when recommended sites are not private.
6. True - Lying down is the position of choice if the person is unable to sit.

### Fill in the blank

7. Gloves are to be worn to perform the procedure.
8. Supplies should be assembled and should be within easy reach to avoid contamination and prolonging the procedure.
9. Catheterization can be done in the home, in the school, in the nurse's office or the regular toilet facility where privacy is assured.

TURN THE PAGE TO CONTINUE READING

10. If recommended sizes are not private, proper adaptations such as curtains, doors or screens should be used.

If you correctly answered all the questions in this exercise, congratulations. Please continue reading. If, however, you did not correctly answer all the questions, return to page 12, review the material, then complete the exercise again. See the instructor if you are unable to complete the exercise after reviewing the material a second time.

## PREPARATION

Review the material on preparation for catheterization. Then, complete the practice exercise at the end of the section. Follow the instructions to complete the exercise.

Preparation involves several procedures. They include cleaning the genital area, lubricating the catheter tip, locating the external opening to insert the catheter for both males and females. The catheter can be reused after cleansing it with soap and water.

### **Procedure: (Catheterization of the male - wear gloves)**

To clean the glans penis

- Hold the penis below the glans
- If the client is not circumcised, retract the foreskin.
- Locate the meatus external opening (tip of penis)
- Cleanse the genitalia (use recommended cleansing solution)
- Clean the area three times, starting from the urethral opening and move outward, use a different soapy cotton ball or towelette. Rotate the towelette each time you clean the area.
- **Lubricate the catheter tip.** Lubrication of the catheter prevents trauma and helps reduce the possibility of bacteria entering the bladder.

**TURN THE PAGE TO CONTINUE READING**

- Squeeze an adequate amount of lubricant onto a clean paper towel.
- Locate the external opening (tip of penis) meatus.
- Hold the penis erect between two fingers.
- Gently insert the catheter into the opening until there is a good flow of urine. (A good flow of urine indicates proper catheterization.)
- When the flow of urine stops, gently insert the catheter a little more (1/4 - 1/2 inch) then slowly withdraw the catheter from the bladder. Catheterization is completed. If unable to successfully catheterize with first insertion, repeat the procedure using a clean catheter.
- Use a clean dry cotton ball to pat dry the tip of the penis. Pull the foreskin down over the penis if not circumcised.
- Re-dress the child and return him/her to his/her activity.

**Procedure: (Catheterization of the female - wear gloves.)**

- Open the vaginal lips and hold open with your fingers.
- Locate the meatus external opening (between the labia).
- Cleanse the genitalia. (Use recommended cleaning solution.)
- Clean the area three times. Wash from top of labia (lips) downward.

**TURN THE PAGE TO CONTINUE READING**

- Wash once down each side and once down the middle of the vagina. Use a different soapy cotton ball or towelette. Rotate the towelette each time you clean the area.
- Lubricate the catheter tip. Squeeze small amount of lubricant onto a clean paper towel.

**To insert catheter:**

- Locate the external opening
- Separate and hold the vaginal lips open.
- Gently insert the catheter into the opening until there is a good flow of urine. A good flow of urine indicates proper catheterization.
- When the flow of urine stops, gently insert the catheter a little more (1/4 - 1/2 inch) then slowly withdraw the catheter from the bladder. Catheterization is complete.
- After completing the procedure, use a clean dry cotton ball to pat dry the vaginal area.
- Re-dress the child and return him/her to his/her previous activity.
- After catheterization, clean or discard used catheter, clean and replace supplies, remove gloves, wash hands and measure and record the amount of urine.

**TURN THE PAGE FOR PRACTICE EXERCISE #3**

### PRACTICE EXERCISE #3

#### True/False

For questions 1 - 4, decide if the statement is True or False and CIRCLE your choice. If the statement is False, write the word or statement that will make it True.

1. The external opening should be located and should be cleansed before the catheter is inserted. T or F
2. The genitalia should be cleansed once. T or F
3. You should use the same cotton ball with recommended cleansing solution each time you clean the area.  
T or F
4. If the client is not circumcised, the foreskin should be retracted before catheterization. T or F

For questions 5 - 8, fill in the blanks.

5. To clean the glans penis, \_\_\_\_\_ the penis  
\_\_\_\_\_ the glans.
6. Locate the \_\_\_\_\_.
7. Clean the area \_\_\_\_\_ times.
8. Starting from the \_\_\_\_\_ and moving outward, use a different cotton ball each time.

**TURN THE PAGE TO CONTINUE READING**

For questions 9 and 10, complete the statement.

9. When the flow of urine stops (two steps) \_\_\_\_\_  
then slowly \_\_\_\_\_ the catheter from the bladder.
10. After the procedure is completed (three steps):
- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

For questions 11 - 15, fill in the blank.

11. \_\_\_\_\_ the vaginal lips (labia) and hold open  
with you fingers.
12. To clean the genitalia, wash from \_\_\_\_\_ to  
\_\_\_\_\_ of the vagina.
13. Wash once down each side and once down the  
\_\_\_\_\_.
14. \_\_\_\_\_ the catheter tip.
15. Gently insert the \_\_\_\_\_ until there  
is a good flow of urine.

TURN THE PAGE FOR ANSWERS TO PRACTICE EXERCISE #3

### Answers to Practice Exercise 3#

#### True/False

1. True - The external opening should be located and should be cleansed before the catheter is inserted.
2. False - The genitalia should be cleansed three times.
3. False - You should use a different cotton ball with recommended cleansing solution.
4. True - If the child is not circumcised, the foreskin should be retracted before catheterization.

#### Fill in the blank.

5. To clean the glans penis, hold the penis below the glans.
6. Locate the external opening.
7. Clean the area three times.
8. Starting from the urethral opening and moving outward, use a different cotton ball each time.

#### Complete the statements:

9. When the flow of urine stops, insert the catheter a little more (1/4 - 1/2 inch) then slowly withdraw the catheter from the bladder.
10. After the procedure is completed, pat dry the genital area with a dry cotton ball, pull the foreskin back down

TURN THE PAGE TO CONTINUE READING

over the penis, redress the child and return him/her back to his/her activity.

11. Separate The vaginal lips (labia) and hold open with your fingers.
12. To clean the genitalia, wash down from top to bottom.
13. Wash once down each side and once down the middle of the vagina.
14. Lubricate the catheter tip.
15. Gently insert the catheter until there is a good flow of urine.

If you correctly answered all of the questions in this exercise, congratulations. Please continue reading. If, however, you did not correctly answer all of the questions, go back to page 18, review the material, then complete the exercise after reviewing the material a second time.

**POST ASSESSMENT EXERCISE**

**100% MASTERY IS REQUIRED.**

For questions 1 - 6, complete the statements as cited from the material in the module.

1. The supplies should be assembled and should be within easy reach to \_\_\_\_\_.
2. The suggested positions to perform catheterization are  
a) \_\_\_\_\_ b) \_\_\_\_\_ c) \_\_\_\_\_.
3. The suggested settings where catheterization can be performed are \_\_\_\_\_  
\_\_\_\_\_ or any other facility where privacy is assured.
4. Describe proper hand washing techniques. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. The procedure involved with preparing for catheterization are \_\_\_\_\_.
6. After catheterization, you are to clean or \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**For question 8, you are to write a brief statement.**

8. Write a brief statement to explain the value of learning clean intermittent catheterization, as it relates to your specific job.

**TURN THE PAGE FOR THE ANSWERS TO THE POST ASSESSMENT EXERCISE**

## ANSWERS TO POST ASSESSMENT EXERCISE

For questions 1 - 8, complete the statement.

1. Supplies should be assembled and with easy reach to avoid contamination of items.
2. Catheterization can be performed while the person is sitting, standing or lying down.
3. Catheterization can be performed in; school, the home, the nurse's office or any other facility where privacy is assured.
4. Describe proper hand washing techniques. Wet hands, apply soap, work up a lather. Using friction, wash hands 10 - 20 seconds, including under the fingernails. Rinse soap from hands, using warm water. Pat dry hands with disposable paper towel. Turn faucet off with same paper towel and discard toweling.
5. Preparing to catheterize involves cleaning the area, lubricating tip of catheter, locating the (meatus) external opening in both the male and the female and inserting the catheter.
6. After catheterization, you should clean or discard used catheter, clean and replace supplies, remove gloves and wash your hands, measure and record the amount of urine, if required.

TURN THE PAGE, POST ASSESSMENT EXERCISE CONTINUES

7. In a brief statement, explain the value of learning clean intermittent catheterization as it relates to your specific job.

Any answer to this question will be appropriate since this is a value statement. However, typical responses are:

- Feel comfortable after learning the correct way to perform the procedure.
- In an emergency, it may be necessary to perform this procedure for students.
- It'll enhance my skills as a non-medical person.

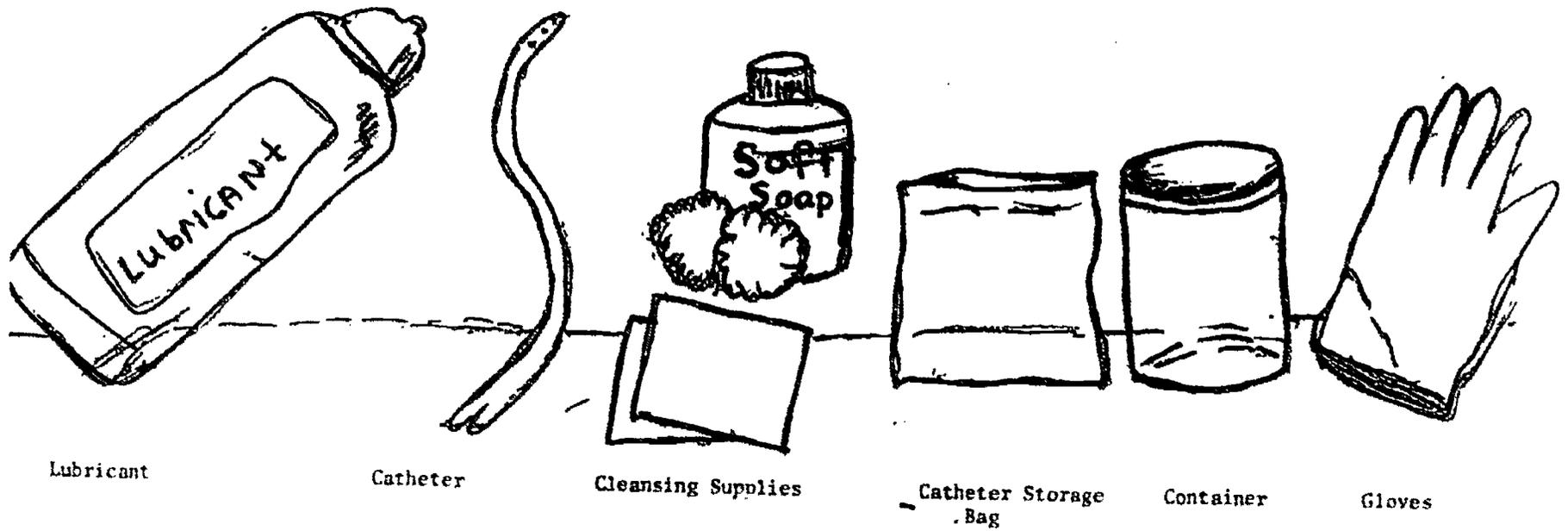
If you have successfully completed each question correctly, you have met the objectives of this module. If not, reread the module until you can accomplish the objectives successfully.

### **SUMMARY**

You have just completed a self-instructional module on urinary catheterization. It was designed to teach the fundamentals of the procedure. Hopefully, the material presented in the module will serve to enrich your current knowledge and is applicable to your specific job. GOOD LUCK.

APPENDIX I

CATHETERIZATION SUPPLIES



Lubricant

Catheter

Cleansing Supplies

Catheter Storage Bag

Container

Gloves

SUPPLIES