

RENAL CARE

Module 7

I. Statement of Purpose

The purpose of this module is to provide learning experiences that will prepare the nurse assistant to safely carry out procedures which support the patient in meeting needs affecting the renal system.

II. Terminology

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|-------------------------------------|-----------------------------------|
| 1. Anuria | 20. Intravenous pyelogram (IVP) |
| 2. Arteriovenous (AV) shunt/fistula | 21. Kidney |
| 3. Bladder | 22. Kidney stones |
| 4. Bladder training | 23. Kidney transplant |
| 5. Catheter care | 24. Lithotripsy |
| 6. Clean catch midstream | 25. Nephrostomy |
| 7. Condom catheter | 26. Nocturia |
| 8. Continuous bladder irrigation | 27. Peritoneal dialysis |
| 9. Cystitis | 28. Renal |
| 10. Cystoscopy | 29. Renal failure |
| 11. Dialysis/hemodialysis | 30. Specimen |
| 12. Dysuria | 31. Suprapubic |
| 13. Electrolyte | 32. Toileting behavior |
| 14. Electromyography | 33. Uremia |
| 15. Elimination | 34. Ureter |
| 16. Filter | 35. Urethra |
| 17. Foley catheter | 36. Urinalysis (UA) |
| 18. Hematuria | 37. Urinary obstruction |
| 19. Incontinence | 38. Urinary tract infection (UTI) |

III. Performance Standards (Objectives)

Upon completion of 3 hours of class plus assignments and 3 hours of clinical experience, the learner will be able to:

1. Define basic terminology.
2. Describe the basic anatomy and physiology of the renal/urinary systems.
3. Describe procedures and nursing care used for the genitourinary system.
4. Identify age-specific toileting behavior (adolescent, young adult, adult, elderly).
5. Identify the reportable signs associated with urinary system.
6. Identify the various urinary drainage tubes and the nurse assistant role.
7. Describe the difference between hemodialysis and peritoneal dialysis.
8. Describe the procedure for collecting urine samples.
9. List diagnostic or therapeutics for urinary/renal problem.

RENAL CARE
Module 7

IV. References

1. Gerdin, J. (2004) *Health careers today* (3rd ed.) St. Louis: Mosby.
2. Gerdin, J. (2004) *Workbook to accompany health careers today*. (3rd ed.) St. Louis: Mosby.
3. Hegner, B., & Caldwell, E. (2003). *Nursing assistant: A nursing process approach* (9th ed.). Albany, NY: Delmar.
4. Chancellor's Office, California Community Colleges (2004). *Model curriculum for nurse assistants (CNA-MC)*. Sacramento, CA: Chancellor's Office, California Community Colleges.
5. Sorrentino, S. A. (2004). *Mosby's textbook for nursing assistants* (6th ed.). St. Louis: Mosby Lifeline.

MODULE 7 - RENAL CARE

Content Outline Theory Objectives	Suggested Learning Activities/Evaluation	Clinical Activities
Objective 1 Define basic terminology. A. Terminology B. Clinical setting application	A. Lecture/ Discuss B. Handout 7.1 - Word Scramble C. Written Test	
Objective 2 Describe the basic anatomy and physiology of the urinary system. A. Anatomy: 1. Kidney 2. Ureters 3. Bladder 4. Urethra B. Functions: 1. Waste elimination 2. Fluid & electrolyte balance	A. Lecture/ Discuss B. Written test	
Objective 3 Describe procedures and nursing care used for the genitourinary system. A. Personal Hygiene 1. Perineal Care 2. Catheter care B. Accurate intake and output C. Bladder training 1. With catheter 2. Without catheter D. Urinary Problems: 1. Kidney stones a. Strain urine b. Report pain 2. AV shunt/fistula- No BP in that arm 3. Renal failure:	A. Lecture/ Discuss B. Clinical observation C. Written test	Demonstrates the ability to properly perform care procedures for renal patients.

Content Outline Theory Objectives	Suggested Learning Activities/Evaluation	Clinical Activities
a. Dietary and fluid restrictions b. Daily weights 4. Urinary incontinence: a. Skin care b. Protective pads		
Objective 4 Identify age specific toileting behavior (adolescent, young adult, adult, elderly). A. Identify age specific issues 1. Adolescent and Young Adult a. More aware of body changes b. Embarrassed easily c. Provide privacy 2. Adult a. Independent b. Establishing family and career c. Allow independent choices, assist as needed 3. Elderly a. Often have incontinence b. Embarrassment c. Provide privacy d. Need more assistance	A. Lecture/ Discuss B. Clinical evaluation C. Written test D. CNA-MC Module 8, objectives 21 – 30, pp. 8.21 – 8.28: Toileting	Assists patients with toileting appropriate to their age.
Objective 5 Identify the reportable signs associated with urinary system. A. Urine characteristics: 1. Color 2. Clarity 3. Odor 4. Amount- normal/abnormal B. Reportable signs & symptoms: 1. Urgency 2. Frequency 3. Bladder pressure	A. Lecture/ Discuss B. Clinical observation C. Handout 7.5 - Evaluating Urine Color D. Written test E. CNA-MC Module 8, objectives 22-31, pp. 8.21 – 8.26: Observation of urine	Provides for patient comfort, personal hygiene, catheter and skin care as appropriate. Accurately measures and records intake and output. Accurately reports abnormal signs and

Content Outline Theory Objectives	Suggested Learning Activities/Evaluation	Clinical Activities
4. Burning or difficulty urinating 5. Decreased amount or lack of urine C. Intake and output		symptoms to licensed nurse.
Objective 6 Identify the various urinary drainage tubes and the nurse assistant role. A. Foley catheter B. Condom catheter C. Nephrostomy tubes D. Continuous bladder irrigation E. Supra-pubic catheters F. Leg bag	A. Lecture/ Discuss B. Skills lab C. Clinical observation D. Written test E. CNA-MC Module 8, objective 24, pp. 8.24-8.25: Foley Catheter	Demonstrate the ability to maintain asepsis in caring for urinary drainage tubes.
Objective 7 Describe the difference in care measures between hemodialysis and peritoneal dialysis. A. Hemodialysis: 1. Procedure that filters and cleans waste products from the blood. It is performed by specially trained RNs. 2. Never take blood pressure in arm with a fistula or shunt B. Peritoneal dialysis: 1. Removes extra water, waste, and chemicals from body by perfusing sterile solutions through the peritoneal cavity and using the thin membrane that lines the abdominal organs, (peritoneum) as a filter. The dialyzed solution drains out through an abdominal tube. 2. Reporting abnormal signs and symptoms a. Fever, nausea/vomiting b. Abdominal pain c. Redness around the catheter d. Change in vital signs 3. Special considerations - no ointments or powder	A. Lecture/Discuss B. Written test	When caring for a patient receiving dialysis, reports abnormal signs and symptoms to licensed nurse.

Content Outline Theory Objectives	Suggested Learning Activities/Evaluation	Clinical Activities
around peritoneal catheter. 4. Prevention of infection 5. Standard precautions		
Objective 8 Describe the procedure for collecting urine samples. A. Specimen Collection 1. Clean catch, midstream 2. 24-hour urine collection 3. Specific gravity B. Standard precautions C. Follow hospital policy for procedure and specimen handling	A. Lecture/ Discuss B. Manual Skill 7.8a - Specimen Collection C. Manual Skill 7.8b - Urine Specimen Collection D. Manual Skill 7.8c - Specific Gravity E. Written test F. Refer to <i>CNA-MC</i> Module 9, objective 4, pp. 9.7-9.8: Collecting urine specimens G. Refer to <i>CNA-MC</i> Module 6, objective 9-h, pp. 6.8-6.9: Standard precautions	Accurately obtains specimens and transports per hospital policy.
Objective 9 List diagnostic or therapeutics for urinary/renal problem. A. Cystoscopy 1. Visual exam of bladder 2. Uses contrast medium to evaluate bladder/ kidney B. Intravenous pyelogram - IVP C. CT Scan - Uses contrast medium to evaluate structural abnormalities D. Lithotripsy - to break up stones E. Urinalysis F. Blood chemistries G. Renal scan - to show blood flow H. Electromyography- evaluate bladder and sphincter muscles.	A. Lecture/ Discuss	

SAMPLE TEST QUESTIONS

Directions: Circle the best answer

1. The person with a urinary diversion
 - a. Wears a pouch.
 - b. Needs dialysis.
 - c. Has urine strained.
 - d. Has urine tested before meals and at bed time.
2. A person has chronic renal failure. Care includes the following except
 - a. A diet low in protein, potassium and sodium.
 - b. Measuring urinary output every hour.
 - c. Straining all urine.
 - d. Measuring weight daily.
3. The nursing assistant who finds a disconnected catheter in bed should:
 - a. Reconnect it immediately
 - b. Wash around it with alcohol, then reconnect it
 - c. Disinfect with betadine, then reconnect it
 - d. Not reconnect it, report it
4. A suprapubic catheter
 - a. Is used during renal dialysis.
 - b. Is inserted surgically through the abdominal wall.
 - c. Has a balloon which is inflated after introduction into the bladder.
 - d. Is a common type of external catheter used for males.
5. When collecting a 24-hour urine specimen:
 - a. The time starts after the first voiding is saved
 - b. The time starts after the first voiding is discarded
 - c. If you forget to save a specimen, document and extend the time by one voiding past the 24 hours
 - d. It is not necessary to put a Foley catheter bag in ice
6. Your patient has kidney stones; your care will include:
 - a. Saving all urine
 - b. Limiting fluids
 - c. Inserting a catheter
 - d. Straining all urine
7. Important signs and symptoms to report to the licensed nurse include:
 - a. Cloudy urine
 - b. Abdominal pain
 - c. Hematuria
 - d. All of the above
8. Your patient has an AV shunt; you should:
 - a. Not use the shunt arm for blood pressure measurement.
 - b. Recognize that the patient has had a TURP.
 - c. Use the arm with the shunt for the most accurate blood pressure measurement.
 - d. Not worry about maintaining an accurate intake and output.

SAMPLE TEST QUESTIONS - KEY

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RENAL WORD SCRAMBLE

1.
U I N R A A
2.
T R A P I E E L N O
3.
S Y C T T I I S
4.
M U I H T E R A
5.
T O H R P T S I Y I L

**RENAL WORD SCRAMBLE
KEY**

1. Anuria
2. Peritoneal
3. Cystitis
4. Hematuria
5. Lithotripsy

EVALUATING URINE COLOR

APPEARANCE	POSSIBLE CAUSES
Colorless or straw colored (diluted urine)	Excessive fluid intake, chronic renal disease, diabetes insipidus, nervous conditions
Dark yellow or amber (concentrated urine)	Low fluid intake, acute febrile disease, vomiting, diarrhea
Cloudy	Infection, purulence, blood, epithelial cells, fat, colloidal particles, urates, vegetarian diet, parasitic disease
Yellow to amber, with pink sediment	Hyperuricemia, gout
Orange-red to orange brown	Urobilinuria, such drugs as phenazopyridine (Pyridium), obstructive jaundice (tea-colored)
Red or red-brown	Porphyria, hemoglobin, erythrocytes, hemorrhage, such drugs as purvinium pamoate (Povan)
Green-brown	Bile duct obstruction, phenol poisoning
Dark brown or black	Acute glomerulonephritis, chorea, typhus, methylene blue medication
Smoky	Prostatic fluid, fat droplets, blood, chyle, spermatozoa

SPECIMEN COLLECTION

General Procedure

A. Nursing Preparation

1. Know which test is needed, assemble correct equipment, review procedure.
2. Identify patient to be sure procedure is for right patient.
3. Consent form if necessary (responsibility of RN).
4. Obtain help, if necessary (assisting heavy patient to BSC, lifting equipment).
5. Determine if any special equipment needed (wheelchair to assist to bathroom, water-proof bed pads, etc).

B. Preparing the Patient for Tests

1. Communication skills
2. Clear instructions as to right time, need for test, what patient must do.
3. Obtain the patient's cooperation to participate in the test (Remain NPO if necessary, call next time need to void, drink extra water, etc.).
4. Answer patient's questions about the test or find information.
5. The more informed the patient, the more cooperative he/she will be.

C. Perform the Procedure

1. Use aseptic technique (wash hands).
2. Gather equipment.
3. Prepare the environment (privacy, draping, assist with positioning).
4. Obtain the:
 - right amount of specimen
 - in the right container
 - at the right time
 - from the right patient.
5. Wear gloves if contact with body fluids (follow Standard Precautions and Category Specific Isolation procedures.)
6. Re-establish comfort (reposition patient, straighten bedding, notify nurse of need for pain medication, etc).

D. Delivery and Documentation

1. Handle and label specimen correctly (may need to be refrigerated or delivered immediately to lab)
2. Document procedure correctly or report to nurse that specimen obtained.

URINE SPECIMENS

CLEAN CATCH (MID-STREAM)

1. Gather equipment
2. Follow general procedures
3. Wear gloves
4. Cleanse meatus and obtain specimen
5. Label specimen
6. Let patient wash hands
7. Re-establish comfort of patient

24 HOUR URINE SPECIMEN

1. Follow general procedure
2. Gather equipment
3. Post signs with date and time of collection
4. Explain procedure
 - Save all urine
 - Do not contaminate urine
5. Void before start of test (discard)
6. Save all urine for 24 hour period (if specimen lost or contaminated must start over)
7. Store in proper container (maintain on ice if necessary)
8. Have patient void before end of time period if possible
9. Remove signs and tell patient test is over

STRAINING URINE FOR KIDNEY STONES

1. Follow general procedures
2. Understand medical process
 - Locations of kidney stones
 - Pain is severe - patient may forget to save urine
3. Wash hands and wear gloves
4. Provide collection pan for urine
5. Strain all urine even if patient has catheter
6. Observe urine
7. Save any foreign material
8. Remove gloves and wash hands

URINE SPECIMEN COLLECTION

EQUIPMENT:

1. Sterile urine specimen container
2. Routine specimen container and lid
3. 24-hour urine container
4. Condom catheter
5. Foley catheter
6. Foley drainage bag
7. Continuous bladder irrigation setup

CRITERIA:

Collect urine specimens

1. Accurately obtains urine specimens in clinical area: clean catch, midstream, 24 hour.
2. Demonstrates application of condom catheter.
3. Demonstrates emptying and accurate measurement of urine from drainage bag.

SPECIFIC GRAVITY

EQUIPMENT:

1. Graduated cylinder to collect urine
2. Urine specimen cup
3. Urine specimen
4. Urinometer
5. Tissues or wash cloth and towel to provide perineal care
6. Gloves

CRITERIA:

Determine specific gravity

1. Perform introductory procedure (knock, introduce self, wash hands, identify patient, explain procedure, provide privacy).
2. Put on gloves.
3. Obtain at least 20 cc's of fresh urine specimen that is not contaminated by tissue or stool
 - a. Use bedpan or specimen pan in toilet (be sure containers are clean)
 - b. assist patient to dry perineum
 - c. Pour urine from bedpan or specimen pan into clean graduated cylinder to measure
 - d. Pour 30 to 50 cc's into specimen cup to use for ease of pouring into urinometer
4. Place urinometer on paper towel on counter.
5. Pour at least 20 cc's of urine into urinometer so that it is at least two-thirds full (the base of the bulb should float and not touch the bottom).
6. Gently spin the stem of the bulb so it floats freely and does not touch the sides of the urinometer.
7. Raise the urinometer to eye level or bend down to view it as it sits on the counter.
8. At eye level read the highest point on the urinometer scale where the urine touches the scale (the scale measures from 1.000 to 1.040 and normal is 1.003 to 1.030).
9. Empty urine into toilet.
10. Wash and rinse the cylinder using soap and water according to facility policy.
11. Replace equipment to appropriate storage area.
12. Wash hands .
13. Document procedure and I & O as necessary.
14. Report results to licensed nurse.