Module B: Application of the Nursing Process in Caring for Patients with Common Health Problems of the Renal System

1. Statement of Purpose

The urinary system has significant functions in the removal of metabolic wastes and in the regulation of fluid and electrolyte balance. Health problems that occur throughout the lifespan may interfere with normal urinary elimination. This module deals with the various congenital disorders, neurogenic disorders, urinary infections and renal failure that can occur across the ages. The nurse will learn the assessment skills necessary to identify actual and potential nursing problems and will develop the necessary skills to promote, maintain, or restore health.

2. Terminology

<table>
<thead>
<tr>
<th>Polycystic Disease</th>
<th>Cutaneous Ureterostomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glomerulonephritis</td>
<td>Cystitis</td>
</tr>
<tr>
<td>Nephrosis</td>
<td>Ileal Loop</td>
</tr>
<tr>
<td>Renal Calculi</td>
<td>Ileal Conduit</td>
</tr>
<tr>
<td>Stress Incontinence</td>
<td>Functional Obstruction</td>
</tr>
<tr>
<td>Prostatic Hypertrophy</td>
<td>Mechanical Obstruction</td>
</tr>
<tr>
<td>Neurogenic Bladder</td>
<td>Nephrectomy</td>
</tr>
<tr>
<td>Anuria</td>
<td>Marshal-Marchetti Procedure</td>
</tr>
<tr>
<td>Cystometrogram</td>
<td>Acute Renal Failure</td>
</tr>
<tr>
<td>Cystoscopy</td>
<td>Chronic Renal Failure</td>
</tr>
<tr>
<td>Dysuria</td>
<td>Azotemia</td>
</tr>
<tr>
<td>Frequency</td>
<td>CAPD (Continuous Ambulatory</td>
</tr>
<tr>
<td>Hematuria</td>
<td>Peritoneal Dialysis</td>
</tr>
<tr>
<td>Hesitancy</td>
<td>Extrophy of the Bladder</td>
</tr>
<tr>
<td>Nocturia</td>
<td>Hemodialysis</td>
</tr>
<tr>
<td>Oliguria</td>
<td>Hydronephrosis</td>
</tr>
<tr>
<td>Polyuria</td>
<td>Uremia</td>
</tr>
<tr>
<td>Residual Urine</td>
<td>Urethritis</td>
</tr>
<tr>
<td>Retention w/ Overflow</td>
<td>Peritoneal Dialysis</td>
</tr>
<tr>
<td>IVP</td>
<td>Nephrotic Syndrome</td>
</tr>
<tr>
<td>Retrograde Pyelography</td>
<td>Ultrafiltration</td>
</tr>
<tr>
<td>Urgency</td>
<td>Urolithiasis</td>
</tr>
<tr>
<td>Voiding Cystourethrogram</td>
<td>Renal Transplantation</td>
</tr>
<tr>
<td>Closed Drainage</td>
<td>Acute Tubular Necrosis</td>
</tr>
<tr>
<td>Constant Irrigation</td>
<td>Creatinine</td>
</tr>
<tr>
<td>Pyelonephritis</td>
<td></td>
</tr>
<tr>
<td>Renal Colic</td>
<td></td>
</tr>
<tr>
<td>Blood Urea Nitrogen</td>
<td></td>
</tr>
</tbody>
</table>
3. **Classroom Objectives**

3.1

a. Identify the common health problems of the infant and child with an alteration in urinary function.

b. Discuss nursing problems identified for the renal patient including; alterations in patterns of voiding; alterations in fluid and electrolyte balance; inadequate elimination of metabolic waste products.

c. Describe the common health problems of the older adult affecting renal function.

***
d. Identify the common health problems of the urinary system that occur across the lifespan involving inflammation, infection, neoplasia, lithiasis, immunological and degenerative disorders.

e. Discuss the various treatment modalities for patients experiencing alterations in urinary system function.
   1) Medical management: medications, nutrition-metabolic considerations
   2) Surgical interventions
   3) Renal dialysis: hemodialysis, peritoneal dialysis
   4) Nursing interventions
   5) Psychosocial lifestyle influences
   6) Adaptation/maladaptation

f. Identify the various diagnostic and laboratory tests commonly used to identify and assess renal function/dysfunction:
   1) Urinalysis
   2) Cystoscopy
   3) IVP, KUB/renal scan
   4) Retrograde pyelography
   5) Renal function tests
   6) Biopsy

***
g. Describe the patient teaching needs for those experiencing renal dysfunction. Include the caring practices necessary to relieve anxiety and fear.

*** Not required of the VN student.

3.2 **Learning Activities**

a. Review anatomy and physiology of urinary system.

b. Know terminology.

c. Review assigned computer programs, A-V materials and journal articles.
d. Discuss, in class, a teaching plan for a patient newly diagnosed as renal failure with a shunt placement. Include:
   1) Nutrition-metabolic needs
   2) Shunt care
   3) Medications
   4) Skin care
   5) Psychological considerations
   6) Lifestyle changes

e. Complete a nursing care plan for a client with renal dysfunction.

*** Not required of the VN student.

3.3 References
   a. Anatomy and Physiology text.
   c. Roth & Townsend, Nutrition & Diet Therapy 9th ed., Thompson
   d. Ricci, Maternity & Pediatric Nursing, 1st ed., Walters
      Review Growth & Development Chapters
   e. Laboratory Tests & Diagnostic Procedures Text: Student’s Choice

4. Clinical Objectives
   a. Provide nursing care for patients having renal dysfunction.
   b. Assist in the preparation of patients for diagnostic procedures.
   c. Administer medications to patients having renal dysfunction (oral & parenteral).
   d. Complete a nursing care plan for a patient having renal dysfunction.
   e. Obtain specimens for laboratory analysis as relevant to patient condition.
   f. Provide nursing care for the patient having dialysis therapy.
   g. Demonstrate knowledge of the principles of infection control for the protection of the patient, self and others.

*** I.V. medications are not required of the VN student.

5. Skills Laboratory Requirements
   a. Review:
      1) Providing a bedpan or urinal
2) Collecting urine specimens
3) Inserting urinary catheters
4) Maintaining a closed system
5) Irrigating urinary catheters
6) Instilling medications via urinary catheters
7) Maintaining continuous bladder irrigation

b. Assessment of the urinary system
c. Care of the patient with urinary diversion
d. Urinary diversion stomal care

Reference:
Lynn, Taylor’s Clinical Nursing Skills, 2nd ed., Walters Kluwer/Lippincott Williams & Wilkins, 2008