

## **Nursing Care of Children and Families - Pediatrics**

### **3 Module 3 – Caring for Children with Alterations in Nutrition/Elimination**

#### **Suggested Time Frame: 6 Hours**

#### **Goal Statement**

The goal of this module is to present a comparison of the differences between the gastrointestinal and genitourinary system in the child and adult, examine various alterations in nutrition and elimination, and the role of the nurse, using the nursing process to intervene appropriately and optimize the health and welfare of the pediatric client with dysfunctions of the gastrointestinal and genitourinary systems.

#### **Module Description**

Module 3 provides an overview of the anatomy and physiology and principles of assessment of the gastrointestinal and genitourinary systems in the pediatric client. It includes common alterations in nutrition and elimination, the treatment, nursing management and medications used in the therapeutic regime. The nursing process is used as the organizing framework.

#### **Objectives**

Upon completion of Module 3, the student will be able to:

1. Delineate the differences between the anatomy and physiology of the gastrointestinal system of the infant and the adult.
2. Describe the pathophysiology, etiology, signs and symptoms of common disorders of nutrition and elimination and the nursing management using the nursing process as an organizing framework.
3. Determine the nursing management for children and their families requiring surgery for specific disorders of nutrition and elimination.
4. Determine the nursing management for children and their families with specific medical problems related to nutrition.
5. Delineate the differences in the anatomy, physiology and functioning of the genitourinary system of children and adults.
6. Describe the pathophysiology, clinical manifestations, treatment and nursing management in the role of caregiver, teacher and manager of care with common alterations in elimination related to the genitourinary system: Acute glomerulonephritis, nephritic syndrome, urinary tract infection, Wilm's Tumor and related fluid and electrolyte imbalances using the nursing process as the organizing framework.
7. Describe the actions of medications that are commonly used in the treatment of alterations in gastrointestinal and genitourinary functions.

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<p align="center"><b>Column I Content Outline Theory Objectives</b></p>	<p align="center"><b>Column II Suggested Learning Activities</b></p>	<p align="center"><b>Column III Clinical Objectives</b></p>	<p align="center"><b>Column IV Clinical Activities (Competencies Skills)</b></p>
<p><b>Objective 1</b> <b>Delineate the differences between the anatomy and physiology of the gastrointestinal system of the infant and the adult.</b></p> <p>A. Review the differences in anatomy and physiology of the GI System between the infant and adult.</p> <ol style="list-style-type: none"> <li>1. Stomach capacity</li> <li>2. Peristalsis</li> <li>3. Emptying time</li> <li>4. Metabolic requirements</li> <li>5. Length of small intestines</li> <li>6. Surface area of small intestines</li> <li>7. Length of large intestines</li> <li>8. Digestive enzymes</li> </ol> <p>B. Describe the basic principles of assessment for the GI system in the pediatric client.</p>	<p><b><u>Required Reading</u></b> In Primary text chapters related to:</p> <ul style="list-style-type: none"> <li>• Anatomy and Physiology of the Pediatric Gastrointestinal System</li> <li>• Assessment of the nose, mouth, oro and nasopharynx, stomach and anus.</li> <li>• Pediatric Nursing Ball, Ch. 24</li> </ul>	<ul style="list-style-type: none"> <li>• Relate the anatomy and physiology of the gastrointestinal system</li> <li>• Demonstrate physical examination of the GI system</li> </ul>	<ul style="list-style-type: none"> <li>• Accurately perform and document an assessment of the GI System with an assigned client or in a simulated setting, report and document appropriately.</li> </ul>

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<p><b>Objective 2</b> <b>Describe the pathophysiology, etiology, signs and symptoms of common disorders of nutrition and elimination and the nursing management using the nursing process as an organizing framework.</b></p> <p>A. Explain the pathophysiology of the following and apply the nursing process to each:</p> <ol style="list-style-type: none"> <li>1. Appendicitis</li> <li>2. Cleft Lip/Palate</li> <li>3 Failure to thrive</li> <li>4. Gastroesophageal reflux</li> <li>5. Gastroenteritis</li> <li>6. Hirshsprung’s Disease</li> <li>7. Intussusception</li> <li>8. Lactose Intolerance</li> <li>9. Pyloric Stenosis</li> </ol>	<p><b><u>Required Reading</u></b> In Primary text chapters related to:</p> <ul style="list-style-type: none"> <li>• Upper and Lower gastrointestinal alterations</li> <li>• Postoperative care of the pediatric client with gastrointestinal alterations and general principles of postoperative care.</li> <li>• Pediatric Nursing Ball, Ch. 24</li> </ul> <p><b><u>Resources</u></b> ATI ch. 35, 36, 37</p> <p>Wongs Essentials of Pediatric Nursing pgs. 84, 119, 175, 179, 184, 197, 214</p>	<ul style="list-style-type: none"> <li>• Plan and implement nursing care utilizing the nursing process for the child and family with an alteration in nutrition and elimination</li> <li>• Incorporate medical diagnosis and treatment, child’s developmental level, family and cultural factors</li> <li>• Discuss the etiology and psychosocial dynamics of failure to thrive</li> <li>• Outline a plan of care for the child with gastroenteritis.</li> <li>• Specify the health teaching needs of the infant with cleft lip and palate, pre and post repair</li> </ul>	<ul style="list-style-type: none"> <li>• Perform and document an age-appropriate assessment and provide appropriate nursing care for an assigned child, including the family in the plan of care with an alteration in nutrition and elimination.</li> <li>• Explain the rationale for the use of a prescribed special formula in relationship to the diagnosis of an assigned infant</li> <li>• Obtain a stool specimen</li> <li>• Implement nursing care for the child with gastroenteritis.</li> <li>• Calculate the fluid needs for an assigned client.</li> <li>• Accurately report and document assessment data, interventions, outcomes and follow through related to child’s nutritional status</li> <li>• Feed an infant with and without a cleft lip or palate</li> </ul>

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<p>B. Explain the diagnostics tests for nutriron and elimination disorders based on anatomical location and child’s age.</p>		<ul style="list-style-type: none"> <li>• Identify the fluid and electrolyte deficits and replacement needs for children with esophageal reflux, gastroenteritis, malabsorption and pyloric stenosis</li> <li>• Provide supportive interventions for child and family.</li> </ul>	<ul style="list-style-type: none"> <li>• Implement nursing care to assist the infant with esophageal reflux and teach the family appropriate measures to alleviate this.</li> <li>• Provide interventions to monitor and maintain fluid and electrolyte balance</li> <li>• Explain the nursing interventions associated with therapeutic management of the child with an intestinal obstruction</li> <li>• Explain the rationales for diangositic tests for nutrition and elimination disorders.</li> </ul>

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<p><b>Objective 3</b> <b>Determine the nursing management for children and their families requiring surgery for specific disorders of nutrition and elimination.</b></p> <p>A. Discuss the observations and nursing interventions for clients undergoing surgery for:</p> <ol style="list-style-type: none"> <li>1. Cleft lip</li> <li>2. Cleft palate</li> <li>3. Hirschprung’s disease</li> <li>4. Pyloric stenosis</li> <li>5. Appendicitis</li> </ol> <p>B. Review the nutritional/fluid needs for various age groups and determine nursing interventions for alterations to nutritional/fluid needs based on underlying disorder.</p>	<p><b><u>Required Reading</u></b> In Primary text chapters related to:</p> <ul style="list-style-type: none"> <li>• Treatment of cleft lip, palate, hirschprung’s disease, pyloric stenosis, and appendicitis</li> <li>• Pediatric Nursing Ball, Ch. 24</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a plan of care for a pediatric patient undergoing surgery for alterations in the upper and lower gastrointestinal disorder.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform an appropriate postoperative assessment. <b>observations.</b></li> <li>• Identify nursing diagnoses and related interventions and provide care as indicated ensuring that aseptic techniques, comfort measures fluid/nutritional needs and pain management are effective for assigned client(s).</li> </ul>

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<p><b>Objective 4</b> <b>Determine the nursing management for children and their families for specific medical problems related to nutrition.</b></p> <p>A. Discuss the observations and nursing interventions for clients with medical problems of:</p> <ol style="list-style-type: none"> <li>1. Failure to thrive</li> <li>2. Gastroenteritis</li> <li>3. Lactose Intolerance</li> </ol> <p>B. Compare and contrast types of dehydration.</p>	<p><b><u>Required Reading</u></b> In Primary text chapters related to:</p> <ul style="list-style-type: none"> <li>• Pediatric Nursing Ball, Ch. 24, 16</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss parental beliefs related to addressing nutritional needs of pediatric clients.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess and discuss the nutritional needs of the assigned client in relation to failure to thrive, gastroenteritis and lactose intolerance their developmental level and identified alteration in nutrition and elimination.</li> <li>• Collaborate with the family to set goals and develop a teaching plan to assist them with caring for the needs of the child with alterations in nutrition and elimination.</li> <li>• Develop and Implement a nursing care plan addressing hydration status.</li> </ul>

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<p><b>Objective 5</b> <b>Delineate the differences in the anatomy, physiology and functioning of the genitourinary system of children and adults.</b></p> <p>A. Review the anatomy and physiology of the genitourinary and related systems, including age-related differences.</p> <ol style="list-style-type: none"> <li>1. Identify the structures of the genitourinary system</li> <li>2. Differences between children and adults</li> <li>3. Discuss the functions of each of the components of the genitourinary system</li> </ol> <p>B. Describe the basic assessment of the genitourinary system and the variances between children and adults.</p>	<p><b><u>Required Reading</u></b> In Primary text chapters related to:</p> <ul style="list-style-type: none"> <li>• Anatomy and Physiology of the Pediatric genitourinary system</li> <li>• Pediatric Nursing Ball, Ch. 25</li> </ul>	<ul style="list-style-type: none"> <li>• Relate the anatomy and physiology of the genitourinary system to disease processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform age-appropriate assessment of the genitourinary system.</li> <li>• Accurately report and document assessment findings.</li> </ul>

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<p><b>Objective 6</b>  <b>Describe the pathophysiology, clinical manifestations, treatment and nursing management in the role of caregiver, teacher and manager of care with common alterations in elimination related to the genitourinary system: Acute glomerulonephritis, nephritic syndrome, urinary tract infection, Wilm’s Tumor and related fluid and electrolyte imbalances using the nursing process as the organizing framework.</b></p> <p>A. Acute glomerulonephritis                      B. Nephrotic syndrome                      C. Urinary tract infection                      D. Wilm’s Tumor                      E. Related fluid and electrolyte imbalances.</p>	<p><b><u>Required Reading</u></b>                      In Primary text chapters related to:</p> <ul style="list-style-type: none"> <li>• Genitourinary Alterations</li> <li>• Pediatric Nursing Ball, Ch. 25, 16</li> </ul> <p><b><u>Resources</u></b>                      ATI ch 41, 42</p> <p>Wong’s Essentials of Pediatric Nursing pgs. 188, 265, 375, 383, 179</p>	<ul style="list-style-type: none"> <li>• Plan and implement assessment for a child and family with an alteration in genitourinary elimination.</li> <li>• Specify the health care teaching needs for the child with a urinary tract infection.</li> <li>• Calculate daily maintenance fluid requirements for children of various ages.</li> </ul>	<ul style="list-style-type: none"> <li>• During initial and ongoing assessments, evaluate assigned clients, for signs and symptoms related to the elimination diagnosis and response to treatment.</li> <li>• Develop nursing diagnoses related to genitourinary problems and needs for the child and family.</li> <li>• Plan and implement nursing care that is age-appropriate and culturally sensitive, utilizing the nursing process for a child and their family or caregiver with alterations in genitourinary elimination.</li> <li>• List the minimal urine output per kg per hour for the infant, toddler, preschooler, school-age, and adolescent.</li> <li>• Compare and contrast the etiology and pathophysiology clinical manifestations, and nursing care of the child with acute glomerulonephritis and nephritic syndrome.</li> </ul>



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			<ul style="list-style-type: none"> <li>• Implement the teaching plan for a child and family / caregiver with a urinary tract infection.</li> <li>• Identify nursing diagnoses and related interventions in planning the care of a child undergoing treatment for Wilm’s Tumor.</li> <li>• Implement a teaching plan that describes the signs and symptoms of fluid-electrolyte and acid-base imbalances to the child (if age-appropriate) and to the family/caregiver with identified alteration in genitourinary elimination.</li> </ul>

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<p><b>Objective 7</b>  <b>Describe the actions of medications that are commonly used in the treatment of alterations in gastrointestinal and genitourinary functions.</b></p> <p>A. Identify pharmacological substances according to classifications specific to gastrointestinal functioning:</p> <ol style="list-style-type: none"> <li>1. Antispasmodics</li> <li>2. Antifungal</li> <li>3. Bulk formers</li> <li>4. H<sub>2</sub> Inhibitors</li> </ol> <p>B. Discuss the nursing implications that are specific to the administration of medications that affect gastrointestinal functions.</p> <p>C. Identify pharmacological substances according to classifications specific to genitourinary functioning:</p> <ol style="list-style-type: none"> <li>1. Albumin</li> <li>2. Analgesics</li> <li>3. Antineoplastics</li> <li>4. Antipyretics</li> <li>5. Antibiotics</li> <li>6. Corticosteroids</li> <li>7. Diuretics</li> </ol> <p>D. Discuss the nursing implications that are specific to the administration of medications that affect genitourinary functions.</p>	<p><b><u>Required Reading</u></b>                      In Primary text and Pharmacology text chapters related to:</p> <ul style="list-style-type: none"> <li>• Drug classifications listed related to their action on gastrointestinal and genitourinary function.</li> <li>• Pediatric Nursing Ball, Ch. 24, 25</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the actions, rationale for administration in relation to the specific gastrointestinal and genitourinary alteration, doses and nursing implications for specific medication to be administered.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate knowledge of actions, rationale for administration in relation to specific gastrointestinal and genitourinary alteration. medications</li> <li>• Correctly calculate dosages. Select the appropriate medication form and equipment for administration. Prepare the medication according to the “6 Rights.”</li> <li>• Assess assigned client prior to administration and within 15-30 minutes of administration for reaction to medication.</li> <li>• Document appropriately and report findings as necessary.</li> </ul>

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<p><b>Objective 8</b></p> <p><b>Discuss nutritional requirements for the pediatric client according to age groups.</b></p> <p>A. Identify the major principles of infant nutrition.</p> <p>B. Identify the major principles of nutrition for toddlers.</p> <p>C. Identify the major principles of nutrition for preschoolers.</p> <p>D. Identify the major principles of nutrition for school-age children.</p> <p>E. Identify the major principles of nutrition for adolescents..</p> <p>F. Examine cultural beliefs and practices related to growth, development and nutritional needs.</p>	<p><b><u>Required Reading</u></b>                      In Primary text chapters related to:</p> <ul style="list-style-type: none"> <li>• Nutritional Needs of Children</li> <li>• Nutritional Assessment</li> <li>• Pediatric Nursing</li> <li>• Ball, Ch. 4</li> </ul> <p><b><u>Internet Resources</u></b></p> <ul style="list-style-type: none"> <li>• Food Guide Pyramid  <a href="http://mypyramid.gov">http://mypyramid.gov</a></li> </ul> <p><b><u>Resources</u></b>                      ATI ch. 9</p>	<ul style="list-style-type: none"> <li>• Identify the nutritional needs and modifications according to the age and developmental needs of the child.</li> <li>• Discuss parental beliefs related to growth, development and nutritional needs of pediatric clients.</li> </ul>	<ul style="list-style-type: none"> <li>• During the physical examination of the assigned child, perform an age and developmentally appropriate nutritional assessment, report findings to the appropriate person(s) and document on the appropriate forms in the client’s record.</li> <li>• Determine whether the assigned child falls within the “normal” growth curves and relate this information to identification of teaching needs for the family according to their cultural and traditional beliefs.</li> </ul>