



University of the Philippines Manila
The Health Sciences Center
COLLEGE OF NURSING
WHO Collaborating Center for Leadership in Nursing Development



ANATOMY AND PHYSIOLOGY (N3)
First Semester, Academic Year 2022-2023

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STUDY GUIDE
URINARY SYSTEM

Introduction

Hello Student Nurses!

Last week, you learned about the digestive system's structures and vital functions and how metabolism works. In this topic, you will now discover the importance of the urinary system in maintaining the homeostasis of the body by altering blood composition, pH, volume, and pressure; maintaining blood osmolarity; excreting wastes and foreign substances; and producing hormones (Tortora and Derrickson, 2014 p. 979). In this study guide, we will look closely at the structure of the urinary system and its various functions.

Learning Outcomes

1. Describe the parts of the kidneys
2. Discuss the functions of the kidneys
3. Trace the flow of blood within the kidneys
4. Explain the three basic functions of the nephrons

Asynchronous activities:

1. Read the following topics in Chapters 26 and 27 of Principles of Anatomy & Physiology by Tortora and Derrickson (2012):
 - A. Kidneys
 - A.1 Location and Structure
 - A.2 Nephrons
 - A.3 Urine Formation and Characteristics
 - B. Ureters, Urinary Bladder, and Urethra
 - C. Fluids, Electrolyte, and Acid-Base Balance
 - D. Development of the Urinary System
2. Download the topic handouts and watch the recorded video on the VLE course site.

3. Watch the following supplemental videos by Khan Academy to help you appreciate more and better understand the topic:
 - a. [Kidney function and anatomy](#)
 - b. [Renal system physiology](#)
 - c. [Waters, acids, and bases](#)
4. Answer the 10-item post-test on the VLE course site.

Synchronous activities:

1. Attend the plenary session on December 2, 2022, from 11:00 AM to 12:00 NN. The zoom meeting link is posted on the course site.
2. Make sure to log in 15 minutes before the scheduled time.
3. Dress appropriately since you will be asked to open your camera for attendance.

References:

- Bradford, J., & Hopper, P. (2015). In *Understanding Medical Surgical Nursing, 5th ed* (pp. 871–886). F.A. Davis Company.
- Tortora, G., & Derrickson, B. (2012). *Principles of Anatomy and Physiology, 3rd ed* (pp. 680-727). John Wiley & Sons, Inc.