

**OAKLAND UNIVERSITY  
SCHOOL OF NURSING**

**Medication Administration  
Module C**

*Basic BSN: 1<sup>st</sup> Semester Senior  
Accelerated 2nd Degree: 3rd Semester*

**Faculty of Record:  
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## MEDICATION ADMINISTRATION EXAMINATION – MODULE C

### Introduction

The RN must be able to calculate dosages correctly for safe medication administration. These calculations must be performed quickly and accurately. The RN must verify dosages that were calculated by pharmacy staff and know how to correctly administer medications once needed calculations have been completed. All nursing students are expected to utilize mathematical and critical thinking skills to ensure that medications are administered appropriately and safely.

The Medication Administration Examination (MAE) - Module C is to help students prepare for the MAE Level III (Basic-BSN Senior-Semester 1 and ASD-Semester 3). **Students should review Modules A and B to ensure that they are proficient with those conversions and calculations before starting the new content in Module C.** Modules A and B are posted on the SON website.

As with module A and B, students are expected to utilize the required textbook in order to prepare for the MAE. In Module C students will calculate dosages based on body surface area. Advanced pediatric dosages will be calculated including IV medications administered with volume control sets and dilutions. Advanced adult intravenous calculations utilizing heparin and insulin protocols and IV medications ordered per minute will also be introduced.

### Objectives

At the completion of this module, the student will be able to:

1. Convert dosages within and between measurement systems using metric, household, and apothecary systems.
2. Correctly interpret medical abbreviations and medication orders.
3. Demonstrate correct calculation of oral and parenteral medication dosages.
4. Correctly calculate intravenous flow rates, intravenous piggyback infusion rates, and duration of infusion.
5. Correctly calculate pediatric and adult dosages based on body weight.
6. Correctly calculate pediatric and adult dosages based on body surface area.

## **Required Textbook**

Pikar, G. D., & Abernethy, A. P. (2013). *Dosage calculations*. (9th ed.). Clifton Park, NY: Delmar, Cengage Learning. (ISBN13: 978-1-4390-5847-3)

## **Medication Administration Examination**

The MAE is administered to all Basic-BSN and Accelerated Second Degree nursing students at each level of the nursing curriculum. Please refer to the SON Undergraduate Student Handbook for information related to the MAE policy and requirements.

## **MODULE C**

### **Chapter 16: Body Surface Area and Advanced Pediatric Calculations**

Make sure that you read and review this chapter carefully. When you are done, you need to be able to:

- Calculate pediatric and adult dosages based on BSA
- Calculate fluid amounts and infusion rates for intermittent pediatric medications using volume control sets
- Calculate daily volume for pediatric maintenance fluids

Students are not expected to calculate the patient's BSA. This information will be provided on the MAE. Make sure that you can successfully complete the following problems:

- Review set 43 questions 1-5 and 8-13 on pp. 495-496
- Review set 44 questions 1-10 on pp. 500-501
- Review set 45 questions 3-6 and 10 on pp. 505
- Practice problems 21-49 on pp. 509-512