

MEDICATION COMPETENCY STUDY GUIDE

The Medication Administration Competency Assessment is required to independently administer medications at Mercy according to role and department worked. The intent is to assess the basic knowledge new hires bring to Mercy for medication administration and to provide the resources available in practice to make them successful.

Assessment Objectives

1. Validate knowledge of medication administration, terminology, orders, reference materials, and dosage calculation.
 2. Apply the rights of medication administration to clinical scenarios.
 3. Comply with Mercy standards regarding safe administration of medications.
- The assessment is taken through Mercy's Learning Management System (WorkDay). You will find the study guide and assessment by clicking on "menu" and go to "Learning" and then "Learning Home".
 - It is an "open resource/book" assessment consisting of 35 *multiple choice* questions and learners have 90 minutes to complete it.
 - If an 85% score is not achieved (more than 5 questions are missed), an email is sent to the new hire within 24 hours with instructions on taking it again for up to three total attempts for Mercy hires and two total attempts for Agency staff. Assessment results are provided immediately upon completion.

Tips for Success:

Before opening the timed assessment,

- Review and complete this study guide and practice questions
- Practice reviewing, accessing, and using Mercy's two medication assessment resources **prior to opening the assessment**. (See below)
- Consider taking any subsequent attempts at Mercy on a Mercy computer if the first attempt was from home and technology issues were encountered
- Use a calculator and any other resources (except another nurse)
- Practice calculations using online practice resources. Examples include:

<https://cehe.instructure.com/courses/24321/quizzes/356851/take>

<https://w3.rn.com/uploadedFiles/RN/2013%20RN%20BMAE%20Study%20Guide.pdf>

<https://nurseslabs.com/drug-dosage-calculations-practice-quiz/>

<http://www.dhs.state.il.us/onenetlibrary/4/documents/med%20admin%20training/initialauthorizationtest.pdf>

Accessing Mercy's Medication Test and Resources from home:

- To obtain your Network ID, call Mercy Technology Services (MTS) at 1-866-440-3399 and:
 - Ask them for your Network ID
 - Ask them to reset your password
- Go to Baggot Street at <https://smrcy.sharepoint.com/SitePages/Home.aspx>. Use your Mercy Network ID and password to access the two resources to study:
 - Lippincott (<https://procedures.lww.com>)
 - Micromedex (<https://www.micromedexsolutions.com/home/dispatch/ssl/true>)
- To access the medication assessment, log in to your Workday learning page:
<https://impl.workday.com/mercy1/d/pex/home.html>
 - Please note:** You will use the same coworker ID and password used during your pre-boarding.
 - Access the medication assessment on your Workday learning list.

Lippincott Procedures

Access Lippincott from either Baggot Street (by "search") or this link:

<https://procedures.lww.com>

- Do NOT enter email or password, do NOT click on blue "log in", instead, under "other log in options", select "other institution"
- Using your Mercy NetWork ID, enter mercy email as NetWorkID@Mercy.net, then click continue

- Type the topic into the search query box.
- Click on the hyperlink for the procedure topic that you wish to view.

Log in
Please use your institution credentials

Username or email address
e.g. your.name@company.com

Password Show
Enter your password

Log in

[Forgot username or password?](#)

Other login options

[Active Directory](#) [Open Athens](#) [Other Institution](#)

For technical assistance, please contact [Wolters Kluwer Technical Support](#).

Lippincott Procedures

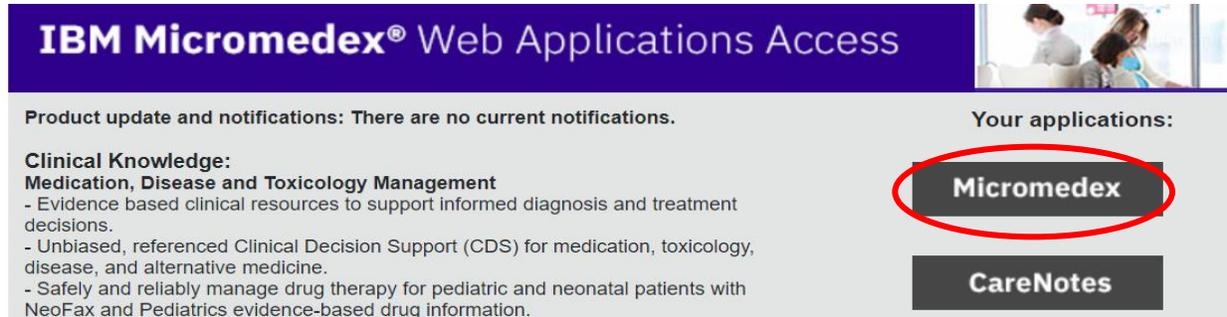
Search Query Q

Login ?

	#	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Nursing																											
All Nursing																											
Advanced Practice																											
Ambulatory Care																											
Behavioral Health																											
Critical Care																											

Micromedex

- Access Micromedex from Baggot Street (by “search”) or this link:
<https://www.micromedexsolutions.com/home/dispatch/ssl/true>
- Once Micromedex opens click on the word “Micromedex”



IBM Micromedex® Web Applications Access

Product update and notifications: There are no current notifications.

Clinical Knowledge:
Medication, Disease and Toxicology Management
 - Evidence based clinical resources to support informed diagnosis and treatment decisions.
 - Unbiased, referenced Clinical Decision Support (CDS) for medication, toxicology, disease, and alternative medicine.
 - Safely and reliably manage drug therapy for pediatric and neonatal patients with NeoFax and Pediatrics evidence-based drug information.

Your applications:

Micromedex

CareNotes

- Type the topic into the search query box.
- Click on the hyperlink for the procedure topic that you wish to view.

Search Drug, Disease, Toxicology, and more



All Drug Disease Toxicology

Keyword search

Additional pediatric resources to access:

- Drugs and Lactation Database <https://www.ncbi.nlm.nih.gov/books/NBK501922/>
- IBM Micromedex NeoFax Essentials Installation Instructions. Visit the App Store on your mobile device and search for IBM Micromedex NeoFax Essentials; Password for Neonatal Essentials: **f5aphA (case sensitive)**

NOTES ABOUT THE MEDICATION COMPETENCY

To assist you in preparation for the calculation portion of medication competency, the following information might be of help in your review.

Basic Steps

- Change all dosages to the same unit of measurement.
- Reduce fractions to simplest terms.
- Calculate using fractions, ratios, or proportions.

- Drop factor information will be given to you on the package of tubing (or included in the problem information).
- Drops should be rounded to the nearest whole number.
- Consider what medication and the form and route of the medication when rounding. (Never round until you reach the end of the problem.)
- Pediatric calculations should be carried out to the thousandth and rounded to the hundredth.

MEASUREMENTS	FORMULAS
1 milliliter = 1 ml	ml /hr X gtt/ml divided by 60 = drops per minute.
1 liter = 1000 milliliters	What you want divided by what you have = amount to give.
1 kilogram = 1000 grams	Dobutrex is given in micrograms/kilogram/minute and delivered by IV pump: dose ordered X kilogram weight X 60 divided by IV concentration = drip rate
1 gram = 1000 milligrams	To change pounds to kilograms: divide by 2.2
1 milligram = 1000 micrograms	To change milligrams to micrograms: multiply times 1000
1 kilogram = 2.2 pounds	To change micrograms to milligrams: divide by 1000
	To figure drug concentration: total drug dose in IV bag is divided by fluid volume

PRACTICE CALCULATION PROBLEMS

Always read word problems carefully to determine what the problem is asking you to do. There may be distracter information included that you will not use to solve the problem.

1. The physician has ordered your patient to receive 1000 ml D5W IV over 6 hours. The drop factor is 10. Calculate the ml/hr and the drops per minute.

A. _____ ml /hr B. _____ gtt/min

2. Mrs. Sweet is to receive 1000 ml LR with 1 Gm of a medication. The patient should receive 300 mg/hr. Calculate the ml /hr at which the IV should be infused.

_____ ml /hr

3. You have an order to give a supplemental dose of 10% K Cl to Mr. Pumper. He is to get 40 mEq PO twice today. The pharmacy sends you liquid potassium that delivers 30 mEq/15ml. How many ml will Mr. Pumper have to take for each dose?

_____ml

4. Janie is scheduled for an appendectomy. Her pre-op order reads as follows: Give Morphine 0.15 mg/kg. The morphine comes in a vial marked 5 mg/ml. Jane weighs 66 lbs. How many ml would you administer for the pre-op order?

_____ml

5. The physician orders 0.3 Gm Clinoril. One tablet gives 200 mg and the tablets are scored. How many tablets would you administer? _____Tablet/s

6. The physician orders Lanoxin 0.15 mg IV. You have available an ampule of Lanoxin 0.25mg/ml. How many ml will you give? _____

7. 20,000 units Heparin is added to 500 ml D5W and is ordered to infuse IV at 30 ml /hr. Calculate the hourly heparin dosage. _____

8. A patient experiencing hypotension is to receive Dopamine 5 mcg/kg/min IV. He weighs 60 kg. The solution available is 250 ml D5W with 200 mg Dopamine. Calculate the ml /hr.

9. You have a patient who is to receive 2 Gm/hour of magnesium sulfate. The solution contains 20 Grams magnesium sulfate in 1,000 ml D5W. How many ml /hour will your IV infuse?

**CALCULATION PRACTICE QUESTIONS
ANSWER SHEET**

(You should set up the problem using the method with which you feel most comfortable.)

1. 1000 ml divided by 6 hrs. = 166.67 or 167 ml /hr
 $\frac{167 \times 10}{60} = 167 \text{ divided by } 6 = 27.7, \text{ or } 28 \text{ gtt/min.}$

2. 1 Gm = 1000 mg
1 mg : 1 ml = 300 mg : X ml
X = 300 ml / hr

3. 30 mEq : 15 ml = 40 mEq : X ml
30 X = 600
X = 20 ml

4. 66 divided by 2.2 = 30 Kg
30 Kg X 0.15 mg = 4.5 mg total dose
5 mg : 1 ml = 15 mg : X ml
5 X = 4.5
X = 0.9 ml

5. 0.3 Gm = 300 mg
200 mg : 1 tablet = 300 mg : x tablet(s)
200x = 300
X = 1.5 tablets

6. .25 mg : 1ml = .15 mg : X ml
.25 X = .15
X = 0.6 ml

7. 20,000 divided by 500 = 40 units heparin per ml solution
40 units : 1 ml = X units : 30 ml
1 X = 1200 units
X = 1200 units / hour

8. 5mcg/kg/min X 60 Kg = 300 mcg / min
300 mcg / min X 60 min / hr = 18,000 mcg / hr
200 mg Dopamine per 250 ml D5W = 200 divided by 250 = 0.8mg
Dopamine per 1 ml D5W
18,000 mcg divided by 1000 = 18 mg
.8mg : 1 ml = 18mg : X ml
.8 X = 18
X = 22.5 or 23 ml / hr

9. 2 Gm = 2000 mg
20 Gms = 20,000 mg per 1,000 ml D5W
equals 20 mg per 1 ml solution
20 mg : 1ml = 2000 mg : X ml
20 X = 2000
X = 100 ml / hr