

## IM 2 Pharmacology Worksheet

**Use the drop-down menu next to each generic drug to select its brand name**

furosemide	<input type="text"/>	enoxaparin	<input type="text"/>
morphine sulfate	<input type="text"/>	losartan	<input type="text"/>
ondansetron	<input type="text"/>	lisinopril	<input type="text"/>
metoclopramide	Reglan	propranolol	<input type="text"/>
ceftriaxone	<input type="text"/>	carvedilol	<input type="text"/>
acetaminophen	<input type="text"/>	amlodipine	<input type="text"/>
levofloxacin	<input type="text"/>	diltiazem	<input type="text"/>
Insulin lispro	<input type="text"/>	pantoprazole	<input type="text"/>
Insulin glargine	<input type="text"/>		

**Use the drop-down menu next to each drug to match it with the correct class/subclass**

furosemide	<input type="text"/>	levofloxacin	<input type="text"/>
metoprolol	<input type="text"/>	morphine	<input type="text"/>
ceftriaxone	<input type="text"/>	acetaminophen	<input type="text"/>
Insulin lispro	<input type="text"/>	vancomycin	<input type="text"/>
enoxaparin	<input type="text"/>	metoclopramide	<input type="text"/>

**Fill in the Blank**

A healthcare provider may choose between these two types of rapid acting insulin for sliding scale **Regular Insulin and Insulin Lispro**

Rapid acting insulin is the only insulin that can be administered via the intravenous route.

Two especially important nursing interventions for patients receiving an opioid are **1. Assessing rate and quality of respirations. 2. Monitoring bowel and bladder habits.**

This lab must be assessed prior to administration of enoxaparin **Platelet count**

**Answer the following questions:**

What does the pneumonic CLABSI stand for?

**Central Line-Associated Bloodstream Infection**

List 5 signs/symptoms of hypoglycemia:

1. **Shaking and trembling**
2. **Sweating and chills**
3. **Faster HR**
4. **Headaches**
5. **Pale Skin**

List 5 signs/symptoms of hyperglycemia:

1. **Fruity smelling breath**

2. N&V
3. Shortness of breath
4. Dry Mouth
5. Confusion

Give 5 causes for change in mental status:

1. Brain Injury
2. Hypoxia
3. Dehydration
4. Drug Overdose
5. Infections in brain or high fever

List the 6 "P's" for peripheral neurovascular assessment:

1. Pain
2. Pallor
3. Pulse
4. Paresthesia
5. Paralysis
6. Poikilothermia

What does MEWS stand for and why is it important?

MEWS stands for Modified Early Warning Score. It is important because it helps you, as the nurse, determine how ill or severe your patient's symptoms are. After determining your patient's score, you are able to determine if they are okay or if they will need further monitoring, assessments, or specific services. It is a tool to help you carry out quality patient care and patient safety.

Many patients in the hospital receive enoxaparin as part of treatment. What is the rationale for this treatment?

Enoxaparin is a medication to help treat and prevent blood clots. In other words, it is an anticoagulant medication. The rationale for using this medication for treatment is that we do not want our patients to develop serious conditions such as Deep Vein Thrombosis (DVT) while their stay in the hospital. When patients are admitted, many of them do not ambulate as often as they did while they were at home, or many develop more serious conditions that prevent them from being able to ambulate. If a patient develops DVT, it can cause more serious problems such as heart failure or lung issues such as pulmonary embolism.

What is medical asepsis?

Asepsis is the state of being free from disease-causing contaminants or microorganisms. In other words, it's the absence of bacteria, viruses, and other microorganisms. There are two types of asepsis: Medical asepsis and Surgical asepsis. Medical asepsis is using a

clean technique, NOT STERILE. It is the practice of confining or limiting the growth of contamination or spread. In other words, to disinfect using cleaning agents such as alcohol or chlorhexidine. In nursing, medical asepsis includes cleaning your stethoscope with an alcohol pad between patients, cleaning the pulse ox in between patient use, and wiping down patient's bedside tables, and bed rails.

List 4 examples of medical asepsis in the hospital setting:

1. Hand hygiene
2. Wiping stethoscope before using it on a patient
3. Cleaning the bedside table with the appropriate cleaning wipes
4. Wearing regular clean gloves (NOT STERILE GLOVES)

Other than diabetes, list 4 reasons a patient's blood glucose could be elevated:

1. Infections such as a UTI or pneumonia
2. Certain steroid or diuretic medications
3. Family history of diabetes or gestational diabetes
4. Obesity, a lack of exercise

What is the reason for the use of the incentive spirometer?

An incentive spirometer is used more often after surgery or a severe lung sickness. It is a hand-held device that a patient uses on their own for breathing exercises. It allows them to take deep breaths so that they fill their lungs with air. Basically, it is like your lungs are balloons and you are using the incentive spirometer to inflate them with air. Using such device can speed up your recovery or prevent you from developing more severe lung conditions.

Describe how you would teach a patient to use the incentive spirometer:

Steps for using an Incentive Spirometer:

1. Place the mouthpiece of the device in your mouth and make sure your lips are sealed around it.
2. First, INHALE slowly and deeply through the mouthpiece to raise the indicator on the device. You want to make sure to keep the indicator between the arrows or the level of the goal marker on your device.
3. When you are not able to inhale any longer, remove mouthpiece and hold your breath for at least 3 seconds.
4. Exhale
5. Repeat the steps as directed per hour or when you are awake.
6. Make sure to clean mouthpiece with soap and water in between uses.
7. Make sure to record and keep up with your exercises.

***In the IV lecture you were asked to read the article on best practices for intravenous medication administration. The answers to the following 6 questions can be found in that article.***

What does ISMP stand for?

Institute for Safe Medication Practices

What does ISMP state regarding dilution of medications for the intravenous push route?

Dilution should only occur when it is recommended by the manufacturer. Dilution should occur in the pharmacy, if possible, before med is dispensed. ISMP says that if dilution isn't necessary, it adds to the difficulty of med admin and also introduces avoidable risk of committing med admin errors. If dilution or reconstitution of a med is necessary outside of the pharmacy, it should be done prior to med admin, in a clean uncluttered area, using sterile equipment and a sterile technique. Drug information resources should be readily available in case you need assistance. Such as a sheet or resource that shows the proper diluent amount when reconstituting is necessary outside of the pharmacy. A nurse should not dilute a med, specifically an I.V. Push) or reconstitute it by drawing up the contents using a pre-filled flush syringe of 0.9% sodium chloride.

How does a nurse determine if a central venous device is functional/patent?

To confirm that a CVAD is working properly or patent, a nurse should aspirate the line for positive blood return. This will help in encountering no resistance when ready to manually flush the line.

How does a nurse determine if a peripheral IV site is functional/patent?

On a peripheral IV site/line, you DO NOT aspirate for blood return because you can blow a vein since the venous network in that area is small and thin. To check for patency, a nurse should flush first to see if there is no occlusion. When flushing, the IV site should feel cool to touch and should meet no resistance.

Why is a 10 mL diameter-sized syringe recommended for establishing patency of a central venous device?

A 10 mL syringe generates lower injection pressure that a syringe with a smaller diameter would like a 3mL or 5mL.

List 3 reasons why a nurse should not withdraw IV push medication from a commercially available, cartridge-type syringe into another syringe for administration.

1. Using the cartridge-type syringes as vials to withdraw IV push medications can lead to contamination because these cartridges were not meant to be used this way.
2. It can cause dosing errors, drug mix ups, and other medication errors because most times, the commercially available pre-filled syringes are not labeled.

3. Using cartridges as vials is not economical.

***Other questions related to intravenous therapy:***

What are the signs and symptoms of air embolism?

S&S of air embolism are:

- Dyspnea
- Tachypnea
- Lightheadedness
- Palpitations
- Drop in BP
- Weakness
- Cyanosis
- Expiratory wheezes

All are caused due to air entering the blood vessel and traveling to the Superior Vena Cava and then entering the atrium of the heart. Results can be deadly. To avoid this, all connections should be tight!

Describe the treatment for air embolism.

Treatment for air embolism includes:

- First, calling for help.
- Positioning the patient in Trendelenburg position on their left side to prevent air from entering the lungs.
- Giving the patient O2 and having the crash cart available in case of an emergency
- Monitoring VS

What are the signs and symptoms of fluid overload?

S&S of fluid overload:

- Shortness of breath
- Cramping
- Headache
- Dependent edema
- Rapid weight gain
- Crackles heard in the lungs when auscultated

Too much fluid, too fast can overload the circulatory system.

Describe the treatment for fluid overload.

Treatment for fluid overload includes:

- Diuretic medications
- Low sodium diet

- Mechanically removing fluid with dialysis

List the steps when administering an intravenous medication via a triple lumen subclavian intermittent site:

**Steps:**

- Asses the IV site. Check for patency. Make sure it is a healthy site to administer medications through.
- Know the medication you are administering.
- Set your infusion pump at the appropriate/recommended rate.
- FLUSH, PUSH, FLUSH. Pre-flush to check for patency. Push med at recommended rate. Post flush the line to make sure med is administered fully.
- Asses for adverse effects. Stay with patient a while after administering meds to see how the meds affected them, if any.
- Educate the patient on what signs and symptoms to watch out for and advise them to report them immediately.

Name the only intravenous fluid (crystalloid) that can be used for blood administration.

NS 0.9%, which is Normal Saline a solution of Sodium Chloride of 0.9% concentration.