

High Alert Medication Program

Kaiser Permanente Northern California

Educational Module

Directions:

- Read the attached material and complete the post tests.
- RETURN your answer sheets to your manager You must pass the test with 100%.



Preventing Medication Errors Self Study Packet-Traveler RN

Objectives:

After reading this packet and completing the quiz, the learner will be able to:

- Discuss the five rights of medication administration
- Identify examples of poor communication that lead to medication errors
- Identify the importance of bio-availability in determining administration schedules for medications.

Preventing Medication Errors

Beth is having a busy day on the general medical/surgical unit where she works part-time. As a very conscientious and thorough nurse, Beth attempts to provide the highest quality of care to the patients she is assigned. She receives an order for Actinomycin-D for her patient with Wilm's Tumor. Because Beth has never administered this drug and is unfamiliar with its normal dosage range, she transposes the dosage from 2.7 mg to 7.2 mg. Her failure to confirm the dosage results in the death of her 34-year-old patient.

Beth's situation is similar to that of thousands of other nurses who face the same stressors everyday. Her lack of familiarity with the prescribed medication, failure to refer to the unit drug reference, double check the order with the doctor or call the hospital pharmacist resulted in tragic circumstances.

Medication Error Defined

The Food and Drug Administration estimates that medication errors cause at least one death every day and injure nearly 1.3 million people in the United States every year. The 'National Coordinating Council for Medication Error Reporting and Prevention' defines a medication error as

“any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is under the control of the health care professional, patient or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packing and nomenclature; compounding; dispensing; distribution; administration; education monitoring and use” (2003).

It is important to note that this definition includes all aspects and systems related to drug administration, from manufacturing to the patient's bedside; from the bedside to the patient's home.

The Five Rights

Nurses are legally responsible for applying the five rights of medication administration as a Standard of Care.

Right Drug:

Administration of the wrong drug is the most common error that occurs. Factors that contribute to wrong drug error include similar labeling and packaging of products, medication with similar names and storage of these similar products together. In addition, poor communication is a common cause of administering the wrong drug. When transcribing verbal orders or verifying transcription of orders, a few simple precautions can help avoid errors:

- When taking a verbal order, write the order as it is being given by the provider, read it back to the provider, and spell out “sound-a-like drugs”
- Avoid using dosage and product abbreviations.
- Never assume route of administration— if necessary, call the provider to obtain clarification.
- Never use trailing zeros (write 25 not 25.0).
- Never try to decipher illegible orders—call the provider to obtain clarification.
- When in doubt, always check with the prescriber, pharmacist or literature.
- Always check the drug label and dose.
- Do not administer any drug if you are unsure of its intended use for your patient
- DO NOT ASSUME ANYTHING

Right Dose:

If dosage must be calculated, always recheck your math and have someone else verify your final dosage. It is important to consider the patient's age, size, and vital signs when deciding if a dose is appropriate. Newborns, pediatric and elderly patients are particularly susceptible to slight changes in medication dose.

Right Time:

In general, medications must be given within one-half hour before or after the actual time specified in the orders. Kaiser has a specific policy regarding the "before/after" rule (ref: SOP Medication Administration). Check these guidelines. When scheduling administration times, it is important to consider drug-drug and drug-food interactions. Many drugs interfere with absorption of other drugs when given simultaneously.

Appropriate spacing of doses also needs to be considered. Bioavailability, the degree and rate at which a substance (as a drug) is absorbed into the system, highlights the need for consistent dosing around the clock and should also be considered to ensure efficacy of the medication. If diagnostic studies are scheduled, a medication dose may need to be skipped or delayed until testing is complete.

Right Route:

Many medications can be administered by a variety of routes, such as oral, rectal, intravenous, subcutaneous, intramuscular, or sublingual. The route selected by the prescriber depends on the patient's condition and the speed with which the therapeutic effect will need to occur. The prescribed dosage is based on the route by which the drug is given. In general, oral dosages are greater than injected dosages for the same drug. Errors can occur when a dose intended for oral administration is given by injection. For example, 30 mg dose of Morphine Sulfate mistakenly given IV rather than orally could potentially result in respiratory arrest and death. Special caution must be taken with medication given by the intravenous route. Many drugs will cause severe soft tissue injury if the IV becomes infiltrated. It is important to check for blood return prior to administration of any intravenous medication given by direct IV injection (push), intermittent (piggyback) or continuous infusion. Medications given intravenously have a rapid onset of action. It is necessary to stay with the patient during the first few minutes of any intravenous infusion to assess for signs and symptoms of adverse reaction.

Right Patient:

In today's hectic health care environment, it is especially important to confirm a patient's identity prior to conducting any procedure including medication administration. Many nurses float between units, work part-time or work in ambulatory settings, where large numbers of patients are in and out during the day. These situations increase the probability of giving a medication to the wrong patient. In order to correctly identify the patient, **two patient identifiers** must be used to verify the patient's identity. ***It is imperative to follow the procedure outlined below to properly identify the patient during each step of the medication administration process using two patient identifiers.***

Procedure For Isolation Patients

- ☐ Take the MAR to the Pyxis machine to remove the medication from the Pyxis
 - ☐ The Pyxis machine will print out the patient's name, medical record number, and medication order.
 - ☐ Cross check the Pyxis information with the MAR.
 - ☐ Take the Pyxis printout (see below) into the patient's room and check against the patient's name and medical record number against the patient's armband
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Pyxis Medication System 2000 50119g++
 Station : SAC4EA (PROFILE)
 #1 Mar 14 08:27:18

REMOVED MEDS

Quantity	Medication	Dose/Rate	Lot/Exp
7	ADAMANTIN <small>Yes eg. label Med ID: AM123</small>	2 15	77

Dose: 2
 Order Number: 4210013
 Doctor Name: BJEFF FANE
 Directions:
 7 TABS PO Q8H when needed for temperature greater than 101°
 (38.3°) or saps 2

For: _____
 ID: _____

Patient
 Notes: _____

By: _____
 ID #: _____

Ask the patient to state their name

- If the patient cannot state their name ask family member/ friend to identify the patient
- Place the Pyxis printout in the shred container

Procedure for ICU

- Take the MAR to the patient's bedside and check the patient's name and medical record number on the MAR against the patient's armband

Procedure for PACU

- Take the MD order to the patient's bedside and check the patient's name & medical record number on the MD order against the patient's armband

For the Unconscious Patient

- Use the appropriate process defined above, based on your patient's location

For the Unconscious Patient with no Armband

- Two nurses must participate in validating the patient's identification and reapplication of the arm band following facility guidelines about whom to consult.

Nursing Responsibility

While it is important to utilize the five rights when administering medications, nursing responsibilities related to drug therapy also require an extensive knowledge of pharmacology, including the indications for the medication, method of action of the medication, the normal physiologic effects of the medication, and potential adverse and side effects of the medication. Use of the nursing process when monitoring drug therapy is essential to ensure that each patient achieves the best possible outcome from his or her drug regimen. The nurse is often the first health care provider to identify signs and symptoms that may indicate a need for drug therapy or may signal an adverse outcome from ongoing therapy.

High Alert Medications

High alert medications are those drugs which are involved in a higher percentage of medication incidences and/or sentinel events, or that carry an increased risk for error, abuse, or other adverse outcomes. The high alert medications were identified from KFH hospital-specific data. Safe use of these medications is detailed in the High Alert Medication List, Policy and Procedure. A High Alert Medication Module and Grid is attached. Please review prior to completing the post test.

There are five risk factors which are associated with high alert medications on the High Alert Medication List and they are as follows:

1. Inherent toxicity of the medication
2. Potential for confusion between look-alike and/or sound-alike products
3. Potential for confusion with other medications that are also measure in units (e.g. insulin)
4. Potential for errors involving programming of the insulin pump
5. Fatal if administered intrathecal when it is the incorrect route

It is critical that all RNs understand the HIGH Alert medication policy and are able to assure safe medication practices for all our members.

High Alert Medication List

High-alert medications are those drugs which are involved in a higher percentage of medication incidences and/or sentinel events, or that carry an increased risk for error, abuse, or other adverse outcomes. The list of high alert medications was identified from KFH hospital-specific data or from literature sources and includes:

- Vinca Alkaloids: VinCRISTine (Oncovin[®]), VinBLASTine (Velban[®]), Vinorelbine (Navelbine[®])
- Continuous intravenous infusions of Heparin
- Continuous intravenous infusions of Insulin
- Neuromuscular Blocking Agents
- Intravenous Cytotoxic Chemotherapy
- Concentrated Electrolytes [$>0.9\%$ Sodium chloride injection, and $\geq 2\text{mEq/mL}$ Potassium injection (chloride, acetate, and phosphate)]
- Magnesium sulfate infusions
- Alteplase (t-PA, Activase[®]) infusions
- Epinephrine, Norepinephrine, Isoproterenol infusions
- Opiate/Narcotic infusions, including PCA therapy
- Medications administered via the Intrathecal route
- Medications administered via the Epidural route

- For all doses of medications (except oral vitamins and iron) administered to critically ill neonates in **NICU and Special Care Nurseries**
- Adult High Alert list and all medications used for procedural sedation (except when administered by an anesthesia provider); as well as all routes for Digoxin and Chloral Hydrate medications administered on a **Pediatrics Unit**
- All IV's administered in the PICU (Pediatric Intensive Care Unit).

