Preventing Medication Errors

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Preventing Medication Errors

INTRODUCTION

The National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as follows:
“A medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in 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, packaging, and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use.”

Medication errors occur in healthcare for a number of reasons, but they are often preventable. Preventing medication errors involves looking beyond blaming individuals and instead focusing on any system failures that create conditions that could lead to these errors.

Understanding and following safe medication practices can go far in reducing these types of errors – as well as the suffering, guilt, worry, and loss of clinical confidence that can result.

PURPOSE/OVERALL GOAL

This module outlines the safety steps providers should know when administering medication of any kind to a patient. It includes recommendations for clarity in prescribing as well as steps that organizations should take to help support the reporting of medication errors when they do occur.

The goal of this module is to ensure that you as a healthcare worker are equipped to administer medication safety and effectively, in order to avoid errors that can be costly in terms of dollars – and especially in terms of human lives.

COURSE OBJECTIVES

After completing this module, the learner should be able to:
1. Describe the impact of medication errors
2. Describe the factors that can contribute to medication errors
3. Describe various prevention techniques to help avoid these errors
4. Explain steps that providers should take before, during, and after administering medication
5. Explain the importance of reporting all medication errors and near misses
IMPACT OF MEDICATION ERRORS

Medication errors are the most common types of errors in healthcare.
- They are responsible for tens of thousands of deaths in the United States each year.
- The economic cost of medication errors in the U.S. is $4 billion per year.

Medication errors can occur in any of the four steps in the medication use process:
- Prescribing
- Transcribing
- Dispensing
- Administering

There are two types of medication errors:
- Errors that do not result in harm are termed “incidents.”
- Errors that result in patient harm or injury are referred to as “adverse drug events” (ADEs).

A preventable ADE is a serious type of medication error. ADEs are common in hospitals, nursing homes, and outpatient settings. An estimated 1.5 million preventable ADEs occur each year in the U.S.

But you, as a healthcare provider, can make a difference. For example, one investigation found that medication errors that were prevented by nurses’ actions saved the hospital an average of nearly $7,000 per incident – and an incalculable cost in human lives and well-being.
FACTORS CONTRIBUTING TO MEDICATION ERRORS

Factors that contribute to an increased risk for medication errors include:

- Prescriber errors, which can include failure to distinguish look-alike/sound-alike (LASA) medications
- Illegible handwriting
- Use of medical abbreviations, such as using mg, mcg, mL instead of writing out the measurement unit (milligrams, micrograms, milliliters)
- Failing to use decimal points correctly, which can result in tenfold dosing errors
- Off-label prescribing
- Unnecessary use and poor documentation of verbal or telephone orders
- Transcribing errors (less common with computerized charting but can occur when manual/written transcribing is utilized)
- Calculation errors, which can occur due to confusing pounds with kilograms, confusing mg/kg/dose with mg/kg/day and vice versa, etc.
- Lack of standardized order sets, which can reduce the number of errors made by prescribers and dispensing pharmacists
- Failure to perform medication reconciliation, including over-the-counter (OTC) medications, which can place a patient at risk for drug interactions and overdose
- Dispensing errors, including preparing the wrong formulation
- Inadequate staffing
- Administration errors, which can be the result of nurse fatigue or frequent interruptions and distractions; in fact, nurse interruptions are being increasingly recognized as one of the most significant risks for medication errors
PREVENTION TECHNIQUES

One way to prevent errors is to verify these 6 “rights” each time you deliver medication to a patient:
1. Right patient
2. Right medication
3. Right dose
4. Right route
5. Right time
6. Right documentation

Preventing errors in the administration of medications also requires:
- Following infection control protocols
- Knowing the drug’s indications and how they work
- Monitoring patients for both the desired outcome and any adverse effects
- Knowing how to treat adverse effects if they do occur

The following factors can help reduce the chances of medication errors:
- Organizational policies
- Clarity in prescribing
- Administration safety

These steps are described in the sections that follow.
ORGANIZATIONAL POLICIES

Every organization should establish policies and procedures to ensure that all providers are informed about the process of medication administration. Providers can then teach patients and families about:

- The medication administration procedure
- The purpose of the medication
- How the medication works
- How to recognize possible adverse events
- What to do if an adverse event occurs

Integrated automated systems (for example, direct order entry, computerized medication administration record, or bar coding) can be used to:

- Aid in the appropriate ordering of medications
- Aid in the review of prescriptions and medication orders
- Increase the accuracy of administration
- Reduce transcription errors

Some general organization-wide recommendations that can help avoid medication errors include:

- Maintain a complete and accurate listing of all current medications and dosages for each patient during all transitions of care (e.g., admission into hospital, change in level of care, discharge, transfer of patient to new sites of care).
- Ongoing patient monitoring should occur for the desired therapeutic effect(s) and for potential adverse drug effects.
- Data regarding the actual and potential errors of administration should be collected and analyzed for the purpose of continuous quality improvement.

High-Alert Medications

Two-person verification of medication calculation is particularly important when administering high-alert medications. These include medications that have an increased risk of patient harm if they are administered in error, such as insulin.

Unit-specific and facility protocols should be followed to protect the safety of patients when administering high-alert medications.

The Institute for Safe Medication Practices (ISMP) has compiled a list of high-alert medications that can be found here: [http://www.ismp.org/tools/highalertmedications.pdf](http://www.ismp.org/tools/highalertmedications.pdf).
CLARITY IN PRESCRIBING

As a healthcare provider, you should know your organization’s process for addressing any medication orders that:

- Are incomplete
- Are illegible
- Pose any concerns

Contributing to errors are look-alike/sound-alike (LASA) medications. LASA medications:

- Are among the most common medication errors worldwide
- Often involve generic and brand names
- Have generic names that can be confused with either the generic name or the brand name of a different medication

The U.S. Food and Drug Administration (FDA) has collaborated with drug manufacturers to accentuate differences in the names of LASA medications by capitalizing certain unique letter clusters (referred to as “tall man letters”). For example:

- Dopamine is written DOPamine
- Dobutamine is written DOBUTamine

In addition, as an additional safety check, the National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP) recommends including a brief notation of purpose (such as “for cough”) on prescription orders, unless considered inappropriate by the prescriber (for example, to maintain confidentiality).

The Institute for Safe Medication Practices (ISMP) has compiled a list of confused drug names, along with their tall man letters, that can be found here: http://www.ismp.org/Tools/confuseddrugnames.pdf.
ADMINISTRATION SAFETY

As noted earlier, you should perform the “6 rights” checks immediately before administering medication: right patient, right medication, right dose, right route, right time, right documentation.

Only administer medications that are properly labeled, and read labels during each of these three steps in the administration process:
   1. When reaching for or preparing the medication
   2. Immediately before administering the medication
   3. When discarding the container or replacing unused medication into its storage location

Consider certain factors of your work environment as well, such as:
   • Lighting
   • Noise level
   • Telephone and personal interruptions
   • Unrelated tasks you also must perform
   • Sufficient staffing

For medication use systems at your facility:
   • The safety of these systems should be continuously monitored and evaluated.
   • Providers who use these systems should be regularly assessed to ensure competency regarding the proper operation and limitations of these devices.
   • Only those electronic infusion control devices that prevent free-flow upon removal of the administration set should be used.

Anyone who administers medications should have adequate and appropriate access to patient information, including:
   • Medical history
   • Known allergies
   • Patient weight
   • Diagnoses
   • List of current medications
   • Laboratory data
   • Treatment plan

Providers also should have easily accessible information about the medication and should know:
   • The expected outcome from its use
   • Potential adverse drug effects and interactions with food or other medications
   • Actions to take if adverse drug effects or interactions occur
   • Storage requirements
   • Drug preparation requirements
   • Patient-specific dosing guidelines

During first-time administration, you should discuss the name, purpose, and effects of the medication with the patient – and review this information with each subsequent administration.
REPORTING ERRORS

According to The Joint Commission (TJC), reporting medication errors is fundamental to error prevention. When medication errors are reported:

- The root causes can be identified
- The chances of similar errors can be reduced
- Patient safety is increased

Reporting errors helps organizations:

- Understand exactly what happened
- Identify the combination of factors that caused the error or near miss to occur
- Determine its frequency
- Predict whether it could happen again

Underreporting and failure to report errors and near misses:

- Prevents efforts to avoid future errors
- Is against the obligation of an organization and its providers to inform and disclose to patients that an error has occurred

To support the reporting of medication errors, it is necessary to:

- Have leadership committed to patient safety
- Promote an organization-wide culture of safety
- Eliminate punitive actions
- Increase reporting of near misses
- Provide timely feedback and subsequent improvements to avoid future errors
- Have a multidisciplinary and collaborative approach to reporting

It is vital to promptly report medication errors to your supervisor and/or your facility’s risk management department, whether or not you believe the patient has been harmed. This will prompt an investigation into the cause of the error and can ultimately improve the safety of medication delivery.
CONCLUSION

Education and information are important ways to avoid medication errors. But it is up to you, as a healthcare provider, to remember and utilize the safety steps to take each and every time you administer medication to a patient.

But the responsibility does not lie solely with providers. A variety of organization-wide strategies are needed that focus on both human factor issues as well as systems issues.

In addition, effective error-reporting strategies are vital. The greater the number of actual errors and near misses that are reported, the more reliable an organization can be in making continuous quality improvements that ensure medication administration safety in the future.

REFERENCES: