TRAIN FOR SUCCESS INC.
PREVENTION OF MEDICATION AND MEDICAL ERRORS
2 Contact Hours

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Purpose

This course was designed to be provided through didactic training. The course will be available within the classroom as well as online. The purpose of this course is to review issues related to medical and medication errors, various types and cause of errors, ways to avoid errors, importance of effective communication among the Health care team, and regulations in place to ensure patient safety. This course complies with the Florida Statute requirements: Section 456.013(7), Florida Statutes, requires completion of a two hour course relating to prevention of medical errors as part of the renewal process for licensure for nurses and CNAs.

At the conclusion of the class the student will be able to:

1. Describe the importance of preventing medical errors
2. Define Adverse medical incident / Sentinel Events
3. Describe methods of preventing medical errors
4. Discuss regulations in place to prevent and address medical errors
5. Discuss various causes of medical errors
6. Describe some of the effects of medical errors
7. Describe appropriate methods to identify patients
8. Explain the Rights of medication administration
9. Describe procedures for telephone orders
10. Discuss processes that will improve patient outcomes
11. Discuss procedures for reporting
12. Explain documentation requirements/ guidelines
13. Discuss Failure mode and effects analysis (FMEA), Root Cause analysis.
14. Describe the impact of medical errors and the effect on patient safety

Introduction

Florida Statute requirements: Section 456.013(7), Florida Statutes, requires completion of a two hour course relating to prevention of medical errors as part of the renewal process for licensure.

Section 456.013 (7) The boards, or the department when there is no board, shall require the completion of a 2-hour course relating to prevention of medical errors as part of the licensure and renewal process. The 2-hour course shall count towards the total number of continuing education hours required for the profession. The course shall be

approved by the board or department, as appropriate, and shall include a study of root-cause analysis, error reduction and prevention, and patient safety. In addition, the course approved by the Board of Medicine and the Board of Osteopathic Medicine shall include information relating to the five most misdiagnosed conditions during the previous biennium, as determined by the board. If the course is being offered by a facility licensed pursuant to chapter 395 for its employees, the board may approve up to 1 hour of the 2-hour course to be specifically related to error reduction and prevention methods used in that facility.

Some common causes of medical errors are:

- **Communication problems**: most common problems
- **Patient-related problems:** improper identification of patient, inadequate education of patient and not obtaining informed consent.
- **Human problems**: lack of knowledge, failure to follow standard of care, or failure to follow procedures and poor documentation.
- **Inadequate information flow:** problems which prevent information delivery/ availability in a timely manner for example laboratory results.
- **Staffing pattern -work flow**: such as; not enough staff and / or supervision.
- **Technical failure**: equipment may failure, inadequate instruction for use of equipment.
- **Organizational transfer of knowledge:** inadequacy in education or training for those who are providing care.
- **Inadequate policies and procedures**: failure in processes of care, inadequate procedures or lack of procedures in place.

Adverse medical event

Per the Department of Health and Human Services Office of Inspector General, an estimated 13.5 percent of hospitalized Medicare beneficiaries experienced adverse events during their hospital stays. Of the nearly 1 million Medicare beneficiaries discharged from hospitals in October 2008, about 1 in 7 experienced an adverse event that met at least 1 of our criteria (13.5 percent). An additional 13.5 percent of Medicare beneficiaries experienced events during their hospital stays that resulted in temporary harm. Temporary harm events are those that require intervention but do not cause lasting harm.

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As the Federal Government's principal agency for protecting the health of Americans, the Department of Health & Human Services (HHS) is uniquely positioned to lead national efforts to reduce adverse events in hospitals. As part of a national strategy to improve health care quality mandated by the Patient Protection and Affordable Care Act (ACA), HHS is to identify areas that have the potential for improving health care quality. Because many adverse events we identified were preventable, the study confirms the need and opportunity for hospitals to significantly reduce the incidence of events. A number of agencies within HHS share responsibility for addressing this issue, most prominently the Agency for Healthcare Research and Quality (AHRQ) as a coordinating body for efforts to improve health care quality and CMS as an oversight entity and the Nation's largest health care payer.

Therefore, we recommend the following: AHRQ and CMS should broaden patient safety efforts to include all types of adverse events. This broader definition would apply to a number of activities, including setting priorities for research, establishing guidelines for hospital reporting, developing prevention strategies, measuring health care quality, and determining payment policies. AHRQ and CMS should enhance efforts to identify adverse events. Identifying adverse events assists policymakers and researchers in directing resources to the areas of greatest need, setting clear goals for improvement, assessing the effectiveness of specific strategies, holding hospitals accountable, and gauging progress in reducing incidence.

- AHRQ should sponsor periodic, ongoing measurement of the incidence of adverse events.
- AHRQ should continue to encourage hospital participation with Patient Safety Organizations, entities intended to receive adverse event reports from hospitals, and forward the information to a national AHRQ database.
- CMS should use Present on Admission Indicators in billing data to calculate the frequency of adverse events occurring within hospitals.

Sentinel event

The Joint Commission states that a sentinel event is an unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof. Serious injury specifically includes loss of limb or function. In support of its mission to continuously improve the safety and quality of health care provided to the public, The Joint Commission in its accreditation process reviews hospitals' activities in response to sentinel events. The accreditation process includes all full accreditation surveys and, as appropriate, for-cause surveys, and random validation surveys specific to Evidence of Standards Compliance (ESC) The phrase "or the risk thereof" includes any process variation for which a recurrence would carry a significant chance of a serious adverse outcome. Such events are called "sentinel" because they signal the need for immediate investigation and response. The terms "sentinel event" and "error" are not synonymous; not all sentinel events occur because of an error, and not all errors result in sentinel events.

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Goals of the Sentinel Event Policy

The policy has four goals:

1. To have a positive impact in improving patient care, treatment, and services and preventing sentinel events
2. To focus the attention of a hospital that has experienced a sentinel event on understanding the factors that contributed to the event (such as underlying causes, latent conditions and active failures in defense systems, or organizational culture), and on changing the hospital's culture, systems, and processes to reduce the probability of such an event in the future
3. To increase the general knowledge about sentinel events, their contributing factors, and strategies for prevention
4. To maintain the confidence of the public and accredited hospitals in the accreditation process

Root Cause Analysis

Root cause analysis is a process for identifying the factors that underlie variation in performance, including the occurrence or possible occurrence of a sentinel event. A root cause analysis focuses primarily on systems and processes, not on individual performance. The analysis progresses from special causes in clinical processes to common causes in organizational processes and systems and identifies potential improvements in these processes or systems that would tend to decrease the likelihood of such events in the future or determines, after analysis that no such improvement opportunities exist.

Joint commission requires a root cause analysis and a corrective action plan to be performed for each sentinel event. It should be used as a tool for identifying strategies to prevent errors from happening again in the future. This process is in place to improve safety.

The goal of the root cause analysis (RCA) is to discover:
• What has happened?
• Why did it happen?
• What should be done to prevent it from reoccurring?

The following guidelines for a Root Cause Analysis should include:

• Root cause statements to include the cause and the effect
• Do not use Negative descriptions in root cause statements

• Every human error has a preceding cause
• Violation of a procedure is not root cause, but has a preceding cause
• Failure to act is only a root cause when there is a pre-existing duty to act

Failure mode and effects analysis (FMEA) was one of the first systematic techniques for failure analysis. It was developed by reliability engineers in the late 1940s to study problems that might arise from malfunctions of military systems. An FMEA is often the first step of a system reliability study. It involves reviewing as many components, assemblies, and subsystems as possible to identify failure modes, and their causes and effects. For each component, the failure modes and their resulting effects on the rest of the system are recorded in a specific FMEA tool/ worksheet. There are numerous variations of such worksheets. An FMEA is mainly a qualitative analysis.

FMEA includes review of the following:

- Steps in the process
- Failure modes (What could go wrong?)
- Failure causes (Why would the failure happen?)
- Failure effects (What would be the consequences of each failure?)

Organizations use the Failure mode and effects analysis Tool to evaluate processes for possible failures and to prevent them by correcting the processes proactively rather than reacting after failures have occurred. The FMEA Tool is particularly useful in evaluating a new process prior to implementation and in assessing the impact of a proposed change to an existing process.

Patients' Right-to-Know

Chapter 381 section 028 of the Florida Statutes referred to as "Patients' Right-to-Know About Adverse Medical Incidents Act." The Legislature finds that this section of the State Constitution is intended to grant patient access to records of adverse medical incidents, which records were made or received in the course of business by a health care facility or provider, and not to repeal or otherwise modify existing laws governing the use of these records and the information contained therein. The Legislature further finds that all existing laws extending criminal and civil immunity to persons providing information to quality-of-care committees or organizations and all existing laws concerning the discoverability or admissibility into evidence of records of an adverse medical incident in any judicial or administrative proceeding remain in full force and effect.

“Adverse medical incident” means medical negligence, intentional misconduct, and any other act, neglect, or default of a health care facility or health care provider which caused or could have caused injury to or the death of a patient, including, but not limited to, those incidents that are required by state or federal law to be reported to any governmental agency or body, incidents that are reported to any governmental agency or body, and incidents that are reported to or reviewed by any health care facility peer review, risk management, quality assurance, credentials, or similar committee or any representative of any such committee.(FS 381.028)

PATIENTS’ RIGHT OF ACCESS.

Patients have a right to have access to any records made or received in the course of business by a health care facility or health care provider relating to any adverse medical incident. In providing access to these records, the health care facility or health care provider may not disclose the identity of patients involved in the incidents and shall maintain any privacy restrictions imposed by federal law.

Wrong-Site, Wrong-Procedure, and Wrong-Patient Surgery

Few medical errors are as vivid and terrifying as those that involve patients who have undergone surgery on the wrong body part, undergone the incorrect procedure, or had a procedure intended for another patient. These "wrong-site, wrong-procedure, wrong-patient errors" (WSPEs) are rightly termed never events; errors that should never occur and indicate serious underlying safety problems.

Wrong-site surgery may involve operating on the wrong side, as in the case of a patient who had the right side of his intestines removed when the cancerous lesion was on the left, or the incorrect body site. One example of surgery on the incorrect site is operating on the wrong level of the spine, a surprisingly common issue for neurosurgeons. A classic case of wrong-patient surgery involved a patient who underwent a cardiac procedure intended for another patient with a similar last name.

While much publicity has been given to these high-profile cases of WSPEs, these errors are in fact relatively rare. A seminal study estimated that such errors occur in approximately 1 of 112,000 surgical procedures, infrequent enough that an individual hospital would only experience one such error every 5-10 years. However, this estimate only included procedures performed in the operating room; if procedures performed in other settings (for example, ambulatory surgery or interventional radiology) are included, the rate of such errors may be significantly higher. One study using Veterans Affairs data found that fully half of WSPEs occurred during procedures outside of the operating room.

Preventing Wrong-Site, Wrong-Procedure, and Wrong-Patient Surgery (WSPEs)

Early efforts to prevent WSPEs focused on developing redundant mechanisms for identifying the correct site, procedure, and patient, such as "sign your site" initiatives, that instructed surgeons to mark the operative site in an unambiguous fashion. However, it soon became clear that even this seemingly simple intervention was problematic. An analysis of the United Kingdom's efforts to prevent WSPEs found that, although dissemination of a site-marking protocol did increase use of preoperative site marking, implementation and adherence to the protocol differed significantly across surgical specialties and hospitals, and many clinicians voiced concerns about unintended consequences of the protocol. In some cases, there was even confusion over whether the marked site indicates the area to be operated on, or the area to be avoided. Site marking remains a core component of The Joint Commission's universal Protocol to prevent WSPEs.

Root cause analyses of WSPEs consistently reveal communication issues as a prominent underlying factor. The concept of the surgical timeout ; a planned pause before beginning the procedure in order to review important aspects of the procedure with all involved personnel, was developed to improve communication in the operating room and prevent WSPEs. The Universal Protocol also specifies use of a timeout prior to all procedures. Although initially designed for operating room procedures, timeouts are now required before any invasive procedure. Comprehensive efforts to improve surgical safety have incorporated timeout principles into surgical safety checklists; while these checklists have been proven to improve surgical and postoperative safety, the low baseline incidence of WSPEs makes it difficult to establish that a single intervention can reduce or eliminate WSPEs.

It is worth noting, however, that many cases of WSPEs would still occur despite full adherence to the Universal Protocol. Errors may happen well before the patient reaches the operating room, a timeout may be rushed or otherwise ineffective, and production pressures may contribute to errors during the procedure itself. Ultimately, preventing WSPEs depends on the combination of system solutions, strong teamwork and safety culture, and individual vigilance.

Wrong-patient, wrong-site, and wrong-procedure errors are all considered never events by the National Quality Forum, and are considered sentinel events by The Joint Commission. In February 2009, the Centers for Medicare and Medicaid Services

(CMS) announced that hospitals will not be reimbursed for any costs associated with WSPEs. (CMS has not reimbursed hospitals for additional costs associated with many preventable errors since 2007.)

In July 2004, The Joint Commission enacted a Universal Protocol that was developed through expert consensus on principles and steps for preventing wrong-site, wrong-procedure, and wrong-person surgery. The Universal Protocol applies to all accredited hospitals, ambulatory care, and office-based surgery facilities. The protocol requires performing a time out prior to beginning surgery, a practice that has been shown to improve teamwork and decrease the overall risk of wrong-site surgery. This Web site includes a number of resources and facts related to the Universal Protocol. Wrong-site, wrong-procedure, and wrong-patient errors are all now considered never events by the National Quality Forum and sentinel events by The Joint Commission. The Centers for Medicare and Medicaid Services have not reimbursed for any costs associated with these surgical errors since 2009.

Some recommendations for reducing the risk of wrong-site surgeries include:

• Clearly mark the operative site; involve the patient and or family when appropriate.
• while in the operating room require verbal verification of the correct site by each of the members of the surgical team
• Develop and utilize a verification checklist that lists all documents referencing the surgical procedure and the site.

Preventing Diagnostic Errors

Many diagnostic errors are caused by subtle biases in clinicians' thought processes, therefore, some diagnostic errors may be prevented by systems to mitigate the effect of these biases and provide physicians with objective information to assist with decision-making. Clinicians are frequently unaware of diagnostic errors that they have committed, particularly if they do not have an opportunity to see how their diagnoses turned out over time. Therefore, regular feedback to clinicians on their diagnostic performance is essential.

Unfortunately, reliable decision support or feedback systems do not yet exist. One of the earliest uses of information technology in medicine was decision support for clinical

diagnosis, particularly for notoriously high-risk and difficult diagnoses such as acute myocardial infarction. However, computerized diagnostic decision support has not yet been proven to improve overall diagnostic accuracy, although active research continues in this area.

The autopsy has been the gold standard for diagnosis since medicine became a profession, but autopsy rates have progressively declined over the past few decades, to the point where a recent editorial raised concern over the vanishing nonforensic autopsy. It is recommended that teaching institutions perform autopsies on 25% of inpatient deaths, but few academic hospitals reach this benchmark. The result: not only are clinicians not receiving feedback on their diagnoses, but pathologists are performing fewer and fewer autopsies during their training.

More progress has been made in addressing systems causes of diagnostic error. Information technology has improved clinicians' ability to follow up on diagnostic tests in a timely fashion, which should reduce the incidence of delayed diagnoses. Structured protocols for telephone triage, teamwork and communication training, and increased supervision of trainees may also lead to improved diagnostic performance. However, studies evaluating the effect of these interventions on diagnostic error rates are lacking.

Finally, there are aggressive efforts to teach clinicians and trainees about the relevant parts of cognitive psychology. The principal goal is to engage clinicians in "meta-cognition" (reflecting on their own thinking), with the hope that they will catch some of their own misuse of heuristics before they cause harm. There are few data to prove that this interesting strategy actually decreases error rates and harm. Recent systematic reviews have assessed the evidence base of interventions to prevent cognitive errors and systems problems that can lead to diagnostic error.

Measurement of diagnostic accuracy is not performed or required in most clinical settings, although fields such as pathology and radiology routinely perform quality assurance by having clinicians independently review biopsies or images. Although calls for increasing the autopsy rate are increasing, as yet the recommended autopsy rate of 25% remains only a suggested benchmark and not a mandate. Some organizations, particularly physician-certifying boards like the American Board of Internal Medicine, have emphasized the possible role of board certification as a measure of diagnostic skills, since it is difficult to measure such skills through traditional tools used to measure quality and safety. Current quality measurements do not take diagnostic accuracy into account, meaning that organizations could score well on quality measures even if many patients receive the correct treatment for an incorrect diagnosis. Recognizing this, a recent commentary termed diagnostic error the next “frontier for patient safety" and called for more research into solutions for individual and systems causes of diagnostic error.

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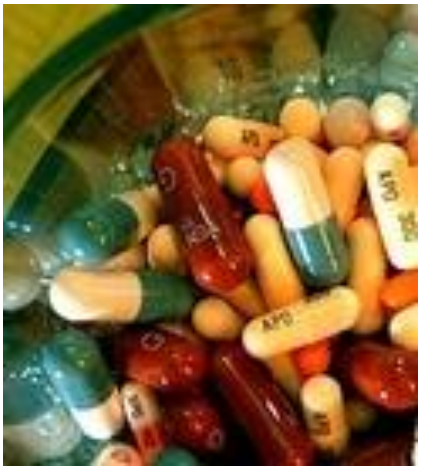

Medication safety programs

According to the Centers for Disease Control and Prevention (CDC), Medications are generally safe when they are used as prescribed or as their labeling describes. However, there are risks in taking any medication. Each year in the United States, adverse drug events—injury resulting from the use of medication—result in over 700,000 visits to hospital emergency departments. Many adverse drug events are preventable. Patients and caregivers can help reduce the risk of harm from medicines by learning about medication safety.

According to U.S. Food and Drug Administration, within the Center for Drug Evaluation and Research (CDER), the Division of Medication Error Prevention and Analysis (DMEPA) reviews medication error reports on marketed human drugs including prescription drugs, generic drugs, and over-the-counter drugs.

The DMEPA uses the National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP) definition of a medication error. Specifically, 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."

The DMEPA includes a medication error prevention program staffed with healthcare professionals. Among their many duties, program staff:

- review medication error reports sent to MedWatch,
- evaluate causality, and
- Analyze the data to provide solutions to reduce the risk of medication errors to industry and others at FDA.

Additionally, the DMEPA prospectively reviews

- proprietary names,
- labeling,
- packaging, and
- Product design prior to drug approval to help prevent medication errors.

The DMEPA also works closely with federal partners, patient safety organizations such as Institute for Safe Medication Practices (ISMP), standard setting organizations such as the United States Pharmacopeia (USP), and foreign regulators to address broader product safety issues.

FDA

Role of the U.S. Food and Drug Administration (FDA)

Drug Name Review:

To reduce / minimize medication name confusion, the U.S. Food and Drug Administration reviews about 400 drug names a year that companies submit as proposed brand names. The agency rejects about one-third of the names that drug companies propose.

Drug Labels:
FDA regulations require all over-the-counter (OTC) drug products (more than 100,000) to have a standardized "drug facts label." FDA has also improved prescription drug package inserts for health care professionals.

Drug Labeling and Packaging:
FDA works with drug companies to reduce the risk of errors that may result from similar-looking labeling and packaging, or from poor product design.

Bar Code Label Rule:
In accordance with an FDA rule that went into effect in 2004, bar codes are required on product labels for certain drugs and biologics such as blood. When used with bar code scanner and computerized patient information systems, bar code technology can help ensure that the right dose of the right drug is given to the right patient at the right time.

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Error Analyses:
FDA reviews about 1,400 reports of medication errors per month and analyzes them to determine the cause and type of error

Guidance for Industry:
FDA is working on three new guidance; one on complete submission requirements for anaylsis of trade names, one about the pitfalls of drug labeling, and another on best test practices for naming drugs.

Public Education:
FDA spreads the message about medication error prevention through public health advisories, medication guides, and outreach partnerships with other organizations.

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Medication Errors

Medication errors are referred to as preventable adverse drug events.
The three most common errors are:

• Omission errors (did not administer an ordered medication).
• Quantity errors - Improper dose (any medication dosage, quantity or strength that different from what was prescribed).
• Unauthorized drug errors- the medication administered or dispensed was not authorized by the prescriber; this category involves administering or dispensing the wrong medication.

Medication safety is the responsibility of everyone who handles medications. The original five rights of medication administration (Right patient, medication, dosage, time, and route) have increased to the nine rights of medication administration within the ALF, adding the right documentation, right to refuse, right reason, and right response which we will review in this course study. Other resources have also added the Right drug preparation, Right assessment and the Right approach. Follow your facility's policy and procedures.

According to the Elder affairs 2012, medication errors alone, occurring either in or out of the hospital, are estimated to account for 7,000 deaths annually. Adverse drug events cause more than 770,000 injuries and deaths each year and cost up to $5.6 million per hospital.

1. The Right Patient

ALWAYS check to make sure that you have the Right patient.
Patients may be moved to a different room.
Patients may switch beds within the same room.

Identification Procedure

ALWAYS verify the name of the patient by getting:

Two verbal identifiers: Ask the patient to state their full name, and their Date of Birth. Check the ID bracelet very carefully. Check the identity of the patient before you help him/her with their medication or administer the medication.

It is **mandatory** for you to use *at least two (2)* identifiers. If you administer medications to the wrong patient this may cause a fatal error. You ***cannot*** use a bed or room number as identifiers. A patient may accidentally enter a room and even go to bed in the wrong room.

Some identifiers include the patient's:

- First, middle and last name,
- DOB – Date of Birth (month, day and year),
- Photograph,

- a medical record number/ code number given to that patient
- social security number.

2.The Right Medication

The medication may belong to someone else,
so ALWAYS verify the medication label.
Do NOT use any medication that has a label that you cannot read.
Do NOT use any medication unless it has a complete label.
Read and check the label against the medication record at least three times and tell the person the name of the medicine before you administer.
If the person says they do not take that medicine, STOP. Do not administer. Report this to your supervisor. It is an error if a patient takes the wrong medication. This must be reported.

3.The Right Dosage

The patient needs to take the right dosage that is ordered by the Physician or the Health care Practitioner, to achieve the desired effect of the medication. Taking too much of the medication can lead to an overdose. Take steps to reduce overdose errors. Follow the systems in place – for triple checking dosages. Make sure the medication is recorded, so that a second dose is not accidentally given. Giving a half of the ordered dose of medication is also not the correct dosage. Not giving the right amount of the drug is also a medication error and has to be reported.

4.The Right Time

Timing is also very important when assisting with medication. Some medications need to reach a consistent level in the bloodstream to work effectively. This means that the medications need to be taken at the right times to keep that level of medication in the system. Usually, the liver or kidneys will remove the medication from the blood and high levels of the medication can build up in the system which can lead to toxicity if that dose is taken too soon. Also, if the patient miss a dose or wait too long between the doses, there might not be enough of the medication in the body to work effectively.

The standard acceptable time is within one hour before or after the scheduled administration time or it is considered a medication error.

5.The Right Route

Route of medication administration refers to the path by which the medication is taken into the body. Medications are made in various forms and for administration by different routes. Check the medication order to find out the right route. If the medication label states administer by mouth and the medication is placed intravenously (I.V.) It is an error and must also be reported.

6.The Right Documentation

The right documentation involves properly recording /documenting each dose offered on the patient's record. Document only *AFTER* the ordered medication is administered. Document the time, route, and any other specific information, including refusal of medication.

7.Right to REFUSE

By Florida's law, a patient has the right to refuse a medication. A patient should not be forced to take a medication. Also, you cannot hide the medication in the patient's food and / or drink.

8. Right Reason

Confirm the rationale for the ordered medication. Is the patient taking the Tylenol for the headache or for fever? If you are not sure of the reason for a medication, ALWAYS ask. Ask the physician. Knowing the reason for the medication will help you to check the patient for the desired effect.

9.Right Response

After administering the medication assess/ observe to find out what happens afterward. Professionals are trained to know how medications move through the body, what the effect of the medication is, and what adverse effects may occur. Adverse effects may include allergic reactions to the drug, overdose of the drug, and drug interactions between multiple drugs.

Make sure that the medication had the desired effect. If a Tylenol was taken for a headache, check the patient and find out if the headache was relieved. If the headache was not resolved the Physician / health care practitioner needs to be notified. Document the patient's report and your observation and that the physician was notified.

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Preventable event

A medication error is any preventable event that can cause or lead to inappropriate medication use or harm to the patient while the medication is in the control of the health care professional, pharmacist, patient, or consumer. Errors in prescribing, dispensing and administering medications can lead to serious injuries. Other causes of medication errors include; poor communication between health care providers, between providers and patients, prescribing errors; product labeling, packaging, dispensing, distribution, education, monitoring, medical abbreviations, sound alike medication names, Illegible prescriptions or confusing directions.

Most medication errors can be prevented. Patient needs to be educated regarding their medications and take responsibility for monitoring the effectiveness and side effects. Always ask questions or share concerns with the physician or pharmacist and other health care workers. Also the health care worker should take steps to prevent medication errors.

DO NO HARM!!!!

HOW TO PREVENT MEDICATION ERRORS

Always TRIPLE Check Medications- the three checks.
The DOs and DON'Ts can help you make sure that your patient's medication works safely to improve their well being and overall health.

Medication DOs...

1. DO Administer /assist resident in taking each medication exactly as it has been prescribed.
2. DO make sure that all your patients'/residents' physicians and Health Care Practitioners know about all your patients'/ residents' medications.
3. DO let your patients' physicians know about any other over-the-counter medications, supplements, vitamins and herbs they are taking.
4. DO try to use the same pharmacy to fill all your patients' prescriptions, so that the pharmacist can help you keep track of everything the patients are taking.
5. DO keep medications out of the reach of children.
6. DO use the triple check system when checking medications.
7. DO read the medication labels, follow the instructions.
8. DO make sure all medication orders are written and signed.
9. DO make sure all medication orders are on the right patient/ resident chart.
10. DO identify the patient/ resident every time you assist with the medications.

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Medication DON'Ts...

1.DO Not change your patients' medication dose or schedule without talking with their physician or health care provider.
2. DO Not share or use any medications prescribed for any other patient or person.
3. DO Not break or crush pills unless the patient's physician instructs you to do so.
4. DO Not use medications that are expired.
5. DO Not use abbreviations.
6. DO Not assist with any medications already poured by someone else. You cannot be sure what it is.
7. DO Not touch the medications with your hand.
8. DO Not hide the medications in food. Medications cannot be "hidden" in foods or drinks. A resident may knowingly take a medication with food if it is easier.
9. DO Not use contaminated medications or medications dropped on the floor.

Some factors that affect medication errors include:

- Inaccurate Patient identification
- Incorrect calculation
- Poor communication
- Inaccurate abbreviation
- Incorrect order interpretation
- Inaccurate dilutent
- Inaccurate patient label
- Improper labeling
- Inaccurate packaging
- Medication not available
- Sound alike drug
- Equipment problem

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Abbreviation

Abbreviation means a shortened form of a word or phrase. Abbreviations can lead to some serious or life threatening errors, therefore there are guidelines in place. The Joint Commission has set guidelines and rules; all healthcare settings has to standardize abbreviations, acronyms and symbols that they are using. They are also required to adhere to a Do Not Use list.

The Do Not Use List includes some of the following:

Do Not Use **u**, or for unit. Mistaken some times for zero. You must write "unit"
Do Not use **iu** for international unit. Mistaken for IV. Write "international unit"
Do Not Use **Q.D., QD, q.d., qd** (Daily). Mistaken for each other. Write "Daily".
Do Not Use **Q.O.D. QOD, q.o.d., qod** (every other day). Write "every other day"
See the complete Do Not Use List (The Joint Commission http://www.jointcommission.org/assets/1/18/Do_Not_Use_List.pdf**)**

Other reasons for medication administration errors include:

- Nurse error,
- actions of the physicians,
- system issues,
- actions of the pharmacists

Some Steps to Implement to Reduce Drug-Name Errors include:

- Have knowledge of the drug and dosage of medication you will administer.
- Implement Physician Order Entry
- Have standardized system in place for processing the medication dosage and dose times.
- Implement unit doses
- Standardize abbreviations
- Limit the different Intravenous /infusion pumps

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Errors of Omission and Errors of commission

Error is an act of commission (doing something wrong) or omission (failing to do the right thing) that leads to an undesirable outcome or significant potential for such an outcome. For instance, ordering a medication for a patient with a documented allergy to that medication would be an act of commission. Failing to prescribe a proven medication that has major benefits for an eligible patient.

Errors of omission are more difficult to recognize than errors of commission but likely represent a larger problem. In other words, there are likely many more instances in which the provision of additional diagnostic, therapeutic, or preventive modalities would have improved care than there are instances in which the care provided quite literally should not have been provided. In many ways, this point echoes the generally agreed-upon view in the health care quality literature that underuse far exceeds overuse, even though the latter historically received greater attention.

The Joint Commission National Patient Safety Goals for Hospital (2015) relate to the following goals:

- Correct patient identification - Use at least two ways to identify patient when providing treatment, care, and services for example, Name and Date of Birth; this is done to make sure that the correct patient gets the correct treatment and medication.
- Improve effectiveness of communication among the staff- Get important test results to the right staff person on time.
- Use medications safely- Before a procedure, label medications. Use extra care with patients who are taking blood thinners. Record and pass along correct information about the patient's medication. Find out what medications the patient is taking and compare them to the new medications.
- Use alarms safely- Make improvements to make sure that alarms on the medical devices/ equipment are heard and responded to on time.
- Prevent infection- Use the hand cleaning guidelines from the Centers for Disease Control and Prevention or the World Health Organization. Set goals for improving hand cleaning. Use the goals to improve hand cleaning.
- Identify patient safety risks - Find out which patients are most likely to try to commit suicide
- Prevent mistakes in surgery- Make sure that the correct surgery is done on the correct patient and at the correct place on the patient's body. Mark the correct place on the patient's body where the surgery is to be done. Pause before the surgery to make sure that a mistake is not being made.

TRAIN FOR SUCCESS INC.
PREVENTION OF MEDICATION AND MEDICAL ERRORS
2 Contact Hours

The Joint Commission National Patient Safety Goals for Home Care (2015) relate to the following goals:

Identify patients correctly -Use at least two ways to identify patients. For example, use the patient's name and date of birth. This is done to make sure that each patient gets the correct medicine and treatment.

Use medicines safely - Record and pass along correct information about a patient's medicines. Find out what medicines the patient is taking. Compare those medicines to new medicines given to the patient. Make sure the patient knows which medicines to take when they are at home. Tell the patient it is important to bring their up-to-date list of medicines every time they visit a doctor.

Prevent infection - Use the hand cleaning guidelines from the Centers for Disease Control and Prevention or the World Health Organization. Set goals for improving hand cleaning. Use the goals to improve hand cleaning.

Prevent patients from falling - Find out which patients are most likely to fall. For example, is the patient taking any medicines that might make them weak, dizzy or sleepy? Take action to prevent falls for these patients.

Identify patient safety risks - Find out if there are any risks for patients who are getting oxygen. For example, fires in the patient's home.

Root Cause Analysis (RCA)

The Joint Commission requires that a thorough, credible root cause analysis (RCA) be performed for each reported sentinel event. The goal of a Root Cause Analysis is to find out:

- What happened.
- Why did it happen.
- What do you do to prevent it from happening again.

Root Cause Analysis is a tool for the identification of error prevention strategies. It is a process for finding causes of error with goal of preventing any recurrence.

Some factors that influence occurrence of errors by nurses include:

- Tired, fatigue, worked too many days/ shifts
- Increase patient load/volume
- Incomplete orders can lead to misinterpretation
- Distraction while completing tasks
- System issues
- Rushing tasks
- Failure to comply with policy and procedures
- Inadequate knowledge
- Inadequate skill (not knowing how to operate a new equipment)
- Working on a different unit than accustom to
- Inaccurate Labeling of medication
- Handwriting illegible
- Taking short cuts (not following the process)
- Not labeling medications or syringes
- Using trial and error in new situation
- Look-alike and sound alike drug names

There are five stages of the medication process:

1. Prescribing and ordering
2. Transcribing and verifying
3. Dispensing and delivering
4. Administering
5. Monitoring and reporting

1. Prescribing and Ordering

Errors resulting from prescribing and ordering have caused patients to receive the wrong medication or the wrong dosage. Preventable errors occur because systems for safely prescribing and ordering medication are not appropriately used.
• A widely recognized cause of error is illegible handwritten prescriptions.
• Errors may result from insufficient or missing information about co-prescribed medications, past dose-response relationships, laboratory values and allergic sensitivities.
• Errors in prescribing can occur when an incorrect drug or dose is selected, or when a regimen is too complex.
• When prescriptions are transmitted orally, sound-alike names may cause error.

• Similarly, drugs with similar-looking names can be incorrectly dispensed when prescriptions are handwritten.
• Errors may occur because a prescription is never transmitted to a pharmacy, or a prescription is never filled by the patient.
• Physician sampling of medications can contribute to medication errors due to the lack of both adequate documentation and drug utilization review.

2. Transcribing and verifying

Transcription, the transfer of information from an order sheet to nursing documentation forms, is a source of many medication errors. Contributing factors include incomplete or illegible prescriber orders; incomplete or illegible nurse handwriting; use of abbreviations; and lack of familiarity with drug names. In addition to errors associated with transcribing the drug name, there is also opportunity for errors when transcribing the dose, route or frequency. Preparing a medication administration record (MAR) in an environment that is noisy or poorly lit can also contribute to errors. What can you do to minimize the opportunity for an error?
• Clarify the order before the prescriber leaves the unit.
• Contact the prescriber if the order is not legible.
• Do not process incomplete orders. Orders must contain the following information: drug name, dose, route, dosage form and frequency of administration.
• Minimize the use of abbreviations and certainly avoid the use of unapproved abbreviations on the MAR.
• Never use the letter 'U' as an abbreviation for units.
• Use a leading zero before a decimal.
• Do not use a trailing zero after the decimal.
• Include indications whenever possible.
• Check your own handwriting: is it legible? If not, think about printing using block letters.
• Complete the transcription process in a quiet area well lit area, away from distractions. If you are transcribing orders in a busy environment, there is the likelihood that you may make an error.
• Implement a system to check the medication administration record document against active orders whether the MAR is manually or computer generated.
• Implement a second check system for the transcription.

3. Dispensing and Delivery

The term dispensing error refers to medication errors linked to the pharmacy or to whatever health care professional dispenses the medication. These include errors of commission (e.g. dispensing the wrong drug, wrong dose or an incorrect entry into the computer system) and those of omission (e.g. failure to counsel the patient, screen for

interactions or ambiguous language on a label). Errors may be potential -- detected and corrected prior to the administration of the medication to the patient. The three most common dispensing errors are: dispensing an incorrect medication, dosage strength or dosage form; miscalculating a dose; and failing to identify drug interactions or contraindications.

4. Medication Administration

Errors caused by drug administration can be made by the health care provider or by the patient themselves. Much of the problem in drug administration is communication. Patients are often unaware that errors can happen and often do not take an active role in understanding what is being communicated to them. Errors most often occur when communication is unclear regarding: drug name, drug appearance, why the patient is taking the drug, how much and how often to take it, when is the best time to take it, how long to take it, what common side effects could occur, what to do about a missed dose, common interactions with other drugs or foods, and whether this new drug replaces or augments other therapy. Over-the-counter medications can lead to medication errors because labels may not be sufficiently read or understood, and health care providers are often unaware when patients are taking over-the-counter medications.

5. Monitoring and reporting

Reporting Medication Errors

Health care professionals and consumers have the opportunity to report the occurrence of medication errors to a variety of organizations.

Examples include:

- the Institute of Safe Medication Practices (ISMP) and the
- Food and Drug Administration (FDA).

These organizations collectively review error submissions. Case reports are published to educate health care professionals regarding errors and near errors. In some cases, the FDA may work with drug manufacturers and others to inform them about concerns with pharmaceutical labeling, packaging and nomenclature to make appropriate changes to reduce the risk of medication errors. Academy of Managed Care Pharmacy (AMCP) has voiced support for a medication error reporting system that encourages participation and provides confidentiality and protection of the information reported and the person(s) reporting. To be successful a medication error reporting system must have protections for those reporting.

Often, pharmacists view mandatory reporting laws and regulations as punitive, especially if public disclosure is included. Compliance with such programs is likely to be

less than optimal since the results of reporting could include lawsuits, regulatory enforcement actions, forfeiture of pharmacy license, and loss of professional reputation with accompanying loss of business. Regulatory and advocacy activity provides for improving monitoring of medication errors.

The Food and Drug Administration (FDA) MedWatch reporting system provides a comprehensive sentry position for many medication errors to be reported. Although designed primarily for reporting adverse events from medication use, FDA's MedWatch is an appropriate venue to discover medication errors, such as prescribing misadventures and look-alike, sound-alike errors leading to adverse reactions. Many state boards of pharmacy have begun medication error reporting initiatives to detect trends in ambulatory dispensing errors.

Most are limited to mandatory internal reporting systems within a setting, for example where errors must be logged and open for board inspection during routine visits and complaint investigation. Many physician boards and associations participate in prescribing error investigations, driven primarily by peer review and consumer complaint resolution.

Keys to Error Prevention

Patient Education

Health care professionals must provide adequate patient education about the appropriate use of their medications as part of any error prevention program. Proper education empowers the patient to participate in their health care and safeguard against errors. Some examples of instructions to patients that can help prevent medication errors are:

1. Know the names and indications of the medications
2. Read the medication information sheet provided by the pharmacists
3. Do not share the medications with others
4. Check the expiration date of the medications and dispose of expired drugs
5. Learn about proper drug storage
6. Always keep medications out of the reach of children
7. Learn about potential drug interactions and warnings

The responsibility for the prevention of medical errors rests not only with health care professionals and health care systems but also with the patients themselves. By being informed not only about the names of their medications but the reasons for their use, the times they should be administered and the correct dose, patients can act as the final check in the system. The practice of carrying a continually updated list of medications can be invaluable in the event of an emergency or if patients cannot speak for themselves. This reduces the chance of miscommunications or misinformation. When patients take an active and informed role in his or her health care, many errors can be prevented.

Prior Authorization
Prior authorization programs are used by managed health care systems as a tool to assist in providing quality, cost-effective prescription drug benefits. Improving the patient safety by promoting appropriate drug use is a very integral function of prior authorization programs.

Electronic Technology
Bar Coding another way in which electronic technology can improve patient safety and reduce medication errors is through the use of standard machine-readable codes such as bar codes. Medication bar coding is a tool that can help ensure that the right medication and the right dose are administered to the right patient. Today's technology imbeds increasing amounts of information within a bar code that can be scanned, on even the smallest packages.

Electronic Prescription Record
An electronic prescription record (EPR) contains all the data legally required to fill, label, dispense and/or submit a payment request for a prescription. Pharmacists use the record as a tool to reduce medication errors by guarding against drug interactions, duplicate therapy and drug contraindications.

E-prescribing
Enter orders on the computer: Utilization of electronic prescribing by entering orders on a computer, which is referred to as Computerized Physician Order Entry (CPOE), is a technology that could help prevent many medication errors. CPOE systems allow physicians to enter prescription orders into a computer or other device directly, thus eliminating or significantly reducing the need for handwritten orders. E-prescribing and Computerized Physician Order Entry (CPOE), can reduce medication errors by eliminating illegible, unable to read, not clear and poorly handwritten prescriptions, ensuring proper terminology and abbreviations, and preventing ambiguous orders and omitted information.

Electronic drug utilization reviews (DUR)
Due to the technology of the electronic prescription record, pharmacists are able to conduct prospective online drug utilization reviews (DUR). The online drug utilization reviews process allows the pharmacist to conduct a review of the prescription order at the time the patient comes in to fill the prescription and proactively resolve potential drug-patient problems such as drug-drug interactions, over-use, under-use and medication allergies.

Automated Medication Dispensing
Automated medication dispensing systems are widely used as a less labor-intensive method of dispensing medications. Automated pharmacy dispensing systems are more efficient at performing pharmacists' tasks that require tedious, repetitive motions, high concentration and reliable record keeping, which all have potential to lead to medication dispensing errors.

Internal Quality Control Procedures
Most medication dispensing settings have developed quality evaluation procedures. These practices provide workflow evaluation and error reporting analyses, which lead to excellent protection from medication error. These procedures and evaluations have led

to several changes in standard practice for ambulatory pharmacy, generally adopted as acceptable professional practice. These changes have provided additional safety checks, such as image displays, as part of the final dispensing review process, and the addition of descriptive text on prescription labels. These practices not only allow for final dispensing checks, but also allow for patient monitoring of consistency between label description and vial contents.

TELEPHONE ORDERS

VERBAL ORDERS

Verbal orders are orders that are spoken (verbal) in person or by the telephone, therefore there is more room for errors to take place than for orders that are sent electronically or written down.

Interpreting speech:

Verbal orders can result in error because there are so many variable/ factors that can affect the intended order such as Interpreting speech.

Interpreting speech may be problematic because of the different pronunciations, various accents and dialects. Often times there are interruptions, background noise, unfamiliar drug names, sound alike drugs and different terminology that can compound the problem.

After the verbal order is received, the order has to be transcribed as a written order, which may also increase the risk or potential for error in the ordering process.

When the nurse receives a verbal order, the physician or prescriber who gave the order assumes that the nurse understood or heard correctly. Then the nurse places a call to the pharmacy and this leads to a potential for/ more room for error. The pharmacist now relies on the accuracy of the nurse's written transcription of the verbal order and the pronunciation when the order is read to the pharmacist. The pharmacist may hear a sound-alike drug name or misheard the number (dosage) which will affect the accuracy of verbal orders.

Communicating multiple medications verbally at the same time is another factor that increases the potential for error.

Safe Practices

Some tips for safe practices include:

- Limit verbal orders of medication or prescription orders to urgent situations in which immediate written electronic communication is not possible. For example, facilities can implement in their policy and procedure to have prescriber complete written orders when present and the patient's chart is available; disallow verbal orders under such circumstances. Verbal orders can be restricted to situations where it is impossible or difficult for hard copy or electronic order transmission, for example during a sterile procedure.

- Those receiving the verbal orders can be required to time, date, sign and note the verbal order according to prescribed procedures.
- For the prescribers, speak clearly when giving verbal orders. For those who are receiving the order:

- Write down the complete order or enter into computer
- Read it back and receiving confirmation from the prescriber who gave the order.
- the prescriber or the individual receiving the order can spell unfamiliar drug names, using M as in Mary," "B as in Boy," to make sure heard correctly.

- Prescribers can be mandated to verify and sign/date orders within a predetermined time frame.

- For all medication orders, include the indication/ purpose of the drug to make sure that the order makes sense in the context of the patient's diagnosis or condition. Many reported sound-alike name medications have different purpose /indications.

- Disallow medication requests from the nursing units to the pharmacy unless the verbal order has been transcribed onto an order form and simultaneously faxed to pharmacist so that the pharmacist can see the order before the medication is dispensed.

- Limit verbal orders to formulary drugs. The names of medications that are unfamiliar to the nurse are more likely to be misheard and their indication and dosages may not be familiar.

- Raise awareness of problematic drug name pairs at work /facility based on the reports submitted to patient safety authority reporting systems so that the practitioners can be prepared to challenge questionable orders.

- Include the mg/kg dose along with the patient's specific dose for all verbal medication orders for neonatal/pediatric patients.

- Prescribers can ask for important patient information for example drug allergies, diagnosis and lab values and that may affect the prescribed medications.

- Limit the number of personnel who can receive telephone / verbal orders.

- Standardize the unit-change and shift-change method of reporting.

- Express dosage of medications by unit of weight for example g, mg, mMol, mEq. Verbal orders that specify the dosage in terms of the number of tablets, ampuls, or vials, and verbal orders that state a volume but does not include the concentration, have led to medication errors and serious patient injury because many medications are available in several strengths and package sizes.

- Record the verbal order directly onto an order sheet in the patient's chart. Transcription from a scrap paper to the patient's chart is a potential for additional errors.

- Have a Phone or pager number so that you can get in touch with prescriber timely if there are follow-up questions.

- Disallow verbal orders for chemotherapy due to the complexity and potential for tragic / fatal errors.

- Have another individual (second person) listen to a verbal order whenever possible. Inexperienced staff or students may require special supervision when working with verbal orders.

- Annually review a list of look-alike and sound-alike medications used by your facility, and implement steps to prevent medication errors that involves the interchange of those medications.

- Utilize Hands-off communication; before the nurse leaves that assigned patient that nurse needs to communicate with the oncoming nurse or team regarding the patient. The patient is being transferred from one caregiver to another; therefore effective communication is vital to the prevention of errors. hands-off communication also occurs when patients are transferred to other facilities, therefore effective reporting / communication is vital to the continuity of care for that patient. Hands-off communications needs to include interactive questions and answers.

Medication reconciliation

Medication reconciliation refers to the process of avoiding inconsistencies across transitions in care by reviewing all the patient's medication regimen at the time of admission, transfer, and discharge; ensuring that it is compared with the new regimen that is being considered for the new facility of care.

When patients are admitted to the hospital or transferred from one unit to another during their hospital stay, or upon discharge from the hospital, they often have changes made to their existing medications or receive new medicines. During this transition, there is a potential for errors to occur. Errors may occur due to:

- The hospital-based health care provider might not have received the patients' complete pre-admission medication lists,
- The Health care provider may not be aware of recent medication changes,
- the new medication regimen prescribed at the time of discharge may inadvertently omit needed medications,
- the new medication regimen prescribed at the time of discharge may contain unnecessarily duplicate existing therapies,
- the new medication regimen prescribed at the time of discharge may contain incorrect dosages.

These discrepancies put the patient at risk for adverse drug events (ADEs), which have been shown to be one of the most common types of adverse events after a hospital discharge.

As of July 2011, medication reconciliation has been incorporated into National Patient Safety Goal as improving safety of using medications. This National Patient Safety Goal requires that organizations have to maintain and communicate correct medication information and also compare the medications information that the patient brought to the hospital with the new medications ordered for the patient by the hospital so that discrepancies can be identified and resolved.

TAKE EXAM

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