The National Coordination Council for Medication Error 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 in the control of the health care professional, patient or consumer. A medication administration error is any deviation from the prescriber’s written order, or as entered into a computer system by the prescriber.

Medication errors are sometimes due to problems with the written order of the prescription. Nurses should always verify the orders if it is unclear. If there are medications that look-alike or sound-alike, the nurse must consult with the physician to verify the correct order and educate the client/caregiver about the potential for error. Common prescribing errors include:

- Using the wrong drug name, dosage form, or abbreviation
- Mistakes on calculating dosage
- Atypical or unusual and critical dosage.
- Illegible handwriting on prescriptions
- Sound-alike or Look-alike medications

Most frequently reported errors are:

- Omission errors (failure to administer medications)
- Improper dose (medication dose, strength, quantity different than that prescribed)
- Unauthorized drug error (the medication was not ordered)

Nearly 1/3 of home care patients have a potential for medication errors. A home care patient who experiences a medication error can be at risk for a serious adverse reaction. In one study it was found that in home care patients over the age of 65, one out of five patients take nine (9) or more medications with the median number being five (5). The number of errors increased substantially with the increased number of medications. It seems that these clients are prone to medication errors because of the sheer volume of medications they are taking.

In preventing medication errors, the nurse must always adhere to the basics, such as the **The Five Rights (5 R’s):**

- **Right medication.** Check the doctor’s order and check it against the label.
- **Right Dose.** Check the MD order and the medication label. If you aren’t familiar with the medication, look it up or call your office for assistance. Many pharmacists will give you information as well.
- **Right Time.** Check the MD order and the medication label.
- **Right Route.** Check the MD order and the medication label. Make sure the route is accessible. If it is PO, can the patient swallow meds? If not, can it be crushed? Is the route appropriate?
- **Right Patient.** Assuming you have already checked the client for 2 patient identifiers (Name, address, date of birth, etc), this requirement should naturally occur as part of the home visit/shift process.

In addition, follow these procedures as well:

- Document administration of medication as soon as possible after the medication is given. Never document administration prior to giving the medication.
- Document any response the client had to the medication, if appropriate.
- Document changes in orders on the Addendum to Plan of Care and communicate these changes to other caregivers. Make sure the change is indicated in the next 485, as well as the Medication Profile and Treatment Record.
- If there are multiple clients in the home, color code medication bottles.
- Don’t forget to include oxygen on the medication list of the 485, as well as the Medication Profile and Treatment Record.
- Include dosage on all medication documentation, and not just the concentration. This is especially important with liquid medications and inhalants.
If medication dosages are changed, obtain a new label from the pharmacy. This is most common with pediatric clients. It is not permissible to hand write the change on the bottle label. The label on the medication must always match the order.

- Draw up medication in the smallest syringe possible, for accuracy. For example, 0.25ml should be drawn up in a 1cc syringe.
- When preparing meds for administration, always make sure there is sufficient lighting so that you can read and recognize the correct medication.
- Check medications for expiration dates periodically.
- Medications for children are usually dosed by weight in Kilograms. Always know the current weight in kilograms, and if there is any question about the dosage, always reconfirm with the doctor or clinical manager. Divide pounds by 2.2 when changing pounds to kilograms.
- If an error should occur, always inform the physician and document the error on an Incident Report.

When the family or client is also involved in medication administration, it adds other opportunities for error, including:

- Never follow orders from the family to hold meds, give meds or change the dose or frequency. Always confirm the changes with the physician.
- Never document that the family gave the medication, unless you observed them administer the medication.
- If unsure, recheck with the family to make sure they have not already given a medication.
- It is not permissible to give medications that the family pre-pours and leaves for you to administer. You must pour and administer the medication yourself.

Medication errors may often be the result of client error. A complete assessment is key to success in avoiding those errors. Teaching the client the proper medication administration and how to read the labels and identify the right pill is crucial. However, a medication error by the client can be due to problems with compliance, but compliance could be a result of problems with:

- **Cognitive ability**
  Does the client have a medical diagnosis that would impair their cognitive function? Are they on medication that could alter cognitive function?

- **Behavioral factors**
  Has the client demonstrated self care in the past, and does the client hold their health status as a priority.

- **Emotional factors**
  Does the client have any signs of depression, is there a family/significant other involved in the care?

- **Functional ability**
  Can the client retrieve their medication and can they open the bottle? Can they read the label?

- **Sensory capabilities**
  Can the client communicate clearly, hear and see well?

- **Environmental factors**
  How is the medication stored? Can the client afford the medication? IF needed, can medication be delivered from the pharmacy?

Client teaching will help decrease the risk of error when the client self-administers. Teaching should include, as appropriate:

1. Inspect medications- check for color, shape, markings, odor. Are the directions on the bottle the same as what the physician told the client?
2. Double-check medication names. Instruct client on look-alike and sound-alike medications.
3. Save inserts of medications in case information is needed at a later time.
4. Question a change in price, because it may actually be the wrong medication.
5. Be sure to inform the doctor of all medications taken, either prescribed or over the counter medications, including natural or herbal preparations.
6. Take a list of all medications, or take the actual medication bottles with you to all doctor appointments.
7. Do not physically alter your medications by chewing, crushing, breaking or mixing the medication with another medication, unless it is permissible as per the pharmacist, doctor or nurse.
8. Use the proper measuring device, preferably the device that came with the medication, if possible.
9. Check all medication expiration dates.

Medication errors can happen in any setting by any individual, whether a licensed health care professional or a lay person. Depending on the medication error, the result can be harmless, it can cause further illness, or it can be lethal. Therefore, it is important that all caregivers take the time to learn steps to prevent medication errors.

Resources:

“A Brief History of Medication Errors”, by Elizabeth A. Flynn PhD., R Ph., Center for Pharmacy Operations Design, Auburn University, Alabama

www.icn.ch/matters_errors.htm: “Medication Errors”

“Preventing Medication Errors in Home Care”, published by the Center for Home Care Policy & Research, Fall 2002.

“How to Avoid Medication Errors”. www.nursing.about.com/od/pharmacology/ht/errors.htm?terms+medications+to+avoid

“Multi-Disciplinary Strategies to Improve Oral Medications and Re-hospitalizations” Published by Home Care outcomes, Rockville, MD, 2006


“Preventing Medication Errors” by Diane D Cousins. www.findarticles.com/p/articles/mi_m0816/is_8_20/ai_106557900/print

“Medication Errors” Published by the Academy of Managed Care Pharmacy's.

“Tips for Preventing Medication Errors”, http://lungdiseases.about.com