University of Wisconsin Hospital and Clinics
Medication Reconciliation Education Packet

Medication Reconciliation Education Objectives

Purpose:
The following learning objectives will be presented and evaluated with regard to the process of medication reconciliation. The goal is to provide non-pharmacy staff with the tools on how to obtain an accurate medication list from patients.

Scope:
This document applies to, but is not limited to the following individuals:

- Physicians
- Physician assistants
- Nurses
- Nurse practitioners
- Pharmacists
- Medical assistants
- Radiology technicians
- Medical, nursing and pharmacy students
- Any health care personnel who will be responsible for obtaining a medication list from patients

Learning Objectives:
1. Describe the National Patient Safety Goal 8a and 8b
2. Define medication reconciliation
3. Describe the process of medication reconciliation within your area
4. Define the term "medication" as described by The Joint Commission
5. Describe and apply "best practices" when obtaining a medication list
   a. Documentation of allergies (medication, food, latex) including a description of the reaction
   b. Document the name of the pharmacy where the patient has their medication filled
   c. For each medication listed, document the following information
      i. Drug name (generic)
      ii. Strength or concentration
      iii. Dose
      iv. Route
      v. Frequency
      vi. Indication
6. Describe the potential barriers to obtaining an accurate medication list
7. Describe how to resolve or address these identified barriers
8. Describe potential errors encountered when documenting a medication list
9. Discuss the role of patient education related to medication safety

National Patient Safety Goal 8a and 8b
Goal: Accurately and completely reconcile medications across the continuum of care.

8a. Process exists for obtaining and documenting a complete list of current medications upon admission to the organization and with the involvement of the patient. Compare the medications the organization provides to those on the list.

8b. A complete list of the patient's medications is communicated to the next provider of care when a patient is referred or transferred to another setting, service, practitioner or level of care within or outside the organization. The complete list of medication is provided to the patient on discharge.

Most medication errors result from miscommunication between providers at transition of care. The literature demonstrates that over 50% of all hospital medication errors and 20% of adverse drug events are due to poor communication at these transitions. (include reference)

What is medication reconciliation?
Medication reconciliation is the process of identifying the most complete and accurate list of medications a patient is taking and using this list to provide correct medications for the patient anywhere within the organization. The process includes comparing prescriber's attention, and if appropriate making changes to the orders including omissions, duplications, interactions, and name/dose/route confusion. Other steps in medication reconciliation include updating the medication list as orders change during the episode of care and communicating the updated list to the patient and the next known provider of care.

The purpose of reconciliation is to avoid errors of transcription, omission, duplication of therapy, drug-drug interactions, and drug-disease interactions.

Process of Medication Reconciliation in Your Area
Your manager or supervisor will provide you with the specific processes within your area. The individual steps may vary from clinic to clinic, but the overall goal is the same.

Know your role for medication reconciliation in your patient care area:
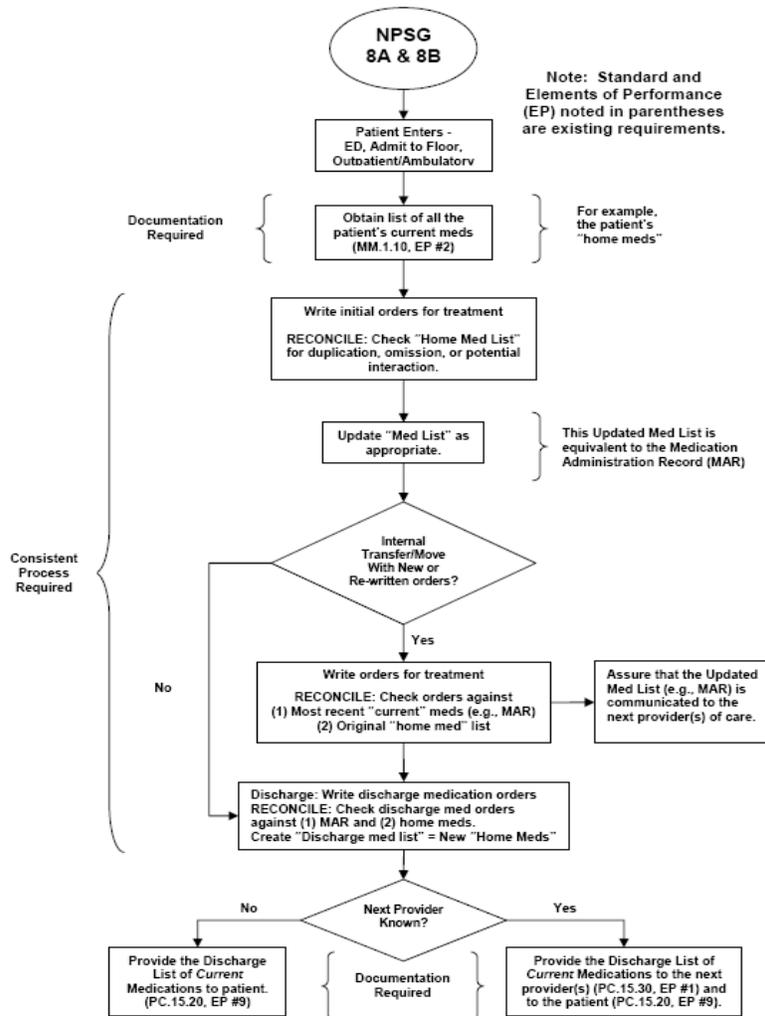- Identify who is responsible for obtaining the medication list
- Describe where the form is located within the patient chart
- Describe how to identify and resolve any medication discrepancies found
- Describe when is the list updated and who is responsible for making these changes
- Describe who provides the updated list to the patient at the end of the visit
- Describe how the updated medication list communicated to the next provider of care if applicable

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Medication Reconciliation Education Packet

In general, here is what you should be able to describe for the process:

- When the patient arrives, a current list of all medications being taken must be documented or updated in the medical record
- Before any new medication is administered, ordered or prescribed to the patient, the home medication list must be reconciled to check for duplications, omissions, interactions and allergies
- All discrepancies must be brought to the attention of the prescriber and resolved
- Any changes to the patients medication list must be updated and given to the patient at the end of the visit or at discharge
- This updated medication list must be communicated to the next known provider of care

The Medication Reconciliation Process Flow Chart

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Medication Reconciliation Education Packet

What is the definition of "medication?"

As defined by The Joint Commission, a medication includes prescription medications, sample medications, herbal remedies, vitamins or nutraceuticals, over-the-counter medications, vaccines, intravenous medications, blood derivatives, respiratory treatments such as inhalers, parenteral nutrition, diagnostic and contrast agents used on or administered to persons to diagnose, treat or prevent disease, and radioactive medications.

How do I obtain a medication list?
Although there is not a specific one size fits all approach to obtaining an accurate medication list, there are key elements that should be included.

Allergies: This may be the most important piece of information you document on the medication list!
Always ask the following questions to assess for patient allergies:
- "Do you have any allergies to medications?"
- "What happens when you take this medication?"
- "Do you have any allergies to latex?"
- "Do you have any allergies to IV contrast dye?"
- "Do you have any allergies to foods?"

Patient's Preferred Pharmacy: Ask the patient where they usually have their medications filled. This is helpful when you have a question or need to have a specific medication clarified. It is also helpful to have this information updated when the patient requests a refill of their medication to be phoned into the pharmacy.

Medications:
As it is helpful when the patient brings in their medication bottles or an updated medication list, this generally is not the case. To get your conversation started, begin by asking
- "What medications do you take everyday?"
- "Do you take any over-the-counter medicines?"
- "Do you take any medications for allergies?"
- "Do you take any medications to help with breathing?"
- "Do you take any medications to help with pain?"
- "Do you take any multivitamins or herbal supplements?"
- "Have you recently taken any antibiotics within the last 2-3 weeks?"
- "Are you wearing any medication patches?"
- "Is there anything else you take that has not been mentioned?"

Be very specific when asking for medication lists. Most patients do not associate things such as multivitamins or herbal supplements as a medication. You may need to ask specifically about eye drops, ear drops, inhalers, and topicals.

As the patient begins to list each medication, document the following pieces of information.

- Drug name: Generic name is always preferred, however do not get caught up in the detail, if the patient states the brand name and you do not know the generic, just write down the brand name.
- Strength or concentration:
- Patient dose- always write this as mg , avoid writing tablets or mL
- Route:
- Frequency
- Indication: ask the patient what they are treating if you are not sure why they are taking a specific medication

The following are examples of complete medication information.

- Gabapentin 600mg po BID for neuropathic pain
- Ranitidine soln 15mg/mL- 5mg po daily
- Amoxicillin 500mg po TID for 10 days. Started on 5/25 for infection
- Fentanyl 75mcg patch applied every 72 hours (next patch due 5/27)
- Metoprolol XL 50mg po qhs
- Insulin asparte 8 units subQ TID with meals
- Warfarin 2.5mg po daily on Mon, Wed, Fri and 5mg Sat, Sun, Tues, Thurs

This medication list will become part of the permanent medical record! DO NOT USE ANY BANNED ABBREVIATIONS!!! (See Appendix 1)

Potential barriers to obtaining an accurate medication list
1. Patient does not know what medications they are currently taking.
   Examples of questions:
   - "I take a pink pill for my heart."
   - "My wife always takes care of my medications."
   - "My doctor just changed my medicines around and I don't know what I am taking"
   - "Here is my pill box- this is what I take everyday"

2. Not enough time to speak with the patient to obtain the medication list.
   Ex. An emergent situation.

3. Patient does not speak English

4. "Don't you already have this information??"

5. The patient states they take a medication that has multiple dosage forms, yet they are unsure what the dosage form is. For example, the patient states they take calcium for their bone health.

Recommendations how to address these potential barriers

1. Patient does not know what medications they are taking
- Ask a family member or caregiver present for the information
- Contact their local pharmacy and determine what medications are active on their profile
- Review the patient's medical record if available- go through the current medication list with the patient. This may trigger them to remember some of the information they need
- Use electronic resources available such as MicroMedex® or eFacts™. MicroMedex® has a tool that will identify a tablet based on the color, size, shape and inscriptions on the tablet.

2. Not enough time to speak with patient
Acknowledging the increase in workload that staff is faced with, it is important to remember that the goal of medication reconciliation is to increase patient safety. A recent report in the *Archives of Internal Medicine* found that the number of reported serious adverse drug events has increased 2.6-fold between 1998 and 2005.

In the case of an emergent situation, ask family members or caregivers present for the information.

3. Patient does not speak English
Request the assistance of an interpreter. Hospital policy 7.53 states Interpreters shall be used in any situation where clear and effective communication is necessary. Situations in which the presence of an interpreter for Deaf, Hard-of-Hearing or limited English speaking patients is necessary to ensure thorough and accurate communication include, but are not limited to:

- Obtaining a medical history
- Informed consent
- Explaining a diagnosis and plan for medical treatment
- Explaining any change in regimen, environment or condition
- Procedures/surgery
- Medication instructions and explanation of possible side effects
- Discharge planning
- Legal issues (advance directives, guardianship, etc.)

4. "Don't you already have this information???"
Patients and their caregivers may become frustrated when they are asked to produce a medication card or update their medication list at each visit. Respectfully remind them of the importance of medication safety and that the reason we ask is to be sure we do not give them a medication that will cause harm.

Potential errors encountered while documenting the medication list

1. Paper form
   - Legibility of the person who documents the mediation history- remember that this
   - Use of banned abbreviations
   - Medication not listed
   - Medication listed, but the patient no longer is taking
   - Missing information such as dose, route, frequency
   - Look-alike-sound-alike medication- especially problematic when using the brand name of the medication

2. Electronic form
   - The medication pick-list may not contain the specific dose you need
   - Product confusion in within the pick list
     - Metoprolol *succinate* vs. Metoprolol *tartrate*
     - Bupropion *IR* vs. buproprion *SR* vs. bupropion *XL*
   - The full name of the product may not be visible on the screen
   - Use of banned abbreviations
   - Missing information
   - Look-alike-sound-alike medications
   - Errors in data entry- human factors

Appendix 1:

UWHC Problematic Abbreviations

Abbreviation	Intended Meaning	Error	Recommendation
U	Units	Misread as 0, 4, or cc (e.g., an order for 10 U of insulin can be misread as 100)	Write out "units"
BIW TIW	Two times a week Three times a week	Misread as two or three times a day	Specifically write out "two" or "three times a week"; or write out specific days medication is to be administered (e.g., q Mon, Wed, Sat)
mg	Mcg	Misread as mg, or m misread as 0 and units read as grams	Use "mcg" instead
AU, AS, AD	Both ears, left ear, right ear	Misread as OU, OS, OD	Specifically write out intended route of administration
OU, OS, OD	Both eyes, left eye, right eye	Misread as AU, AS, AD	Specifically write out intended route of administration
cc	Cubic centimeters (milliliters)	Misread as "U" (units)	Use "mL" instead
QD QID QOD	Every day Four times daily Every other day	Each can be mistaken for one of the others	Write "daily", q am or q pm Write four times daily or 4x daily Write every other day
Trailing zero (e.g., 1.0 mg)	1 mg	Misread as 10 mg	DO NOT USE trailing zeros after a decimal point.
No leading zero (e.g., .1 mg)	0.1 mg	Misread as 1 mg or 11 mg	Always use a zero before a decimal point.
X3d	For three days	Misread as for three doses	Write out "for 3 days"
Apothecary symbols (e.g., 10 gr)	10 grains	Misread as 10 grams	DO NOT USE apothecary symbols

UWHC Problematic Medication Abbreviations

Abbreviation	Intended Meaning	Error	Recommendation
Nitro	Nitroglycerin or nitroprusside	Misread as the unintended agent	
PIT	Pitocin® (oxytocin) or Pitressin® (vasopressin)		**NEVER ABBREVIATE MEDICATION NAMES. ALWAYS USE THE FULL GENERIC NAME OF DRUGS**
Levo	Levofloxacin, levothyroxine, levodopa, others		
MSO$_4$	Morphine sulfate	Magnesium sulfate	
MgSO$_4$	Magnesium sulfate	Morphine sulfate	
ARA-A	Vidarabine	ARA-C (Cytarabine)	

These are just a few of the many medication abbreviations that exist. Because of their error potential, **ALL medication abbreviations should be avoided.

Notes