Safeguards To Prevent Medication Errors

Basic Medication Safety (BMS) Certification Course
King Saud bin Abdulaziz University for Health Sciences, Ministry of National Guard – Health Affairs
Learning Objectives

- Review the best error prevention tools (Hierarchy of Effectiveness)
- Explain the role of different types of medication safety technologies
- Emphasize the advantages of Smart Pump Technology
- Explain different methodologies used to minimize the consequences of errors
- Review the medication reconciliation process
- Discuss the importance and impact of patient education
How to Select the Best Error Prevention Tool

Hierarchy of Effectiveness

- Forcing functions & constraints
- Automation / computerization
- Simplification / standardization
- Reminders, redundancies, checklists and double checks
- Rules and policies
- Education & access information
- Be careful...Be vigilant

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Forcing Functions & Constraints

Allergy hard stop prior to medication order entry
Forcing Functions & Constraints

Oral syringes vs. Luer lock syringes

Concentrated electrolytes and Paralyzing Agents: adding constraints
Automation / Computerization

Computerized Prescriber Order Entry (CPOE)

Electronic Medication Administration Record (e-MAR)
Automation / Computerization

Automated Dispensing Cabinets (ADCs)
Automation / Computerization

Smart Pump

Point-of-Care Barcoding
Simplification / Standardization

Standardized medication labels

26514
Warfarin 2 mg tablet
HAZARDOUS / HIGH ALERT

107940
Cisatracurium 20 mg / 10 mL injection
HIGH ALERT / PARALYZING AGENT

111483
Fondaparinux 2.5 mg / 0.5mL
HIGH ALERT - IV ONLY

26504
Potassium Acetate 2 mEq / mL injection
HIGH ALERT / CONC. ELECTROLYTE MUST BE DILUTED

Safe Labeling of Syringes

all syringes must be labeled if not immediately administered
Medications drawn up, not administered immediately, should be consistently labeled with:

- Patient name and MRN
- Medication name
- Dosage / concentration
- Date prepared
- Beyond-Use Date (BUD)
Reminders, Redundancies, Checklists & Double-Checks

Auxiliary medication labels

High Alert Medication

WARNING
Paralyzing Agent – Causes Respiratory Arrest – Patient Must Be Ventilated

Chemotherapy Checklist

Pharmacy chemotherapy Checking at release.
Pharmacy chemotherapy Preparation
Pharmacy chemotherapy order verification

Check chemotherapy by certified pharmacist at release stage:

- All information mentioned in Order verification part has been checked. Yes No
- Right volume aspirated from right drug & injected to the bag. Yes No
- Right diluent has been used. Yes No
- Right patient label and auxiliary labels (if required) has been used. Yes No
- Each bag, syringe of chemotherapy agent has been labeled properly. Yes No

Saudi Medication Safety Center
APP 1429-02 Look-Alike, Sound-Alike And High Alert Medications

Organization: NGHA

Original Department: 7339 - SAUDI MEDICATION SAFETY CENTER

Title: Look-Alike, Sound-Alike And High Alert Medications

Statement of Purpose: To provide a process regarding the identification, location, labeling and storage of high alert medications and look-alike, sound-alike (LASA) within all Ministry of National Guard - Health Affairs (MNG-HA) and affiliated facilities to promote patient safety.

APP Number: 1429-02

Category: Operation, Administrative, Finance, & others

Replaces:

Remarks:

Original Date: 15-03-2008

Revised Date: 07-03-2015

Effective Date: 02-07-2015

Appendixes / Attachments:

- AO 2015-11-009.pdf
- Appendix A - LASA Drug Names With Tall Man Letters.pdf
- Appendix B - Confused Drug Names.pdf
- Appendix C - HAM requiring IDC.docx
- Appendix D - LASA High Alert Meds-Risk Reduction Strategies for High Alert Meds.pdf

Note: For the best view of APP go to the View Menu in the Browser Toolbar and change the Text size to ‘Medium’
Staff Education & Access to Information

- One Stop Resource: NGHA Intranet
  - Basic Medication Safety (BMS) Course
  - Micromedex
  - NGHA Drug Formulary
  - Standardized medication labels
  - APPs, protocols & guidelines

- Use of electronic devices to access information

- Medication safety messages via SMS & TV screens in hospital corridors
One Stop Resource

- ADR & Med Error / Near Miss Summary Reports
- Allergy Information
- Antidote Data Sheets
- APPs
- Corporate Pharmacy & Therapeutics Committee, MNG-HA
- Links
- Medication Safety Information Alert Warnings
- NGHA Specific Information
- Patient Education Material
- Educational Brochures
- Reference Material
- ISMP Medication Leaflets
- USP Pictograms
- Medication Information for Patients
- Standardized Medication Labels

Statement for assistance

If you have any inquiries or need assistance, please contact
the Saudi Medication Safety Center (SMSC)
Email: smsc1@ngha.med.sa
ALL healthcare providers are responsible and accountable for their acts and omissions
How to Select the Best Error Prevention Tool

Hierarchy of Effectiveness

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Advances in Technology
Smart Infusion Pump Technology

- Smart pumps ensure that medications are delivered within a **safe dose range**
- Utilizing the Drug Library Keeps Your Pump SMART

**Soft Limit Override**

**Hard Limit Stop**

- Limit: 800...1000
- 1100 IU/h?
- Value reached upper limit
Minimize the Consequences of Errors

- Reduce the amount of Floor Stock
- Stock the lowest concentration required for treatment
  - (e.g., 5,000 units vs. 125,000 units)
- Availability of antidotes
- Availability of Anaphylactic Kit (Adult & Pediatric)
Medication Reconciliation

- The process of comparing the medications a patient is taking (and should be taking) with newly ordered medications.

- The comparison addresses duplications, omissions, and interactions, and the need to continue current medications.

- The type of information that clinicians use to reconcile medications include (among others) medication name, dose, frequency, route, and purpose.

- More than 40% of medication errors occur during:
  - Admission, Transfer and Discharge.
Impact of Medication Reconciliation

Physicians
↓ Medication prescribing errors by 70–80%

Pharmacists
↓ Time clarifying physician orders and outpatient prescriptions

Nurses
↓ Time spent on medication histories and counseling
↓ Medication administration errors 45–65%

Improved Patient Safety!!
↓ Patient adverse events by 15–30%

Medication Reconciliation at MNG-HA
Patient / patient carer giver Education

- Initiate at the time of prescribing
- Inform patients of drug name, purpose, dose, and side effects
- Encourage patients to ask questions and expect answers
- Listen to what the patient is saying, as he/she is the last independent double-check
Why is Patient Education Important?
Safe Patient Care Is Our Goal