

Promoting the Safe Use of Medications in the Ambulatory Setting

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Rationale

- The Institute of Medicine Report 1999
 - 44,000 to 98,000 hospital patients die each year in the US as a result of medical errors
 - Approximately 7,000 deaths are due to medication errors only
- The number of medication errors that occur in the ambulatory setting is currently unknown
- Approximately 3-11% of hospital admissions are attributable to adverse drug reactions

Errors in Medication Prescribing:

- Decline in renal/hepatic function requiring drug therapy adjustment
- Patient history of allergy to the same drug class
- Using the wrong drug name, dosage form, or abbreviation
- Incorrect dosage calculations
- Atypical or unusual dosage frequency, eg, q18h, q36 h
- Poor penmanship
- Lack of communication

Strategies to Reduce Errors

- Standardization of processes
- Reduction of system complexity
- Computerization of the drug prescribing process
- Improved prescriber education
- Expanded use of the expertise of pharmacists

Riverside Family Practice Residency

- 18 residents, transitional residents, medical students
- Faculty:
 - Attending physicians (5FT, 3PT)
 - Behaviorist: stress management helps reduce errors
 - Clinical pharmacist: to improve medication prescribing, to increase residents' ability to prescribe and manage complex medication regimens

Competency Based Education

- Residents are expected to demonstrate mastery of 50 competencies by the end of their third year.
- 6 areas of competencies:
 - Patient Care
 - Medical Knowledge
 - Practice-Based Learning and Improvement
 - Interpersonal and Communication Skills
 - Professionalism
 - Systems-Based Practice

Medication Use

Competencies

- Proper prescribing
- Prescription documentation
- Patient education

Assessment

- Active Precepting
- Weekly Chart Review
- Quality Improvement
 - Ongoing indicators
 - Problems found at chart review or in precepting
 - Situations at high risk for medication errors

Systematic Approach

- Double-check system
 - Pediatric dosage verification
- Communication
 - “Read back” requirement for verbal orders
 - Elimination of unofficial abbreviations
- Drug samples dispensing procedure
 - Label with patient’s name, drug name, amount and frequency of dosing
 - A drug information sheet for the patient
- “High-alert” drugs
 - Focused Quality Improvement Project

Focused Quality Improvement Project

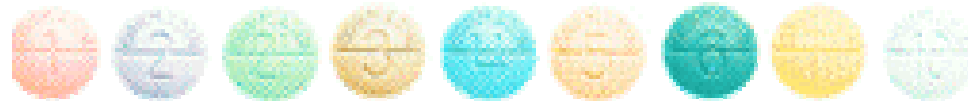
- Our resident physicians or faculty to identify the potential for medication errors
- A 360 degree evaluation to determine actions to promote safety
 - eg, physician or staff education
 - Patient education on medications and how to become an active partner in preventing medication errors
- Health care providers work as a team in preventing medication errors

“High Alert” Drugs

- Warfarin
- Insulin
- Liquid acetaminophen

Warfarin

- A blood-thinning drug with a narrow therapeutic index
- Hemorrhage is the most common cause of hospitalization
- Increased risk of adverse drug events
 - Patients with comorbid conditions
 - Drug interactions
 - Available in 9 different strengths- may cause error in dosage instruction



Insulin

- Different types of insulin in look- alike bottle
- Hypoglycemia often occurs as a result of dosing errors
 - Wrong bottle
 - Poor technique
 - Inaccurate measurements of insulin dose

Liquid Acetaminophen

- Children are more prone to adverse events
- Oral liquid medications are vulnerable to errors
 - Improper dosing
 - Wrong concentration
 - Incorrect/
misunderstood
directions for use
 - Inaccurate
measurement
- Liquid acetaminophen has 2 concentrations
- Overdose can occur

Actions

Warfarin	INR & Dosage Log	Patient Education Booklet
Insulin	Blood Sugar & Insulin Dose Logbook	Insulin Instruction Sheet Patient Ed Book
Liquid Acetaminophen	“How to Care for the Child with Fever” sheet	Parent education at 1 st baby visit

Assessment Tools

- Prescribing Checklist during active precepting and Chart Review
 - To assess residents' proper prescribing
- Patient Survey among patients taking “high alert” drugs
 - To evaluate if more education is needed
- Nurse Survey
 - To determine support of staff and team effort

Competent Residents Promote Medication Safety

- Identity risk factors for medication errors

- Take steps to improve patient safety

- Educate patients



- Provide quality patient care

- Foster a teamwork environment



- Enables the residents to become leaders in patient safety