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Pharmacy & Therapeutics Update: Drug Information for Health Care Professionals

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Pharmacy & Therapeutics

Update

Drug Information for Health Care Professionals

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Joint Commission on Accreditation of Healthcare Organizations' 2006 National Patient Safety Goals

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The purpose of the Joint Commission on Accreditation of Healthcare Organizations' (JCAHO) National Patient Safety Goals (NPSGs) is to promote specific improvements in patient safety. NPSGs focus on problematic areas in health care and describe evidence- and expert-based solutions to these problems. Recognizing that sound system design is intrinsic to the delivery of safe, high quality health care, NPSGs focus on system-wide solutions, wherever possible.

NPSGs are derived primarily from informal recommendations made in the JCAHO safety newsletter, *Sentinel Event Alert*. As sentinel events are reported to JCAHO, a sentinel event advisory group works to develop goals that focus on system-wide solutions in order to prevent subsequent events from occurring, thereby enhancing the quality of care received within JCAHO-accredited institutions.

As with JCAHO standards, accredited organizations are evaluated for continuous compliance with the specific requirements associated with NPSGs. The following goals and requirements are those pertaining to hospitals only. New goals and requirements are italicized.

Goal 1: Improve the accuracy of patient identification.

- **Requirement 1A:** Use at least 2 patient identifiers when administering medications or blood products, when taking blood samples and other specimens, or when providing any other treatments or procedures. Acceptable identifiers may be the individual's name, an assigned identification number, telephone number, photograph, or other person-specific identifier.

Goal 2: Improve the effectiveness of communication among all caregivers.

- **Requirement 2A:** For verbal or telephone orders or for telephonic reporting of critical test results, verify the complete order or test result by having the person receiving the order or

test result read back the complete order or test result. Whenever possible, the receiver of the order should **write** down the complete order or test result or enter it into a computer, and then **read** it back to confirm with the individual who gave the order or test result.

- **Requirement 2B:** Standardize a list of abbreviations, acronyms, and symbols that are **not** to be used in the organization. A list is provided in MUSC-MC policy C-21, *Use of Abbreviations.*
- **Requirement 2C:** Measure, assess, and take action to improve the timeliness of reporting and the timeliness of receipt by the responsible licensed caregiver of critical test results and values.
- ***Requirement 2E:*** Implement a standardized approach to "hand off" communications, including an opportunity to ask and respond to questions. Hand offs include up-to-date information regarding the patient's care, treatment and services, condition, and any recent or anticipated changes. Interruptions during hand offs should be limited to minimize the possibility that information would fail to be conveyed or would be forgotten.

Goal 3: Improve the safety of using medications.

- **Requirement 3B:** Standardize and limit the number of drug concentrations available. This can be interpreted as eliminating use of the "rule of six" in the Children's Hospital.
- **Requirement 3C:** Identify and annually review a list of look-alike, sound-alike medications used in the organization, and take action to prevent errors involving the interchange of these agents. The specific medications and strategies chosen at MUSC are described on pages 3 and 4.
- ***Requirement 3D:*** Label all medication containers (eg, syringes, medicine cups, basins), or other solutions on and off the sterile field in perioperative and other procedural settings.

Goal 7: Reduce the risk of healthcare-associated infections.

- **Requirement 7A:** Comply with current Centers for Disease Control and Prevention hand hygiene guidelines. This information is posted at www.cdc.gov/handhygiene/.
- **Requirement 7B:** Manage all identified cases of unanticipated death or major permanent loss of function related to a healthcare-associated infection as sentinel events. These unanticipated deaths and injuries meet the definition of a sentinel event and are required to undergo a root cause analysis.

Goal 8: Accurately and completely reconcile medications across the continuum of care.

- ***Requirement 8A:*** Implement a process for obtaining and documenting a complete list of the patient's current medications upon admission to the organization.
- **Requirement 8B:** A complete list of the patient's medications is communicated to the next provider of service whenever a patient is referred or transferred to another setting, service, practitioner, or level of care within or outside the organization.

Goal 9: Reduce the risk of patient harm resulting from falls.

- **Requirement 9B:** Implement a fall reduction program and evaluate the effectiveness of the program.

Further information on NPSGs and implementation expectations is posted at www.jcaho.org.

In an effort to improve our compliance, Quality Management is currently posting the NPSGs throughout the organization and drafting posters to raise awareness regarding other JCAHO requirements such look-alike, sound-alike medications and the universal protocol for preventing wrong site, wrong procedure, or wrong person surgery.

Look-alike, Sound-alike Medications at MUSC

By: Katie Namtu
Pharmacy Practice Resident

In 2001, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) published a *Sentinel Event Alert* on look-alike, sound-alike medications (LASAs). Since then, this initiative has been added to the 2006 National Patient Safety Goals (NPSGs). Based on the goals, an organization must choose a minimum of 10 look-

alike, sound-alike medication combinations.

The Medication Safety Team has chosen 10 medication combinations that are potentially problematic (see page 4). Errors associated with these medications can lead to serious adverse drug reactions (ADRs). In addition, strategies were developed to prevent medications errors due to look-alike, sound-alike medications and are as follows.

- Tall man lettering on preprinted order forms, computerized screens, and medication labels
- Storage segregation in the pharmacies and AcuDose-Rx® cabinets
- Alert stickers posted in the pharmacy areas and AcuDose-Rx® cabinets
- Specific labeling of the medication pockets in the AcuDose-Rx® cabinets
- Alternate distribution and storage systems for insulin products
- Staff awareness of the differences between conventional and lipid-based formulations

MED•U•WAY Conference to Focus on Sickle Cell Disease

The next MED•U•WAY conference will focus on the practical management of sickle cell disease. The program will be held on Thursday, May 18, 2006, at 12:00 PM, in 2 West Amphitheater.

The featured speakers will be Sherron Jackson, MD, Division of Pediatric Hematology/Oncology, N. Robert Axon, MD, Division of General Internal Medicine and Geriatrics; Dominic Ragucci, PharmD, BCPS, Department of Pharmacy Services; and Brenda Gumm-Carey, RN, Nurse Case Manager, Clinical Effectiveness.

Attendees will receive 1 credit hour of continuing education, and lunch is provided.

Discontinuation of Streptokinase and Urokinase

Streptokinase (Streptase®) and urokinase (Abbokinase®) have been discontinued by their manufacturers. Currently, the clinical pharmacy staff is working with the primary users of these medications to determine appropriate alternatives. If you have any additional questions regarding this issue, please contact Heather Kokko, PharmD, at kokko@musc.edu.

Formulary Update

The Pharmacy and Therapeutics Committee recently approved the following changes:

Additions:
Effective April 17, 2006
Rifaximin (Xifaxan®)
200-mg tablet

Moxifloxacin (Avelox®)
400-mg tablet and 400-mg/mL intravenous solution

Added with restriction:
Effective date pending
17-alpha hydroxyprogesterone caproate will be restricted for use in women with a history of spontaneous preterm birth, singleton gestation, and who are receiving prenatal care.

Change in restriction:
Effective April 17, 2006
Nesiritide (Natrecor®) is restricted for prescribing by cardiology or cardiothoracic surgery attending physicians and fellows for patients with documented acutely decompensated heart failure.

Line extensions:
Effective April 17, 2006
Lorazepam (various)
0.5-mg/mL extemporaneously prepared oral suspension

Trimethobenzamide (Tigan®)
300-mg capsule

Kaletra®
200-mg/50-mg tablet

Olanzapine (Zyprexa®)
5-, 15-, and 20-mg tablet

Pregestimil® RTF Formula
3-ounce bottle

Deletions:
Effective April 17, 2006
Gatifloxacin (Tequin®)
200- and 400-mg tablet, 200- and 400-mg/mL intravenous solution

Lorazepam (various)
2-mg/mL oral suspension

Trimethobenzamide (Tigan®)
250-mg capsule

Kaletra®
133.3-mg/33.3-mg capsule

Thiethylperazine (Torecan®)
5-mg/mL injection

Humulin® 50/50
100-units/mL vial

PROBLEMATIC MEDICATION NAMES	POTENTIAL ERRORS AND CONSEQUENCES
Chemotherapeutic Agents	
CISplatin (Platinol®) **CARBO**platin (Paraplatin®)	Doses for carboplatin generally exceed the maximum safe dose of cisplatin. Severe toxicity and death have been associated with accidental cisplatin administration.
PACLItaxel (Tax**ol**®) **DOCE**taxel (Tax**otere**®)	Confusion between these medications may result in serious adverse outcomes since they have different dosing recommendations and are used for the treatment of different cancers.
DACTINOmycin (Cosmegen®) **DAUNO**rubicin (Cerubidine®)	Confusion between these medications may result in serious adverse outcomes since they have different dosing recommendations and are used for the treatment of different cancers.
DOXOrubicin (Adriamycin®, Rubex®) **DAUNO**rubicin (Cerubidine®)	Confusion between these medications may result in serious adverse outcomes since they have different dosing recommendations and are used for the treatment of different cancers.
Vin**BLAS**tine (Velban®) Vin**CRIS**tine (Oncovin®)	Due to name similarity, fatal errors have occurred when patients were given vincristine at a higher vinblastine dose.
Conventional versus Liposomal Chemotherapeutic Agents	
DOXOrubicin, **CONVENTIONAL** (Adriamycin®, Rubex®) **DOXO**rubicin **LIPOSOMAL** (Doxil®) **DAUNO**rubicin, **CONVENTIONAL** (Cerubidine®) **DAUNO**rubicin **LIPOSOMAL** (Daunoxome®) **PACLI**taxel, **CONVENTIONAL** (Onxol™, Taxol®) **PACLI**taxel, **LIPOSOMAL** (Abraxane™) Cytarabine, **CONVENTIONAL** (Cytosar-U®) Cytarabine, **LIPOSOMAL** (DepoCyt™)	These products are not interchangeable. Lipid-based formulation dosing guidelines differ significantly from conventional dosing. Accidental administration of the liposomal product, instead of the intended conventional product, has resulted in death.
Opioid Analgesics	
CONVENTIONAL morphine oral liquid (MSIR®) Morphine **CONCENTRATED** liquid (Roxanol®)	Concentrated (20 mg/mL) morphine has been confused with conventional strengths (eg, 2 mg/mL and 4 mg/mL).
HYDROmorph**ONE** injection (Dilaudid®) Morph**INE** injection (various)	These products are not interchangeable. Fatal errors have occurred when hydromorphone was confused with morphine. For equianalgesic dosing information, please refer to the opioid analgesic comparison chart at http://www.musc.edu/pharmacyservices/medusepol/opioidanalgesicfinal.pdf.
Insulin Products	
Novolin R / Novolin NPH / Novolin 70/30 Aspart (Novolog®) / Lispro (Humalog®) - NF Novo**log** 70/30 / Huma**log** 75/25 - NF Glargine (Lantus®) Humulin® R U-500	Similar names, strengths, and concentration ratios have led to numerous medication errors. For more information regarding the insulin products, please refer to the insulin products comparison chart at http://www.musc.edu/pharmacyservices/medusepol/InsulinComparisonChart.pdf.
Amphotericin	
Amphotericin B **desoxycholate** (Amphocin®, Fungizone®) Amphotericin B **cholesteryl** sulfate complex (Amphotec®) – NF Amphotericin B **liposomal** (Ambisome®) Amphotericin B **lipid** complex (Abelcet®) -NF	These products are not interchangeable. Doses of the lipid-based products are higher and vary from product to product. Confusion between these products has resulted in episodes of severe and sometimes fatal outcomes.
Other Medications	
La**MOTRI**gine (Lamictal®) La**MIVU**dine (Epivir®)	These medications are from different medication classes. Patients erroneously receiving one of these medications could experience adverse outcomes and would not receive the intended treatment for their illness.
Bupropion (Wellbutrin® **SR**) Bupropion (Wellbutrin® **XL**) - NF	These formulations are not interchangeable. The sustained release (SR) product is typically dosed twice daily, and the extended release (XL) formulation is dosed once daily.

‡ Nonformulary (NF) products