

Pharmacy Practice Manual **High Alert Medications**

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POLICY:

The Pharmacy and Therapeutics Committee, with the input of the Medication Safety Committee, has reviewed the hospital's formulary and trend analysis of medication errors to determine a list of High-Risk/High Alert medications. Additional input is incorporated from such organizations as the Institute for Safe Medications Practices (ISMP), United States Pharmacopoeia (USP) and other national databases reporting information on the use of medications. The primary objective is to provide the highest quality pharmaceutical care with the minimum number of medication errors and the lowest potential for patient risk.

PURPOSE:

High-Alert medications are drugs that have a heightened risk of causing significant patient harm when they are used in error. Although mistakes may or may not be more common with these drugs, the consequences of an error are clearly more devastating to patients. High Alert meds have a higher risk of causing injury, either as a result of a narrow therapeutic range or due to a high incidence of reported serious errors. Methods to reduce error include strategies such as improving access to information about these drugs; limiting access to High-Alert medications; using Tallman lettering, using auxiliary labels and automated alerts; standardizing the ordering, storage, preparation, and administration of these products; and employing redundancies such as automated or independent double checks when necessary. New formulary medications and additional relevant safety information will be reviewed for inclusion on the High-Alert Medication list by the Pharmacy and Therapeutics committee. Medications that the Pharmacy and Therapeutics Committee (P&T) has deemed to be High Risk or High-Alert include the following:

High Alert Medication List:

- A. Chemotherapy agents
- B. Heparin infusions
- C. Insulin – both continuous infusions and subcutaneous doses
- D. Narcotic's - infusions, including epidural narcotic infusions
- E. Anticoagulants (anti-thrombotics) - enoxaparin (Lovenox)
- F Sedation agents IV- lorazepam, midazolam, propofol
- G. Look Alike- Sound Alike Meds

PROCEDURE: Prescribing:

1. Prescribers need to have a documented diagnosis, condition, or indication for use for each High Alert Medication ordered.
2. The electronic ordering system will be periodically updated to reflect standards of care, doses and concentrations approved by the Pharmacy & Therapeutics Committee and information needed to optimize patient safety.
3. Chemotherapy Orders must be written on Chemotherapy Order forms and signed by the attending Oncologist and include the patient's allergies, height, weight, and body surface area. This allows the nurse and pharmacist to double-check calculations based on BSA and weight.

Preparation and dispensing:

1. Safety procedures will be employed in the ordering, preparation, dispensing and administration of High-Alert Medications.
2. Guidelines for the use of these medications are included in the IV Guidelines listed on-line under Medication References. These guidelines are periodically updated to reflect standards of care.
3. High Alert medications with multiple strengths and concentrations and Sound Alike Look Alike names may be stored on nursing units in Pyxis machines in carousel packets or in matrix drawers or in the Pharmacy main storage Talyst machine, but will not be stored in the same matrix drawer pocket.
4. The Pyxis dispensing system will use TALLman lettering to alert the nurse to LASA meds
5. Concentrated vials of potassium chloride, potassium phosphate, magnesium sulfate and calcium gluconate will only be stored separately in the Department of Pharmacy. Standardized diluted solutions of these electrolytes are located in Pyxis machines on nursing units. The only exception is that NICU has restricted access in Pyxis for stocked Concentrated vials of magnesium sulfate and calcium gluconate. Special labeling is required to ensure dilution before use.
6. Continuous Infusions and IVP doses of Heparin; Continuous Infusions, IVP doses and SC doses of Insulin; Continuous Infusions of Narcotics & Chemotherapy will be double checked by two RNs or one RN and one LPN. A physician/APRN/PA or pharmacist may perform a double check in the event that the second RN/LPN is unavailable.
7. **A double check consists of validating the provide order with the MAR/order sheet/infusion record , the labeled medication and smart pump settings (if applicable) for the correct patient, correct medication, dose, rate, concentration of medication the infusion and/or calculation of the infusion.**
8. All high risk continuous medications must be administered with IV smart pumps utilizing the drug library. The exception is for the patients in the NICU, SCN, or Newborn Nursery, patients that are at risk for volume over-load. These patients must have their medication double checked by two RNs. This double check includes the rate of delivery. These patients will also have their IV meds programmed on the syringe smart pump by the end of 2009. The smart pump drug library is periodically updated to reflect standards of practice.

A. *Chemotherapy

1. Chemotherapy Orders must be written on the Chemotherapy Order form and signed by the attending Oncologist.
2. No verbal orders for chemotherapy are allowed.
3. Chemotherapy will be administered based on the patient's orders and according to the procedures outlined in general accepted standards of practice.
5. **Minimum set of information in medication orders**
6. All chemotherapy prepared by a Pharmacy Technician will be double-checked by 2 pharmacists.
7. The following Sticker will be placed on each patient specific item of chemotherapy: "Caution: Anti-Neoplastic material " Handle Properly."
8. Chemotherapy will be double-bagged to minimize the potential for spread of spills.
9. **Vincristine/Vinblastine requires a " time out" and independent double-check immediately prior to administration**

B. Heparin CI's

1. **Do Not Use unapproved abbreviations,ie: "U" in orders**
2. **Store vials separately from Insulin**
1. Standardized Infusion of Heparin 25,000 units/ 500 mls D5W= 50 units/ml
2. Standardized Dosing Protocols & Orders in place for DVT/PE, Cardiac-revised, Stroke & Ultra-filtration
3. Dosing Protocols on-line under Medication References

C. Insulin

1. Insulin Infusions: Standard concentration = 1unit/ml, High Alert Sticker, Standardized ICU protocol
2. Insulin vials opened on nursing units will have an expiration date of 30 days.
3. Insulin vials are separated by type in labeled bin dividers in the refrigerators

D. Narcotic infusions, including PCA & epidural narcotic infusions

1. Opiates and all other controlled substances shall be maintained under locked storage in the Pharmacy Department and patient care units.
2. High Alert Sticker: for non-standard concentration continuous infusions that are hand delivered to unit at time of need.
3. All are standardized by equipotent concentrations. Morphine 1mg/ml, Hydromorphone (Dilaudid) 0.2 mg/ml, Fentanyl (ICU use) 10 mcg/ml”
4. Orders for Narcotic CI's must follow the Titrate Policy. They can be ordered as a Titrate as clinically appropriate or Not a titrate and call MD/LIP for dose changes as needed.
5. Labelling to show High Concentration” to differentiate from standard concentrations.

E. Anti-coagulants (anti-thrombotics)

1. Policies and Procedures listed in the Medication References- IV Guidelines, Anticoagulation Protocol (Heparin, LMWH, Warfarin & Direct thrombin Inhibitors), Heparin Dosing Protocols , DVT Prophylaxis Guidelines will be followed and monitored.
2. Warfarin must be ordered daily based on the daily INR/PT.
3. Doses are dispensed from the Pyxis machines by the unit Pharmacist to the assigned nurse.

F. Sedation agents IV- lorazepam, midazolam, propofol

1. Each sedative continuous infusion is standardized to one concentration: Lorazepam 1 mg/ml, Midazolam 1 mg/ml, Propofol 10 mg/ml

G. Look Alike- Sound Alike Meds (LASA)

1. LASA Med Lists are posted in all nursing medication preparation areas and are located on-line under Medication References.
2. Tall-Man lettering is used for identification of LASA meds in Pyxis.
3. LASA meds are distinguished in Pharmacy non-Talyst stock locations by use of LASA stickers “ Alert Look alike Sound Alike”.
4. Products are segregated in the Pyxis Machines.
5. Narcotics are segregated in the Pharmacy C2 Safe.

Reference:

1. ISMP. October 2008.
2. Joint Commission. October 2008.

Nursing Procedure:

APPROVAL: Nursing Standards Committee & Department of Pharmacy 2/09

EFFECTIVE DATE: 3/07

REVISION DATES: 2/09