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	Department/Section:	Pharmacy Division
	Document Title:	**MANAGING HIGH ALERT MEDICATION**

PURPOSE:

To establish safe medication practices for High Alert Medications to maximize the safety of the medication processes associated with these medications.

LEVEL:

All Physicians, Nurses, Pharmacists and other Healthcare Professionals of Riverside Medical Center Incorporated.

DEFINITION OF TERMS:

Medication Management (MM)- a partnership of the pharmacist, the patient or their caregiver, and other health professionals that promotes the safe and effective use of medications and helps patients achieves the targeted outcomes from medication therapy. MM includes the analytical, consultative, educational and monitoring services provided by pharmacists to help consumers get the best results from medications through enhancing consumer understanding of medication therapy, increasing consumer adherence to medications, controlling costs, and preventing drug complications, conflicts, and interactions.

High-Alert Medications- are medications 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 such as concentrated electrolytes 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 error.

Universal Protocol for Time-out- immediately before starting administration/procedure, Time-out must be conducted in the location where the procedure/medication will be done / administered.

POLICY:

1. It is the policy of the Riverside Medical Center, Inc. (RMCI) to maintain a list of high alert medications that require specific safeguards and strategies to reduce the risk of errors related to ordering and prescribing, location, transcribing, labeling, identification, preparation, storage, dispensing and administration.

2. High alert medications are drugs that have an increased risk of causing significant harm to a patient when used in error. Because the consequences of an error associated with use of these medications can result in significant patient injury, special precautions shall be employed with their management throughout the process.

3. All identified high alert medications shall be labeled with a striking neon orange sticker bearing the words "HAM". See sample below:

4. It is the policy of RMCI to adopt, maintain, and enforce a truly closed-loop medication management system that supports patient safety and allow for future improvements and changes in the quality of care.

HIGH ALERT MEDICATIONS:

1. **Vinca Alkaloids: vinCRIStine (vinCRIStine ™), vinBLAStine (vinBLAStine ™), vinorelbine (Vinorelbine ™)**

   1.1. **Risk Reduction Strategies**

   1.1.1. All doses of vinCRIStine and vinBLAStine shall be prepared and dispensed in 25mL minibags of 0.9% Sodium Chloride for injection. Vinorelbine shall be prepared and dispensed in a maximum of 50 mL minibags of 0.9% Sodium Chloride for injection.

1.1.2. The minibag label shall contain the warning, **"Fatal if given intrathecally. For IV use only. Do not remove covering until moment of injection."**

1.1.3. The minibag shall be affixed with a **HIGH ALERT: DOUBLE CHECK.**

1.1.4. Each minibag shall be placed in an over wrap (e.g., chemo bag) with the same warning listed above. As part of a pause for verification, an independent double check shall be conducted in the pharmacy by two healthcare professionals including an independent double-check.

1.1.5. The Universal Protocol for **"Time-Out"** shall be conducted at the bedside immediately **prior to the administration** of all doses by two qualified healthcare professionals (registered chemotherapy nurse and second chemotherapy-proficient registered nurse or pharmacist or physician), included in this **"Time-out"** process is the independent double check verifying the correct patient, drug, dose, dose calculation and site of line insertion and scheduled date and time of administration upon initiation, bag change, change in dosage and at handoff.

1.1.6. This double-check shall be documented in the nurses notes and patient Medication Administration Record (MAR) by staff performing the **"Time-out"** process. Order changes involving infusion rates and/or pump settings should be documented in patient medical record (e.g. flow sheet).

1.1.7. In every few specific cases where the health and safety of a young child, without central line access, could be compromised, the vinca alkaloid will be diluted in 10 mL of 0.9% Sodium Chloride for injection and dispensed in a 20mL syringe and packaged and labeled. Attending oncologist shall establish criteria for determining which patients may fall under this exception.

1.1.8. Vinca alkaloids that are delivered via 20mL syringe for specific pediatric patients (young children) must be delivered directly from the pharmacist who prepared/checked the product to the qualified healthcare professional who will administer the dose. This may occur at the nursing unit or pharmacy location.

2. Continuous Intravenous Infusion of Heparin Risk

2.1. Risk Reduction Strategies

2.1.1. The abbreviation "u" shall not be accepted in the medication order.

2.1.2. A standard concentration of 100 units/mL shall be used for all continuous heparin infusions.

2.1.3. Preprinted orders shall be used always for prescribing continuous infusions of heparin.

2.1.4. All infusion bags shall be affixed with the High Alert Auxiliary label.

2.1.5. Use of infusion pumps is compulsory to all heparin continuous infusion procedures.

2.1.6. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division, using the method. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g. IV compounding profile, and record or IV room logbook) by both performing professionals.

2.1.7. **Clinical units-** Two (2) qualified healthcare professionals shall independently double check the correct patient, drug, dose calculations, infusion pump settings, label, IV tubing connection and site of line insertion at the bedside whenever a continuous infusion

bag of heparin is initiated, upon any change in dosage, at bag change and at handoff.

2.1.8. Double-checks shall be documented on the patient's MAR in the medical record by both performing professionals. Order changes involving infusion rates and/or pump settings and double checks involving bag change or at handoff may be documented via current practices (e.g. flow sheet).

2.1.9. All therapeutic continuous heparin infusion bags shall be supplied by pharmacy to patient care areas of the facility with a patient specific label except as defined in policy for urgent case use below.

2.1.10. Therapeutic heparin infusion bags may be stored as stock in critical care areas (e.g. Cath Lab) where it is not feasible for direct pharmacy supply for urgent cases.

3. Insulin IV and Subcutaneous

3.1. Risk Reduction Strategies

3.1.1. The abbreviation "u" shall not be accepted in the medication order.

3.1.2. A standard insulin concentration of 1 unit/mL shall be used for all continuous insulin infusions.

3.1.3. All infusion bags shall be affixed with the High Alert Auxiliary label. Use of infusion pumps is compulsory to all Insulin continuous infusions procedures.

3.1.4. Store heparin and insulin separately.

3.1.5. Do not use slash marks to separate NPH and regular insulin doses (e.g., NPH 10/12 regular has been confused with 10 NPH and 112 regular because the slash mark was read as the numeral one).

3.1.6. After dispensing /using insulin do not return to the box it came in-this increases the risk that a vial might be placed in the wrong box and next person may automatically select the wrong product.

3.1.7. Nurses should inform the patient that they are to receive insulin-patients not expecting this will immediately question the need.

3.1.8. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.i., IV compounding profile, and record or IV room logbook) by both performing professionals.

3.1.9. **Clinical units-** Two (2) qualified healthcare professionals shall independently double check the correct patient, drug, dose calculations, infusion pump settings, label, IV tubing connection and site of line insertion at the bedside whenever a continuous infusion bag of insulin is initiated, upon any change in dosage, at bag change and at handoff.

3.1.10. **Independent double-checks** shall be documented on the patient's MAR in the medical record by both performing professionals. Order changes involving infusion rates and/or pump settings and double checks involving bag change or at handoff may be documented via current practices (e.g. flow sheet).

4. Intravenous, Intraperitoneal and Intrathecal Cytotoxic Chemotherapy Agents

4.1. Risk Reduction Strategies

4.1.1. Verbal/telephone orders shall not be accepted when prescribing intravenous, intraperitoneal or Intrathecal cytotoxic chemotherapy agents with the exception of date or time changes clarifications.

4.1.2. Whenever feasible, preprinted orders shall be used for prescribing intravenous, intraperitoneal or Intrathecal cytotoxic chemotherapy agents.

4.1.3. When prescribing intravenous, intraperitoneal or Intrathecal cytotoxic chemotherapy agents, orders shall be written for individual doses, not the total amount of drug for the entire course of therapy.

4.1.4. Complete orders for intravenous, intraperitoneal or Intrathecal cytotoxic chemotherapy agents should include:

4.1.4.1. Patient name and medical record number; date and time the order is written.

4.1.4.2. State whether this is a new order or a change to an existing order.

4.1.4.3. All elements used to calculate the dose of a chemotherapy agent should be included on the order or prescription (e.g., height, weight, and/or BSA if applicable).

4.1.4.4. Indication that written informed consent was obtained for investigational drugs used in clinical trials or for non-FDA-approved drugs obtained for compassionate use, if applicable).

4.1.4.5. Chemotherapy agent name, dose, route, date of administration for each drug.

4.1.4.6. Cycle number and/or week number as appropriate to the regimen, if applicable.

4.1.4.7. All doses of intravenous, intraperitoneal or Intrathecal cytotoxic chemotherapy agents shall be independently double checked by two (2) qualified healthcare professionals (e.g. two pharmacists or one pharmacist and one qualified technician) in the Pharmacy before dispensing. When only one (1) pharmacist is present this procedure may include qualified medical or chemo proficient nursing personnel. This check shall include a verification of the correct patient, drug, dose,

route of administration, frequency of administration scheduled date and time of administration and label. This check shall be documented in the IV compounding profile/record.

4.1.4.8. Distinctive labeling/packaging shall be used to distinguish intravenous, intraperitoneal or Intrathecal cytotoxic chemotherapy agents from other medications.

4.1.4.9. All doses of intravenous, intraperitoneal or Intrathecal cytotoxic chemotherapy agents shall be affixed with High Alert Auxiliary label as stated above.

4.1.4.10. Missing dose requests for intravenous, intraperitoneal or Intrathecal cytotoxic chemotherapy agents shall be investigated immediately by a pharmacist and a replacement dose shall not be dispensed until the disposition of the first dose is verified.

4.1.4.11. Only nurses with documented competency in chemotherapy administration may administer cytotoxic chemotherapy agents.

4.1.4.12. Two (2) qualified healthcare professionals (one registered chemotherapy nurse plus another registered nurse or pharmacist or physician) shall independently double check all doses of intravenous, intraperitoneal or Intrathecal cytotoxic chemotherapy agents at the bedside before administration or at initiation and upon any change in dosage, at bag change and at handoff.

4.1.4.13. Double-check shall verify the correct patient, drug, dose, dose calculations, route of administration, frequency of administration, scheduled date and time of administration, label, infusion pump settings, IV tubing connection and site of line insertion. This check shall be documented in the medical record by both performing professional. Order changes

involving infusion rates and/or pump settings may be documented via current practices (e.g. flow sheet).

5. **Concentrated Electrolytes greater than 0.9% Sodium Chloride Injection and equal to 0.4mEq/mL Potassium injection (chloride, acetate, and phosphate)**

5.1. **Risk Reduction Strategies**

5.1.1. Concentrated electrolyte injections shall be stored only in the Pharmacy and in selected critical area.

5.1.2. Use protocols for Potassium Chloride delivery, including:

5.1.2.1. Indications for KCl infusion

5.1.2.2. Maximum allowable concentration

5.1.2.3. Guidelines for when cardiac monitoring is required.

5.1.2.4. KCl infusions shall be given via an infusion pump.

5.1.2.5. Prohibition of multiple simultaneous KCl solutions (e.g. no IV KCl while KCl is being infused in an other IV).

5.1.3. Allow only commercially available, standard (e.g., isotonic) concentrations of sodium chloride outside the pharmacy.

5.1.4. Limit option- do not stock the 3% Sodium Chloride injection (only in pharmacy).

5.1.5. In **dialysis units**, stock a single hypertonic concentration and store in a locked area with limited access and affix high alert auxiliary label.

5.1.6. When infusions of concentrated sodium chloride injection are required for patient use, only commercially prepared products (when possible), with patient-specific affixed a High Alert Auxiliary label.

5.1.7. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2)

qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.i., IV compounding profile, and record or IV room logbook) by both performing professionals.

5.1.8. **Clinical units-** Two (2) qualified healthcare professionals shall independently double check the correct patient, drug, dose calculations, infusion pump settings, label, IV tubing connection and site of line insertion at the bedside whenever a continuous infusion of concentrated sodium or potassium injection is initiated, at dosage changes, at bag changes and at handoff. Double-checks shall be documented on the electronic or paper MAR of the medical record by both parties. Order changes involving bag change or at handoff may be documented via current practices (e.g. flow sheet).

6. Magnesium Sulfate Infusions (40mg/mL) with Total IV Bag Volume Size Larger than 100mL

6.1. Risk Reduction Strategies

6.1.1. A standard concentration of 40mg/mL shall be used for all continuous infusions of magnesium sulfate.

6.1.2. All magnesium sulfate infusions in the patient care areas shall be affixed with a High Alert Auxiliary label.

6.1.3. Do not use potentially confusing abbreviations such as "MgSO4" and "MSO4".

6.1.4. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or

physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g. IV compounding profile, and record or IV room logbook) by both performing professionals.

6.1.5. **Clinical units-** Two (2) qualified healthcare professionals shall independently double check the correct patient, drug, dose calculations, infusion pump settings, label, IV tubing connection and site of line insertion at the bedside whenever a continuous infusion of magnesium sulfate with a total IV bag size is larger than 100mL is initiated, and upon change in dosage, at bag change and at handoff. Double-checks shall be documented on the electronic or paper MAR of the medical record by both parties. Order changes involving bag change or at handoff may be documented via current practices (e.g. flow sheet).

7. Alteplase (t-PA, Activase ^{R}) Intravenous Infusion

7.1. Risk Reduction Strategies

7.1.1. All infusions of Alteplase (t-PA) for use in all departments including, but not limited to, the hospital and emergency department shall be prepared by a pharmacist. Administration of Alteplase via IV, Intra-arterial push or instillation for resolving clots in tubing is excluded.

7.1.2. For emergency use, when the pharmacist is verified as not available to prepare the medication, one (1) package dose of Alteplase will be stored in the Emergency Department. When this dose must be used, appropriate documentation containing patient identification and reason for use must be transmitted to the pharmacy before a new emergency dose is issued. Use of these emergency doses will be audited for policy compliance.

7.1.3. All infusions of Alteplase shall be affixed with a High Alert Auxiliary label.

7.1.4. Alteplase will be supplied from the pharmacy as two (2) patient specific doses as determined by patient weight.

7.1.5. The bolus dose shall be supplied in a syringe with the patient specific dose to be administered (e.g., 10% of total patient specific dose).

7.1.6. The continuous infusion of Alteplase shall be supplied as the patient specific dose for completion of the therapy. There shall be no over-fill. (e.g., 90% of total patient-specific dose).

7.1.7. The label for each Alteplase dose shall include at a minimum, the patient name and MRN, the patient location, the generic and brand name of the drug, the concentration of the drug supplied in mg/mL, the total drug quantity/total volume of solution that is contained in the package, the expiration date and the rate of infusion/ administration. Each label (the bolus syringe and the infusion container) shall be patient-specific for that dose to be administered.

7.1.8. The compounding of the medications should be accomplished without interruption and in an area that is sequestered from other activities of disruption.

7.1.9. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division, using the method, at the point of completion of compounding sterile dosage forms of alteplase. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g. IV compounding profile, and record or IV room logbook) by both performing professionals.

7.1.10. **Clinical units-** Two (2) qualified healthcare professionals shall independently double check the correct patient, drug, dose

calculations, infusion pump settings, label, IV tubing connection and site of line insertion at the bedside whenever an infusion of Alteplase is initiated and at handoff. Double-checks shall be documented on the electronic or paper MAR of the medical record by both parties. Order changes involving infusion rates and/or pump settings shall be documented via current practices (e.g. flow sheet).

7.1.11. Warning shall be used to differentiate the product from tenecteplase (TNKase) and minimize the possibility of a substitution error.

8. Tenecteplase (Metalyse [R]) Intravenous Injections

8.1. Risk Reduction Strategies

8.1.1. Two (2) health professionals (e.g., two registered nurses, or one registered nurse and one physician or pharmacist) shall independently double check the correct medication, patient, dose, dose calculations and route of administration and label at the patient's bedside whenever an injection to tenecteplase (Metalyse [R]) is initiated.

9. Epinephrine, Norepinephrine, Dopamine and Isoproterenol Infusions

9.1. Risk Reduction Strategies

9.1.1. A standard concentration shall be used for all continuous infusions.

9.1.2. Epinephrine: 8 micrograms/mL

9.1.3. Norepinephrine: 16 micrograms/mL

9.1.4. Isoproterenol: 4 micrograms/mL

9.1.5. In clinical situations where more concentrated infusions are required, the syringes/bags shall be affixed with a "Non-standard Concentration" label.

9.1.6. Whenever feasible, all infusion bags of these medications shall be prepared by the pharmacy.

9.1.7. All infusions of these medications shall be affixed with High Alert Auxiliary label.

9.1.8. Except for use on emergency trays or kits (e.g., Crash Carts), 30mL vials of epinephrine 1:1000 (1mg/ml) vials shall not be store outside the Pharmacy Division.

9.1.9. Use cardiac monitors on all patients with a central line.

9.1.10. Use labels that differentiate critical parts of the names (e.g. "DOBUtamine" and DOPamine").

9.1.11. Label IV bags and pumps with dosage charts and equivalent delivery rates for these dosages.

9.1.12. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division, using the method, at the point of completion of compounding sterile dosage forms of epinephrine, Norepinephrine, or isoproterenol. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals.

9.1.13. **Clinical units-** Two (2) qualified healthcare professionals shall independently double check the correct patient, drug, dose calculations, infusion pump settings, label, IV tubing connection and site of line insertion at the bedside whenever a continuous infusion of one of these medications is initiated and at bag change and at handoff. Double-checks shall be documented on the electronic or paper MAR of the medical record by both parties. Order changes

involving infusion rates and/or pump settings shall be documented via current practices (e.g., flow sheet).

10. **Opiate/Narcotic infusions, including Patient Controlled Anesthesia (PCA) therapy**

10.1. **Risk Reduction Strategies**

10.1.1. Whenever feasible, preprinted orders shall be used prescribing opiate/narcotic infusions and PCA therapy.

10.1.2. The following standard concentrations shall be used for PCA therapy: morphine 1mg/mL, meperidine 10mg/mL, hydromorphone 0.2mg/mL.

10.1.3. In clinical situations where more concentrated infusions are required, the syringes/bags/reservoirs shall be affixed with a "Non-Standards Concentration" label.

10.1.4. All opiate/narcotic infusion syringes/bags shall be affixed with High Alert Auxiliary label. High Alert labels should be affixed to the exterior over packaging on commercially supplied syringes/bags to maintain tamper evidence.

10.1.5. Do not use potentially confusing abbreviations such as "MgSO4" and "MSO4.

10.1.6. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals.

10.1.7. **Clinical units-** Two (2) qualified healthcare professionals shall independently double check the correct patient, drug, dose calculations, route of administration, label, PCA pump settings, label, IV tubing connection and site of line insertion at the bedside whenever an opiate/narcotic infusion bag is initiated, upon any change in dosage or infusion rate, at bag change and at handoff. Double-checks shall be documented on PCA Flow Sheet or the electronic or paper MAR of the medical record by both parties. Order changes involving infusion rates and/or pump settings and double check involving bag change and at hand off may be documented via current practices (e.g., flow sheet). Anesthesia practitioners will follow the High Alert Medication Policy.

11. Medication Administered via the Intrathecal Route

11.1. Risk Reduction Strategies

11.1.1. When compounding medications for Intrathecal use, compounding personnel shall pause for verification and perform an independent double check in the Pharmacy by two healthcare professionals (e.g., two pharmacists and one technician, one pharmacist and one nurse) after the preparation of the Intrathecal dose to assure it is prepared and labeled correctly. This check shall include a verification of the correct patient, drug, dose, dose calculations, and route of administration. This check shall be documented in the IV compounding records.

11.1.2. The Universal Protocol for "Time-Out", including an independent double check, shall be conducted at the bedside immediately prior to the administration of all doses of Intrathecal medications by two qualified health care professionals (e.g., physicians and registered nurse or pharmacist or two registered nurses). This check shall verify the correct patient, drug, dose, dose calculations, route of

administration and label. Double check shall be documented in the medical record by both parties. Order changes involving rates and/or pump settings should be documented via current practices (i.e., flow sheet). Anesthesia practitioners will follow the High Alert Medication policy and procedure.

12. Medications Administered via the Epidural Route

12.1. Risk Reduction Strategies

12.1.1. Whenever feasible, preprinted orders shall be used for prescribing opiate/narcotic epidural infusions.

12.1.2. When appropriate PCA pumps are available, all opiate/narcotic epidural infusions shall be administered using a PCA pump.

12.1.3. All opiate/narcotic epidural infusions shall be affixed with High Alert Auxiliary label.

12.1.4. Whenever feasible, commercially prepared bags of opiates/narcotics shall be used for epidural infusion.

12.1.5. Where feasible, color-coded or labeled tubing without injection ports shall be used for administering opiate/narcotic epidural infusions.

12.1.6. Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals

12.1.7. Two (2) qualified healthcare professionals shall independently double check the correct patient, drug, dose calculations, route of administration, label, PCA pump settings, label, IV tubing connection

and site of line insertion at the bedside whenever an epidural medications is administered, at bag change and at handoff. This check is also required whenever an epidural opiate/narcotic infusion is initiated and upon change in dosage. Double-checks shall be documented the electronic or paper MAR of the medical record by both parties. Order changes involving infusion rates and/or pump settings and double check involving bag change and at hand off may be documented via current practices (e.g., flow sheet). Anesthesia practitioners will follow the High Alert Medication policy and procedure.

12.1.8. Invasive procedures such as epidural insertions require adherence to the Joint Commission's National Patient Safety Goals and use of the Universal Protocol for "Time-Out". The above must be followed for the procedure but is not required for medication maintenance.

13. Medications Administered to neonates in the Neonatal Intensive Care Units (NICU)

13.1. Risk Reduction Strategies

13.1.1. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division, at the point of completion of compounding sterile dosage forms of all medications for neonatal patients with the exception of intermittent infusions of short duration (e.g., IV Antibiotics). If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals.

13.1.2. For all doses of medications, two (2) health care professional (e.g., registered nurse, physician, pharmacist, or respiratory therapist) shall independently double check the correct patient, drug, dose, dose calculations, route of administration, label, IV tubing connection and site of line insertion and any infusion pump settings at the bedside before administration at bag and at handoff. Double-checks shall be documented on the electronic or paper MAR in the medical record by both parties. Order changes involving infusion rates and/or pump settings and double checks involving, bag changes and at handoff may be documented via current practices (e.g., flow sheet).

14. Medication Administered to Pediatric Patients (Age 0-13)

14.1. Risk Reduction Strategies

14.1.1. Two (2) health care professional (e.g., registered nurse, and physician) shall independently double check the correct patient, drug, dose, dose calculations, route of administration, label, IV tubing connection and site of line insertion and any infusion pump settings at the bedside before administration, with bag changes and at handoff for all medications listed below:

14.1.2. All doses of IV medications in critical care areas including ED

14.1.3. All medications used for procedural sedation except when administered by an anesthesia provider.

14.1.4. Digoxin (all routes)

14.1.5. Chloral hydrate (all routes)

14.1.6. Double checks shall be documented on the electronic or paper MAR in the medical record by both performing professionals. Order changes involving bag changes and at handoff may be documented via current practices (e.g., flow sheet).

14.1.7. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy

of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals.

15. Digoxin Intravenous injection

15.1. Risk Reduction Strategies

15.1.1. Provide patient education by trained staff on the importance of compliance with dosing follow up blood tests and on the warning signs of potential overdosage.

15.1.2. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals.

15.1.3. **Clinical units-** Two (2) qualified healthcare professionals shall independently double check the correct patient, drug, dose calculations, infusion pump settings, label, IV tubing connection and site of line insertion at the bedside whenever a continuous infusion of one of these medications is initiated and at bag change and at handoff. Double-checks shall be documented on the electronic or paper MAR of the medical record by both parties. Order changes

involving infusion rates and/or pump settings shall be documented via current practices (e.g., flow sheet).

15.1.4. All digoxin intravenous infusions shall be affixed with High Alert Auxiliary label.

15.1.5. Creatinine clearance information available in order entry system.

16. Neuromuscular Blocking Agents (Rocuronium, Atracurium, and Cisatracurium)

16.1. Risk Reduction Strategies

16.1.1. Warning: Paralyzing Agent, a High Alert Auxiliary label placed on all storage locations and patient specific doses in all locations.

16.1.2. Standardize ordering: never allow "use as needed for agitation" orders; never refer to Neuromuscular Blocking Agents (NMB) as "relaxants".

16.1.3. Do not store these agents outside of critical care areas.

16.1.4. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.i., IV compounding profile, and record or IV room logbook) by both performing professionals.

16.1.5. The Universal Protocol for "Time-Out", including an independent double-check, shall be conducted at the bedside immediately prior to the administration of all doses of neuromuscular blocking agents by two (2) qualified health care professionals (e.g., physicians and registered nurse or pharmacist or two registered nurses). This check shall verify the correct patient, drug, dose, dose calculations, route of administration and label. Double-check shall be documented in the

medical record by both parties. Order changes involving rates and/or pump settings should be documented via current practices (e.g., flow sheet).

16.1.6. Limited product availability in the pharmacy and selected critical areas (e.g., Intensive Care Unit).

17. IV Esmolol and Propanolol

17.1. Risk Reduction Strategies

17.1.1. Minimize the need for Esmolol by promoting alternative agents.

17.1.2. Standardize order communication- do not allow Esmolol to be ordered by "amp" or "vial".

17.1.3. Store Esmolol only in the Pharmacy and prepare drips and IV syringes only in the pharmacy, except for use in emergency trays or kits (e.g., Crash Carts).

17.1.4. **The Universal Protocol for "Time-Out"**, including an independent double-check, shall be conducted at the bedside immediately prior to the administration of all doses of IV Esmolol and Propanolol by two qualified health care professionals (e.g., physicians and registered nurse or pharmacist or two registered nurses). This check shall verify the correct patient, drug, dose, dose calculations, route of administration and label. Double-checks shall be documented in the medical record by both parties. Order changes involving rates and/or pump settings should be documented via current practices (e.g., flow sheet).

17.1.5. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation

of the compounding activities. This check shall be documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals.

18. **Benzodiazepines (Midazolam or versed)**

18.1. **Risk Reduction Strategies**

18.1.1. Provide appropriate monitoring during the use of Midazolam (e.g., use pulse oximetry, have resuscitation equipment in the area).

18.1.2. Restrict access: Do not use Midazolam for pre-op sedation except in Operating room (OR), since appropriate monitoring equipment may not be available.

18.1.3. Limit packaging option: use only one concentration and use the smallest package size possible.

18.1.4. **The Universal Protocol for "Time-Out"**, including an independent double-check, shall be conducted at the bedside immediately prior to the administration of all doses of benzodiazepines by two (2) qualified health care professionals (e.g., physicians and registered nurse or pharmacist or two registered nurses). This check shall verify the correct patient, drug, dose, dose calculations, route of administration and label. Double-check shall be documented in the medical record by both parties. Order changes involving rates and/or pump settings should be documented via current practices (e.g., flow sheet).

18.1.5. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be

documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals.

19. **Anticoagulants (e.g., Warfarin, low molecular weight heparin, IV unfractionated heparin)**

19.1. **Risk Reduction Strategies**

19.1.1. Provide patient education by certified staff in a structured setting.

19.1.2. Increase monitoring (e.g., more frequent clinic visits, or home testing).

19.1.3. **The Universal Protocol for "Time-Out"**, including an independent double-check, shall be conducted at the bedside immediately prior to the administration of all doses of anticoagulants medications by two (2) qualified health care professionals (e.g., physicians and registered nurse or pharmacist or two registered nurses). This check shall verify the correct patient, drug, dose, dose calculations, route of administration and label. Double-checks shall be documented in the medical record by both parties. Order changes involving rates and/or pump settings should be documented via current practices (e.g., flow sheet).

19.1.4. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals.

20. Antiarrhythmics, IV (e.g., Lidocaine)

20.1. Risk Reduction Strategies

20.1.1. Use lidocaine only in single-dose vials. Do not place vials that hold more than 500 mg in patient care areas. Single-dose vials reduce the risk of overdose and eliminate the risk of contamination.

20.1.2. **The Universal Protocol for "Time-Out"**, including an independent double-check, shall be conducted at the bedside immediately prior to the administration of all doses of antiarrhythmics drug by two (2) qualified health care professionals (e.g., physicians and registered nurse or pharmacist or two registered nurses). This check shall verify the correct patient, drug, dose, dose calculations, route of administration and label. Double-check shall be documented in the medical record by both parties. Order changes involving rates and/or pump settings should be documented via current practices (e.g., flow sheet).

20.1.3. **Pharmacy Services-** Two (2) qualified pharmacy staff, one of whom must be a pharmacist, shall independently double check the accuracy of the product in the Pharmacy Division. If two (2) qualified healthcare professionals are not available in the pharmacy, the checks may be accomplished with a pharmacist and a registered nurse or physician at the location of administration using the documentation of the compounding activities. This check shall be documented in the pharmacy records (e.g., IV compounding profile, and record or IV room logbook) by both performing professionals.

DOCUMENTATION:

New Policy

DISSEMINATION:

1. RMCI Hospital Communicator
2. Conducting hospital wide continuing education to all healthcare professionals.
3. Policies and Procedures Manual

REFERENCES:

1. Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
2. Accreditation Canada Qmentum Standards 2016
3. ISMP Managing High Alert Medications 2021
4. Reducing the Risk of Errors Associated with High-Risk, High Alert Drugs

APPROVAL:

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	HENRY F. ALAVAREN, MD, FPSMID, FPSQua Total Quality Division Officer		3/24/2022
Approved:	**GENESIS GOLDI D. GOLINGAN** President and CEO		4/7/22

PURPOSE:

1. To provide guidelines for the safe storage, dispensation and administration of medications that are identified as high-alert medications.
2. To emphasize the medication as a high-alert medications so that all health care providers involved in the prescribing, dispensing, and administration of these medications will recognize its potential risks.
3. To identify medications that require verification by a second healthcare provider prior to administration for the purpose of safety and accuracy.

SCOPE:

Applies to all Nursing Service Division Staff of Dr. Pablo O. Torre Memorial Hospital (DPOTMH)

PERSON RESPONSIBLE:

Medical Doctors, Staff Nurses, Pharmacists, Pharmacy and Therapeutics Committee

GENERAL GUIDELINES:

1. High-alert medication shall be prescribed, dispensed, and administered using practices that are deemed safe by the DPOTMH.
   1.1. All high alert medications shall be prescribed by the Attending Physician in the patient's chart.
   1.2. All high alert medications shall be dispensed by the Registered Pharmacist.
   1.3. All high alert medications shall be administered by the registered Staff Nurse/Attending Physician/Resident Doctors.
2. DPOTMH has developed a list of medications that are designated as high alert. To ensure the safety of these high alert medications throughout the medication use

process, risk reduction strategies shall be developed around the processes of prescribing, dispensing, and administration.

3. Healthcare providers shall use the hospital drug information resources, standards, and policies regarding the safe use of high alert medications as reference.
4. All staff involved in the medication use process shall be educated in these high alert drugs. The education shall include any specifics involved in procuring, storing, ordering, transcribing, preparing, dispensing, administering, and monitoring.
5. High-alert medications (HAM) will be designated as such on the Medication and Treatment Record.
6. HAM shall be identified with a warning label and precautions.
7. Administration of HAM and Look-Alike Sound-Alike(LASA) require a double-check by the most senior (experienced nurse) in the unit prior to administration. Information included when checking are as follows:
   7.1. Drug name
   7.2. Strength
   7.3. Dosage form
   7.4. Route of administration
8. Pharmacy and Therapeutics Committee shall review the list and associated risk reduction strategies annually, more frequently as needed, and/or upon request by practitioners.

PROCEDURE:

1. Nurse in charge ensures that HAM is ordered by the Attending Physician in the patient's chart.
2. Nurse in charge requests the HAM ordered from the Pharmacist.
3. Nurse in charge requests another nurse to double check the high alert medications prior to administration.
4. Nurse in charge administers medications as:

4.1. Intravenously using standardized concentrations for adult patients. If a special request is made for a non-standard concentration, it will be dispensed with a label that indicates the numerical concentration and is designated as "non-standard concentration" or "special concentration".

4.2. Continuous IV infusion using intravenous pump for safety measures:

a) The medication must be administered through a dedicated infusion pump or a dedicated channel on a multi-channel group.

b) The pump or channel must be labeled "High Alert Medications: (Name of Medication).

c) The pump must have its alarm volume set a the maximum level.

d) The power cord of the pump must be plugged in at all times except when a patient is being transported or is ambulating.

e) Patients must be educated of the side effect of the medication and the precautions that needs to be observed. Ensure that call bell is within reach when patient is alone.

f) Programming of an infusion pump to deliver these high-alert medications by continuous IV infusion requires an Independent Double Pump Check by two licensed professionals, one of which should be a Registered Nurse.

g) When a patient returns from a procedure, the HAM being administered via continuous IV infusion (as with any medication being given by continuous IV infusion) should be checked by at least one nurse.

For initial dose or initiation of a new infusion

1. The healthcare provider prepares medication for administration and secures the remaining medication for the succeeding doses after verified by another nurse on duty. The following considerations must be observed:
   1.1 Ensure that the original medication package is intact and with proper label using the appropriate IV labels for reference.
   1.2 Stability of the medication must be indicated

2. A second provider will assure the following:
   2.1 The medication is prepared according to the order of the Physician.
   2.2 The medication prepared for administration matches the 10 rights. The nurse verifies the medication being administered by checking the Physicians Order Sheet , Kardex and Medication and Treatment Record (MAR). The second provider will read the label aloud to the nurse to verify that the following five items are correct:
      2.2.1 Right medication
      2.2.2 Right dose or rate, including double check of any calculations and verification of pump setting
      2.2.3 Right route, including line reconciliation
      2.2.4 Right frequency
      2.2.5 Right patient
      2.2.6 Right assessment
      2.2.7 Right documentation
      2.2.8 Right education approach
      2.2.9 Right evaluation
      2.2.10 Right to refuse

3. In some instances, the medication packaging or vial must also be present to check that the prepared medication is correct, e.g. insulin doses.
4. Once the second provider performs the double check and both providers are satisfied that the medication is accurate, they will each document on the MAR by writing their initials next to the administration time. The second provider should write "checked by" or similar wording next to his/her initials to indicate that he/she did the verification.

For shift change or any transfer of care:

1. A second provider will assure the following:
   - 1.1 The medication currently being administered matches the 10 rights as determined by the MAR. The incoming nurse will read the label aloud to the outgoing nurse to verify the following items:
     - 1.1.1 Right medication
     - 1.1.2 Right dose or rate, including double check of any calculations and verification of pump setting
     - 1.1.3 Right route, including line reconciliation
     - 1.1.4 Right frequency
     - 1.1.5 Right patient
     - 1.1.6 Right assessment
     - 1.1.7 Right documentation
     - 1.1.8 Right education approach
     - 1.1.9 Right evaluation
     - 1.1.10 Right to refuse
   - 1.2 Once the Safety Check is complete and both nurse are satisfied that the medication(s) are accurate, they will document on the MAR by writing their initials and the time in the space provided for the "High Alert Medication Safety Check" or "High Alert Check" on the MAR.

5. For all independent double checks, both professionals must document their review by initialing MAR and Physicians Order Sheet. The nurse administering the medication must initial at the appropriate time and the practitioner performing the check must place a slash followed by his/her initials. For example: 1000 KL/KC would indicate KL administered the medication and KC performed the independent double check or pump check.

6. The Pharmacy maintains the list of High-Alert Medications and related risk reduction strategies.

HIGH-ALERT MEDICATIONS – QUICK REFERENCE GUIDE

HIGH-ALERT MEDICATION	STRATEGY TO REDUCE RISK	
	Independent Double Check Required	Restricted to Authorized Physicians
Anticoagulants (IV Infusion and IV bolus) includes argatroban, bivalirudin, heparin, and lepirudin	YES	NO
Chemotherapy and Immunotherapy (All injectable and selected oral agents*)	YES	YES*
Digoxin (Pediatric patients < 16 years)	YES	NO
Insulin (IV Infusion and IV bolus)	YES	NO
Insulin (SC)	YES	NO
Opiate Epidurals, Infusions, and PCA's	YES	NO
Potassium (IV infusions for Pediatric patients < 16 years	YES	NO
Look-Alike Sound-Alike Drugs (LASA)	NO	NO
Vasoactive drugs (IV infusion and IV bolus for pediatric patients < 16 years)	YES	NO
Please refer to Specific High Alert Drug List for specific drugs and safety requirements included in this policy.		

HIGH ALERT MEDICATION	Common Risk Factors	Suggested Strategies
Injectable Anticonvulsants	Absence of dose check systems	Establish a check system and review with the interns/residents or with direct supervision.
Monitoring/Response	Monitor serum magnesium levels and clinical status to avoid over dosage. ***NURSE RESPONSE:*** Monitor patient's response to medication. Awareness of usual side effect of sharp hypotension and respiratory paralysis. Double check dose accuracy prior to giving. Notify physician of concerns.	
Insulin	Lack of dose check systems	Establish a check system whereby one nurse prepares the dose and another nurse reviews it.
	Insulin and heparin vials kept in close proximity to each other on a nursing unit, leading to mix-ups.	Do not store insulin and heparin near each other.
	Use of "U" as an abbreviation for "units" in orders (which can be confused with "O", resulting in a 10-fold overdose).	Spell out the word "units" instead of "U".
	Incorrect rates being programmed into an infusion pump.	Build in an independent check system for infusion pump rates and concentration

		settings.
Monitoring Response	Monitor lab work and drug interactions. Monitor dose and appropriateness of order. Dietician notified for food/drug interactions/diet ***NURSE RESPONSE:*** Monitor patient's blood sugar level/symptoms/ Double check dose accuracy prior to giving. Notify physician of concerns.	
Opiates and Narcotics	Parenteral narcotics stored in nursing areas as floor stock.	Limit the opiates and narcotics available in floor stock.
	Patient-controlled analgesia (PCA) errors regarding concentration and rate.	Implement PCA protocols that include double-checks of the drug, pump setting and dosage.
Monitoring/ Response	Monitor drug interactions, disease-state interactions ***NURSE RESPONSE:*** Monitor patient's response to medication. Awareness of usual side effect of drowsiness and possible addictive effects with other psychotropics (possible contributing factor to fails)	
Injectable Potassium Chloride	Storing concentrated potassium chloride outside of the pharmacy	Remove potassium chloride from floor stock.
	Mixing potassium chloride extemporaneously	Move drug preparation off units and use commercially available premixed IV solutions.
	Requests for unusual concentrations	Standardize and limit drug concentration
	Unclear labeling regarding	Standardize concentrations

	concentration and total volume	and use premixed solutions
Sodium Chloride Solutions Above 0.9%	Storing sodium chloride solutions (above 0.9 percent) on nursing units	Limit access of sodium chloride solutions (above 0.9 percent) and remove from nursing units.
	Large number of concentrations/formulations available	Standardize and limit drug concentrations.
	No double check system in place	Double check pump rate, drug, concentration and line attachments.
Intravenous Anticoagulants (Heparin)	Unclear, imprecise, concentration and total volume information on container label.	Standardize concentrations, use only clearly labeled, commercially available premixed solutions.
	Confusion between heparin and insulin due to similar measurement units and proximity	Separate heparin and insulin and remove heparin from the top of medication carts.
	Multi-dose containers	Use only single-dose containers.
Monitoring/ Response	*Monitor lab work and drug/drug interactions. Monitor for drug disease contraindications. Dietitian notified for food/drug interaction NURSE RESPONSE: Check lab work before giving dose. Notify physician of concerns.*	
Photosensitive Drugs	Chemically not stable when	Cover with foil when

	unprotected from light after reconstitution.	reconstituted and through out the administration.

LIST OF HIGH ALERT MEDICATIONS

Anticoagulants	Route
Heparin	IV
Insulin	
Insulin, aspart	IV/SQ
Insulin, regular	IV/SQ
Insulin, 70/30	SQ
Insulin, 50/50	SQ
Insulin, glargine	SQ
Insulin, NPH	SQ
Opiate epidurals, infusion & PCA's	
Fentanyl	IV infusion
Fentanyl	PCA
Fentanyl	Epidural
Meperidine	IV Infusion
Meperidine	PCA
Meperidine	Epidural
Morphine	IV Infusion
Morphine	PCA
Morphine	Epidural
Vasoactive Drugs, Digoxin, Potassium – for patients <16 years	
Digoxin	ALL
Dobutamine	IV

Dopamine	IV
Epinephrine	IV
Esmolol	IV
Nicardipine	IV
Nitroglycerin	IV
Noropinephrine	IV
Phenylephrine	IV
Potassium	IV
Chemotherapy & Immunotherapy	**Route**
Arsenic Trioxide	Inj.
Asparaginase	Inj.
Azacitidine	Inj.
Bacillus of Calmette & Guerin (BCG) given via intravesical	Intravesical
Bevacizumab	Inj.
Bleomycin	Inj.
Busulfan	Inj. & PO
Carbonplatin	Inj.
Carmustine	Inj.
Chlorambucil	PO
Cisplatin	Inj.
Cyclophosphamide	Inj.
Cyclophosphamide	Oral (Does must be less than or equal to 2mg/kg/day for adults or less than or equal to 3mg/kg/day for children less than 16 years of age.
Cytarabine	Inj.
Cytarabine, liposomal	Inj.
Dactinomycin	Inj.

Docetaxel	Inj.
Doxorubin	Inj.
Doxorubicin, liposomal	Inj.
Epirubicin	Inj.
Etoposide	Inj. & PO
Fluorouracil	Topical/Inj.
Gemcitabine	Inj.
Ifosfamide	Inj.
Infliximab	Inj.
Interferon products	Inj.
Melphalan	PO
Mercaptopurine – Doses > 100mg/day for adults or >1.5mg/kg/day for pediatrics	PO
Chemotherapy & Immunotherapy	**Route**
Methotrexate – Doses> 50mg per week for adults or > 25mg/ m^2 per week for pediatrics	IV / Intrathecal
Methotrexate – Doses> 50mg per week for adults or > 25mg/ m^2 per week for pediatrics	IM / Subcutaneous
Methotrexate	PO
Mitomycin	Inj.
Oxaliplatin	Inj.
Pacilitaxel	Inj.
Sunitinib	PO
Temozolomide	PO
Transtuzumab	Inj.
Tretinoin	PO
Triptorelin	Inj.
Vinblastine	Inj.
Vincristine	Inj.

Photosensitive Drugs	
Amphotericin B	Inj.
Budenoside	Neb.
Cisplatin	Inj.
Carboplatin	Inj.
Co – Amoxiclav	Tab.
Dacarbazine	Inj.
Diazepam	Inj.
Epinephrine	Inj.
Furosemide	Inj.
Metronidazole	Inj.
Terbutaline	Neb.
Salbutamol	Neb.
Vitamin B – complex and Vitamin C	Inj.
Drugs in Amber - colored containers	Inj.

DR. PABLO O. TORRE MEMORIAL HOSPITAL B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100	Document Code:	DPOTMH-J-P18 I-S01
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APPROVAL:

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Approved:	**GENESIS GOLDI D. GOLINGAN** President and CEO		9/1/22

KEY TASKS	PERSON RESPONSIBLE
1. Ensures that HAM is ordered by the Attending Physician in the patient's chart.	Nurse-in-charge
2. Requests the HAM ordered from the Pharmacist.	
3. Requests another nurse to double check the high alert medications prior to administration.	
4. Documents their review by initialing MAR and Physicians Order Sheet.	Two (2) Registered Nurses
5. Administers medications as ordered.	Nurse-in-charge
6. Maintains the list of High-Alert Medications and related risk reduction strategies.	Pharmacist
For Initial Dose or Initiation of a New Infusion	
7. Prepares medication for administration and secures the remaining medication for the succeeding doses after verified by another nurse on duty.	First provider (Staff Nurse)
8. Performs the double check of the high-alert medication.	Second provider (Staff Nurse)
9. Writes "checked by" or similar wording next to his/her initials to indicate that he/she did the verification.	

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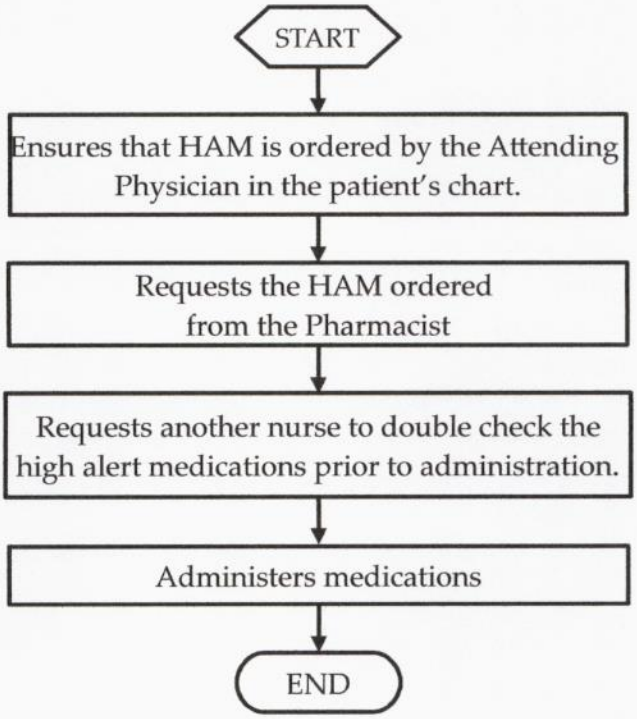
FLOWCHART



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Approved:	**GENESIS GOLDI D. GOLINGAN** President and CEO		9/1/22

	unprotected from light after reconstitution.	reconstituted and through out the administration.