HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER MATERNITY AND CHILDREN HOSPITAL

Department:	Pharmaceutical Care Department		
Document:	Multidisciplinary Policy And Procedure (MPP)		
Title:	High-Alert Medications		
Applies To:	Pharmacists, Physicians & Nurses		
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1. PURPOSE:

1.1 To provide specific guidelines for the safe handling, administration and storage of medications designated as High Alert Medications.

1.2 To improve patient safety by increasing awareness of the potential risks of High Alert Medications

2. DEFINITONS:

2.1 High-Alert Medications: Are drugs that bear a heightened risk of causing significant patient harm when they are used in error

3. POLICY:

3.1 The high-alert medications is provided to each department of the Maternity and Children hospital Hafer Al Batin.

3.2 Annually update this list by Pharmacy and Therapeutics committee.

3.3 Concentrated electrolytes (Potassium & Sodium Phosphate, Potassium Chloride, and Sodium Chloride) are High-Alert Medications and should not be stocked in patient care areas.

3.4 Limited quantities of these concentrated electrolytes can be stocked in specific area such as ICU ,ER, and OR and need to be keep in a separate locker and away from the regular ward stock medications and should by monitored frequently by nursing and pharmacy staff.

3.5 High-alert medications and must be properly labelled with Red warning sticker "High-Alert".

3.6 The Maternity and Children hospital, Hafer Al Batin has a plan for managing high –alert medications and hazardous pharmaceutical chemicals is implemented. This includes, but is not limited to ,the following

- 3.6.1 Improving access to information about high –alert medications.
- 3.6.2 Limiting access to high –alert medications.
- 3.6.3 Using auxiliary labels or computerized alerts if available.
- 3.6.4 Standardizing the ordering transcribing, preparation, dispensing, administration, and monitoring of high –alert medications.
- 3.6.5 Employing independent double checks.

4. PROCEDURE:

4.1 **General Guidelines To Reduce The Risk Of Using High-Alert Medications:**

4.1.1 Procurement:

- 4.1.1.1 Limit the drug strength available in the hospital.
- 4.1.1.2 Avoid frequent changes of brand or color and notify the other healthcare staff if there are changes.
- 4.1.1.3 Inform all relevant personnel regarding in the hospital about the new high –alert medications listed.

4.1.2 Storage :

4.1.2.1 Minimizing High-Alert Medications from clinical areas, where possible.

4.1.2.2 Only consultants and specialists should prescribe High-Alert medications.

4.1.2.3 All physicians must write daily orders for concentrated electrolytes, heparin, insulin and all narcotic and controlled drug infusions, regarding admitted patients.

4.1.3 Storage and Dispensing:

4.1.3.1 High-Alert medications stored in floors but only a limited quantity will be kept in a separate, locked cabinet away from regular medication stocks in certain areas such as (Operating Room, Emergency Room, and Intensive Care Units).

4.1.3.2 Intravenous aesthetic and skeletal muscle relaxants agent should only be stocked in ICU, OR and ER.

4.1.3.3 Each drug should be stored in separate labelled plastic container.

4.1.3.4 Narcotic and controlled medications should be tightly controlled all over the hospital to prevent misuse or dangerous mix-up, to be kept in separate steel cabinets with double locks.

4.1.3.5 Dispensing of such drugs (Narcotic & Controlled) only against treating consultant or specialist's written order.

4.1.4 Administration:

4.1.4.1 Nurses must double check all High-Alert medications before administration; Double check is defined as

4.1.4.1.1 Independently verifying any calculations for doses that require preparation (e.g. if the medication is not dispensed in the exact patient specific unit).

4.1.4.1.2 Ensuring the accuracy of infusion pump programming for continuous intravenous infusion of medication.

Standardized dose calculation tables (i.e. x ml = y mcg) should be utilized for high-alert medications on all patient care areas.

4.1.4.2 Whenever administration of High-Alert medication by continuous intravenous infusion is ordered, a second nurse should verify:

4.1.4.2.1 The 7 rights (right patient, right medication, right dose, right frequency, right time, right route, and right documentation).

4.1.4.2.2 The intended infusion is going into the intended canal by physically tracing the line from the solution, through the pump and to the insertion site.

4.1.4.2.3 The infusion pump is programmed at the proper rate.

4.1.4.3 Any time a patient is transferred between units the nurse transferring patient and the nurse accepting the patient should check continuous intravenous infusion of all High-Alert medications at the bedside, the nurse should check for the right patient, right medication, right rate of infusion and right concentration of medication versus the written order.

4.1.4.4 All continuous intravenous High-Alert medication infusion should be administered via an IV pump.

4.1.4.5 In emergency situations the ICU physician can start this medicine but must inform the treating consultant as soon as possible.

4.1.5 Potassium & Sodium Phosphate

4.1.5.1 Solutions: There are two types of phosphate solutions, Potassium Phosphate and Sodium Phosphate

4.1.5.1.1 Potassium phosphate I.V. solution provides (45 mMol P/15ml): 3 mMol phosphorus/ml = (6 mEq phosphorus/ml) + 4.4 mEq K+/ml

4.1.5.2 Sodium phosphate I.V. solution provides (45 mMol P/15ml): 3 mMol phosphorus/ml = (6 mEq phosphorus/ml) + 4 mEq Na+/ml

4.1.6 Prescribing:

4.1.6.1 The physician shall prescribe the phosphate salt according to the patients' needs and electrolyte balance requirements.

4.1.6.2 High-Alert Medications should be stored individually in separate labelled plastic container.

4.1.6.3 Label the shelves or container used for storing High-Alert Medications as 'HIGH-ALERT MEDICATION'

4.1.7 Prescribing:

4.1.7.1 Avoid using abbreviations when prescribing High Alert Medications.

4.1.7.2 Avoid ordering High - Alert Medications verbally accept in case of emergency orders have to be repeated and verified.

4.1.7.3 Prescribe oral liquid medications with the dose specified in milligrams.

4.1.7.4 Avoid using trailing zero when prescribing (e.g. 5.0mg can be mistaken as 50mg)

4.1.7.5 Reduce the total dose of high- alert medications in continuous IV drip bags (e.g., 12,500 units of Heparin in 250ml vs. 25,000 units in 500ml) to reduce risk.

4.1.8 Dispensing/Supply

4.1.8.1 High-alert medication containers, product packages, vials or ampules issued to ward/units need to have caution label "HIGH - ALERT DICATION^ prime as well as for parenteral nutrition preparations.

4.1.8.2 High Alert Medications to be dispensed to patients should be not have cautioning label.

4.1.8.3 Accuracy check performance must be applied for the high- alert medications before dispensing the medicines.

4.1.9 Counselling

4.1.9.1 Educate the patient and, or the patient family member and the required information such as the purpose of taken the medicine, how to take the medicine and the common side effect of using the medicines.

4.1.10 Administration

4.1.10.1 Nurses must double-check all high- alert medications before giving the dose to the patient. The following particulars shall be independently double check against the prescription or medication chart at the bedside by two appropriate persons before administration.

4.1.10.2 Patient's 4 names for the Saudi and complete names for the Non - Saudi and Medical Record Number

4.1.10.3 Medication name, strength and dose

4.1.10.4 Route and rate (pump setting and line placements when necessary). Expiry date.

4.1.10.5 Ensure trained personnel do administration of intrathecal, cytotoxic drugs,

4.1.10.6 epidural analgesics and parenteral nutrition

4.1.10.7 Return all unused or remaining specially formulated preparations to the pharmacy when no longer required.

4.1.10.8 Return all unused or remaining specially formulated preparations to the pharmacy when no longer required.

4.1.11 Monitoring

4.1.11.1 Closely monitor vital signs, laboratory data, and patient's response before and after administration of High - Alert Medications

4.1.11.2 Keep antidotes and resuscitation equipment in ward/unit.

5. MATERIALS AND EQUIPMENT:

5.1 Auxiliary Label (Red Label)

5.2 High alert medication list.

6. RESPONSIBILITIES:

6.1 Physicians: are responsible to write daily orders for concentrated electrolytes, heparin, insulin and all narcotic and controlled drugs for inpatients.

6.2 Nurses: are responsible for
- 6.2.1 Administering IV KCL infusions
- 6.2.2 Clarifying with the Physician the dosage ordered prior to administering dosages of KCL that exceed maximum recommended dosages.

7. APPENDICES:

7.1 High Alert Medication List

8. REFERENCES:

8.1 MOH regulation
8.2 List of High-Alert Medications: Institute for Safe Medication Practice (ISMP)

9. APPROVALS:

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المملكة العربية السعودية
التجمع الصحي بحفر الباطن
مستشفى الولادة والأطفال

High Alert Medication list

- **Adrenergic agonists, IV**
  - Dobutamine
  - Dopamine
  - Epinephrine
  - Norepinephrine
  - Phenylephrine
- **Adrenergic antagonists, IV**
  - Labetalol
  - Esmolol
  - Metoprolol
  - Propranolol
- **Antiarrhythmics, IV**
  - Amiodarone
  - Adenosine
  - Lidocaine 2%
  - Pracainamide
  - Verapamil
- **Antithrombotic/Anticoagulants**
  - Enoxaprin (subcut)
  - Heparin (IV)
  - warfarin(oral)
- **Insulin, subcutaneous and IV**
- **Concentrated Electrolytes ,IV**
  - Calcium chloride
  - Calcium gluconate
  - Dextrose, hypertonic, 20%or greater
  - Magnesium sulfate
  - Potassium Chloride
  - Potassium Phosphate
  - Sodium Chloride (greater than 0.9%)
  - Sodium Phosphate
  - Sodium Bicarbonate
- **Neuromuscular blocking agents IV**
  - Succinylcholine
  - Atracurium
- **Inotropic medications, IV ,oral**
  - Digoxin
  - Milrinone
- **Chemotherapeutic agents, parenteral**
  - methotrexate
- **Parenteral nutrition preparation**
- **Epidural or intrathecal medication**
  - Bupivacaine
- **Sterile water for injection, inhalation and irrigation(excluding pour bottles)in containers of 100 ml or more**
- **Cardioplegic solutions**
- **Liposomal forms of drugs**
  - Liposomal amphotericin B
- **Sulfonylurea Hypoglycemic ,oral**
  - Glibenclamide
  - Gliclazide
- **Miscellaneous Medications**
  - Atropine sulfate
  - Aminophylline inj.
  - Oxytocin, IV
    Promethazine,IV
  - Vasopressin,IV
  - Milrinone

Narcotic and Controlled Medications

- **Opioids, IV and Oral**
  - Fentanyl citrate 0.1 mg/ml
  - Fentanyl citrate 500 mcg
  - Morphine sulphate 10 mg/ml
  - Pethidine HCl 50mg/ ml
  - Pethidine HCl 100mg/ ml
- **Sympathomimetic IV and Oral**
  - Epinephrine 30-60 mg/ml
  - Methylphenidate HCl 81 mg tab.
- **Skeletal Muscle Relaxant, IV**
  - Dantrolene NA 20 mg
- **Benzodiazepines**, IV, Oral and Rectal
  - Alprazolam 0.5 mg
  - Clonazepam 2.5 mg
  - Diazepam 5mg
  - Midazolam 5 mg/ml
- **Barbiturate Anticonvulsants, IV and Oral**
  - Phenbarbetone (10 – 200 mg)
- **Sedation Agents, IV and Oral**
  - Chloro Hidrat 200 mg/ 5ml
- **Tricyclic antidepressants, Oral**
  - Imipramine HCl (10, 25 mg)
- **Antipsychotics, Oral**
  - Haloperidol 1.5 mg
- **Atypical Antipsychotics, Oral**
  - Risperidone 1ml/100ml
- **Anesthetic Agents, IV and Oral**
  - Ketamine HCl 10 mg/ml
  - Thiopentone NA 500 mg Propofol 200 mg
  - Sevflurane 250 ml

The list was updated based on ISMP and available Medications at MCH.

Safe Practices to be followed by HCPs to avoid errors with LASA Medicines:

1. **Segregating LASA Medications.**
2. **Verifying medication order by diagnosis.**
3. **Using red axillary label.**
4. **Applying independent double check**

Updated on: 3/2025
For more information: call ext. 1158 -1161 – 1162

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