

<b>Department:</b>	Pharmaceutical Care Department		
<b>Document:</b>	Multidisciplinary Policy And Procedure (MPP)		
<b>Title:</b>	Proper Storage And Control Of Medications		
<b>Applies To:</b>	Pharmacists, & Nurses		
<b>Preparation Date:</b>	December 22, 2024	<b>Index No:</b>	MM-MPP-18
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## 1. PURPOSE:

- 1.1 To describe the process by which drugs including vaccines, human plasma fractions and insulin are stored safely and according to the manufacturer's temperature requirement, and separating antiseptics, disinfectants and drugs for external use from injectable and drugs for internal use.
- 1.2 To describe the monitoring and recording process for all refrigerators and freezers located within the department, store room, and patient care areas
- 1.3 To ensure proper storage of drugs in the warehouse, main pharmacy and hospital storage facilities
- 1.4 To maintain the potency & stability of drugs stored in the hospital for effective and safe medications.

## 2. DEFINITONS:

- 2.1 Refrigerate (2 – 8 °Centigrade / 35 – 46 °Fahrenheit).
- 2.2 Freeze: (Below 0 °C, between -10 and -25 °C). Consult manufacturer's literature per products as some products required lower freezer temperatures than others.
- 2.3 Room temperature: Between (18 – 25 °C).
- 2.4 Digital read-out: The temperature of the air within the unit right now.
- 2.5 Digital Data Logger Thermometer: Refrigeration thermometer that monitors temperatures twenty four hours a day.

## 3. POLICY:

- 3.1 The Department of Pharmacy shall maintain adequate space, equipment and environment controls for ordering, receiving and storing medications procured from MOH Medical Stores or by direct purchase. This policy applies to Chief of Pharmacy, Warehouse manager & staff.
- 3.2 All medications are well stored, separated and properly labelled upon display on the shelves
- 3.3 All refrigerators and freezers located within the department will be routinely monitored to assure that the correct temperature range is maintained with respect to the items being stored in each respective refrigerator or freezer. Documentation of the monitoring activity will be maintained.
- 3.4 All antiseptics, disinfectants, and drugs for external use are stored separately from injectable and internal medications.
- 3.5 All medications are stored according to manufacturer's recommendations (temperature, light, humidity, sanitation).
- 3.6 No food or drinks will be allowed inside medication refrigerators

## 4. PROCEDURE:

- 4.1 General principles:
  - 4.1.1 Upon receipt of medications from MOH Medical Supplies / or venders (purchase), Drug Store supervisor shall place all drugs and other supplies like milk into the appropriate storage areas based on the manufacturer's requirements for temperature, light, moisture, ventilation, sanitation, segregation, if any, and security.

- 4.1.2 Warehouse manager shall place all bulk packed in cartons or pallets in ware house.
- 4.1.3 All drug supplies should be stored in the appropriate storage areas away from the ceiling or fire sprinkler system and not to be stored on the floor across Hospital.
- 4.1.4 Medications are stored by generic names (alphabetical), if possible, well separated, properly labelled.
- 4.1.5 Flammable and corrosive substance:
  - 4.1.5.1 Bulk supply of flammable drugs should be stored within designated cabinets like absolute alcohol and any other supplies.
  - 4.1.5.2 Small containers of flammable or corrosive substance for day to day use can be kept in working areas.
  - 4.1.5.3 Chemicals should be stored in a separate place and in the original labelled containers. If chemicals to be transferred to another container all information on the original label with warning or precautions should be printed on the new container label.
- 4.1.6 Controlled and Narcotics substances: Upon receipt of controlled and narcotics substances, pharmacist-in-charge keep these supplies in the Narcotics/Controlled Substances Vault.
- 4.1.7 Light sensitive medications: Should be kept in their outer cartons or kept in closed cabinet away from light.
- 4.1.8 Refrigerated, Freezing and Room Temperature Items:
  - 4.1.8.1 Refrigerated items should be stored in temperature of (2 - 8°C) degree centigrade inside a refrigerator across Hospital.
  - 4.1.8.2 Medications need deep refrigeration should be stored in temperature between (-20 to -10°C) degree centigrade inside freezers across Hospital.
  - 4.1.8.3 Medications stored in room temperature should be stored in temperature from 18-25°C degree centigrade across Hospital.
  - 4.1.8.4 Temperature record should be done daily for all medication refrigerators across Hospital.
  - 4.1.8.5 Food, drinks, biological samples and culture media are not allowed in medication refrigerators across Hospital.
- 5.1.9 High alert medications:
  - 5.1.9.1 In Pharmacy areas high alert medications should be stored in a separate properly labelled cabinet or shelves.
  - 5.1.9.2 Across Hospital areas, high alert medications should be stored in a separate properly labelled cabinet or shelves and labelled individually on each item.
- 5.1.10 Look-alike/sound-alike medications: Should be stored in separate places and properly labelled.
- 5.1.11 Free Medication Samples:
  - 5.1.11.1 Free medication samples are kept under tight inventory in a separate properly labelled cabinet in the Pharmacy.
  - 5.1.11.2 No free medical samples should be kept in the patient care areas or the Outpatient Clinics (OPD). One medication free sample can be kept in clinics for educational demonstration purpose of patient.
- 5.1.12 Medications stored in hospital areas outside pharmacy should be stored under proper conditions (temperature, light, moisture, ventilation, segregation and security).
- 5.1.13 The pharmacist / technician shall rotate stocks in the storage areas to ensure that drug supplies are used according to the appropriate manufacturer's expiration dates.
- 5.1.14 Pharmacy administration shall call maintenance, to handle problems with the pharmacy's physical plant, e.g., lighting, plumbing, refrigeration, etc. and arrange for immediate maintenance of storage areas.
- 5.1.15 Drugs for external use stored separately from internal and injectable medications.

4.2 Storage Of Medications In The Pharmacy And Wards:

- 4.2.1 All medications are stored in designated areas to ensure proper sanitation, temperature, light, moisture control, segregation, and security.
- 4.2.2 All medications are well separated and properly labelled upon display on the shelves in the store room, inpatient pharmacies, outpatient pharmacies, E.R., and other pharmacy units (TPN room, Narcotics & controlled drugs, etc.) as well as in the wards in the form of floor stocks, IV fluids, and refrigerated drugs.
- 4.2.3 The proper environmental control (i.e. proper temperature, light, and humidity, conditions of sanitation, ventilation and segregation) will be maintained wherever medicines and supplies are stored in patient care areas.
- 4.2.4 All clinic/unit must observe proper storage and labelling requirements for all medicines during the performance of their daily tasks and should demonstrate safety in regard to the potency of medications administered, such duties include:
  - 4.2.4.1 Removal of outdated medications from active stock, returning them to the drug store where they will be quarantined together until all such medications are disposed of according to the policy and procedure "Drugs returned from clinics, departments, and nursing stations
- 4.2.5 Labelling of all medications prepared for IV administrations with patient name, date and time of preparation with employee initials, medication name and dose and solution base.
- 4.2.6 Limiting use of multi-dose containers for single patient use unless reasonably justified.
- 4.2.7 Multiple dose vials must be discarded according to the hospital's stability guidelines.
- 4.2.8 Vials marked, as single dose should be discarded immediately after use.
- 4.2.9 Nitro-glycerine sublingual tablets readily deteriorate once exposed to light, air and elevated temperatures. Once the bottle has been opened, it should be discarded within thirty days.
- 4.2.10 High-Alert Medications are identified by special labels or colour marks which are placed on all storage locations for High Risk Medications in the pharmacy and wards. Limited quantities of concentrated KCL 15% (2mmol/ml, 10ml vial) is kept as ward stock:
  - 4.2.10.1 In the Operating Room (OR) - to treat cardioplegia during cardiac surgery.
  - 4.2.10.2 In the Intensive Care Unit & Coronary Care Unit – to treat cardiac arrhythmias.
- 4.2.11 Look-Alike / Sound-Alike Medications which have potential for confusion due to similarity in packaging or names are identified (special colour tag with LASA symbol) and stored separately as extra precautions to prevent error.
- 4.2.12 Multiple dose vials that contain preservatives to make extended use possible are dated with the date opened and will be discarded 28 days after date opened. Single dose vials / containers are discarded immediately after a single use.
- 4.2.13 All Controlled Substances are secured behind two locks. Administration and wastage is documented on the proper records, and prescription pads are secured at all times and not accessible to unauthorized persons.
- 4.2.14 Nutritional Products: All parenteral nutrition bags must be stored in the drug fridge or fridge designated for PN at temperature between "2 to 8 C". The expiry date is stated on the labels. Pharmacy should be notified of any unused bags. Discard in clinical waste. Parenteral nutrition bags should be removed from the fridge at least 1/2 hour prior to use, to allow fluid to reach room temperature. If the bag is in any way damaged or leaking please notify the Pharmacy Department immediately and send the bag to the pharmacy so that the cause can be determined. The compounded products of PN are good for 24 hours only.
- 4.2.15 Sample Medications are not stored in any inpatient unit. They are stored and arranged alphabetically in a locked cabinet in the OPD pharmacy with a list of the Sample Medications and their expiration dates. Samples are labelled when dispensed without using abbreviations.
- 4.2.16 All Emergency Medication Carts are secured with serial numbered locks (Plastic seal) issued by the nursing department. They are checked daily in each shift and documented to verify lock is not broken and the medications are not expired.
- 4.2.17 Other emergency medications that are kept outside the crash carts are safely stored in cabinets with the floor stocks in the nursing stations.

4.2.18 Other drugs which require special storage precautions and safe handling procedure (e.g. Flammables, chemicals, narcotic & controlled drugs, & hazardous drugs and wastes), are labelled as such treated according to their special storage and handling requirements and precautions in the pharmacy, with spill kits and fire extinguishers on hand (See policy for Pharmacy Safety Measures, and policy for Narcotic and Controlled Drugs).

4.2.19 In patient care areas medications will be stored in medication shelves or specialized compartments and secured drawers at all times when not in use.

4.2.20 Medications will be stored in an orderly manner (Products for internal use are separated from for external use) in areas only accessible to designated and authorized personnel.

4.2.21 Pharmacist will perform monthly inspections of patient care areas to ensure compliance with the proper patient safety considerations regarding the storage of medications' stock. Areas maintain copies of past Pharmacy Unit inspections including corrective action taken when an infraction occurs. Nurses will inspect medications on the floors on weekly basis.

4.2.22 Medications will not be dispensed or distributed beyond the expiration date, First expiry/First out" (FEFO) principle will be followed.

4.2.23 Any expired, discoloured, damaged, or inappropriately labelled medication shall be returned to the pharmacy store for proper disposal. Unused or not needed medications for a specific patient (or not intended for stock) are also returned to the pharmacy for processing or disposal by the pharmacy store.

4.2.24 Any notification of a drug quality issue (e.g. discoloration, precipitation, etc.), the medication will be recalled and reported to the MOH Medical Supply and the Saudi FDA, as required.

4.4 Storage of Antiseptics, Disinfectants And Drugs For External Use:

4.4.1 All antiseptics, disinfectants, and drugs for external use are stored separately from injectable and other internally used medications. This applies to the pharmacy store, Inpatient and outpatient pharmacies, and the wards.

4.5 Storage Of Refrigerated Drug Items:

4.5.1 Refrigerated medications must be stored at appropriate temperatures according to the following:

4.5.1.1 Room temperature: between 18-25 °C

4.5.1.2 Cool place: between 8-15 °C

4.5.1.3 Refrigerator: between 2-8 °C

4.5.1.4 Freezer: between -10 and -25 °C

4.5.2 Pharmacy staff in Inpatient, OPD, ER and store room, and Head Nurses in patient care areas is responsible for recording daily and maintaining a log sheet for temperature of refrigerators in the pharmacy and wards.

4.5.3 Medication refrigerators should have a working thermometer ensuring the proper temperature range.

4.5.4 Notify the maintenance department of any problem, which will in turn evaluate the situation and contact the respective supervisor for repair if required.

4.5.5 Medication refrigerators should not be used to store food, drinks, biological samples, or culture media

4.5.6 A temperature log must be maintained for each medication refrigerator and will be checked at least once daily.

4.5.7 The documentation must indicate that the temperature is monitored on a daily basis.

4.5.8 Table below provides a beyond-use date of medications after opening:

Formulation type	Expiry details	Comments
<b>Tablets &amp; capsules</b> in original blister strips or container with printed expiry date	Manufacturer's expiry date as printed on original box or individual foils (check patient information leaflet)	
<b>Tablets &amp; capsules</b> stored in dispensing bottles from pharmacy	<b>6 months</b> from date of dispensing unless otherwise informed by pharmacist	Write the DATE when opened on the Label
<b>Tablets/Capsules</b> stored in pharmacy packed blisters - Monitored Dosage System (MDS)	<b>8 weeks</b> from date of dispensing	Write the DATE when opened on the Label
<b>Oral liquids</b> (in original manufacturer's packaging or amber bottles)	<b>6 months</b> from date of opening or follow manufacturer's guidance e.g. for specially manufactured items or expiry date on packaging. <b>For antibiotics, check with pharmacist if not clear from label.</b>	Write the DATE when opened on the Label
<b>External liquids</b> (e.g. Lotions, shampoos & bath oils)	6 months from opening or manufacturer's recommendation where shorter	Write the DATE when opened on the Label
<b>Creams</b> in tubes or pump dispensers	<b>3 months</b> from date of opening or manufacturer's recommendations if shorter	Write the DATE when opened on the Label
<b>Creams</b> in pots, tubs or jars.	<b>1 months</b> from date of opening	Write the DATE when opened on the Label
<b>Ointments</b> in tubes or pump dispensers	<b>6 months</b> from date of opening or manufacturer's recommendations if shorter	Write the DATE when opened on the Label
<b>Ointments</b> in pots, tubs or jars.	<b>3 months</b> from date of opening or manufacturers recommendations if shorter	Write the DATE when opened on the Label
<b>Sterile Eye/Ear/Nose drops/Ointments</b>	<b>28 days</b> from date of opening	Write the DATE when opened on the Label
<b>Inhalers</b>	Manufacturer's expiry date	
<b>Insulin</b>	<b>Unopened:</b> Manufacturer's expiry date when stored in a fridge at temperature between 2°C and 8°C. <b>Once opened:</b> 4 weeks for insulin vials and pens unless otherwise stated. When in use can be kept at normal room temperature (i.e. less than 25°C).	Write the DATE when opened on the Label

## 5. MATERIAL AND EQUIPMENT:

- 5.1 Physician's Order Sheet.
- 5.2 Temperature Monitoring Log Sheet.
- 5.3 Monthly nursing unit inspection.

- 5.4 Narcotics / Controlled Substances Vault.
- 5.5 Digital Data Logger Thermometer.
- 5.6 Drug return form.
- 5.7 Multi dose stability guide lines.

## 6. RESPONSIBILITIES:

- 6.1 Pharmacist: is responsible for performing monthly audits of patient care areas to ensure patient safety regarding the storage of medications.
- 6.2 Pharmacy staff and Head Nurses: are responsible for recording daily and maintaining a log sheet, for temperature of refrigerators in patient care areas, in the pharmacy and wards
- 6.3 Maintenance department staff: is responsible for calling the physical plant to repair the malfunction, when a refrigeration problem occurs.
- 6.4 The charge nurse: is responsible for calling maintenance, for after duty hour's refrigeration problems, and other role in storing medications in the ward.
- 6.5 Warehouse manager: is responsible to keep the storage medication in appropriate conditions.

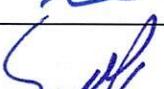
## 7. APPENDICES:

- 7.1 N/A

## 8. REFERENCES:

- 8.1 General Pharmaceutical Care Administration Policies and Procedures.

## 9. APPROVALS:

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