HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Infection Prevention and Control Department		
Document:	Multidisciplinary Policy and Procedure (MPP)		
Title:	Medical and Sharp Waste Management		
Applies To:	MCH staff		
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1. PURPOSE:

1.1 To provide a process governing the management of infectious and non-infectious medical waste including monitoring and control methods for safe handling, storage, labeling, segregation, reporting, transportation, safe disposal and treatment processing in accordance with the health and safety guidelines, laws and regulations.

1.2 To define the methods for handling, transporting, and disposing infectious waste to ensure cost reduction and the safety of healthcare workers (HCWs), sanitation workers, and the general public.

2. DEFINITONS:

2.1 Infectious waste (also called medical, biomedical, regulated or biohazard waste) is defined as materials generated as a result of the diagnosis or treatment of a patient and that is capable of producing an infectious disease.

2.2 Container refers to a receptacle used to retain liquids, solids or gaseous substances (e.g. bottles, pipelines, bags, barrels, boxes, cans, cylinders, drums, cartons, vessels, vats, and stationary or mobile storage tanks).

2.3 Generator, for the purpose of this document, refers to any legal individual or body (such as healthcare facilities and its departments), who generates medical waste.

2.4 Cytotoxic Agents refer to substances used in the treatment of malignant and other diseases which are known to be potentially carcinogenic, genotoxic, mutagenic, teratogenic or in any way hazardous or lethal to cell DNA growth and synthesis. It is commonly used in the treatment of cancer in the form of chemotherapy.

2.5 Healthcare Waste (Medical Waste) refers to any waste generated by facilities that provide various healthcare services (hospitals, home healthcare services, laboratories, pharmacies, vaccine manufacturers, veterinary and research centers).

2.6 Label refers to a warning sign, emblem, sticker or marker affixed to or stenciled onto a container or plastic waste bag for identification and listing of contents sealed within as applicable to this policy.

2.7 Transporter/Carrier refers to the legal individual or body (company, public/private establishment) contracted to transport hazardous medical waste to a Waste Treatment and Disposal Facility.

2.8 Waste Incineration refers to the disposal process of solid, liquid and gas waste by burning waste at high temperatures. Its generated gas or other materials/components have no impact on the environment and its new components contain no hazardous materials.

2.9 Waste Segregation refers to the separation of a group of healthcare waste (by the generator) at the site of their generator within the facility and during stages of collection, storage and transportation within the facility.

2.10 Waste Storage refers to temporary storage for hazardous medical waste at a specific collection site.

2.11 Waste Treatment and Disposal Facilities refer to facilities in which the operations of changing biological, chemical or physical characteristics of healthcare waste are carried out for elimination of hazards, for safe use in the environment and to health.

2.12 Hazardous and non-hazardous medical waste.

2.12.1 Hazardous Medical Waste refers to any hazardous material no longer in use that represents a threat to human life, health or the environment.

2.12.1.1 Cytotoxic Waste refers to any residual cytotoxic agents that remains following patient treatment and any materials or equipment (considered as waste) potentially contaminated with cytotoxic agents (not including contaminated body fluids/secretions).

2.12.1.2 Human and Animal Body Parts and Organs, for the purpose of this document, refers to waste which contain human or animal tissues (e.g. organs or their parts, fetal and placental tissues and animal carcasses), blood, blood components and body fluids.

2.12.1.3 Infectious Waste, refers to waste which contains biological agents (e.g. bacteria, viruses, parasites, fungi) in quantities or at concentrations sufficient to cause infectious disease to individuals susceptible to infection (Appendices 7.2). Any items contaminated (i.e. Dripping) with blood or body fluid is considered to be to be infectious.

2.12.1.4 Sharps Waste refers to waste which contains sharp items such as vaccine glass vials, needles, syringes with needles, scalpels, lancets, razors, broken glass or any other sharp object that has the potential to cut or puncture the body or skin.

2.12.2 Non-hazardous Medical Waste refers to waste similar to that found in municipal waste generated by administrative departments, general cleaning work within healthcare facilities and items not contaminated (i.e. not Dripping) with blood or body fluid. This waste constitutes the larger portion of healthcare waste and is treated in a way similar to general/municipal waste.

3. POLICY:

3.1 Infectious waste should always be segregated, collected, transported and stored in a safe manner with consideration of the risk , occupational safety rules and should be in accordance with local regulations.

3.2 Medical waste is disposed by specialized company and includes all types of medical waste.

3.3 Medical waste segregation, collection, and storing is conducted as per applicable laws and regulations

3.4 Staff should be knowledgeable about the risks and safety operating procedures of the waste they are handling.

3.5 Medical waste containers are cleaned and maintained regularly.

3.6 Medical waste collection points are cleaned and maintained regularly.

3.7 Hazard signs are fixed on all medical waste containers.

3.8 All non sharp generated medical waste is disposed in black bags as general waste except that heavily soiled with liquid blood or other body fluid (dribbling) should be considered infectious medical waste and discarded in yellow bag or based on the national medical waste updated guideline & regulations.

3.9 The risk of acquiring an infection from medical waste is extremely remote. No waste disposal worker or member of the general public has ever acquired an infection from medical waste.

3.10 In general, the microbial load of hospital waste is less than that of residential waste.

3.11 Careless designation and disposal of all hospital waste as "infectious waste" by HCWs leads to unnecessary consumption of hospital resources to manage such waste.

3.12 General hospital waste is categorized as items not soaked in blood or body fluids

3.13 Disposal of waste from isolation rooms is done properly based on patients' diagnosis as general waste or medical waste according to updated national medical waste regulations

3.14 In general wards, all clinical procedures are performed using procedural trolley equipped with biohazard waste bag and sharp container.

3.15 No infectious medical waste or sharps are observed outside specified containers.

3.16 Medical waste bags are collected after being securely closed when filled to 3/4 of its maximum capacity and labelled with the date and place of production.

3.17 Collection & transportation of medical waste are done by medical waste workers wearing proper PPE at fixed time and on demand.

3.18 Infectious medical waste is transported in closed and impervious specified carts with biohazard sign. Carts are cleaned after each use or at least daily.

3.19 The medical waste store is consistent with the approved national specifications (adequate in space, away from traffic, secured, well ventilated with controlled temperature).

3.20 Infectious medical waste is transported outside the hospital **every 24 hours for final disposal**.

321 **Medical waste workers are vaccinated against blood borne pathogens and trained** on hand hygiene, wear adequate PPE, appropriate steps required post exposure to sharps or blood or bodily fluid, and safe handling of waste.

4. PROCEDURE:

4.1 Infectious waste is categorized as:

4.1.1 Blood and blood products: Bulk blood, blood-tinged suctioned fluids, excretions, secretions are considered infectious waste.

4.1.2 Pathology waste: includes human or animal tissues such as placenta, uteruses, organs, and body parts that are collected at autopsy or during surgery.

4.1.3 Microbiological cultures, stocks and microbiological waste: items containing blood or other potentially infectious materials, as well as, discarded live and attenuated vaccines

4.1.4 Sharps: used or unused sharps (e.g., hypodermic, intravenous or other needles; auto-disposable syringes; syringes with attached needles; infusion sets; scalpels; pipettes; knives; blades; broken glass).

4.1.5 Contaminated items: items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling.

4.1.6 Animal waste: discarded material originating from animals inoculated with infectious agents during research, production of biological, or pharmaceutical testing should be considered infectious waste.

4.1.7 Selected isolation waste: discarded waste materials contaminated with excretions, exudates, and secretions from patients with highly communicable diseases (classification 4 by the CDC in Classification of Etiologic agents on the Basis of Hazards, i.e., Ebola) treated in isolation.

4.2 Isolation and operating rooms: waste is considered general hospital waste unless it meets the criteria of infectious waste.

4.3 Waste containers:

4.3.1 **Sharps containers**

4.3.1.1 Must be rigid, puncture-proof, leak-proof and closable.

4.3.1.2 Equipped with a hermetical seal with an opening aperture which allows insertion of sharp items (e.g., needles and lancets).

4.3.1.3 Has a biohazard logo and labeled as "Sharp Items" which must be printed in both Arabic and English.

4.3.1.4 Size must be adequate in order to be carried in one hand and be provided with a handle if not wall mounted type.

4.3.2 **Plastic bags**

4.3.2.1 Should be tear-resistant and leak proof

4.3.2.2 Must not contain Polyvinyl Chloride (PVC)

4.3.2.3 Thickness must not be less than 70 microns thick.

4.3.3 All designated infectious waste containers should have a biohazard symbol or labeled with the word "Infectious" both in Arabic and English or be color-coded (i.e., yellow bags), rendering them identifiable by hospital staff.

4.3.4 **Collection of Infectious waste:**

4.3.4.1 Collect waste at least once per day and as needed.

4.3.4.2 Wear appropriate Personal Protective Equipment(PPE)
4.3.4.3 Handle bags at the top so that the bags do not come in contact with your body.
4.3.4.4 Do not use hands to compress (squeeze) waste in containers / bags.
4.3.4.5 Tie all bags securely when ¾ full and remove to storage containers.
4.3.4.6 Avoid overfilling carts with waste bags for transportto general storage room.
4.3.4.7 Wash hands after handling waste, etc.
4.3.4.8 Label the infectious waste bags or sharp container with the following information: 1.Generating Department 2. Date collected 3. Time collected.

4.3.5 **Transportation of infectious waste:**

4.3.5.1 Internal and exernal systems used for the transportation of infectious waste must maintain integrity of packing & protect handlers , wearing PPE (yellow gown, mask and gloves)
4.3.5.2 Use leak-proof carts that are readily cleanable to transport infectious waste from the point of generation or storage to the point of disposal and treatment.
4.3.5.3 Decontaminate carts used for transporting waste within the hospital daily using a ahospital approved disinfectant solution.
4.3.5.4 Place yellow bags in a holding area for inceneration.

4.3.6 **Storage: There could be 2 types of storages in the hospital:**

4.3.6.1 **Temporary storage area**: storage in the wards located in the dirty utility which are used to hold infectious waste temporarily to be collected and transported to the central storage area every after end of the shift or as needed.
4.3.6.2 **Central storage area**: used to hold infectious waste for not more than **24 hours** to be eventually collected and transported off-site for treatment. The room must have a concrete floor and be well-sealed to protect it from water leakage, rain, spread of odor, from rodents, insects, birds and stray animals

4.3.7 Dispose infectious waste as soon as possible after generation
4.3.8 Minimize the storage time to reduce the risk of potential exposure and reduce odor
4.3.9 Limit access to storage areas and have a biohazard symbol labeled with the word "storage area" in both Arabic and English; and posted where it is readily visible to anyone.

4.4 Four (4) methods of waste segregation must be followed at the point of generation (i.e., by the end user).

4.4.1 **BLACK bags**

4.4.1.1 Used to dispose of general hospital waste.
4.4.1.2 Items that would not release (drip) blood or other potentially infectious materials in a liquid or semi-liquid state if squeezed.
4.4.1.3 Place solid waste not grossly contaminated with potentially infectious blood or body fluids from isolation rooms or operating rooms in black bags.
4.4.1.4 Laboratory solid waste, not included in the infectious waste category.

4.4.2 **YELLOW bags**

4.4.2.1 Yellow bags are used for all nonsharp disposable materials contaminated with patient's blood and/or body fluids.
4.4.2.2 Yellow bags are distributed in the hospital in sufficient number and location.
4.4.2.3 Used to dispose of infectious waste. Refer to categories of infectious waste.
4.4.2.4 Containers with blood/body fluids that cannot be emptied
4.4.2.5 All microbiological waste (specimens, cultures, and stocks of etiologic agents).
4.4.2.6 Items moderately or heavily soaked (dripping) in blood or body fluids.
4.4.2.7 Chemotherapy waste: Trace amounts of cytotoxic liquid waste (e.g. contaminated PPEs and empty IV bags).
4.4.2.8 Place infectious waste in the appropriate designated container, lined with yellow disposal bags.
4.4.2.9 One designated infectious waste garbage bin lined with a yellow disposal bag can be kept in the dirty utility room of non-ICU units or areas.

4.4.3 **SHARPS containers**

4.4.3.1 Used to dispose all used and unused sharps (e.g., Hypodermic, intravenous or other needles, auto-disable syringes, syringes with attached needles, scalpels, glass pipettes, knives, blades, broken glass).

4.4.3.2 Do not disassemble blades or needles from equipment.

4.4.3.3 Discard sharps so that they do not protrude from the opening of the container.

4.4.3.4 Replace the sharps container promptly when the sharps container is ¾ filled (and reaches the fill line) by Housekeeping Services and labelled with the date and place of production

4.4.3.5 Sharp containers are wall mounted or placed on a stand and available inside the patient zone.

4.4.3.6 No bent, broken, or recapped needles are observed inside the sharp containers.

4.4.4 **RED bags**

4.4.4.1 Use to transport body parts, organs, or fetuses to be saved and then collected by the municipality to be buried.

4.5 Infectious Waste Management

4.5.1 Requirements from the Generators of Infectious Medical Waste

4.5.1.1 Infectious medical waste generators will make efforts to reduce the level of generation of this waste, both in quantity and quality.

4.5.1.2 Empty Glass Medicine Bottles will be disposed of in yellow sharp containers.

4.5.1.3 Empty Non-Contaminated Unbroken Glass Bottles (e.g. beverage bottles) will be disposed of in a separate container until collected in cardboard boxes by housekeeping staff for disposal and to be considered as non-regulated waste.

4.5.1.4 Empty Vaccine and Antibiotic Containers or Bottles will be disposed of in a biohazard sharps container.

4.5.1.5 Broken Glass will be disposed of in a sharp container.

4.5.1.6 IV Tubing and syringes will be disposed as per (Appendices 7.4)

4.5.1.7 Wastes from patients on isolation will be disposed as per (Appendices. 7.3)

4.5.1.8 List of patients care related waste items and where to dispose are provided in (Appendices 7.2).

4.5.2 Segregation and Disposal of Infectious Medical Waste:

4.5.2.1 Each Infectious medical waste generator will segregate Infectious from nonInfectious waste at the generation site. The waste generator will be responsible for segregation and collection of waste in containers specially made for this purpose within Program facilities and departments.

4.5.2.2 Infectious Waste will be collected in yellow plastic bags bearing the phrase Hazardous Medical Waste (in Arabic and English) along with the Bio-Hazard logo.

4.5.2.3 Sharps Waste will be disposed of in yellow thick, leak proof, puncture proof containers, bearing the phrase Hazard-Sharp Items (in Arabic and English) and the
Bio-Hazard logo.

4.5.2.4 Body Parts and Organs will be placed in red plastic bags bearing the phrase Bio-Hazard (in Arabic and English) and the Bio-Hazard logo, and will be stored in the
mortuary until dealt in accordance to Sharia Law (Islamic Law) or as deemed necessary by the relevant country

4.5.2.5 Highly Infectious Waste (microbial cultures, viruses, TB, Brucella, Fungi) will be collected in plastic bags suitable for pre-treatment with autoclave within the generation site; these bags will bear the phrase Highly Infectious Waste and the Bio-Hazard logo. Following treatment, waste will be placed in yellow bags bearing the phrase Hazardous Medical Waste (in Arabic and English) and the Biohazard logo.

4.5.3 Sticker Labeling and Biohazard Logo

4.5.3.1 Infectious medical waste generator will attach a sticker to the containers and waste bags (if information is not printed or provided) prior to their transportation

to stores within facility or Waste Treatment and Disposal Facility. The stickers will contain the following data:

4.5.3.1.1 Waste generator name (facility name)
4.5.3.1.2 Site name (section or ward)
4.5.3.1.3 Generated waste type as per its classification
4.5.3.1.4 Weight and quantity of waste in the bag/container
4.5.3.1.5 Date and time of collection
4.5.3.1.6 Transportation date and time to the disposal facility.

4.5.3.2 All labelling stickers attached to bags/containers will be of the proper size and written/printed in waterproof and permanent ink.

4.5.3.3 The Bio-Hazard logo or other labeling requirements will be affixed to bags/containers as specified in the Labeling Requirements.

4.5.3.4 Collection/Transportation

4.5.3.4.1 The collection and transportation of bags/containers of Infectious medical waste requires the use of special trolleys and well-trained staff in order to guarantee the highest degree of safety during collection or transportation within the facilities, for prevention of leaks or spills from bags/containers.

4.5.3.4.2 Healthcare workers who transport such waste will be trained on such tasks and on spill management.

4.5.3.4.3 Prior to the collection and transportation of Infectious waste, bags/containers will be fully sealed and locked, and display the appropriate data sticker identifying content, as well as proper hazard identification and its related labeling, including the Bio-Hazard logo.

4.5.3.4.4 Waste bags will not be filled to more than 3/4 of their capacity and will not be pressurized or compacted. Waste bags will not be held close to the collector's body or be held from underneath. Bags will only be held at the top for safe handling.

4.5.3.4.5 Infectious waste will be transported within the facilities in covered, specially designed leak proof trolleys that guarantee efficiency on loading and unloading and are easy to clean or disinfect.

4.5.3.4.6 Tissue, human body parts, fetal and placental organs will be segregated and collected in red bags and stored in the mortuary in a special refrigerator until burial in accordance with Sharia Law (Islamic Law).

4.5.3.4.7 Animal carcasses and animal tissues will be collected in yellow bags and kept isolated in a special fridge until they are treated and disposed of.

4.5.3.4.8 Trolleys for collecting and carrying hazardous medical waste will be cleaned, washed and disinfected on a daily basis in special location by trained staff under the supervision of the person responsible for hazardous medical waste within respective facilities.

4.5.3.4.9 In cases where there is an incident of Infectious waste spill or leak from plastic waste bags, containers or trolleys, such waste is considered extremely hazardous and requires immediate action. Cleaning, disinfection and safety measures including the use of appropriate protective clothing or equipment will be taken when and where leakage is identified.

4.5.3.4.10 Non-hazardous medical waste will be collected in black plastic bags. Such waste will be treated separately and segregated from hazardous medical waste in all stages (packaging, collection and transporting inside the facilities and storage) until transported to the final disposal destination landfill (e.g. municipal landfill).

4.5.3.5 Requirements from the Infectious waste generator when transporting waste outside the location:

4.5.3.5.1 Infectious waste will be packed and labeled correctly in accordance to articles.

4.5.3.5.2 Only licensed personnel or competent parties will be authorized to deliver Infectious waste

4.5.3.5.3 Any Infectious waste being delivered for transport outside the institution will submit a copy of the completed Hazardous Medical Waste Manifest Form to the Waste Treatment and Disposal Facility identifying the type of waste delivered for disposal.

4.5.3.5.4 Infectious waste will only be delivered to a Waste Treatment and Disposal Facility with a current valid license obtained from a competent authority.

4.5.3.5.5 Related Hazardous Medical Waste Manifest Form and other related documentation will be archived for a period of ten (10) years.

4.5.3.6 Operative Record Required:

4.5.3.6.1 The generator of Infectious waste will comply by providing reports on all related aspects of hazardous medical waste, such as data of waste generation, storage, transportation and disposal.

4.5.3.6.1.1 The generator will provide a copy of these reports periodically to all relevant parties when requested.

4.5.3.6.1.2 The Waste Treatment and Disposal Facility operator will maintain a documented operative record of the following information.

4.5.3.6.1.3 Description of the quality and quantity status of each shipment delivered and the name of the generator stated in the Hazardous Medical Waste Manifest Form receiving date and treatment date.

4.5.3.6.1.4 A copy of all Hazardous Medical Waste Manifest Forms.

4.5.3.6.1.5 Any other records considered by the competent parties as necessary to keep.

4.5.3.6.1.6 The Waste Treatment and Disposal Facility operator will submit the following reports.

4.5.3.6.1.7 Monthly reports which include the quantity of waste delivered daily from each generator individually and the name of its generator, transporter/carrier, when required by the competent body.

4.6 Healthcare Workers

4.6.1 Discard all waste generated in your area into the appropriate bin.

4.6.2 Wearing the appropriate protective apparel, carefully pour potentially infectious liquid waste down the drain (if local regulations allow or if there is a waste treatment plant available in the healthcare facility).

4.6.3 Care should be given not to generate splashes that may contaminate yourself and the surrounding environment.

4.6.4 Hand hygiene sinks should not be used to dispose of such fluids.

4.6.5 Place empty bulk blood and blood product containers in black bags.

4.6.6 Perform hand hygiene immediately after body fluid exposure.

4.7 Environmental Services (Housekeeping Services)

4.7.1 Pick up waste at least once per day and as needed.

4.7.2 Handle bags at the top so that the bags do not come in contact with your body. Do not use your hands to compress (squeeze) waste in containers/bags.

4.7.3 Tie bags using a self-lock plastic tie and securely before placing them in a temporary holding area such as a dirty utility room. Do not store waste bags in hallways or corridors.

4.7.4 Replace the sharps container promptly when it is ¾ full or reaches the fill line.
4.7.5 Fasten the cover of a full sharps container securely before removing.
4.7.6 Label the infectious waste bags or sharp containers with the following information:
4.7.6.1 Generating department
4.7.6.2 Date collected
4.7.6.3 Time
4.7.6.4 Weight
4.7.7 Decontaminate disposal bins/containers or frames when visibly soiled. These items should be cleaned weekly or as needed with hospital-approved disinfectant.
4.7.8 Decontaminate carts used for transporting waste within the hospital daily using a hospital-approved disinfectant solution.
4.7.9 Use leak-proof carts that are readily cleanable to transport infectious waste from the point of generation or storage to the point of disposal and treatment.
4.7.10 Place yellow bags in a holding area for incineration.
4.7.11 Pick up and discard broken glass using a mechanical device such as forceps or a brush and dust pan. Broken glass should never be handled with gloved or non-gloved hands
4.7.12 Clean blood spills according to a written procedure (see "Blood Spills Cleaning" below).

4.8 **Blood Spills and Spills of Other Potentially Infectious Material (OPIM).** All work locations where employees may come into contact with blood or other potentially infectious material must have blood spill biohazard equipment/kits available to safely and effectively clean up any spills. This kit must include the following:
4.8.1 Personal protective equipment (PPE) such as gown, gloves, eyewear, mask.
4.8.2 Supplies such as forcep, plastic scoop and scraper, absorbent granules or absorbent pads, hospital-approved disinfectant, yellow plastic bag and sharp container.
4.8.2.1 The steps described below should be taken when cleaning and decontaminating spills of blood or other potentially infectious materials:
4.8.2.1.1 **Control access to area:** Prevent people from walking through affected area and spreading the blood or other potentially infectious material to other areas. Use the signage for wet floor sign
4.8.2.1.2 **Contain spill:** Use other absorbent granules or absorbent pads to contain the spill.
4.8.2.1.2.1 Put on appropriate PPEs
4.8.2.1.2.2 Use plastic scoop or other mechanical means to remove any broken glass or other sharp objects from the spill area, and dispose into the sharp container
4.8.2.1.2.3 Sprinkle absorbent granules over the spill and leave for two minutes or as per the manufacturer's recommended contact time. Allow the spill to solidify before removing.
4.8.2.1.2.4 Remove the solidified waste material using the scoop and scraper and carefully dispose all contaminated materials into the infectious waste bag.
4.8.2.1.2.5 If there is no available absorbent granules contain the spill by placing absorbent pads (i.e. paper towel) on top of the spill and apply the appropriate disinfectant. To avoid creating aerosols, never spray disinfectant directly onto the spilled material. Instead, gently pour disinfectant on top of paper towels covering the spill or gently flood the affected area, first around the perimeter of the spill, then working slowly toward the spilled material. If sodium hypochlorite solution (5.25% household chlorine bleach) is used, prepare a fresh solution on a daily basis. Leave for the recommended contact time.

4.8.2.1.2.6 Pick up all absorbent material and carefully place in the infectious yellow bag for disposal. Remove PPEs and place in a yellow bag for disposal.

4.8.2.1.2.7 Seal the yellow bag.

4.8.2.1.2.8 Wash hands thoroughly with soap and water.

4.8.2.1.3 Contact housekeeping to clean the affected area with hospital-approved disinfectant.

4.9 Spills Occurring Within the Biosafety Cabinet

4.9.1 When infectious material is spilled within the biosafety cabinet, it should be cleaned up immediately by the individual performing the work. If the cabinet is certified and working properly and not overfilled with laboratory equipment, which limits the cabinet's air flow, there is little risk of aerosolization of the material into the general laboratory environment.

4.9.2 Additionally, employees working with potentially infectious microorganisms must wear adequate PPE.

4.9.3 When cleaning and decontaminating a spill within a biosafety cabinet, care should be taken not to move hands and arms in and out of the cabinet unnecessarily. This action creates turbulence that reduces the laminar air flow characteristics and the effectiveness of the biosafety cabinet. A suitable disinfectant and laboratory wipes should always be available within the cabinet or on the supply cart or table directly adjacent to the biosafety cabinet.

4.9.4 To effectively clean and decontaminate a spill within the biosafety cabinet follow these steps:

4.9.4.1 With cabinet air flow running, cover the affected area immediately with absorbent material.

4.9.4.2 Using hospital-approved disinfectant, gently spray the top of the covered spill.

4.9.4.2.1 Leave for the recommended contact time.

4.9.4.2.2 Pick up the absorbent material and place in a small autoclave bag inside the biosafety cabinet.

4.9.4.2.3 Clean the affected area again with disinfectant. If chlorine bleach is used, the affected area should be cleaned with 70% ethanol afterward to remove residual bleach. Chlorine bleach will pit and corrode the stainless steel work area inside the biosafety cabinet.

4.9.4.2.4 Place the sealed bag in a biohazard waste receptacle.

5. MATERIALS AND EQUIPMENT:

5.1 **Forms and Records:**

5.1.1 N/A

5.2 **Materials and Equipment**

5.2.1 N/A

6. RESPONSIBILITIES:

6.1 To all employees, patients and visitors at Maternity and Children Hospital.

7. APPENDICES:

7.1 Agents to be Distroyed Onsite Before Disposal
7.2 Waste from Confirm or Suspected CJD Patient
7.3 Wastes from patients on isolation
7.4 IV Tubing and syringes:
7.5 Patient Care Related Waste Items
7.6 Labeling requirements
7.7 Summary of Infectious/Hazardous Waste Management Plan

8. REFERENCES:

8.1 MoH Guidelines Medical waste classification 2021.pdf
8.2 Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) National Hospital Standards, 3rd Edition (2016) - LD.3.2, MM.13, FMS.1, FMS. 1.1.3, FMS.4.3, FMS.14, FMS.15, HR.13.4.7 and IPC.26
8.3 WHO, Safe management of wastes from health-care activities, 2nd edition.2014.
8.4 The unified law for managing the healthcare waste in the Cooperation Council for the Arab States of the Gulf (CCASG) and Implementing regulations. 2006.
8.5 GCC Infection Prevention and Control Manual. 3rd edition 2018.

9. APPROVALS:

	Name	Title	Signature	Date
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Reviewed by:	Mr. Abdulellah Ayed Al Mutairi	QM & PS Director		December 10, 2024
Reviewed by:	Dr. Thamer Naguib	Medical Director		December 12, 2024
Approved by:	Mr. Fahad Hazam Al Shammari	Hospital Director & IPC Committee Chairman		December 16, 2024

Attachment:

7.1 AGENTS TO BE DISTROYED ONSITE BEFORE DISPOSAL

Pathogen type	Select agents
Viruses	Crimean-Congo hemorrhagic fever virus; Ebola viruses; Cercopithecine herpesvirus 1 (herpes B virus); Lassa fever virus; Marburg virus; monkeypox virus; South American hemorrhagic fever viruses (Junin, Machupo, Sabia, Flexal, Guanarito); tick-borne encephalitis complex (flavi) viruses (Central European tick-borne encephalitis, Far Eastern tick-borne encephalitis [Russian spring and summer encephalitis, Kyasnaur Forest disease, Omsk hemorrhagic fever]); variola major virus (smallpox virus); and variola minor virus (alastrim)
	Exclusions: Vaccine strain of Junin virus (Candid. #1)
Bacteria	Rickettsia prowazekii, R. rickettsii, Yersinia pestis
Fungi	Coccidioides posadasii
Toxins	Abrin; conotoxins; diacetoxyscirpenol; ricin; saxitoxin; Shiga-like ribosome inactivating proteins; tetrodotoxin
	Exclusions: The following toxins (in purified form or in combinations of pure and impure forms) if the aggregate amount under the control of a principal investigator does not, at any time, exceed the amount specified: 100 mg of abrin; 100 mg of conotoxins; 1,000 mg of diacetoxyscirpenol; 100 mg of ricin; 100 mg of saxitoxin; 100 mg of Shiga-like ribosome inactivating proteins; or 100 mg of tetrodotoxin
Genetic elements, recombinant nucleic acids, and recombinant organisms	Select agent viral nucleic acids (synthetic or naturally-derived, contiguous or fragmented, in host chromosomes or in expression vectors) that can encode infectious and/or replication competent forms of any of the select agent viruses;
	Nucleic acids (synthetic or naturally-derived) that encode for the functional form(s) of any of the toxins listed in this table if the nucleic acids:
	a. are in a vector or host chromosome;
	b. can be expressed *in vivo* or *in vitro*; or
	c. are in a vector or host chromosome and can be expressed *in vivo* or *in vitro*;
	Viruses, bacteria, fungi, and toxins listed in this table that have been genetically modified.

7.2 Waste from Confirm or Suspected CJD Patient

Waste from Confirm or Suspected CJD Patient			
Infectivity category	**Tissues, secretions, and excretions**	**Waste from Suspected CJD case**	**Waste from Confirm CJD case**
High infectivity	Brain, Spinal cord Eye CSF	Manage used, disposable PPE and all other patient care items which were contaminated with High infectivity (Tissues, excretions, and excretions) as Hazardous Medical Waste and dispose in the yellow bag for incineration.*	Manage used, disposable PPE and all other patient care items which were contaminated with High infectivity (Tissues, excretions, and excretions) as Hazardous Medical Waste and dispose in the yellow bag for incineration.*
Low infectivity	Kidney Liver Lung Lymph nodes/spleen Placenta	Manage used, disposable PPE and all other patient care items which were contaminated with Low infectivity (Tissues, excretions, and excretions) as Hazardous Medical Waste and dispose in the yellow bag for incineration.*	Manage used, disposable PPE and all other patient care items which were contaminated with Low infectivity (Tissues, excretions, and excretions) as Hazardous Medical Waste and dispose in the yellow bag for incineration.*
No detectable infectivity	Adipose Adrenal glands Gingival tissue Heart muscle Intestine Peripheral nerve Prostate Skeletal muscle Testis Thyroid gland Blood Tears Nasal mucous Saliva Sweat Serous exudate Milk Semen Urine Faeces	All wastes which were contaminated with No detectable infectivity (Tissues, excretions, and excretions) should be disposed in black bag (general wastes); except dressings from infected or surgical wounds, and the items heavily soiled with blood or other body fluids .	All wastes which were contaminated with No detectable infectivity (Tissues, excretions, and excretions) should be disposed in black bag (general wastes); except dressings from infected or surgical wounds, and the items heavily soiled with blood or other body fluids.

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7.3 Wastes from patients on isolation

Wastes from patients on isolation	
Patient isolated for ***MDROs***	All wastes should be disposed in black bag (general wastes); except dressings from infected or surgical wounds, and the items heavily soiled with blood or other body fluids .
Patient isolated for ***highly infectious diseases*** (confirmed and suspected) e.g. Ebola, Smallpox, Anthrax , and other diseases decided by the infection control team to be a highly infectious diseases	**Manage used disposable PPE and all other patient care items as Hazardous Medical Waste and dispose in the yellow bag.**
Patient isolated for **suspected pulmonary TB**	**Manage used disposable PPE and all other patient care items as Hazardous Medical Waste and dispose in the yellow bag.**
Patient isolated for **confirmed infective *TB:* *Eg. Open pulmonary TB, Laryngeal TB, extra pulmonary draining infection***	**Manage used disposable PPE and all other patient care items as Hazardous Medical Waste and dispose in the yellow bag.**
Patient isolated for **confirmed non-infective TB**: eg. Non- Open pulmonary TB, Peritoneal TB with no drain, TB from non- draining infection	All wastes should be disposed in black bag (general wastes); except dressings from infected or surgical wounds, and the items heavily soiled with blood or other body fluids .
Patient isolated for **not highly infectious *communicable disease*** eg. H1N1, MERS CoV , n corona 2019, and other respiratory viruses	All wastes should be disposed in black bag (general wastes); except dressings from infected or surgical wounds, and the items heavily soiled with blood or other body fluids
Measles (Confirmed and suspected)	**Manage used disposable PPE and other patient care items for measles patients as Hazardous Medical Waste and dispose in the yellow bag.**

All PPEs from patient isolated for infection other than what was mentioned in the above table should be disposed in black bag (general wastes); except those heavily (dripping) soiled with blood or other body fluids .

7.4 IV Tubing and syringes:

IV Tubing and syringes:				
IV Tubing and syringes :	**Hazard-Sharp Items**	**Black Bag**	**Infectious Waste**	**Cytotoxic Waste**
Iv tubing used for blood and blood product			√	
Iv tubing used for cytotoxic and chemotherapy				√
Iv tubing NOT used for blood , blood product, cytotoxic nor chemotherapy		√		
syringes without needle and used for blood and blood product			√	
syringes without needle and used for cytotoxic and chemotherapy				√
syringes without needle and NOT used for blood , blood product, cytotoxic nor chemotherapy		√		
syringes with needle	√			

7.5 Patient Care Related Waste Items

Patient Care Related Waste Items	Hazard-Sharp Items	Black Bag	Infectious Waste	Cytotoxic Waste	Comments
Adaptic		✓			
Adult armboards		✓			
Alcohol swab		✓			
Angiocath (with needle)	✓				
Antimicrobial skin cleanser kit		✓			
Applicator e.g. CHG Applicator		✓			
Arterial catheter(without needle)		✓			
Bag water soluble		✓			
Bandage		✓			
Bandage stretch		✓			
Bandaids strip		✓			
Bedpan		✓			
Bile bag with drainage		✓			Drain contents into hopper or toilet
Biohazard Transport bag		✓			
Bite stick		✓			
Blood /Blood products tubing and bags			✓		
Blood gas analyzer cartridge container			✓		
Blood gas syringes with needle	✓				
Body Lotion		✓			
Brown bag paper		✓			
Butterfly needle	✓				
Cath/drainage tube plug protector		✓			
Catheter leader		✓			
Chest tube`			✓		
Chux underpads		✓			
Closed chest drainage system adult/pediatric			✓		
Comb		✓			
Connecting tubing		✓			
Cotton ball large		✓			
CVC kit	✓	✓	✓		Packaging: **Black bag** Needle: Sharps bin
					Tubing removed from patient: **yellow bag**
CVP change dressing kit		✓			
Denture container		✓			
Dialysis tubing and dialyzer			✓		
Drape (fenestrated and non-fenestrated)		✓			
Drape sheet large		✓			
Duodenal tube		✓			
ECG electrodes		✓			
ECG monitor paper		✓			
Egg crate bed pad		✓			
Elastic stockings		✓			
Endotracheal tubes		✓			
Enema kit		✓			
Enteral feeding tubing		✓			
Extension tubing		✓			
Eye pad oval		✓			
Eye shield alum		✓			

Feeding pump tube		✓			
Filter needle	✓				
Foley catheter tray		✓			
Foley catheter tray with drainage system		✓			
Foley catheter		✓			
Gastrostomy Tube		✓			
Gauze		✓			
Gel intrasite		✓			
Gloves		✓			
Gowns		✓			
Heel protector		✓			
Hemovac drain			✓		Drain contents into hopper or toilet
Hypodermic needle	✓				
Irrigation tray/basin container & piston syringe		✓			
dishes / trays		✓			
IV cannula needle	✓				
IV cannula w/ extension piece	✓				
IV tubing		✓			
Jackson Pratt drain		✓			Drain contents into hopper or toilet
Kidney Basin		✓			
Lancing Device Regular	✓				
Limb holder		✓			
Lumbar puncture tray	✓	✓			Packaging: **Black bag** Needle: **Sharps bin**
Male urinal		✓			After emptying
Male/female adapter		✓			
Mask w/ splash guard		✓			
Maternity pad sterile wrapped		✓			
Measuring Tape Paper		✓			
Medication cup		✓			
Mucous trap w/tubing/suction port			✓		
N95 respirator mask		✓			
Nasogastric tube		✓			
Neuro external drainage collection set	✓	✓			Packaging: **Black bag** Introducer: **Sharps bin**
Neuro external drainage ventricular cath kit	✓	✓			Packaging: **Black bag** Introducer: **Sharps bin**
Pack mortuary large adult		✓			
Paper towels		✓			
PCA tubing			✓		
Penrose drain		✓			
Percutaneous sheath introducer port kit	✓	✓	✓		Packaging: **black bag** Needle: **Sharps bin**
					Tubing removal from patient: **yellow bag**
Peripad		✓			
Petrolatum gauze		✓			
Pleuro vac drain			✓		
PLT infusion tubing micron filter			✓		
Precutaneous drain sponge		✓			
Pressure monitor		✓			
Dressing		✓			

Pulmonary artery catheter kit	√	✓	√		Packaging: **black bag** Needle: **Sharps bin**
					Tubing removal from patient: **yellow bag**
Quinton catheter set	√	✓	√		Packaging: **black bag** Needle: **Sharps bin** Tubing removal from patient: **yellow bag**
Radial artery cath suture wing clip kit	√	✓	√		Packaging: **black bag** Needle: **Sharps bin** Tubing removal from patient: **yellow bag**
Disposable cutting head piece of the clipper	✓				
Safety pin	√				
Salem sump tube		✓			
Sanitizer Air		✓			
Scalpel	√				
SCD stocking knee sleeve		✓			
Scissors	√				
Silk tape		✓			
Skin closure strips		✓			
Skin stapler remover	√				
Slippers		✓			
Soap		✓			
Soap Dish		✓			
Spinal needle	√				
Stockinette		✓			

Suction canister liner with fluid			√		
Suction cath kit		✓			
Suction tray		✓			
Suction Catheter		✓			
Surgical cap		✓			
Surgical gown cuffed w/hand towel sterile		✓			
Surgical mask		✓			
Suture removal tray	√	✓			Scissors: **Sharps bin**
					Plastic forceps/packaging: **Black bag**
Suture silk without needle		✓			
Suture silk with needle	√				
Swabstick alcohol		✓			
Swabstick chlorahex gluc		✓			
Swabstick povidone-iodine		✓			
Syringe with needle	√				
		✓			
		✓			
Thoracentesis tray	√	✓			Packaging: **black bag** Needle: **Sharps bin**
Tissue Facial		✓			
Tongue depressor		✓			
Toothettes		✓			
Tracheostomy tube		✓			
Tracheostomy/ETT Holder		✓			
Tracheostomy tray	√	✓			Packaging: **black bag** Needle: **Sharps bin**

Transducer kit standard	√	√			Packaging: **black bag** Needle: **Sharps bin**
Tubing "Y" type connecting set		√			
Tubing extension set		√			
Tumbler 8oz		√			
Twill cloth tape		√			
Urinary drainage bag		√			Drain contents into hopper or toilet
Urine meter		√			
Urine specimen collection bag		√			
Ventilator Circuit/Adaptors/Connections		√			
Vest restraint		√			
Wash Basin		√			
Wash cloth		√			
Waterproof tape		√			
Xeroform gauze		√			
Yankauer suction		√			
Non- bloody Diapers		√			
bloody Diapers			√		
Animal carcasses, body parts, tissue and bedding.			√		
Tooth extracted and demilitarized and that do not contain amalgam fillings		√			
Tooth extracted and demilitarized and that contain amalgam fillings	Should be disposed in amalgam containers.				

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Please Note:

- This is not a complete list of patient care related waste items: Any concerns contact Infection Control Team.
- Items contaminated (i.e. Dripping) with blood or body fluids must be disposed into yellow bag.

7.6 Labeling requirements

1. Specification for labeling yellow bags and red bags
DO NOT FILL ABOVE THIS LINE.....75%.....

BIO HAZARDOUS
خطر حيوي

Infectious Hazardous Medical Waste
نفايات طبية خطرة معدية

Origin..... Program facility

General Information	
Generated At	.....
Location	.....
Sealed	.....
Type	.....
Date (D/M/Y)	.....
Time	.....
Weight (Kg)	.....
Collected for disposal	
Date (D/M/Y)	.....
Time	.....

Destination.....

2. Specification for labeling "Sharps" Container
DO NOT FILL ABOVE THIS LINE.....75%.....

Hazard-SHARP ITEMS/CONTAMINATED SHARPS

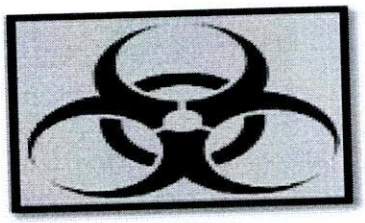
نفايات حادة خطرة / ملوثة

Origin..... Program facility

General Information	
Generated At	.....
Location	.....
Sealed	.....
Type	.....
Date (D/M/Y)	.....
Time	.....
Weight (Kg)	.....
Collected for disposal	
Date (D/M/Y)	.....
Time	.....

Destination.....

3. Specification for labeling Red bag for body parts
BIO HAZARDS



Origin..... Program facility

General Information	
Generated At	.....
Location	.....
Sealed	.....
Type	.....
Date (D/M/Y)	.....
Time	.....
Weight (Kg)	.....
Collected for disposal	
Date (D/M/Y)	.....
Time	.....

Destination.....

4. Specification for labeling HIGHLY INFECTIOUYS WASTE

Highly Infectious Medical Waste
نفايات طبية خطرة شديدة العدوى

Origin..... Program facility

General Information	
Generated At	.....
Location	.....
Sealed	.....
Type	.....
Date (D/M/Y)	.....
Time	.....
Weight (Kg)	.....
Collected for disposal	
Date (D/M/Y)	.....
Time	.....

Destination.....

7.7 Summary of Infectious/Hazardous Waste Management Plan

Waste Category	Examples	Red Bag	Yellow Bag[1] (Incineration	Yellow Container 2	Black Bag (Sanitary Landfill)	Steam Sterilization
Microbiology	Stocks and cultures of infectious		X			X[3]
Anatomical waste	Tissues, organs, other body parts, specimens of body fluids and their containers (stored in lab for burial	X				
Blood/blood products/ body fluids: All clinical areas: • < 20-ml volumes	Blood containers, IV tubing without needles, suction canisters, pleuro-vacs, evacuated containers, hemo-vacs, etc.				X	
• > 20-ml volumes			X			
Items contaminated with blood: • If saturated and/ or dripping	Paper towel, gauze, disposable objects, gloves, etc.		X			
• Not saturated and/or dried					X	
Chemotherapeutic waste	Bulk[4] chemicals and sharps			X		
	Trace[5] chemicals		X			
Sharps	Contaminated needles, syringes, scalpel blades, razors, pasteur pipettes, tubes and broken glass			X		
Contaminated animal carcasses, body parts, and bedding	Contaminated animal carcasses, body parts, and bedding of animals that were intentionally exposed to highly infectious pathogens.		X			X[3]
Other hospital waste	Non-hazardous medical wastes				X	

1 Yellow bags (70 -micron thickness, leak-proof, labeled Cytotoxic and/or Biohazard as per ICM-IX-02 Management of Infectious Waste).

2 Yellow containers must be heavy-duty, leak-proof, and puncture-proof. Containers must be labeled as Biohazard or Cytotoxic separately as per ICM.

3 If steam sterilization is not used, place in yellow bag for incineration.

4 Waste materials contaminated with any visible liquid are classified as bulk chemical waste, including contaminated sharps. and must be incinerated at ≥1200°C.

5 Waste materials contaminated with traces of chemotherapy agents (e.g., empty vials, IV tubing, gowns, gloves)

. Note: Radioactive wastes should be placed in hermetically sealed containers with an international logo of Radiation Hazard