



**Institution Name:** Directorate General for Disease Surveillance and Control /  
Department of Infection Prevention and Control

**Document Title:** Policy and Procedures in Laundry Services

**Approval Process**

	Name	Title	Institution	Date	Signature
Written by	Dr. Khalid Al Harthi	Specialist	DGDSC, CDIPC	29/11/2017	
	Mr. Noel S. Gonzaga	Assistance Clinical Trainer		28/11/2017	
Reviewed by	Laundry Task Force	N/A	Ministry of Health	29/11/17	
	Dr. Saif Al Abri	DG of DSC	Ministry of Health	27/11/2017	
Validated by	Dr. Ahmed Al Mandhari	DG of QAC	Ministry of Health	22/11/2017	
Approved by	Dr. Mahammed Al Hosni	Undersecretary of Health affairs	Ministry of Health	6/12/2017	



## Contents Table:

Acronyms:.....	3
1. Introduction .....	4
2. Scope .....	4
3. Purpose .....	4
4. Definitions .....	4
5. Policy .....	5
6. Procedure .....	6
7. Responsibilities.....	10
8. Document History and Version Control.....	13
9. Related Documents:.....	13
10. References:.....	14
11. Appendixes:.....	15



**Acronyms:**

DIPC	Department of Infection Prevention and Control
IPCD	Infection Prevention and Control Department
GHS	Global Harmonized System of Classification and Labeling of Chemicals
MoH	Ministry of Health
PPE	Personal Protective Equipment
SDS	Safety data sheets





## **1. Introduction:**

Proper laundering and handling are important in achieving and maintaining hygienically clean quality healthcare fabrics and textiles delivered to the point of care to inhibit potentially serious contamination that may be a source of healthcare associated infections. The MoH had formed a task force to develop a policy and auditing tool for the laundry services of its healthcare facilities.

## **2. Scope:**

- 2.1 All MoH healthcare establishments and private laundry services contracted by MoH
- 2.2 This policy and auditing tool will be applicable in the private healthcare institution supervised by MoH.

## **3. Purpose:**

- 3.1 To standardized the healthcare textiles laundry process inside the healthcare facilities.
- 3.2 To provide laundering specifications to offsite commercial laundries contracted by Ministry of Health.
- 3.3 To minimize the contribution of contaminated linens to the incidence of health-care–associated infections.

## **4. Definitions**

- 4.1 Healthcare linen/ textiles: are fabrics that have been used or not by the patients
- 4.2 Contaminated or infectious linens/ textiles: are fabrics which are soiled with body substances, including blood, skin, stool, urine, vomitus, other body fluids and other potentially infectious materials (e.g. textiles used by patients in isolation rooms).
- 4.3 Water soluble bags: a primary containment bag made of plastic used to contain infectious textiles. Completely soluble to water.
- 4.4 Red linen hampers bags: are bags made of nylon which can be tied, where the water soluble bags that contained infectious textiles is place; with biohazard symbol.



- 4.5 Soiled linens/ textiles: are fabrics used by the patients but are not categorized as infectious textiles.
- 4.6 White linen hamper bags: a bag made of nylon cloth which can be tied to contain soiled textiles.
- 4.7 Thick plastic bag or container (40-50 microns): Used to place wet textiles that present likelihood of soak-through or leakage.
- 4.8 Transport carts: four wheeled vehicle used to deliver and collect linens, closed system, preferably with shelves, easy to maneuver, easy to clean and disinfect, and no sharp edges.

## 5. Policy

- 5.1 The healthcare facilities must ensure that this policy and procedures is properly implemented and provide needed support.
- 5.2 The healthcare facility must ensure when contracting with commercial laundry to comply with this policy.
- 5.3 The healthcare facility must ensure that laundry staff are qualified through education, training or level of prior experience, and immunized with Hepatitis B and tetanus.
- 5.4 The Infection Prevention and Control Department/section in healthcare facilities must be responsible to monitor the proper implementation of the policy, auditing and coordinate the education of health care workers.
- 5.5 The Central Department of Infection Prevention and Control must be responsible for periodic update of this policy and procedures.
- 5.6 The laundry machines must have the following considerations:
  - 5.6.1 Washers.
  - 5.6.2 Washers extractors.
  - 5.6.3 Continuous batch washers.
  - 5.6.4 With monitoring device for temperature and cycles.
  - 5.6.5 Heavy duty.
  - 5.6.6 Energy and water efficient.





5.7 Related documents must be kept e.g. preventive maintenance for laundry machines, log of temperatures during cycles, quality of water, cleaning schedules, room pressure (positive and negative) and temperatures, air changes per hour, vaccinations of staff, trainings and qualifications, safety data sheets, list of all chemicals used in the unit.

## **6. Procedure**

- 6.1 Identify the time and route of delivery of clean linen and collection of dirty linen.
- 6.2 Coordinate with the responsible department/section that the collection of dirty linen must not take place during the time of food delivery.
- 6.3 If possible, use different route to collect contaminated linen and waste from clean linen and food delivery.
- 6.4 Use gloves and aprons when handling contaminated linens.
- 6.5 Provide color coded hamper bags in the clinical areas.
- 6.6 Practice segregation of linen in the clinical areas.
- 6.7 Avoid shaking the linen during removal to minimize agitation and prevent contamination of the environment and personnel.
- 6.8 Collect soiled linen in such a way as to keep the heavily soiled portion contained in the center by folding the soiled spot into the center to prevent leakage.
- 6.9 Place the infected contaminated linen in the water soluble bags and place it inside a red hamper bag.
- 6.10 Ensure that all non-textile items, including instruments, needles and incontinence pads are removed from the linens to prevent damage to laundry equipment and needle stick injuries.
- 6.11 Ensure that the patient's personal items (e.g., dentures, eyeglasses, and hearing aids) are not left in the linen.
- 6.12 Place full and tied off soiled linen hamper bags in the dirty utility room or in a designated area for pickup by laundry staff.
- 6.13 Keep the linen hamper bags 8 to 10 inches off of the floor by using a bin or rack. Do not allow them to lie on the floor.
- 6.14 Observe care when removing laundry bags.



- 6.15 Do not hold bags close to the body to prevent the possibility of sharps injury from forgotten items in the linen.
- 6.16 Labeling:
  - 6.16.1 Label the carts used to transport contaminated linen with biohazard symbols or warning statement in both English and Arabic.
- 6.17 Collection and Transportation:
  - 6.17.1 Collect the linen from the designated holding area at least daily.
  - 6.17.2 Use appropriate PPE (heavy duty gloves, plastic aprons and mask).
  - 6.17.3 Use separated closed carts for the contaminated and clean linen.
  - 6.17.4 Avoid overfilling the carts.
  - 6.17.5 Carts should be washed and disinfected daily and when visibly soiled.
- 6.18 Laundry area: Sorting
  - 6.18.1 Use heavy duty gloves, aprons and mask in sorting area.
  - 6.18.2 Deliver the collected healthcare textiles to the 'soiled' area.
  - 6.18.3 Educate all laundry staff involved in the process. Refer Annex 2.
  - 6.18.4 Provide accessible hand hygiene facilities.
  - 6.18.5 Be careful for sharp objects while sorting linen. If found, sharps must be disposed of appropriately and notify the IC department.
  - 6.18.6 Provide sharp containers in sorting area.
- 6.19 Washing, rinsing, drying:
  - 6.19.1 Ensure that the laundering process remove soil and render the linen clean.
  - 6.19.2 Use laundering chemicals as per manufacturers' recommendation.
  - 6.19.3 Do not overload the machines.
  - 6.19.4 Optimize the process e.g. the mechanical action of the equipment, the water flow, the water temperature, the timing (cycles), and drying.
  - 6.19.5 Ensure that the laundry cycles is monitored:
    - 6.19.5.1 High temperature: at least 71°C (160°F) for 25 minutes.
    - 6.19.5.2 Low temperature: at 22°C-50°C (71°F-77°F).
  - 6.19.6 Monitor and control the amount of residual chlorine (bleach) between 50 and 150 ppm.





- 6.19.7 Disposed all linen used by patients with Anthrax, Rabies and other diseases caused by organisms that belong to category A substances according to the hospital healthcare waste management guidelines.
- 6.20 Packing and storage:
- 6.20.1 Pack and store clean linen in a clean area separated from potential sources of contamination.
  - 6.20.2 Prevent soiling or contamination during packing.
  - 6.20.3 Wrap the linens into fluid-resistant materials, may be plastic or other suitable material, and shall be securely closed during delivery.
  - 6.20.4 Store packed linens in open and clean shelves provided the integrity of the package is not compromised.
  - 6.20.5 Close the room at all times, provide access only to authorized staff.
  - 6.20.6 Label the storage area in both English and Arabic.
  - 6.20.7 Reprocess, if the linens are contaminated during packing and storage.
  - 6.20.8 Label the plastic bags with the packing date. Use first in and first out method.
- 6.21 Delivery of clean linen:
- 6.21.1 Transport and store clean linen in such a way as to ensure its cleanliness.
  - 6.21.2 Protect it from dust and soil during loading, transport and unloading.
  - 6.21.3 Transport clean linen in covered carts that have been cleaned and disinfected.
  - 6.21.4 If the cart does not have a solid bottom, it must be lined with heavy plastic or impervious paper before placing clean textiles inside.
- 6.22 Physical Structure:
- 6.22.1 Separate with physical barriers the areas for sorting and processing soiled linen from the areas for ironing, folding and storing clean linen.
  - 6.22.2 Ensure appropriate ventilation.
  - 6.22.3 Maintain areas receiving soiled linen at negative air pressure and clean area positive pressure.
  - 6.22.4 Provide washing area for dirty trolley and carts with:
    - 6.22.4.1 Good source of water.
    - 6.22.4.2 Impermeable floors.





6.22.4.3 Good and closed drainage system.

6.22.5 Provide fire safety devices e.g. fire extinguisher and blankets.

6.23 Storage room requirements:

6.23.1 Have room temperatures ranging from (20°C-25°C)/ (68 to 78 F).

6.23.2 Be properly ventilated to prevent the accumulation of dust and lint.

6.23.3 Ventilation is 5-10 air changes per hour.

6.23.4 Be free from drains or hot water pipes, pest and lint.

6.23.5 Clean shelves should be used for storing linen that are approximately:

6.23.6 (1-2) inches from the wall for accessible cleaning.

6.23.7 Must be 6-8 inches from the floor.

6.23.8 Must be 12-18 inches below the ceiling.

6.23.9 Have a door that remains closed at all times.

6.23.10 The laundry areas must have hand hygiene facilities (soap, water, paper towels, or alcohol hand rub).

6.23.11 Designate a proper ventilated storage room for the cleaning chemical.

6.23.12 Keep their safety data sheets of all the chemicals being used?

6.23.13 Post biohazard sign to the areas which contain other potentially infectious materials textile are sorted and stored prior to processing.

6.23.14 Provide emergency eyewash shower system.

6.24 Housekeeping:

Areas	Frequency
All areas and surfaces	Daily or as needed
Washing machine (external)	After each load
Laundry cart	Daily or as needed



6.25 Pest control:

6.25.1 Follow hospital policy and procedures.

6.26 Commercial laundry contractors:

6.26.1 Vehicles requirements

6.26.1.1 Ensure that the commercial laundry contractor's vehicle have a water proof physical barrier between clean and dirty linens, if there is no separate dedicated vehicles.

6.26.1.2 Ensures that interiors have smooth, plain, impervious surfaces with as few interstices, which might harbor bacteria as possible.

6.27 Delivery of clean linen

6.27.1 Provide gloves and aprons in case the personnel needs to handle contaminated linens.

6.27.2 Wrap individual bundles of clean textiles in plastic or other suitable material and seal or tape the bundles to prevent dust and contamination during loading, delivery and unloading.

6.27.3 Anchor the linen hamper bags that it may prevent the spill in the containers.

6.27.4 Transport in a clean designated vehicles.

6.27.5 Clean and disinfect the vehicles at least daily or as necessary.

## 7. Responsibilities

### 7.1 Clinical staff:

7.1.1 Liaise with laundry department for supplies, collection and delivery etc.

7.1.2 Adhere to safe linen handling procedure as part of standard precautions.

7.1.3 Implement the policy and procedures intended for clinical staff.

### 7.2 Laundry supervisor:

7.2.1 Liaise with clinical staff, housekeeping, pest control, engineering & maintenance, and facility IPC to maintain open communication.

7.2.2 Ensure that all the laundry staffs are aware and comply with the policy and procedure.

7.2.3 Supervise the daily activities related to laundry services.





- 7.2.4 Ensure each laundry staff is properly trained on how to operate and maintain the machines, attend the required trainings before assigning them on their job, and the refresher courses are provided in routine basis.
- 7.2.5 Provide the hospital approve supplies in the wards (e.g. water soluble bags, color coded hamper bags, linens and textiles).
- 7.2.6 Keep the required staff qualification certificates, vaccination records, and blood and body fluids post exposure records.
- 7.2.7 Keep the list of chemicals used in the area and the SDS.
- 7.2.8 Keep or have access to the records of the preventive maintenance and monitoring results documents.

### **7.3 Laundry Staffs**

- 7.3.1 Read/understand and sign the policy and procedures before starting the job
- 7.3.2 Implement this policy and procedures.
- 7.3.3 Participate in the refresher training courses.

### **7.4 Engineering and Maintenance Department**

- 7.4.1 Provide the appropriate physical design requirements and labels.
- 7.4.2 Monitor and keep the records of temperature and HVAC (heating, ventilation and air-conditioning) system.
- 7.4.3 Conduct and keep records of the periodic preventive maintenance and repairs.

### **7.5 Infection Prevention and Control Department:**

- 7.5.1 Supervise the laundry process and ensure that this policy and procedures is implemented.
- 7.5.2 Conduct unit specific infection prevention and control education in routine basis.
- 7.5.3 Liaise with the laundry services and participate in reviewing and approving of the products and materials to be used in laundry services minimizing infection risk
- 7.5.4 Oversee the sub-contractor company is in compliance with occupational health measures as per the hospital policy for post –exposure prophylaxes as well as provision and use of PPE for laundry staff.
- 7.5.5 Conduct periodic assessment using the checklist and identify process for improvements.





#### **7.6 General Services:**

- 7.6.1 Liaise with laundry services
- 7.6.2 Provide housekeeping schedule and ensure the general environment in the laundry area is clean and free from lint.
- 7.6.3 Ensure that the routine pest control procedure is implemented and coordinated with health and safety personnel, if available.

#### **7.7 Commercial Laundry Contractors:**

- 7.7.1 Ensure to comply with the requirements mentioned in this policy and procedures.



## 8. Document History and Version Control

Document History and Version Control			
Version	Description of Amendment	Author	Review Date
01	Initial Release	Dr. Khalid Al Harthi Mr. Noel S. Gonzaga	2020
02			
03			
04			
05			
Written by		Reviewed by	Approved by
Dr. Khalid Al Harthi Mr. Noel S. Gonzaga		Laundry Task Force	Dr. Mahammed Al Hosni
		Dr. Saif Al Abri	

## 9. Related Documents:

No related document.

**10. References:**

Title of book/ journal/ articles/ Website	Author	Year	Page
<a href="https://www.osha.gov/SLTC/etools/hospital/laundry/laundry.html">https://www.osha.gov/SLTC/etools/hospital/laundry/laundry.html</a>			
<a href="http://www.infectioncontroltoday.com/articles/2002/03/infection-control-today-03-2002-follow-standard-p.aspx">http://www.infectioncontroltoday.com/articles/2002/03/infection-control-today-03-2002-follow-standard-p.aspx</a>		2002	
Guidelines for Environmental Infection Control in Healthcare Facilities, recommendation of CDC and healthcare Infection Control Practices Advisory Committee, 2003		2003	
GCC, Infection Prevention and Control Manual, 2 <sup>nd</sup> edition, 2013		2013	
Accreditation Standards for Processing Reusable Textiles for Use in Healthcare Facilities April 2006, The Healthcare Laundry Accreditation Council		2006	
<a href="http://text.apic.org/toc/infection-prevention-for-support-services-and-the-care-environment/healthcare-textile-services">http://text.apic.org/toc/infection-prevention-for-support-services-and-the-care-environment/healthcare-textile-services</a>			
<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3499872/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3499872/</a>			
<a href="https://www.osha.gov/SLTC/etools/hospital/laundry/laundry.html">https://www.osha.gov/SLTC/etools/hospital/laundry/laundry.html</a>			
MoH Agreement contract for provision of cleaning, laundry and pest control services.			





**Annex1 Inspection checklist in laundry services**

ELEMENTS	M	PM	UM	N/A	Comments
<b>Policy and procedures</b>					
Is the laundry services policy and procedures is available?					
<b>Trainings and Education</b>	M	PM	UM	N/A	Comments
Are the laundry staffs trained in collection, transport, sorting and washing of soiled linen?					
Additional trainings:					
Hand hygiene					
Wearing PPE					
Standard precautions					
Chemical safety					
Spill management					
Healthcare waste disposal					
Occupational health and safety					
<b>Practices and procedures</b>	M	PM	UM	N/A	Comments
<b><i>Clinical area (wards, health center)</i></b>					
Are nurses practicing proper segregation of the linens?					
Are the color coded bags with biohazard symbol or label are available?					
The water soluble bags are available?					
Are the infectious linens placed inside the water soluble bags?					
Are the laundries not washed in the clinical areas?					



ELEMENTS	M	PM	UM	N/A	Comments
<b>Laundry service</b>					
Are the collection carts/ trolleys for dirty linens labeled with biohazard symbol?					
Are the trolleys inside the washing area properly labeled and identified? (dirty and clean trolley)					
Do the laundry staffs avoid holding the soiled linen close to the body?					
Do the staffs use PPEs e.g. overalls, mask, face shields, heavy duty gloves, and boots during sorting the linen?					
Are the PPEs accessible to the staff and available at all times?					
Is the sharp container available in sorting area?					
Safety Data Sheets available for chemicals and filed?					
Are the chemicals labeled according to its hazardous properties?					
Linens are kept away from the dust and contaminants during storage and transport?					
<b>Process monitoring</b>	<b>M</b>	<b>PM</b>	<b>UM</b>	<b>N/A</b>	<b>Comments</b>
Log book for monitoring the washing process is present?					
Log book for monitoring the water residual chlorine is present?					
Preventive maintenance and calibrations records of the machines are present?					





ELEMENTS	M	PM	UM	N/A	Comments
<b>Health and Safety</b>					
Laundry staffs had serological testing for Hepatitis B prior to vaccination?					
Are the laundry staffs immunized with Hepatitis B and Tetanus?					
<b>Physical structure</b>	M	PM	UM	N/A	Comments
Is there physical separation from dirty and clean area?					
Is the area labeled & showing the one way traffic?					
Is the dirty area having negative air pressure & positive air flow in the clean area?					
Is there designated appropriate washing area for dirty carts with enough water supply, impermeable floors and good drainage system? (pressurized cleaning is not recommended to prevent aerosols)					
Is there designated chemical storage room and label the door with hazard warnings?					
Are the hands washing sinks or hand hygiene products accessible and available in all the areas?					
Are the ceilings free of cracks and water leaking marks?					
Is the drainage closed, properly maintained and clean?					





ELEMENTS	M	PM	UM	N/A	Comments
Is the cleaning procedure available? (it must include areas and responsible person)					
Are storage shelves requirements followed?					
<b>Pest Control</b>	<b>M</b>	<b>PM</b>	<b>UM</b>	<b>N/A</b>	<b>Comments</b>
Is the pest control team using nontoxic chemicals?					
Is the area free from pest?					
<b>Knowledge</b>	<b>M</b>	<b>PM</b>	<b>UM</b>	<b>N/A</b>	<b>Comments</b>
Are the staffs knowledgeable on what to do in case of sharp injury and blood and body fluid exposure?					
Do the staffs know what to do in case of spill?					
Do the staffs know how to interpret the different hazard symbols of the chemicals?					
Do the staffs know the: Cycle time (pre wash, wash, final rinse) Water level/usage Chemical usage					

Legend: M-Met; PM- partially Met; UM- Unmet; N/A -Not applicable



**Annex 2: Training for laundry staff Checklist**

<b>Name:</b>	<b>Staff #:</b>		
<b>Name of Hospital:</b>	<b>Date</b>		
<b>Instructor:</b>			
<b>Topics</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Laundry process			
Hand hygiene			
Wearing PPE			
Standard precautions			
Chemical safety			
Spill management			
Healthcare waste disposal			
Occupational health and safety			

**Annex -3 Tables****Table 1:** Color coded bags, materials and its usage

Color and Signs	Materials	Usage
White hamper bag	Cloth	Use for soiled but non- infectious linens/textiles
Water soluble	Plastic	Use as 1 <sup>st</sup> containment for contaminated/infectious linens/textiles
Red hamper bag- with biohazard signs	Cloth	Use as 2 <sup>nd</sup> containment for contaminated/ infectious textiles to be washed onsite or offsite
Thick transparent bag	Plastic (40-50 microns )	Use for heavily wet and leaking linens/textiles either infectious and non-infectious

**Table 2:** Transport carts and Usage

Type & label	Usage
Collection (dirty) carts with biohazard symbol	Dedicated carts use to collect contaminated linens
Delivery (clean) carts	Dedicated carts use to deliver clean linens

**Table 3:** PPE, activities and materials

PPE	Activities	Staff	Materials
Gloves	Collection and sorting	Laundry	Heavy duty
	Collecting linens from patient beds	Clinical	Disposable
Apron	Collecting linens from patient beds	Clinical	Disposable and Water resistant
	Collection of used linen	Laundry	
Mask	if there is a potential risk of aerosol exposure	Clinical	Disposable
	Sorting	Laundry	
Face Shield	If there is a potential risk of splash of blood and body fluids	All staff	Disposable
Boots	Working in laundry area	Laundry	Water resistant, heavy duty





#### Annex 4: Laundry Process Algorithm

