



# Health Extension service

## Level-III

# Learning Guide-24

**Unit of Competence: Apply Infection Prevention Technique and workplace OHS**

**Module Title: Applying Infection Prevention Technique and workplace OHS**

**LG Code: HLTHES3 M06 LO4-LG-24**

**TTLM Code: HLTHES3 MO6 TTLM**

**0919v1**

## **LO 5: Limit contamination**



This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- *Demarcating* Clean and contaminated zones
- Confining

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, **upon completion of this Learning Guide, you will be able to:**

- *Demarcate* Clean and contaminated zones
- Confine

### **Learning Instructions:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 2 to 4.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4”.
4. Accomplish the “Self-check 1,&Self-check 2” in page 70&72



## Information Sheet-1

### Demarcating Clean and contaminated zones

#### **1.1 Demarcating Clean and contaminated zones**

When something has been exposed to infectious agents it is considered to have been contaminated.

Ways to limit contamination in the healthcare setting may include:

- ✓ cleaning surfaces
- ✓ protecting all materials, equipment and instruments from contaminants
- ✓ maintaining sterile objects
- ✓ being aware of the guidelines for single-use objects.

An important strategy to limit contamination in healthcare settings is to set and maintain:

- ✓ clean zones
- ✓ treatment zones
- ✓ contaminated zones.

Maintaining these three zones helps reduce the risk of contamination. It is the responsibility of every person working in the healthcare environment to:

- ✓ understand where the clean, treatment and contaminated zones are
- ✓ do what is required to maintain them.

#### **Zones**

- ✓ Maintaining clean, treatment and contaminated zones helps reduce the risk of contamination and makes it easier to remember that anything entering a clean zone must first be decontaminated.

#### **The clean Zone**

- ✓ Clean areas include those surfaces and drawers where clean, disinfected or sterilized instruments are stored and never come in contact with contaminated instruments or equipment

The clean zones are areas where non-contaminated items are kept. Example of these items and zones include:

- ✓ sterile instruments
- ✓ clean linen
- ✓ medical records
- ✓ kitchen preparation areas
- ✓ Supply stores.
- Before entering a clean zone it is important to remove contaminated gloves and other PPE and perform hand hygiene (decontamination).

#### **The treatment Zone**

- ✓ The treatment zone is where items are currently being used by the client or healthcare worker.
- ✓ For example, the client's bedside is a treatment zone as it has been exposed to microorganisms.

#### **Contaminated zone**

- ✓ Contaminated zones are for objects and waste that is waiting for decontamination, sterilization or disposal



- ✓ The contaminated zone boundaries should be clearly defined, because this has implications for surface management and for the placement of equipment.
- ✓ Instruments placed into the contaminated zone for a treatment session but not used during the session must be regarded as contaminated. For this reason, all bulk supplies such as opened boxes of gloves, cotton rolls or gauze must be stored outside the contaminated zone and protected from contamination from splashes and aerosols.
- ✓ An example of this zone is a linen skip, in which used linen is stored while awaiting decontamination in the laundry.
- ✓ If there is any possibility that any item **may** have been contaminated, it should be treated as if it **has** been contaminated.

### **Workflow**

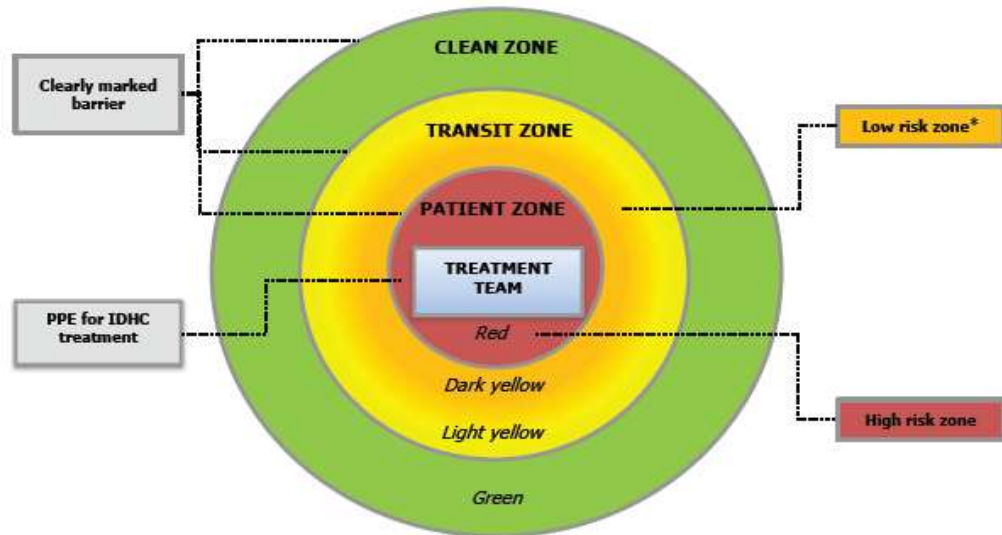
- ✓ To maintain the separation of clean and contaminated zones, workflow should be from the cleanest to the most contaminated areas – this ensures that there is never any movement of contaminated items into clean zones.
- ✓ The cleanest to most contaminated approach also applies to cleaning surfaces, when you should start at the cleanest area and work out toward the most contaminated area. Make sure that cleaning equipment is correctly decontaminated and stored after use, to prevent it becoming another source of contamination.
- ✓ Objects that have moved from the clean to the contaminated zone may only return when they have been cleaned, decontaminated, or sterilized as required. Take them from the contaminated zone, decontaminate them, and then place them in the clean zone. Be careful not to place a newly decontaminated item back in a contaminated zone, such as on a contaminated bench.
- ✓ If there is a possibility that something may possibly have been contaminated, it should be treated as if it has definitely been contaminated.
- ✓ Many healthcare facilities use dedicated trolleys and containers for holding and moving contaminated items and clean or sterile items, and you must ensure that the correct trolleys and containers are used. If a single trolley is used for both, it must be thoroughly cleaned before use for clean items. Clean and contaminated items can never be placed on the trolley together.

### **There are two basic rules to follow to limit contamination.**

- ✓ Maintain clean zones and contaminated zones within the workplace.
- ✓ All movement of instruments and equipment must be from clean to contaminated.
- The aim of barrier nursing is to protect the HCW but also the community from transmission of Infectious disease. Proper barrier management is the cornerstone in containing the spread of Infectious disease. in healthcare settings.



**Figure 5.1. Zones and color code**



*\*Yellow zone needs to be conceived as with a gradient from dark yellow to light yellow according to the decrease in risk of secondary contamination.*

Different zones	Activities	Specification
<b>Red zone • Patient treatment area</b>	<ul style="list-style-type: none"> <li>• Patient treatment area</li> <li>• Point of care; diagnostics</li> <li>• After visible contamination, cleaning and disinfection of HCW</li> </ul>	<ul style="list-style-type: none"> <li>• Monitored by direct or video assisted observation</li> </ul>
<b>Dark yellow zone</b>	<ul style="list-style-type: none"> <li>• First re-entry step for staff exiting the red zone</li> <li>• Assisted disinfection and doffing for exit HCW</li> <li>• Potentially contaminating processes, such as cleaning and disinfection of boots and waste bags</li> <li>• Preparing waste for further processing, such as packaging waste bags in containers with non-removable clip-on lids</li> <li>• Storage of waste</li> </ul>	<ul style="list-style-type: none"> <li>• Critical zone for prevention and control of secondary contamination.</li> <li>• Abundant space required for unrestricted assisted doffing process of two HCW in PPE</li> <li>• Additional dedicated cleaning and disinfection areas</li> <li>• Additional generously dimensioned waste storage areas.</li> <li>• Supervisor (barrier nursing guardian)</li> </ul>
<b>Light yellow zone</b>	<ul style="list-style-type: none"> <li>• Hand disinfection for HCW before stepping into the green zone</li> </ul>	
<b>Green Zone</b>	<ul style="list-style-type: none"> <li>• Second step re-entry of staff from light yellow zone</li> <li>• Complete assisted donning for entry HCW</li> <li>• Briefing and de-briefing of staff</li> <li>• Staff coordination and supervision of activities</li> <li>• Inbound and outbound communications</li> </ul>	<ul style="list-style-type: none"> <li>• Strict access control</li> <li>• Space for clean supplies</li> <li>• Zones for staff recreation</li> </ul>

Functionally, the yellow zone needs to be understood as the decisive area, in which secondary contamination is prevented and controlled: Here a contaminated HCW exiting from the red zone is brought in to clean conditions, which enable him or her to safely re-enter the green zone. In addition, any material coming from the red zone, such as waste bags, re-usable PPE items, patient samples needed to be processed outside of the isolation unit are first cleaned and disinfected in the yellow zone. A particular function lies in the temporary storage of considerable amounts of waste produced every day in the nursing of a patient with an Infectious disease.

**Practical hints**

- ✓ Different zones need to be clearly marked.
- ✓ Prevention and control of secondary contamination happens in the yellow zone.



- ✓ The yellow zone has a virtual gradient from 'high potential for contamination' (dark yellow) to 'low potential of contamination' (light yellow).
- ✓ Instructions for staff should be displayed at the entry of the isolation area.
- ✓ If there is a cross-contamination incident outside the red zone (e.g. patient leaving the red zone), the contaminated area has also to be considered as a red zone. New yellow and green zones need to be established around the new red zone. The zones can be put back into normal function by room disinfection, once the patient has been dismissed.
- ✓ Donning and doffing areas must be separated and visually marked. The donning area is in the green zone.
- ✓ The doffing area must be in the dark yellow zone, but has to be clearly separated from the light yellow zone

Self-Check -1	Written Test
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**Direction:** - choose the best answer from the given alternative

1. Where non-contaminated items are kept  
A. The clean Zone                      B. Contaminated zone                      C. Treatment zone                      D. None
2. Activities in red zone  
A. Patient treatment area                      B. Point of care;                      C. diagnostics  
D. All

**Note:** Satisfactory rating - 4 points unsatisfactory below-4 points

You can ask you teacher for the copy of the correct answers

### Answer Sheet

Score _____
Rating _____

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Question

1. \_\_\_\_\_

2. \_\_\_\_\_



## **2.Confining**

### **Records, materials and medicaments**

All records that are kept and archived should be kept in a clean zone. All packaging materials and medicaments should be kept in a clean zone. These items should not be stored in a contaminated zone or a risk of cross contamination will occur.

### **2.3 Contaminated instruments and equipment**

When items are received into the sterilizing facility, all reusable items that have been used or unused during patient treatment need to be cleaned in a physically separate area to prevent possible contamination of processed items.



<b>Self-Check -2</b>	<b>Written Test</b>
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**Direction:** - say "True" or "False"

1. All packaging materials and medicaments should be kept in a clean zone.
2. When items are received into the sterilizing facility all reusable & unused items during patient treatment need to be cleaned.

**Note:** Satisfactory rating - 4 points unsatisfactory below-4 points

You can ask you teacher for the copy of the correct answers

### Answer Sheet

Score _____
Rating _____

Name: \_\_\_\_\_

Date: \_\_\_\_\_

#### Short Answer Question

1. \_\_\_\_\_
2. \_\_\_\_\_

#### Reference

- Linda, Tietjen, Débora, Bossemeyer Noel McIntosh JHPIEGO, USIAD 2003 Guidelines for Healthcare Facilities with Limited Resources, , Johns Hopkins University,
- WHO, , 2004, Practical Guidelines for Infection Control in Health Care Facilities World Health Organization Regional Office for Western Pacific, Manila Regional Office for South-East Asia, New Delhi

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