



# Medical laboratory

## NTQF Level III

### Learning guide #7

**Unit of Competence:-** Apply Infection Prevention Techniques and Workplace OHS

**Module Title:** Apply Infection Prevention Techniques and Workplace OHS

**LG Code:-** HLT MLT3 M02 LO2-LG7

**TTLM Code:-** HLT MLT3 TTLM 0919 v1

## LO 2: Identify and respond to infection risks



## Instruction Sheet

## Learning Guide #2

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

### Identify and respond to infection risks

- identification of Infection risks
- documenting and reporting any Activities that put clients or workers in to risk
- giving response to situations that pose an infection risk
- following risk control Procedures
- precaution exposure to blood or other body fluids
- placing signs when and where appropriate
- removing Spills in accordance with the policies and procedure

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** –

- identify **Infection risks** and an appropriate response implemented within own role and responsibility
- document and report activities and tasks that put clients and/or other workers at risk are
- given appropriately response to situations that pose an infection risk in accordance with the policies and procedures of the organization
- follow **procedures for risk control** and risk containment for specific risks
- **followed protocols for care following exposure to blood or other body fluids as required**
- **placed signs are when and where appropriate**
- **remove spills in accordance with the policies and procedures of the organization**

### Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number **3 to 16**.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” **in page 8**.



5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your trainer for further instructions or go back to Information sheet 1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.
8. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
9. Accomplish the “Self-check 2” in page 16.
10. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
11. Read the information written in the “Information Sheets 7”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
12. Accomplish the “Self-check 3” in page 19.
13. Ask your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
14. If you earned a satisfactory evaluation proceed to “Operation Sheet 1” in page 21; However, if your rating is unsatisfactory, see your trainer for further instructions or go back to Information sheet 3.
15. Read the “Operation Sheet 1 and try to understand the procedures discussed.
16. Do the “LAP test” in page 22 (if you are ready). Request your trainer to evaluate your performance and outputs. Your trainer will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your trainer shall advice you on additional work. But if satisfactory you can proceed to Learning Guide #2.

<b>Information Sheet-1</b>	identification of Infection risks
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## 1. Identification *Infection risks*

### 1.1. Infection risks

#### RISK ASSESSMENT

A **risk** is the chance, high or low, that a hazard will cause harm, injury or ill health, or the likelihood, or possibility, which harm (injury, illness, death, damage etc) may occur from exposure to a hazard

A **hazard** is a situation or item that could cause harm. Risks and hazards should be monitored so they are minimized, protecting the health and wellbeing of all workers and clients.

**Risk Assessment:** Is defined as the process of assessing the risks associated with each of the hazards identified so the nature of the risk can be understood. This includes the nature of the harm that may result from the hazard, the severity of that harm and the likelihood of this occurring.

**Risk Control:** Taking actions to eliminate health and safety risks so far as is reasonably practicable. Where risks cannot be eliminated, then implementation of control measures is required, to minimize risks as far as is reasonably practicable. A hierarchy of controls has been developed and is described below to assist in selection of the most appropriate risk control measure/s.

**Monitoring and Review:** This involves ongoing monitoring of the hazards identified, risks assessed and risk control processes and reviewing them to make sure they are working effectively.

Health care facilities are ideal settings for the transmission of nosocomial infections in the following ways:

1. Invasive procedures have the potential to introduce microorganisms.
2. Service providers and support staff are constantly performing clinical procedures or other activities (susceptible host).
3. Clients receiving services may be harboring microorganisms.

#### Who Is at Risk of Infections?

**Service providers and support staff:** Health care personnel, including support staff (e.g., housekeeping, laundry staff, and maintenance), who work in health care settings are at risk of exposure to serious, potentially life-threatening infections such as HIV, hepatitis B virus (HBV), and hepatitis C virus (HCV).

All workplaces are legally obliged to have processes in place to identify infection risks, as well as policies and procedures to provide workers with guidance on how they should respond to such risks.

Every person in the workplace, from trainee personal care workers through to senior management, has work health and safety (WHS) obligations. These obligations include taking all reasonable steps to prevent the spread of infection. Knowledge of infection risks and appropriate responses is an essential part of meeting WHS requirements.

Transmission of diseases in health care settings can occur from patient to health care worker, between patients, or from health care worker to patients.

**Clients:** Clients are at risk of infections when:

- Service providers do not wash their hands before and after providing care to each client and before and after every procedure (cross-contamination).
- Service providers do not adequately prepare clients before clinical procedure.
- Service providers do not correctly process instruments and other items used in clinical procedures.



- Medical waste is disposed of inappropriately.

**The community:** Members of the community are also at risk of infections, particularly from inappropriate disposal of medical waste, such as contaminated sharps materials

Self-Check 1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. ....the chance, high or low, that a hazard will cause harm, injury or ill health, or the likelihood, or possibility, which harm(2 point each).  
A. Risk B. Hazard C. Risk Assessment D. Risk control
2. Of the following who is/are at risk of infection (2 point each).  
A. Client



- B. Health worker
  - C. Community
  - D. All of the above**
3. Which of the following is the way for the transmission of nosocomial infections(2 point each).
- A. Invasive procedures have the potential to introduce microorganisms.
  - B. Service providers and support staff are constantly performing clinical procedures
  - C. Clients receiving services may be harboring microorganisms
  - D. ALL**

**Note: Satisfactory rating - 16 points      Unsatisfactory - below 16 points**  
You can ask you teacher for the copy of the correct answers.

### Answer Sheet

Score = \_\_\_\_\_  
Rating: \_\_\_\_\_



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

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

**Answer**

No	
1	A
2	D
3	D
4	



<b>Information Sheet 2</b>	Documente and report activities and tasks that put clients and/or other workers at risk are
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## **2. Document and report activities and tasks that put clients and/or other workers at risk**

### **2.1. Activities and tasks that put clients and/or other workers at risk**

Although healthcare workers (HCWs) are essential to the health of the world's population, they, themselves, are often put in physical jeopardy. Globally, HCWs are exposed each day to a variety of health and safety hazards, including:

- Biological, (e.g., pathogens such as Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), Hepatitis C Virus, (HCV), Ebola, Mycobacterium Tuberculosis (MTB), SARS virus and Neisseria Meningitis)
- Sharp's injuries
- Ergonomic, (e.g., heavy lifting)
- Physical, (e.g., slips, trips and falls)
- Psychosocial, (e.g., violence and stress)
- Chemical, (e.g., chlorine, gutaraldehyde, ethylene oxide)
- Radiological and nuclear

Safe work leads to worker well-being and retention, increased productivity and economic best outcomes. Risks and hazards are fluid and need monitoring and adjustments made to the appropriate safety plans and processes

#### **The risk to staff arises:**

- from sharps and hollow needles;
- splashing of conjunctivae and mucous membranes with contaminated blood and body fluids;
- heavy contamination of broken skin, e g. cuts, dermatitis etc.;
- handling of large quantities of blood and body fluids without protective clothing.

#### **The risk to patients arises from: -**

- use of recycled hollow needles and syringes;
- contaminated blood transfusion;
- heavy soiling of the environment;
- poor ward facilities and cleaning





Self-Check 2	Written Test
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**Instructions:** Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers. Write your answers in the sheet provided in the next page.

1. The **risk to staff** arises from
  - A. sharps and hollow needles
  - B. splashing of conjunctivae and mucous membranes with contaminated blood and body fluids
  - C. heavy contamination of broken skin
  - D. handling of large quantities of blood and body fluids without protective clothing
  - E. ALL**
2. The risk to patients arises from: -
  - A. use of recycled hollow needles and syringes
  - B. contaminated blood transfusion
  - C. heavy soiling of the environment
  - D. poor ward facilities and cleaning
  - E. ALL**

**Note: Satisfactory rating - 12 points**

**Unsatisfactory – below 12 points**

You can ask your trainer for the copy of the correct answers.

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_



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

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

**Answer**

No	
1	
2	
4	



<b>Information Sheet 3</b>	Given appropriately response to situations that pose an infection risk in accordance with the policies and procedures of the organization
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### **3. Given appropriately response to situations that pose an infection risk in accordance with the policies and procedures of the organization**

#### **3.1. Response to infection risks**

To successfully identify and respond to infection risks we must understand and follow safe work practices that prevent the transmission of infections.

As a health worker it is also your responsibility to follow recommended procedures in your workplace and take adequate precautions to protect yourself from injury and infection.

Risk management is the process of making health care safer for the patient, staff and visitors by identifying hazards in the workplace and taking action to minimize their harm wherever possible.

There are a number of steps in the risk management process:

- *identifying the hazard*
- *assessing the risks*
- *using control measures.*

#### **Identifying a hazard**

- A hazard is anything with the potential to cause harm to you, the patients, your co-workers or visitors to the work area. In the sterilization setting this includes chemicals, sharps such as needles, soiled instruments, power, water, steam, noise, and heat.
- In developing procedures or buying new equipment, identify these risks early so that work practices can be developed that ensure the hazard is eliminated as much as possible. Regular safety inspections and audits can help identify and manage hazards.
- All employees, patients, volunteers, contractors and visitors that enter the work place have a responsibility to behave in a safe and responsible manner and report any hazards or near accidents.

#### **Assessing the risks**

- It is important to assess the risks associated with each hazard to determine how it can be eliminated.
  - ✓ Is there a high risk of injury or is the hazard a result of a combination of unusual circumstances that may never re-occur?
- Budgets are limited in health care settings, so it is important to look at all the options for dealing with a hazard. You should also document the process to seek additional support for action.

#### **Control measures**

- The more serious the consequence, the more urgent it is for the risk to be dealt with and eliminated immediately. If the risk cannot be eliminated it may be possible to circumvent the risk of injury by changing practice. The last alternative is to use some form of personal protection when exposed to the hazard.
- When deciding on control measures this should be a team effort so that management and staff work together. The control measures should not impose another risk.



### Monitoring control measures

Self-Check 3	Written Test
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Once control measures have been implemented it is important to monitor and re-evaluate practice to ensure compliance with new practice

**Instructions:** Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers. Write your answers in the sheet provided in the next page

1. The first step in risk management process is

A. Identifying the hazard

B. Assessing the risks

C. Using control measures

D. None of the above

**Note: Satisfactory rating - 09 points**

**Unsatisfactory - below 09 points**

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

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## Information Sheet 4

Follow ***procedure for risk control*** and risk containment for specific risks

## Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

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

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

### Answer

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



## **2.2. Procedures for risk control**

### **Strategies to identify risks**

Strategies for identifying risks vary. Risk identification can be proactive or reactive. The following contains information about proactive and reactive strategies that can help management and workers identify hazards that present risks to health and safety.

#### **Proactive strategies**

- A proactive strategy is one carried out to prevent an accident or incident; for example, implementing processes to identify hazards and risks. Two examples are a job safety analysis (JSA) and an audit.
- A JSA contains information about how a job should be carried out, types of risks and control measures.
- Providers should carry out regular internal audits to check that the control measures for infection and other risks are being implemented. External bodies such as state and territory WHS authorities can also carry out audits to check that safety controls are appropriate.

#### **Reactive strategies**

- A reactive approach to risk identification involves reviewing accidents and incidents through measures such as report forms and data, as well as establishing consultation processes such as workplace health and safety committees (HSCs).
- Incident and accident report forms are filled out after any incident or accident. Data from these forms is used by HSCs, WHS officers and managers to identify hazards.
- Committees, team meetings and other forums give staff the chance to discuss infection control risks and provide suggestions for policy and procedure improvements.

### **Carrying out a risk assessment**

Once a hazard has been identified, you need to conduct an assessment of the risk of injury, harm or damage. An example of a risk is the likelihood of a hazard resulting in an injury or disease, together with the seriousness of the injury or disease.

**The five steps in carrying out a risk assessment are shown here.**

#### **Risk assessment steps**

1. Evaluate the likelihood of an injury or illness occurring and the likely severity of any injury or illness
2. Review health and safety information relevant to the hazard such as incident reports, SDSs, results of workplace monitoring and inspections and supplier information
3. Identify factors that contribute to the risk such as the physical layout of the workplace, the knowledge, skills and experience of workers, and existing work practices
4. Identify actions necessary to eliminate or control the risk
5. Complete any relevant records



Self-Check 4	Written Test
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**Instructions:** Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers. Write your answers in the sheet provided in the next page

1. A proactive strategy is one carried out to prevent an accident or incident. **True**  
False(2 point each)
2. A reactive approach to risk identification involves reviewing accidents and incidents through measures. **True** False(2 point each)
- 3.



<b>Information Sheet 5</b>	<b><i>Protocols are followed for care following exposure to blood or other body fluids as required</i></b>
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**Note:** Satisfactory rating - 09 points                      Unsatisfactory - below 09 points  
You can ask you teacher for the copy of the correct answers.

### **2.3. Protocols for care of blood borne exposures**

**Definition:** Blood borne Pathogen Exposure - a percutaneous injury (e.g., a needle stick or cut with a sharp object) or contact of mucous membrane or non-intact skin (e.g., exposed skin that is chapped, abraded, or afflicted with dermatitis) with blood, tissue, or other body fluids that are potentially infectious. In addition to blood and body fluids containing visible blood- semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid are also considered potentially infectious. Urine or gastric contents without visible blood are not considered potentially infectious.





Blood is the most infectious body fluid for the transmission of HIV, HBV and HCV. If the exposure incident involved a body fluid capable of transmitting any of the viruses (HIV, HBV or HCV

Exposure to blood or body substances may be defined as direct contact with blood or other body substances through broken skin, mucous membranes (eyes, nose or mouth) or needle stick injury

Health care workers (HCW) are at risk of acquiring infection through occupational exposure. Hospital employees can also transmit infections to patients and other employees. Thus, an employee's health programme must be in place to prevent and manage infections in hospital staff

#### **Occupational injuries may be divided into:**

- a) Percutaneous exposure (from needles, instruments, bone fragments, human bite which penetrates the skin layer, etc.);
- b) Exposure via broken skin (exposed skin that is chapped, abraded, or afflicted with dermatitis etc.) with blood, tissue, or other body fluids that are potentially infectious; and
- c) Exposure via mucous membranes including the eye

Specific post-exposure policies must be developed, and compliance ensured for a number of infectious diseases for example: human immunodeficiency virus (HIV), viral hepatitis, severe acute respiratory syndrome (SARS), varicella, rubella and tuberculosis. Health care workers with infections should report their illnesses/incident to staff clinics for further evaluation and management

Hepatitis B virus (HBV), hepatitis C virus (HCV) and the human immunodeficiency virus (HIV) constitute well-recognized occupational risks for healthcare workers (HCWs). Avoiding occupational blood exposure by the adherence to principles of standard precautions through the use of appropriate work practices and personal protective equipment is a cornerstone for preventing transmission of these blood-borne pathogens (BBP) in the health-care setting.

In general, the risk of viral transmission after a percutaneous injury is highest for HBV, followed by HCV and HIV.

Occupational exposure is serious and every effort should be taken to prevent its occurrence. However, accidents may still happen and if so, risk assessment and counseling constitutes the basis of post exposure management. Appropriate post exposure prophylaxis (PEP) should be provided using a case-by-case evaluation approach.

Each healthcare institution should have personnel responsible for the Sharps Prevention Program

#### **Types of exposure**

##### **1. Percutaneous Injury**

- Puncture or laceration of the skin that penetrates into or below the dermis.
- For the purposes of this protocol, a percutaneous exposure to blood/body fluids which has one or more of the following factors present will be defined as a more severe exposure .
  - Deep percutaneous injury
  - Visible blood present on the device associated with the exposure



- Exposure from a procedure which involved a needle placed directly into the Source's vein or artery
- Large-bore hollow needle
- A percutaneous exposure which has none of the above characteristics will be defined as a less severe exposure (e.g., superficial injury, no visible blood present on device associated with the exposure, procedure from which exposure resulted did not involve a needle being placed directly into the Source's vein or artery, solid needle)

## 2. Mucous Membrane and Non-intact Skin Exposures

- a. Mucous Membrane Exposure: When blood/body fluids come into contact with mucous membranes (e.g., eyes, oral cavity)
- b. Non-intact Skin Exposure: When blood/body fluids come into contact with an open wound or exposed skin that is chapped, abraded or non-intact because of dermatitis

A larger volume of blood/body fluid is associated with increased transmission risk for mucous membrane and non-intact skin exposures. For the purposes of this protocol, a mucous membrane or non-intact skin exposure involving a major splash of blood/body fluids will be defined as a large volume exposure. Exposures involving lesser amounts (e.g., only a few drops of fluid) will be defined as a small volume exposure.

3. **Human Bites:** Human bites may occur in both occupational and non-occupational settings. The person bitten has a potential percutaneous exposure and the person who was the biter has a potential mucous membrane exposure. Therefore, an individual who bites may be both the Source and Exposed in bite incidents.

- a. As HBV is present in saliva at concentrations 1,000 to 10,000 times less than in blood, for the purposes of post-exposure prophylaxis, generally only exposures to saliva containing visible blood would be considered for HBV PEP (such as deep bites associated with bleeding in the mouth of the biter)

## 4. Exposures to Blood/Body Fluids Obtained Through Cuts, Nosebleeds, Physical Assaults, Sports Injuries

5. **Consensual Sex** (Serodiscordant Partners) HBV and/or HIV PEP should be considered for the following unprotected (e.g., condom breakage) sexual exposures where the Source is known to be positive for the respective viruses

### For example

The route of transmission for hepatitis B virus is through body substances such as blood and blood products, saliva, cerebrospinal fluid, peritoneal, pleural, pericardial and synovial fluid, amniotic fluid, semen and vaginal secretions and any other body fluid containing blood.

The risk of a health care worker acquiring HIV after a needle stick or other "sharps" injury is less than 0.5%.

### Risk reduction must be undertaken for all blood borne pathogens, including:

- adherence to standard precautions using personal protective equipment
- appropriate use of safety devices and a needle disposal system to limit sharps exposure.
- Training for health care workers in safe sharps practice should be ongoing.
- Information on preventive measures must be provided to all staff with potential exposure to blood and blood products.



- Policies which are in keeping with the local and national guidelines must include
  - screening of patients
  - disposal of sharps and wastes
  - protective clothing
  - managing inoculation accidents
  - sterilization and disinfection.
- Hospital policy must include measures to obtain serological testing of source patients promptly where necessary, usually with the patient's informed consent.
- Post exposure prophylaxis should be started as per local or national guidelines.
- In case of hepatitis B, immunization is the best way of preventing transmission to health care staff.
  - All HCWs at risk must be vaccinated.
  - Staff infected with blood-borne pathogens may transmit these infections to patients and require careful evaluation with respect to their duties. This status should not be used as cause for discrimination
- If a staff member has been exposed to **Tuberculosis** (TB) they should report to the Infection Control Practitioner or the Staff Health Nurse depending on the hospital protocol for health care worker exposures.
- Health care workers in close respiratory contact with cases such as **meningococcal meningitis** should receive chemoprophylaxis with ciprofloxacin or an effective alternative agent. Close respiratory contact with the patient includes mouth-to-mouth contact, sharing of drink containers or cigarettes

### Sharp injuries Needle

- stick injuries are the most common of sharps injuries, although other contaminated sharp instruments may also cause injuries.
- The majority of reported NIs involved hollow-bore needles (55-62%), and recapping was the most common behavior associated with NI. Overall, more than half of percutaneous injuries involving hollow-bore needles were potentially preventable through safer work practices or technologies.
- HCWs should prevent skin penetrating injuries by wearing appropriate clothing, shoes and personal protective equipment (PPE) where required. As a break in the skin can allow direct contact with blood and body substances these should be protected by keeping open wounds covered e.g. with a waterproof dressing or with appropriate clothing.
- Skin penetrating injuries can introduce infectious agents directly into the blood stream, e.g. tetanus and blood borne viruses such as hepatitis B, hepatitis C and HIV. It is very important that skin penetrating injuries are minimized e.g. through safe handling and disposal of sharps
- All health care workers with potential exposure should be vaccinated.
  - For other personnel, the risk of hepatitis B, hepatitis C and HIV infection should be assessed and appropriate immunization or chemo prophylactic steps taken.
  - Immediate treatment of such injuries should encourage
    - washing thoroughly with running water and an antiseptic solution.
    - Consult the infection control team for further advice.



- An incident reporting system should be in place. It should not be seen as punitive/disciplinary; active support by managers should encourage prompt and accurate reporting.

### **Exposures for which PEP is indicated**

- Break in the skin by a sharp object (including hollow-bore, solid-bore, and cutting needles or broken glassware) that is contaminated with blood, visibly bloody fluid, or other potentially infectious material, or sharp objects had been in the source patient's blood vessel.
- Bite from a patient with visible bleeding (in the mouth) and which causes bleeding in the exposed worker.
- Splash of blood, visibly bloody fluid, or other potentially infectious material to a mucosal surface (mouth, nose, or eyes).

Remember, Health care workers should have immediate access to post exposure prophylaxis (PEP) , 24 hours a day, 7 days a week to be freely dispensed by any hospital (private or public), regardless of the location or type of work they do. The minimum care following potential exposure to HIV should be risk assessment and, if deemed necessary, the first dose of PEP medication

### **General procedures**

#### **First Aid – when an exposure incident occurs, implement first aid**

1. Following any exposure, the wound should be washed immediately and thoroughly with soap and water, flush the eyes with running water immediately following a bodily fluid splash. Alcohol, hydrogen peroxide, Betadine or other chemical cleansers are best avoided. Wound should not be squeezed or sucked.
2. For mucosal contact e.g. spillage into the conjunctivae, the exposed area should be immediately flushed with plenty of clean running water.
3. The exposed HCW is responsible for reporting the exposure incident to his/her supervisor and should then seek immediate medical advice for proper wound care and post-exposure management.
  - The following information should be recorded in the exposed worker's confidential medical record:
    - i. details about the source patient (e.g. name, NRIC No, diagnosis and any relevant information)
    - ii. date, time and place of the exposure
    - iii. details of the procedure being performed
    - iv. use of protective equipment at the time of the exposure
    - v. the type, severity, and amount of fluid to which the worker was exposed
4. The health care worker should be tested for HIV antibody, HCV, HBV antigen and antibody
5. The source patient's blood (if available) should be tested for HIV, HCV & HBV

### **Reporting**

- All institutions should have a mechanism in place for reporting and managing of sharp injuries and mucosal exposure in the occupational setting. HCWs must know the reporting process to facilitate quick and smooth flow so as to allow the attending physician to evaluate the risk of exposure and provide prompt appropriate post exposure treatment



- In addition, a surveillance system of exposure events should be available to avoid similar incidents from occurring in the future.

### **Counseling**

Until the risk of infection is ruled out, advice should be given to the exposed staff to refrain from donating blood, plasma, organs, tissue or semen. The use of condom during sexual intercourse should also be advised. A place for psycho-social support is clearly indicated

### **In general**

#### **Healthcare workers should practice the following:**

- Follow safe work practices at all times
- Be familiar with employer's written departmental policies
- Know the potential health and safety hazards of the job and protective measures by participating in appropriate occupational health and safety training programs
- Use personal protective equipment (PPE) as trained and report any changes in personal medical condition that would require a change in status as to wearing PPE
- Know how to report unsafe working conditions
- Report any work-related injury or illness to supervisor
- Participate in accident and injury investigations
- Know what to do in an emergency – Participate in health and safety committees (when available) can be an important way to improve conditions on the job such as: – Provide a forum for employees and management to work together to solve health and safety problems
- Help prevent injury and illness on the job i.e. conduct regular walk-a-round inspections to identify potential health and safety hazards
- Increase awareness of health and safety issues among employees, supervisors, and managers i.e. analyze injury data, accident reports and report trends
- Develop strategies to make the work environment safe and healthy



Self-Check 5	Written Test
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**Instructions:** Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers. Write your answers in the sheet provided in the next page.

- Blood is the most infectious body fluid for the transmission of (2 point each)
  - HIV
  - HBV
  - HCV
  - ALL**
- Puncture or laceration of the skin that penetrates into or below the dermis is(2 point each)
  - Mucous Membrane exposure
  - Human bites
  - Non-intact Skin Exposures
  - Percutaneous Injury**
- Risk reduction must be undertaken for all blood borne pathogens, including(2 point each)
  - Post exposure prophylaxis should be started
  - adherence to standard precautions using personal protective equipment
  - appropriate use of safety devices and a needle disposal system
  - ALL**
- In general healthcare workers should practice (2 point each)
  - Follow safe work practices at all times
  - Be familiar with employer's written departmental policies
  - Report any work-related injury or illness to supervisor
  - Participate in accident and injury investigations
  - ALL**

**Note: Satisfactory rating - 09 points**

**Unsatisfactory - below 09 points**

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



## Information Sheet 6

***Appropriate signs are placed when and where appropriate***

***Appropriate signs are placed when and where appropriate***

### **DANGER SIGN**

- Used where an immediate hazard exists



### **CAUTION SIGN**

- Used to warn against potential hazards or to caution against unsafe practices



### **SAFETY INSTRUCTION SIGNS**

- Used where there is a need for general instruction and suggestions relative to safety measures





## ACCIDENT PREVENTION TAGS

### ACCIDENT PREVENTION TAGS

- Used for temporary use only, to specify precautions and safety needs





The Official Presentation Material from the Ministry of Education  
CORE PROCESS 2. OUTCOME-BASED TRAINING  
Module 4. Managing Training Facilities  
23 May, 2011



## DANGER TAG

- Place d only where an immediate hazard exists

sts





#### **CAUTION TAG**

- Used to warn against potential hazards or to caution against unsafe practices



#### **OUT OF ORDER TAG**

- Used to identify pieces of or equipment that are out of order



### Flammable chemicals



### Corrosive chemicals



### Explosive chemicals



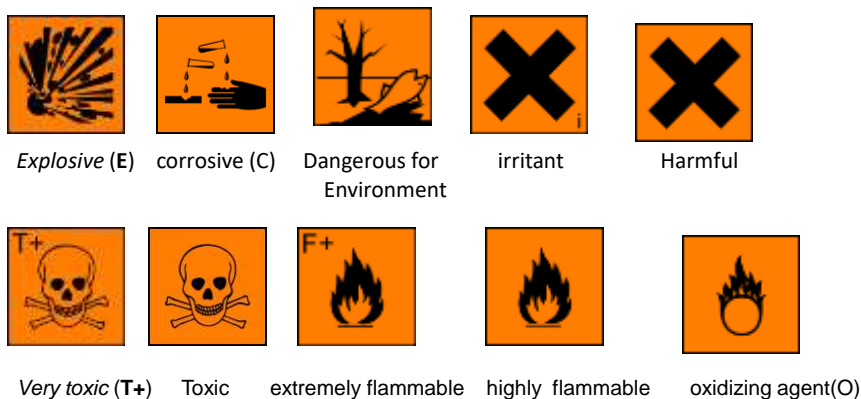


## Summary of universal hazardous symbols



60

## Summary of ...



61



Self-Check 5	Written Test
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**Instructions:** Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers. Write your answers in the sheet provided in the next page.

2. This picture is a sign for

- A. Biohazard
- B. Cytotoxic
- C. Biological item
- D. Waste



3. This picture is a sign for

- A. Irritant
- B. Cytotoxic
- C. Biological item
- D. Waste



4. This picture is a sign for

- A. Toxic
- B. Cytotoxic



<b>Information Sheet 7</b>	remove <b>Spills</b> in accordance with the policies and procedures of the organization
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- C. Biological item
- D. Waste

**Note: Satisfactory rating - 09 points                      Unsatisfactory - below 09 points**  
 You can ask you teacher for the copy of the correct answers.

## 2.4. **Spills removal**

### **Basic Principles:**

- Spills of blood or body substances are to be dealt with as soon as possible. Isolate or restrict access to the area if there is an unavoidable delay.
- Standard precautions apply – assume all blood and body substances are potentially infectious and cover cuts, maintain hand hygiene and use appropriate PPE.
- Cover the spill, where applicable, to prevent the generation of splashes and aerosols from the spilled substance - o e.g. granular formulation such as vomit control o use a scraper and pan to remove the absorbed material
- after removing the bulk of the spill, clean the area thoroughly, rinse and dry.
- clean non-disposable cleaning equipment thoroughly after use, rinse and store dry.

**Small Spills:** e.g. spots or drops of blood and other small spills up to 10cm diameter. - wipe the area immediately with paper toweling - clean with warm water and detergent followed by rinsing - dry the area (as wet areas attract contaminants) - a sanitiser (e.g. alcohol wipe) can be used on the area after cleaning.

**Large Spills:** e.g. greater than 10 cm diameter.



**Wet area** – e.g. bathroom with a floor drain –

- wash carefully into the sewerage system using copious amounts of water, taking care to avoid splashes - clean the area with mop and bucket of warm water and detergent
- clean the bucket and mop thoroughly after use using warm soapy water and store dry.
- Carpet - contain and clean with warm water and detergent - do not use disinfectant.

### Equipment

- Equipment (mop, bucket and cleaning agents) is to be readily available in a location known to all. Prepare for a range of likely occurrences at your location considering:
  - the nature of the spill (e.g. sputum, vomit, faeces, urine, blood or laboratory culture)
  - the germs most likely to be involved in these different types of spills (e.g. gastrointestinal germs associated with spills of vomit and diarrhoea)
  - the size of the spill
  - the type of surface (e.g. carpet or impervious flooring)
  - the location e.g. whether the spill occurs in a contained area such as a toilet cubicle or in a high traffic area such as a hallway or while in a public place such as on an excursion.

A portable 'spills kit' can be made up to manage likely spills for the area/activity e.g.

- a large (10 L) reusable plastic container or bucket with fitted lid, containing the following items
  - leak proof bags and containers for disposal of waste material
  - roll(s) of paper towel to contain and cover a spill
  - a designated, sturdy scraper and pan for spills (similar to a 'pooper scooper'/dust pan)
  - sachets of a granular formulation containing 10,000 ppm available chlorine or equivalent (each sachet should contain sufficient granules to cover a 10-cm diameter spill) e.g. vomit control - disposable latex, vinyl or nitrile gloves suitable for cleaning - eye protection (disposable or reusable)
  - a plastic apron
  - a respiratory protective device such as a disposable P2 respirator (for protection against inhalation of powder from the disinfectant granules, or aerosols, which may be generated from high-risk spills during the cleaning process).



Self-Check 6	Written Test
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**Instructions:** Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers. Write your answers in the sheet provided in the next page.

1. Spills of blood or body substances are to be dealt with as soon as possible **True** False(2 point each)
2. **Small Spills** wipe the area immediately **True** False(2 point each)
3. Equipment (mop, bucket and cleaning agents) is to be readily available in a location known to all **True** False(2 point each)



<b>Operation Sheet 3</b>	<b>Prepare tools and equipment for identification and measuring Muda.</b>
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1. Discuss and plan to prepare tools and equipment for Muda identification.
2. Prepare tools and equipment for Muda identification.





LAP Test	Practical Demonstration
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, workshop, tools and materials you are required to perform the following tasks.

Task 1: Identify and prepare tools and equipment for measuring and identification of Muda.



## List of Reference Materials

### References

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