Health Extension service

Level-III

Learning Guide #21

Unit of Competence: Apply Infection Prevention Technique and workplace OHS

Module Title: Applying Infection Prevention Technique and workplace OHS

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LO 2: Identify and respond to infection risks

Instruction Sheet	Learning Guide 21

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

- Identifying Infection risks
- Activities and tasks that put clients and/or other workers at risk
- Applying response to infection risks
- *Preparing Procedures for risk control*
- *Preparing Protocols for care of blood borne exposures*
- *Determining Appropriate waste disposal site indicator*
- *Applying Spills removal*

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
- Identify Activities and tasks that put clients and/or other workers at risk
- Apply response to infection risks
- *Prepare Procedures for risk control*
- *Prepare Protocols for care of blood borne exposures*
- *Determine Appropriate waste disposal site indicator*
- *Apply Spills removal*

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.

1. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 Sheet ,sheet4,sheet5 ”.
2. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and Self-check 4 & self check 5” **in page 4,5,7,9 &15** respectively.

Information Sheet-1	Identifying Infection risks

1.1 Identify Infection risks

- 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:

- ✓ Invasive procedures have the potential to introduce microorganisms.
- ✓ Service providers and support staff are constantly performing clinical procedures or other activities (susceptible host).
- ✓ 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.

- 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.

Self-Check -1	Written Test

Directions: MATCHING

A	**B**
1. A risk	A. Taking actions to eliminate health and safety risks
2. A hazard	B. Involves ongoing monitoring of the hazards identified
3. Risk Assessment	C. The process of the risks associated with each of the hazards identified
4. Risk Control	D. The chance Of cause harm or injury
5. Monitoring	E. A situation or item that can cause harm.

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._____

3. _____

4._____

5_____

Information Sheet-2	Activities and tasks that put clients and/or other workers at risk

2.1 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)
- ✓ Physi(e.g., slips, trips and falls) cal,
- ✓ 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

2.2The 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.

2.3The 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

Directions: Choose the best answer from the given alternative

1. HCWs are exposed each day to a variety of health and safety hazards, including

A. Biological B. Sharp's injuries C .Ergonomic D.ALL

2. From the following one is physical hazard?

A. Falls B. Violence C. Stress D. None

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._____

Information Sheet-3	Applying 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.

3.1 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.

3.2 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.

3.3 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.

3.4 Monitoring control measures

- Once control measures have been implemented it is important to monitor and re-evaluate practice to ensure compliance with new practice.

Self-Check -3	Written Test

Directions: Choose the best answer from the given alternative

1. Steps in the risk management process:
   A. Identifying the hazard B. assessing the risk C. using control measures D. All
2. From risk management process the risk to be eliminated immediately.
   A. Identifying the hazard B. assessing the risk C. Control measures D. None

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._____

Information Sheet-4	*Preparing Procedures for risk control*

4.1 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.

4.2 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

Directions: Say True or False

1. Once a hazard has been identified, you need to conduct an assessment.
2. Reactive strategy is one carried out to prevent an accident or incident.

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._____

Information Sheet-5	*Preparing 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

5.1 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

5.2Types 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

- ✓ Mucous Membrane Exposure: When blood/body fluids come into contact with mucous membranes (e.g., eyes, oral cavity)
- ✓ 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 B)**Exposures to**

Blood/Body Fluids Obtained Through Cuts, Nosebleeds, Physical Assaults, Sports Injuries

4. **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%.

5.4 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

5.5 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.

5.6Exposures 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

5.7General 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

5.8 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.

5.9 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

Directions: Choose the best answer from the given alternative

1 .From Type of Exposure One Needle Stick Injuries?

A. Percutaneous exposure B. Exposure via broken skin C. Exposure via mucous membranes D. None

Directions: Matching

A	**B**
1. Percutaneous Injury	A. oral cavity
2. Mucous Membrane	B. Serodiscordant Partners
3. Human Bites	C. laceration of the skin
4. Consensual Sex	D. present in saliva.

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._____

3. _____

4._____

Information Sheet-6	*Applying Spills removal*

7.1Spills 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).

References

1. Federal Ministry of Health Ethiopia, April 2012, Infection Prevention and Patient Safety, Addis Ababa, Ethiopia: Federal Ministry of Health
2. Federal Ministry of Health, Ethiopia. 2004. *Infection Prevention Guidelines for Health Care Facilities in Ethiopia*. Addis Ababa, Ethiopia: Federal Ministry of Health.

No	Name	Educational Background	LEVEL	Region	College	Email	Phone Number
1	Fayere Guyasa	Enviromental	B	oromia	Nagelle HSC	koketfaye@gmail.com	0967629090
2	yitagasu yosef	Enviromental	B	oromia	Nagelle HSC	zemenyosef@gmail.com	0916450613
3	Jemal Abrahim	Health Informatics	A	Harari	Harar HSC	elemojemal@gmail.com	0913122545
4	Serawit Mengistu	MPH	A	oromia	Nagelle HSC	ser9112001@gmail.com	0913136510
5	Abebe Tiko	Nursing	B	oromia	Nagelle HSC	abebetiko80@gmail.com	0931448876
6	Ephrem Berhanu		A	oromia	Mettu HSC	ephremberhanu403@gmail.com	0917468370
7	Tariku Olana	MPH	A	oromia	Nekemte HSC	tarikuolanagid@gmal.com	0935068440
8	Gemechu Geleti	Nursing	B	oromia	Nekemte HSC	no	0917091660
9	Solomon kifle	PHO	B	BGRS	Pawi HSC	solomonkeflie1@gmail.com	0918192159