



**FTA**

## **Medical Laboratory NTQF Level III**

### **Learning guide # 15**

**Unit of Competence:- Providing First Aid and Emergency Response**

**Module Title:- Providing First Aid and Emergency Response**

**LG Code:-HLT MLT3 M02 LO3-LG9**

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

# **LO 3: Prepare, evaluate and act in an emergency**

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

**Emergency respond**

- Option for action in emergency situation
- Occupational health and safety procedures
- Victim and other individual remove from danger/hazard
- Documenting and Reporting Assessed potential hazards

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 –

- Options for action in cases of emergency and group control strategies for evacuation are identified
- OHS procedures and policies are correctly implemented
- Clients and other individuals are removed from danger.
- Assessed and evaluated potential hazards are reported and documented

**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 4”. 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.

<b>Information Sheet-1</b>	Option for action in emergency situation
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### **1. Option for action in emergency situation**

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**Why first aid?** The major reasons for providing first aid service are to sustain (preserve) life, prevent worsening of the problem (prevent complication), Promote healing and Recovery, and minimize or avoid casualty suffering

### 1.3 Why to give first aid? The 3'P's

1. to preserve life
2. to promote recovery
3. to prevent aggravation and complication

Aim of first aid

- a. To restore breathing
- b. To control bleeding
- c. To prevent and treat shock
- d. To splint fractures
- e. To evaluate and treat any other conditions like burn drowning poisoning etc
- f. To arrange for transport.

First aid training

1. Help for others
2. Self Help
3. Preparation for disaster

### 1.4 General directions for giving first aid

#### A. Urgent care

In case of serious injury or sudden illness while help is being summoned give immediate attention to the following first aid priorities

- 1) Effect a prompt rescue (for example, remove an accident victim from water from a fire, or from a garage or room containing carbon monoxide, smoke, or noxious fumes,)
- 2) Ensure that the victim has an open air way and give m-to m or m-to-n artificial respiration if necessary.
- 3) Control sever bleeding
- 4) Give first aid for poisoning, or ingestion of harmful chemicals

#### B. Additional first aid directions

Once emergency measure has been taken:-

1. Do not move a victim unless it is necessary for safety reasons
2. Protect the victim from unnecessary manipulation and disturbance
3. Avoid or over come chilling by using blankets or covers if available
4. Determine the injuries and cause of sudden illness

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. Define first aid (3 Point)
2. Describe reasons why first aid is given (4 Point)
3. What are the values of first aid? (3Point)
4. What are the general directions to be followed while giving first aid? (3 Point)
5. In the case of occurrence of an injury to a victim if the condition is still active, remove the cause or the victim from the cause. (2 Point)

A. True

B. False

**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: \_\_\_\_\_

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

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

### Short Answer Questions

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## 2. Occupational health and safety procedures

### 2.1. Introduction to Occupational Health and Safety (OHS)

#### **What is Occupational health and safety (OHS)?**

- A cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment
- Promotes physical, mental and social well-being of workers
- Represents a dynamic equilibrium between the worker and his occupational environment

#### 2.2. The purpose of an OHS program:

- To prevent injuries and occupational diseases
- To deal effectively with any accidents or incidents that occur
- To foster a safe and healthy work environment

#### • **As secondary effects:**

- *Protect co-workers, family members, employers, customers, suppliers, nearby communities and other members of the public who are impacted by the workplace environment*
- *Reduce medical care, sick leave and disability benefit cost*

#### **An effective OHS program will:**

- *Identify hazards in the workplace/job hazard analysis*
- *Eliminate or minimize the potential for injuries, disease or loss of life/control hazards*
- *Limit financial losses resulting from injuries and disease*
- *Be monitored to ensure that it meets its goals requirements*

#### **Management responsibilities**

- *Ensure the health and safety of workers present at the work place*
  - *Develop written safe work procedures*
- *Establish OHS policies and program*
- *Provide specific direction and delegate authority to those responsible for health and safety*
- *Provide workers with the information, instruction, training, and supervision necessary to protect their health and safety*
- *Provide and maintain protective equipment, devices, and clothing, and ensure that they are used*
  - *Ensure training & implementation of OHS*
  - *Identify potential hazards through regular inspections and either eliminate or control the hazards without delay*
  - *Remedy any workplace conditions that are hazardous to worker health or safety.*

- Making sure that equipment is kept in safe working order
- Making sure that dangerous chemicals are properly labeled and stored
- Making sure that workers perform their duties, as required by the legislation
  - Record keeping
  - Ensure resources (staffing and funding)

### **Supervisory Responsibility**

- A supervisor is a person who instructs, directs and controls workers in the performance of their duties
- Responsibility includes:
  - Ensure written emergency procedures
  - Displayed in an obvious place
  - Review with staff and practice
  - Revise when new hazards and procedures are used

### **Workers responsibility**

- Take care of their own safety, as well as the safety of others who might be affected by what they do or fail to do
- Learn and follow safe work procedures.
- Be alert to hazards, and report hazards or problems to the supervisor or employer.
- Use the protective clothing, devices, and equipment provided.
- Perform work in a safe manner

### **National OHS Program**

#### **All health facilities should:**

- Have a written health and safety manual
- Perform a risk assessment of the workplace
- Monitor and keep occupational health and medical surveillance records
- Appoint health and safety representatives
- Hold regular safety committee meetings
- Report and keep a log of all accidents at work place
- Provide training on health and safety

### **Laboratory Hazards**

- Laboratory workers may be exposed to a variety of workplace hazards in the course of performing their functions
- The type and degree of exposure is dependent upon the type of laboratory and its location.

### **Types of laboratory hazards**

#### **Hazard**

- Any situation, condition or thing that may be dangerous to the safety or health of workers
- A Hazard is a threat. A future source of danger. It has the potential to cause harm to:
  - People-injury, disease, death
  - Property and equipment-damage
  - Environment-pollution

### **Workplace injury and accidents**

- **Safety hazards** can cause immediate accidents and injuries
- Slips, trips and falls may also occur in laboratories, especially those with slippery floor surfaces

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- Hazard contributed from machinery, protruding and moving parts
  - vibrating and rotating tools
- Safety hazards can result in burns, cuts, broken bones, electric shock, or death.
  - Falling hazards associated with slips, trips and falls
- Cuts from broken glassware, including capillary tubes and specimen vials
- Cuts from sharp instruments including scalpels, scissors and medical instruments
- Injuries due to malfunction of instruments in lab
- physical injury if compressed gas cylinders explosion
- 

### 3. **Perform laboratory work safely**

#### **SAFETY IN THE LABORATORY**

- **Laboratory safety** is a process that keeps the laboratory as protected as possible from exposure to human blood and body fluids and other hazards.
- Laboratory safe work practice protects:
  - laboratory workers
  - Other persons( like visitors, patients)
  - Cleaning staff
  - Medical staff
  - The work results
  - Outside environment

#### **Purpose of safe laboratory practice is to prevent:**

- Adverse health effects from exposure to chemicals
- Exposure to organisms, diseases, etc. in laboratories
- Laboratory equipment hazards - if not maintained properly
- Laboratory work results from errors

#### **When to review laboratory safety guideline:**

- New employees
- New procedures
- A change in procedures
- New equipment

#### **General safety Procedures or Rules**

- Laboratory coats must be worn at all times
- Laboratory coats must be fully buttoned.
- Laboratory coats must not be worn outside of the laboratory
- Do not put objects in mouth (like pens, pencils, or pipettes).
- Develop the habit of frequent hand washing
- Never eat, smoke, drink, chew gum, apply cosmetics, or adjust contact lenses while in the laboratory.
- Never pipette by mouth, rather, use pipetting bulbs.
- Develop the habit of keeping hands away from the mouth, nose, and eyes to prevent self-inoculation with infectious agents
- Wear gloves when working with biologic specimens or hazardous chemicals. Change gloves when contaminated
- Wear goggles and masks or face shields when splashing or spattering of chemicals or specimens may occur
- Never store food or beverages in refrigerators containing chemicals, microorganisms,

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*or clinical specimens*

- *Keep work areas free of chemicals, dirty glassware, and contaminated articles such as paper towels or lint-free tissues.*
- *Decontaminate equipment before leaving the work area with a freshly made 1:10 dilution of household bleach.*
- *Clean up spills immediately and properly.*
- *Store chemicals properly*

#### **Standard Operating Procedures (SOPs)**

- *Provide **detailed step-by-step instructions** for carrying out a laboratory activity in a safe manner and achieving accurate and reliable laboratory results*
- *Used in the laboratory and written copies should be available at the work area or bench*

#### **Importance of SOPs**

- *Provide written standardized techniques for use in the laboratory*
- *Provide laboratory staff with instruction on how to consistently perform tests to an acceptable standard to ensure conformity in pre-analytical, analytical and post-analysis steps*
- *Avoid the performance of a test being changed by new staff and avoid shortcuts*
- *Maintain and improve the quality of laboratory services*
- *Improve the reliability of test results for clinical and epidemiological interpretation*
- *Promote safe laboratory practice*

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<b>Self-Check 2</b>	<b>Written Test</b>
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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. *What is Occupational health and safety (OHS)?*
2. *What is the purpose of an OHS program*

**Note: Satisfactory rating - 12 points                      Unsatisfactory – below 12 points**

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

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## Answer Sheet

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

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

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

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

### Short Answer Questions

1. \_\_\_\_\_  
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Information Sheet 3	Victim and other individual remove from danger/hazard
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### 3. Victim and other individual remove from danger/hazard

Self-Check 3	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. When Do We Wash Our Hands?

- A. Immediately after arriving and leaving work
- B. Before and after examining a client/patient
- C. After touching contaminated instruments or items
- D. After exposure to mucous membranes, blood, body fluids, secretions
- E. ALL

#### 2. In which two situations that alcohol hand rub alone is not sufficient

- A. When hands are visibly soiled and after contact with a patient with known cases
- B. When hands are not visibly soiled and before contact with a patient with known cases
- C. When hands are visibly soiled and before contact with a patient with known cases
- D. None of the above

#### 3. Alcohol-based hand rubs provide several advantages compared with hand washing with soap and water because they:

- A. Require less time
- B. Act faster
- C. Are more accessible than sinks
- D. Are more effective for standard hand washing than soap
- E. Can provide improved skin condition
- F. ALL

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**Note: Satisfactory rating - 09 points**

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

**Unsatisfactory - below 09 points**

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

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

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

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

### Short Answer Questions

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

<b>Information Sheet 4</b>	Documenting and Reporting Assessed potential hazards
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Documenting and Reporting Assessed potential hazards

**Follow workplace procedures for reporting symptoms and injuries to self and or others**

Staffs are responsible for reporting any injuries, discomfort or near miss injuries to themselves or others in the workplace. Documented account of the injury shall be required to assess the task and manage the risk to avoid further injuries. In addition, for the staff concerned, documentation shall be required for any work cover claim.

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<b>Self-Check 4</b>	<b>Written Test</b>
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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. Why Documenting and Reporting Assessed potential hazards

**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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## Answer Sheet

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

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

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

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

### Short Answer Questions

2. \_\_\_\_\_
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### List of Reference Materials

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1. First aid manual, Emergency procedures for everyone, at home, at work, at leisure, 8th edition
2. The Federal democratic republic of Ethiopia Minister of health , First Aid learning module Addis Abeba, Ethiopia 2014
3. First Aid and Accident Prevention Lecture Note for Health Science Students the Carter Center, the Ethiopia Ministry of Health, and the Ethiopia Ministry of Education