# Nursing level III

NTQF Level III

# Learning Guide-20

Unit of Competence: Transport and Assist Patient by Safe Handling Practice
Module Title:Transporting and Assisting Patient by Safe Handling Practice
LG Code: HLT NUR3 M05 LO 1-LG -18
TTLM Code: - HLT NUR3 TTLM 0919v1

LO1. Follow Organizational procedures for a particular task to minimize risk of injury

This learning guide is developed to provide you the necessary information regarding

The following content coverage and topics

- Follow Organizational procedures for a particular task to minimize risk of injury
  Introduction
  Definition of terms
  - ✓ Posture and handling techniques
  - ✓ Workplace policies and procedures
  - ✓ Managing work tasks involving vibration
  - ✓ Manual handling techniques and equipment
  - ✓ Packing loads
  - ✓ Guidelines for lifting
  - ✓ Lifting limitations
  - ✓ Safe work practices in handling loads
  - ✓ Personal protective equipment

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 -

- Reduce muscle load on exertion.
- Work tasks involving vibration are managed in accordance with workplace policies and procedures
- Appropriate manual handling techniques and equipment are used to meet customer needs within own scope of responsibility.
- Loads are packed appropriately for easy handling.
- Lifting limitations prescribed within relevant guidelines are followed.

Learning Instructions:

1. **Learning Instructions:**

1. Read the specific objectives of this Learning Guide.

2. Follow the instructions described in number 3 to 11.

3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3, Sheet 4 Sheet 5, Sheet 6, Sheet 7, Sheet 8, Sheet 9, Sheet 10 and Sheet 11”.

4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 , Self-check 4, Self-check 5 , Self-check 6, Self-check 7, Self-check 8 , Self-check 9 ,” in page12,21,28,47,52,57,61,65 and 78 respectively.

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. Submit your accomplished Self-check. This will form part of your training portfolio.

7. 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.

| Information sheet-1 | Introduction |
|---|---|

Introduction

- ✓ Lifting and carrying are dynamic processes. To ensure that no individual suddenly bears the risk of injury to EMT-B or the patient, you mustknow where rescuers should be positioned and how to give and receive lifting commands so that all parties act simultaneously.

- ✓ Whenever the patient is moved, special care must be taken not to cause any further injury to the patient as well as injury to rescuer/career. Many EMT-Basics are injured every year because they attempt to lift patients improperly.
- ✓ Study shows that back injury from improper lifting is the number one injury suffered by pre-hospital care providers.
- ✓ Effective and safe applications of patient handling procedures to avoid self-inflicted and career-ending injuries are very important parts of EMT training. EMTs should have the basic knowledge and skill about proper lifting and moving of the patients.

**Definition of terms**

- ❖ **Body Mechanics:** is the effort; coordinated, & safe use ofthe body to produce motion and maintain balance during activity.

- ❖ **Body Alignment (Posture)** - when the body is well-aligned, balance is achieved without undue strain on the joints, muscles, tendons or ligaments.

- ❖ **Balance (Stability)** - good body alignment is essential to body balance. A person maintains balance as long as the line of gravity passes through the center of gravity and the base of support.

- **Coordinated Body Movement** - body mechanics involves the integrated functioning of the musculoskeletal and nervous system as well as joint mobility.

- **Bariatric-** care for obese patients, needs special attention while lifting and carrying the patients.

### 1.1 MANUAL HANDLING

Manual handling is defined as: “any activity requiring a person to lift, lower, push, pull, carry, throw, move, restrain, hold or otherwise handle any animate, or inanimate, objects.

This includes a wide range of activities.

### 1.2. MANUAL HANDLING RIGHTS AND RESPONSIBILITIES

Occupational health and safety (OH&S) is a two-way street – both employers and employees have certain rights and responsibilities under the law. As a personal carer, you have the right to a safe workplace – but that comes with a responsibility to identify and report hazards that exist in your client’s home. The service provider then has a responsibility to ensure any hazard is eliminated or minimized.

## 1.3.EMPLOYER RESPONSIBILITIES

Employers must ensure the health and welfare of all their employees by providing:

- ✓ A safe workplace environment free of risks to health, with safe entrances and exits
- ✓ Safe work systems and procedures
- ✓ Procedures for safe handling, storage and maintenance of equipment and chemicals
- ✓ Information, instruction, training and supervision for all employees
- ✓ A process for consulting with employees, involving them in decisions and informing them of decisions that may affect their health and safety

- ✓ Processes for identifying hazards, assessing risks, and eliminating or controlling risks
- ✓ Processes for regular review of risk control measures
- ✓ Personal protective equipment where necessary
- ✓ Amenities including toilets and eating areas in a safe and hygienic condition
- ✓ Emergency procedures and first aid facilities.
- ✓ Employers must also ensure that people other than employees who are on the worksite are not
- ✓ Exposed to risks to their health and safety arising from the employer's work systems or
  Environments.

**Employee responsibilities**

**Each employee is responsible for:**

- ✓ Taking reasonable care of the health and safety of others in the workplace
- ✓ Cooperating with employers in their efforts to comply with OH&S requirements such as following procedures and participating in hazard identification and reporting
- ✓ Using equipment properly in order to provide for the health and safety of other people in the workplace
- ✓ Not obstructing attempts to reduce risks or provide aid to injured workers, and not disrupting a workplace by creating health or safety fears
- ✓ Not refusing a reasonable request for assistance to prevent a risk to safety or health

### 1.2.2Client responsibilities

Your client also has OH&S responsibilities because their home is your workplace.

Clients are responsible for:

- ✓ Maintaining their home in a reasonable condition so it does not pose a health or safety risk to personal careers or other service providers

- ✓ Cooperating with service providers and personal careers in their efforts to comply with OH&S requirements
- ✓ Not directing personal careers to undertake unsafe practices during personal care routines
- ✓ Supplying or arranging the supply of any equipment, including personal protective equipment that is their responsibility under the terms of their service agreement
- ✓ Not obstructing the efforts of the service provider or personal cares to reduce risks or provide care to not obstructing the efforts of the service provider or personal cares to reduce risks or provide care to injured workers
- ✓ Not refusing a reasonable request for assistance to prevent a risk to the health or safety of personal cares, other health professionals in their home, or themselves
- ✓ Respecting the right of a personal care to refuse to perform a task that poses a risk to the health or safety of either party. Injured workers not refusing a reasonable request for assistance to prevent a risk to the health or safety of personal cares, other health professionals in their home, or themselves
- ✓ Respecting the right of a personal care to refuse to perform a task that poses a risk to the health or safety of either party.

**This means that all clients and personal careers have a responsibility to:**

- ✓ Identify hazards
- ✓ Address them where it's reasonable to do so
- ✓ Report hazards, injuries or illnesses
- ✓ Work in a safe manner.

## Duty of care

The personal care service provider has a duty of care to both clients and personal careers. They are responsible for ensuring that your workplace is safe and you have the knowledge and resources to perform your duties in a safe manner.

**Some strategies for doing this could include:**

- ✓ Providing induction and ongoing training for all personal careers
- ✓ Having an occupational therapist or other qualified person assess any risks in the client's home, identify safe work practices and resolve problems
- ✓ Providing or organizing personal protective equipment or manual handling equipment such as hoists etc.
- ✓ Having policies that clearly set out the rights and responsibilities of each party, such as a no lift policy and a smoke free workplace policy
- ➢ Having procedures in place to identify safe methods of working and how to deal with a potential hazard or actual injury or illness

## 1.4.MANUAL HANDLING CODES OF PRACTICE

This Code explains how the Health and Safety in Employment (HSE) Act 1992 applies to manualhandling tasks. It describes one way of meeting the requirements of the Act with respect tomanual handling. It follows the logical sequence of identify, assess and control to prevent manualhandling causing harm to employees.

The Code is a statement of preferred practice but also provides practical guidance on the controlof manual handling tasks. Although the Code represents current preferredpractice, employers do not have to follow the suggestions given in it. If they choose, they may use other methods to meet therequirements of the HSE Act. The methods chosen must be at least as effective as the ones in the Code.

The Code is for use by employers, managers, health and safety advisers, health and safetyRepresentatives, consultants and designers. It encourages employers and employees to adopt aCo-operative approach to prevent harm from manual handling.

### 1.4.1What advantages are there to implementing this Code?

If this Code is followed by employers an overall reduction in the number and severity of serious

Back injuries and other musculoskeletal disorders may be expected. As well, it is reasonable to

Believe that:

- removing risk factors for serious back injuries from manual handling tasks may reduce the incidence, delay the onset, or reduce the severity of an episode of acute low back pain
- preventing recurrent attacks of acute low back pain will prevent more serious persistent

  Conditions from developing
- controlling the hazards posed by manual handling tasks, with the intention of bringing them within the reach of everyone in an organization (including people with a disability or with acute low back pain) makes a lot of economic sense to employers

### 1.4.2The appropriate design of manual handling tasks has additional benefits

- ✓ Insight into how to optimize the efficiency and performance of the work
- ✓ reduced injury costs
- ✓ Fewer absences from work and less disruption
- ✓ increased flexibility in work arrangements
- ✓ The retention of skilled employees

- ✓ Safer work, which leads to better morale

**1.4.3After using this Code you should be able to:**

1. Know when to use this Code and how it fits with the legislation.
2. Use the Manual Handling Hazard Control Record to:
    - ✓ identify aspects of manual handling tasks that may make them hazardous
    - ✓ assess the significance of these hazards
    - ✓ Find control measures suitable for the tasks and devise action and evaluation plans.
3. Know where to look for further help – for example, how to manage episodes of acute low back pain experienced by employees

## 1.5MANUAL HANDLING THREE STEPS PROCESS

### 1.5.1 Promote patient independence

Where possible, patient independence should be promoted as this will assist to facilitate patient independence, nurses should have knowledge of normal movement and body mechanics.

For example, normal healthy people when rolling over in bed move their body turn their head and push off with their leg. This translates to rolling as follows:

- Lifts the arm and place it over the body in the direction of the roll
- Bend the leg up on the same side as the arm, or bend both legs up
- Push on the knee (the handle) and shoulder in the direction of the roll

### 1.5.2 Assess

Patient assessment is a critical part of manual handling risk assessment and an important nursing skill. The patient assessment in the patient care plan and update it is needed. It should be used in conjunction with the risk assessment checklist when conducting risk assessments on patient-handling activities.

### 1.5.3 Plan

Manual handling plans should be specific to the unit, detailing available equipment options. In a unit where there is low turnover of patients and patient dependencylevels are fairly constant (such as in nursing homes and residential care centers), a manual handling plan (instructions) should be developed for each patient.

For patients undergoing rehabilitation and in acute care, the plan should be constantly reviewed as the patient improves.

A checklist for setting out patient manual handling plans lists information that should be included in the patient care plan. The checklist can also be used for detailing risk control strategies in conjunction with the risk assessment

Self-Check 1

Written Test

***Directions:*** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1.How to give and receive lifting commands? (5)

2……is a statement of preferred practice but also provides practical guidance on the controlof manual handling tasks. (5)

3……..is a two-way street – both employers and employees have certain rights and responsibilities under the law. (5)

4…….any activity requiring a person to lift, lower, push, pull, carry, throw, move, restrain, hold or otherwise handle any animate, or inanimate, objects.(5)

5……..Is a critical part of manual handling risk assessment and an important nursing skill? (5)

***Note:***Satisfactory rating - 25 points Unsatisfactory - below 25 points
You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score =

Rating:

Name: _____ Date: _____

**Short Answer Questions**

1……

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2……

3……

4……

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5……

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| Information sheet-2 | Posture and handling techniques |
|---|---|

2. Body Mechanics

At the end of this chapter you will be able to:

- ✓ Define biomechanics
- ✓ State the principle underlying proper body mechanics andrelate a nursing consideration.
- ✓ Identify principles related to safe movement of clients.
- ✓ Discuss the skeleton
- ✓ Muscular systems and its function
- ✓ State the purposes of range of motion exercise.

1.2. Body biomechanics:

- ✓ The study of the mechanics of a living body, especially of the forces exerted by muscles and gravity on the skeletal structure.
- ✓ The use of one's body to produce motion that is safe, energy conserving, and anatomically and physiologically efficient and that leads to the maintenance of a person's body balance and control.
- ✓ Body Mechanics: is the effort; coordinated, & safe use of the body to produce motion and maintain balance during Activity.

**Proper Body Mechanics**

- ✓ Use of safest and most efficient methods of moving & lifting is called body mechanics.
- ✓ This means applying mechanical principles of movements to the human body.

**Basic Principles of Body Mechanics**

- ✓ The laws of physics govern all movements.

- ✓ From these laws we derive the general principles of body mechanics.
- ✓ It is easier to pull, push, or roll an object than to lift it.
- ✓ The movement should be smooth and continuous, rather than jerky. Often less energy or force is required to keep an object moving than it is to start and stop it.
- ✓ It takes less effort to lift an object if the nurse works as
- ✓ Close to it as possible. Use the strong leg and arm Muscles as much as possible. Use back muscles, which are not as strong, as little as possible. Avoid reaching.
- ✓ The nurse rocks backward or forward on the feet and withhis or her body as a force for pulling or pushing.

**Benefits of proper Body Mechanics**

- ✓ Conserve energy.
- ✓ Reduce stress and strain to muscles, joints, ligaments, and soft tissue.
- ✓ Promote effective, efficient respiratory & cardiopulmonary function.
- ✓ Promote and maintain proper body control and balance.
- ✓ Promote effective, efficient, and SAFE movements.

**Causes of Back Injuries**

- ✓ Increase force/stress
- ✓ Repetitive Motion/twisting
- ✓ Forward bending
- ✓ Poor or improper lifting techniques
- ✓ Poor posture
- ✓ Poor Job design
- ✓ Deconditioned /Poor physical fitness
- ✓ Overweight
- ✓ Smoking
- ✓ Nutrition

- ✓ Stress

**Mechanics: Poor Posture**

- ✓ One of the main reasons that injuries occur
- ✓ Means that the spine's normal curves are exaggerated or decreased creating stresses and strains in the tissues.
- ✓ The result is pain and dysfunction and can lead to serious injury.

**Mechanics: Forward Bending**

- ✓ Forward bending can over-stretch the low back muscles to the point where they can lose strength to protect the spine from injury.
- ✓ The ligaments are also weakened
- ✓ Can increase stress on the discs
- ✓ Range of the bend and time spent in the position can determine amount of damage

**Mechanics: Twisting**

- ✓ Repetitive twisting can do damage to the spine.
- ✓ It over stretches ligaments and muscles causing weakness.
- ✓ Can damage discs especially combined with bending.

Mechanics: Poor Job Design/ Ergonomics

Injury can occur when:

- ✓ Moving a load too heavy
- ✓ Moving a load too often
- ✓ Moving a load too far
- ✓ Twisting with a load
- ✓ Work too far to reach
- ✓ Cold temperature, vibration

- ✓ Improper chair/equipment

**Mechanics: Poor Work Habits**

- ✓ Poor positions
- ✓ Poor movement
- ✓ Improper lifting habits
- ✓ Make the job more difficult
- ✓ Repetitive twisting and bending

**Poor Physical Fitness**

- ✓ Decreased oxygen delivery to muscles can cause muscles to wear down and lead to weakness.

Mechanics: Overweight & Smoking

- ✓ Creates extra work for the spine
- ✓ Leads to excess fatigue and wear/tear in the body
- ✓ Nicotine damages connective tissue decreasing
- ✓ Circulation and oxygen in the blood which affectsmuscle strength.

Mechanics: Nutrition & Stress

- ✓ Muscles need protein to repair worn musculoskeletal tissue
- ✓ Bones need minerals for strength.
- ✓ Stress stiffens and weakens back muscles and increasesPain sensitivity.
- ✓ Body Mechanics: Quick Tips
- ✓ Find neutral spine
- ✓ Bend knees
- ✓ Use legs
- ✓ No twisting
- ✓ Avoid long distances
- ✓ Objects close to you

- ✓ Acquire the patients help
- ✓ Clear environment
- ✓ Secure transfer areas
- ✓ Slow secure movements
- ✓ Get help
- ✓ Use assistive device

Proper Lifting Techniques

- ✓ Stand with feet apart one foot slightly ahead of the other
- ✓ Wide stance helps balance during lifting
- ✓ Squat down keeping back straight, keep chin tucked, and lift smoothly.
- ✓ Keep object close to you
- ✓ Bend your knees and hips using legs to lift.
- ✓ Maintain lumbar curve
- ✓ Do not twist or bend sideways
- ✓ Face the object you are picking up
- ✓ If changing direction, do not twist, pivot with your feet
- ✓ If you reach over shoulder level, raise onto a low step to get closer to the object.
- ✓ Push rather than pull
- ✓ Pushing is much easier for your back
- ✓ Stabilize hands on the object, keep back in extended position, and do all the pushing and moving with your legs

- ✓ Take your time-hurrying causes muscles to act inappropriately and increases chance of injury.
- ✓ Change stressful positions often
- ✓ If you are sitting for too long- stand
- ✓ If you are standing for too long- stop and squat
- ✓ Carrying an object-hold the load close to the body

**Not so good**

**Good**

| | |
|---|---|
| Self check 2 | Wirriten test |

***Instructions:*** Answer all the questions listed below. Write your answers in the sheet provided in the next page.

1.1.*The general principles of body mechanics includes all **except** one?*

A.It is easier to pull, push, or roll an object than to lift it

B.Wide stance helps balance during lifting
C.Use the strong leg and arm muscles to lift client
D. Twisting permitted during lifting a patient
2. Causes of back injuries include?

A.Poor or improper lifting techniques

B.Increase force/stress
C.Reconditioned /Poor physical fitnessD**.** All of the above
3.Which of the following is/are correct during proper body biomechanics?

A. Produce motion that is safe
B. Energy conserving
C. Maintain balance during activity
D. All of the above
E. None of the above
4. Rules of Body Mechanics includes all except one

A. Provide a broad base of support
B. When lifting, don't bend your knees and keep your back flexed
C. Keep your load well balanced and close to your body
D. Roll or push a heavy object, avoid pulling or lifting.
5.Benefits of proper Body Mechanics includes all with which exception?

A. Conserve energy
B. Increase stress and strain to muscles, joints, ligaments, & soft tissue
C. Promote effective, efficient, and safe movements
D. Promote and maintain proper body control and balance.

***Note:***Satisfactory rating - 10 points Unsatisfactory - below 10 points
You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score =

Rating:

Name: _____ Date: _____

**Choose Questions Answer**

1……

2……

3……

4……...

5……..

| **Information sheet-3** | **Workplace policies and procedures** |
|---|---|

- **Follow workplace policies and procedures in relation to pacing and scheduling of tasks**
    - ✓ Employers have a responsibility to staff to ensure they are well rested between manual handling tasks, this can be achieved by careful roistering and staff rotation. Staff also should be trained and physically able to conduct any manual handling task given. Facility OH&S policies and procedures may include exemption of staff conducting manual handling tasks under certain circumstances or employment restrictions.
- **Carry out equipment and environmental maintenance in accordance with a workplace preventative maintenance schedule**
    - ✓ As stated in AS/NZS4187, routine equipment cleaning and testing shall be conducted on cleaning equipment and sterilizers. Included shall be trolleys, lifting devices, workstations, lights and all other equipment used in the SSD.
    - ✓ The general area of the SSD shall be kept clean, tidy and free of clutter. Any faults shall be reported to the Manager, Supervisor or OH&S representative and the equipment be placed out of service until further investigation is conducted and the equipment is repaired.
- **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.
- **Follow workplace procedures for any return to work program**

✓ After an employee has injured themselves at work, during the recovery process, it may be possible for them to return to work on restricted duties. The restrictions are

advised by the practicing physician in consultation with the employee and shall bemonitored carefully by the SSD Manager and possible Injury Manager, or OH&S consultant.

- ✓ A return to work plan may include restrictions to working hours per day, days per week and will specify any physical restrictions to the type of work the employee is able to conduct. Roistering may need adjusting to accommodate the restrictions, however the agreement must be maintained at all times.
- ✓ The injury is reviewed by the physician and restrictions maintained until the employee is fit for normal duties.
- ✓ Any workplace injuries may require a risk assessment and development of safe work practice for future reference when any staff member is performing the task

- **Contribute to workplace design and task analysis to ensure appropriate work areas are developed**
  - ✓ The manual handling legislation requires employers to consult with their employees to identify, assess and control manual handling tasks. Employees are closest to the tasks and are able to provide ideas and insights that are useful in solving problems at work. Further, effective consultation usually:
  - ✓ increases employee job satisfaction
  - ✓ is generally cost effective
  - ✓ Improved morale and communication within the organization.
  - ✓ Consultation can be achieved be achieved by:
  - ✓ discussion between the staff management or OHS representatives
  - ✓ Raising OHS issues at regular departmental meetings.
  - ✓ and manage the risk to avoid further injuries. In addition, for the staff concerned, documentation shall be required for any work cover claim.

- **Follow workplace procedures for any return to work program**
  - ✓ After an employee has injured themselves at work, during the recovery process, it may be possible for them to return to work on restricted duties. The restrictions are advised by the practicing physician in consultation with the employee and shall be monitored carefully by the SSD Manager and possible Injury Manager, or OH&S consultant.
  - ✓ A return to work plan may include restrictions to working hours per day, days per week and will specify any physical restrictions to the type of work the employee is able to conduct. Roistering may need adjusting to accommodate the restrictions, however the agreement must be maintained at all times.
  - ✓ The injury is reviewed by the physician and restrictions maintained until the employee is fit for normal duties.
  - ✓ Any workplace injuries may require a risk assessment and development of safe work practice for future reference when any staff member is performing the task.

| Self-check 3 | Written question |
|---|---|

Direction-say true or false for the following questions.

1. Any workplace injuries may require a risk assessment and development of safe work practice for future reference when any staff member is performing the task.
2. The manual handling legislation requires employers to consult with their employees to identify, assess and control manual handling tasks.
3. The injury is reviewed by the physician and restrictions maintained until the employee is fit for normal duties.

***Note:***Satisfactory rating - 12 points Unsatisfactory - below12 points
You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score =

Rating:

Name: _____ Date: _____

**True /false Questions Answer**

1……

2……

3……



| | | |
|---|---|---|
| Transporting and Assisting Patient by Safe Handling<br>Version: 1 Revision : 0 | Author: Ferhan Abubaker(BSC,MPH) & Eskender Birhanu(BSC) : Harar Health Science College , Harar Ethiopia | Date : September 2019 |

- Preparations for moving and handling people

There are several types of preparation to take into account before moving clients. In this section, preparations for caregivers are covered first. This is followed by: assessment of client mobility, risk assessment, preparation for a specific transfer, communication among careers during the transfer, communication with clients, cultural and religious considerations and the post-transfer assessment.

Preparations for caregivers Pre-maneuver

- ✓ •Make sure clothing and footwear are appropriate for the task. Clothes should allow free movement and shoes should be non-slip, supportive and stable
- ✓ •Choose a lead career: If more than one career is involved when moving or handling a client, identify who should be the lead career during the move by giving instructions (e.g. 'ready, steady, move'). The lead career checks the client profile and coordinates the move
- ✓ •If there is to be a change of position for the client, decide what it is before approaching them. General practice
- ✓ •Know your limits: Know your own capabilities and do not exceed them. Tell your manager if you need training in the technique to be used
- ✓ •Seek advice: Talk to your manager or the moving and handling adviser if you need advice on the techniques and equipment you should be using.

- Risk assessment

Most of the techniques described in this section apply to clients who cannot move themselves, or who need some supervision or assistance during movement. The transfer technique needed will vary depending on the level of client ability and

dependency. Before deciding which specific technique is most appropriate to transfer a client, it is necessary to assess the client's level of mobility, cognitive ability and need for assistance. Prior to using any technique, there should be an assessment of the client's current mobility and any other factors that affect the safety of the planned movement of the client. These assessments are described in Section 3 'Risk assessment' (see Risk assessment and Table 4.3). The mobility assessment should cover the client's ability to move, sit and balance, and any other relevant factors. The assessment should lead to a decision on the number of careers and equipment needed to transfer the client. This assessment is particularly important in community settings where sole careers are working in isolation. If the assessment indicates that more than one person is required to movethe client or operate equipment that is what should happen. A robust assessment is essential and careers must use moving and handling techniques consistent with the risk assessment.

The risk assessment should determine the number of careers needed, equipment or modifications of the environment. It should be seen as a cost-effective process.

- Preparation for a specific transfer prior to moving a person, check the following aspects of the planned transfer:
    - ✓ •Check the client profile and carry out a pre-movement risk assessment
    - ✓ •Plan the movement, including the order of specific tasks and who will carry out each task
    - ✓ •Get equipment ready: If equipment is to be used, ensure the equipment is available in good order with any required accessories in place and ready to use
    - ✓ •Prepare the environment: Position furniture, check that route and access ways are clear and that the destination is ready

- ✓ •Prepare the client: Tell the client what will happen, gain their permission, and let them know what they are expected to do. Ensure that the client's clothes and footwear are appropriate for the task, and that they have any aids they need.

- Communication among careers during the transfer

Ensure that all instructions and commands used are consistent throughout the organization. For example, use a clear command such as, 'Ready, steady, stand'. One reason for accidents is the lack of coordination between careers, and a lack of shared understanding within an organization or facility of what terms or phrases mean when moving clients. Consistent, clear commands help to coordinate careers and minimize risks for these tasks. Careers making eye contact with each other is key to synchronizing when more than one career is involved. Ending the instruction with a word that the client understands ('ready, steady, stand') will also facilitate client confidence in and understanding of what is about to happen.

- Communication with client's

Effective communication between career and client is part of moving and handling. Plan to inform clients and their families about your organizations moving and handling policy on admission A client may be resistant to being moved or handled in a particular way if they have not been consulted. Explain to the client what you are about to do, and ask theirpermission. If they have any concerns about things like safety, modesty issues and gender and religious considerations, address them. Tell them of the benefits of the procedure to be used. As they are being moved, talk them through the steps and ask if they are okay. Ask them how they feel after the transfer, as client feedback is useful to verify that they were comfortable with the move, or whether improvements could be made. Some clients may resist being lifted using a sling and hoist, because they feel their dignity and safety may be compromised. Communicating the benefits for the client

– particularly in safety and dignity – may allay those fears and increase client confidence. Besides noting if a client has hearing difficulties or cognitive impairment, you may need to take into account language and accent issues. Often someone may say 'Yes' simply to give an answer, or 'Yes' meaning 'I hear you but don't understand or want to do it that way'. One way to get agreement to or an understanding of what is to be done with the client is to ensure that what you say is simple language and not health jargon. Alternatively, demonstrate the move with another person reassuring the client and seeking their agreement at the same time. Also, speak slowly (not louder unless the client has a hearing problem) if the client has difficulty understanding your accent.

- Sitting and standing

The techniques in this section cover client movements related to sitting and standing. The section also covers what to do with a falling client and assisting a fallen client. For particular moves, such as sitting to standing, several techniques can be used and some examples of these are described. The particular technique used will depend on the client's mobility and the availability of careers and equipment. Assisted walking is sometimes included with sitting and standing. If a client requires assistance with walking, they should be assessed by a competent person (e.g. a physiotherapist). If needed, a correct walking frame or aid should be selected. The career can assist in reducing risks by checking that the walking area has a suitable floor surface and is clear of clutter and that the client is wearing suitable footwear. Careers assisting a person with walking should have basic moving and handling training and specific instruction on assisted walking.1 Note that providing physical support for a client while walking encourages the client to lean on, or be propped up by, the career. This increases the load on the career. For this reason, assisting clients to walk can be a high-risk activity for careers.

- Preparation for repositioning a client

As part of the pre-transfer risk assessment, assess the client's weight-bearing capacity. Confirm the client's weight-bearing status by asking the client and the client's nurse or family, and checking the client's profile and mobility status. One way to reduce the risk if no information is available is to ask the client to lift and straighten their legs one at a time from the knee, then place your hand flat on each shin and tell them, 'Don't let me push your leg down', so you are controlling the resistance. The client being able to hold their leg against some pushing is a reasonable indicator of the ability to bear weight. If they are unable to do this, consider hoisting them.

- Basic techniques for careers

Two basic techniques with which careersneed to be familiar for most of the techniques covered in this section are the lunge position and instructing the client to look in the direction of the movement.



- Technique 1 Supervised repositioning in a chair

For this technique the chair should be of suitable height (not too low), and have armrests. A slide sheet can also be used to assist repositioning in a chair. Ask the client to:

1. Put their feet flat on the floor with their feet apart and tucked slightly under the chair – the chair height must allow the client to place their feet firmly on the ground

2. Keep their hips and legs at a right angle

3. Lean forward so their upper body is over their knees

4. Stand up and move as far back into the seat as possible, or

5. Slide back into the seat by pushing back using the armrests and their feet.


Technique 2 Supervised sit to stand

This technique is only suitable if the client can weight bear.

1. Ask the client to put their hands on the armrests of the chair

2. Ask the client to lean forward in the chair and move towards the front of the seat

3. Ask the client to put their feet flat on the floor. The feet should be hip width apart and under their knees

4. Ask the client to lean forward while still sitting, so their upper body is above and over the tops of their knees (‘nose over toes’)

5. If needed, gently rock the client backwards and forwards to build up momentum to help them stand, while instructing, ‘ready, steady, stand’

6. On ‘ready and steady’ tell the client to rock gently forward on each word

7. On the command ‘stand’, the client pushes themselves up to a standing position using the armrests or surface on which they were sitting.

**Supervised sit to stand (Technique 2)**

1. Client to lean forward and move to front of seat

2. Client’s upper body is above the top of their knees, feet hip width apart

3. On ‘ready and steady’ the client rocks gently forward on each word

4. Client pushes themselves up to a standing position

- Technique 3a Sit to stand with one career

Before helping the client to stand, check there is enough space around the chair for the career.

1. Ask the client to put their hands on the armrests of the chair

2. Ask the client to lean forward in the chair and move towards the front of the seat

3. Ask the client to put their feet flat on the floor. The feet should be hip width apart and under their knees

4. Ask the client to lean forward while still sitting, so their upper body is above and over the tops of their knees

5. Career to stand in the lunge position, facing forward at the side of and behind the client

6. Outside hand is flat on the front of the client's shoulder, inside arm across lower back around the hips, not the waist

7. With weight on the career's back foot, rock forward with client, same verbal cues ('ready, steady and stand'), stand up with client and bring inside leg through to step in tight to client's side. The career's hip should be touching the client's side

8. Check client's arms are free and in front of them.

- From standing to sitting

  1. Ask the client to feel for the chair (or bed) with the backs of their legs, reach for the arms of the chair and gently lower themselves.

  2. Encourage the client to bend forward at the hips to facilitate a better position for sitting. Either say 'lean forward and bend at your hips' or place the career's hand in front of the client's hip.

**Sit to stand with one carer (Technique 3a)**

| | |
|---|---|
| 1. Client has hands on armrests and looking straight ahead | 2. Carer standing in the lunge position, inside arm on client's hip |
|  |  |
| 3. Ask client to lean forward so upper body is above knees | 4. Rock forward with client, on 'ready, steady and stand' |
|  |  |
| 5. Client stands | 6. Back view of client standing with carer |
|  |  |

- Technique 3b Sit to stand with two careers

  1. Before helping the client to stand, check there is enough space around the chair for the careers

  2. Ask the client to put their hands on the armrests of the chair

  3. Ask the client to lean forward in the chair and move towards the front of the seat

4. Ask the client to put their feet flat on the floor. The feet should be hip width apart and under their knees

5. Ask the client to lean forward while still sitting, so their upper body is above and over the tops of their knees

6. Both careers to stand in the lunge position, facing forward at the side of and behind the client

7. Each career's outside hand is flat on the front of the client's shoulder, inside arms across lower back around the hips, not the waist

8. With weight on their back feet, both careers rock forward with client, with lead career using the verbal cues ('ready, steady and stand'), stand up with client and bring inside legs through to step in tight to client's side. Each career's hip should be touching the client's side 9. Check client's arms are free and in front of them.

## Sit to stand with one carer (Technique 3a)

1. Client has hands on armrests and looking straight ahead

2. Carer standing in the lunge position, inside arm on client's hip

3. Ask client to lean forward so upper body is above knees

4. Rock forward with client, on 'ready, steady and stand'

5. Client stands

6. Back view of client standing with carer

**Sit to stand with two carers – bariatric client (Technique 3c)**

| | |
|---|---|
| 1. Client has hands on armrests, sitting on edge of seat, looking straight ahead | 2. Carers standing in the lunge position, inside arms on client's hips |
|  |  |
| 3. Ask client to lean forward so upper body is above knees | 4. Rock forward with client, on 'ready, steady and stand' |
|  |  |
| 5. Client stands | 6. Completion of stand |
|  |  |

- Technique 4 Sit to stand with a standing hoist

  A standing hoist is only suitable if the client can:

1. Weight bear through at least one leg

2. Cooperate and understand instructions

3. Balance and control their upper body

4. Explain to the client how the standing hoist will help them to stand, and preferably demonstrate how it works – this will also help to reassure them it is safe

5. Apply hoist sling to client. Make sure that the sling is the correct size for the client, tight enough to stop the sling riding up under the arms, but still comfortable

6. Wheel the standing hoist into position and adjust the hoist legs to fit around the furniture

7. Position the hoist's sling bar

8. Ask the client to put their feet on the footplate

9. If the hoist's kneepads are adjustable, adjust them to suit the client, making sure the kneepads are below their patellae (kneecaps)

10. Attach the leg strap around the back of the client's knees, if required

11. Attach the sling to the standing hoist, with the nearest loop reachable without pulling the client forward

12. Ask the client to place hands on the hand grips (depending on hoist type) and stand themselves up as you raise the sling bar. They can lean back slightly into the sling

13. Reposition the standing hoist to where the client is to be seated

14. Lower the standing hoist once the client is positioned over the surface to which they are being moved

15. Encourage the client to bend at the hips or assist with the bend, and lower themselves along with the movement of the sling bar.

Note: It is recommended that the hoist brakes not be on at any point during the procedure, but wheelchair, bed or commode brakes should be on. Exceptions to this recommendation should have adequate risk assessments. It is acknowledged that

some instructions from hoist suppliers differ from this recommendation. If the sling is positioned properly and still rides up, it may indicate that the client is not able to reach a standing position or that the sling is not sized correctly. Do not use this technique if the client is unable to stand; use a full sling hoist instead.

If the client is being moved to sit on a bed so they can lie down, but cannot do this independently, you will need to use a profiling bed and/or handling equipment. Extra care is needed if transferring a stroke client with a standing hoist, as support may be needed for the stroke-affected arm to prevent damage to the shoulder. Some hoists have arm slings attached for this purpose. Standing hoists are often not suitable for stroke clients with painful shoulders.

## Sit to stand with a standing hoist (Technique 4)

| | |
|---|---|
| 1. Apply hoist sling | 2. Position standing hoist |
|  |  |
| 3. Position sling bar and attach sling straps to hoist | 4. Instruct client to stand |
|  |  |
| 5. Reposition hoist | 6. Instruct client to sit |
|  |  |

Technique 5 supervising a fallen client who is conscious and uninjured

Firstly, do not panic; they cannot fall any further. Check the immediate environment for risks, such as a wet floor.

1. Ask the client if they are hurt anywhere.

Did they bang their head?

2. Do they remember falling? If they appear unhurt, ask staff not required to leave

3. Place a pillow under their head for comfort – remember touching the head can be taboo in some cultures, so always talk to the client and explain what you are doing

4. Cover them if required

5. Ask if they think they could stand themselves up with instruction

6. Ask client to roll on to their side then get on to hands and knees

7. When they have done this, ask if they are dizzy or feeling worse – if they are, get the client to lie down and hoist them instead

8. Once they are on their hands and knees, place a chair as close as possible to the client's hip. Ask them to use the chair to lean on with their closest hand, and using their nearest leg get those to put their foot flat on the floor then push up into a sitting position using their leg and arm

9. Alternatively, the client may prefer to use their furthest leg and foot to provide extra balance, particularly if the client is large

10. If the client cannot get onto the chair, get them to lie down again and hoist them.

This technique can be taught to some clients who have a history of falling to reassure them that they can get up from the floor independently, particularly pre-discharge from a hospital or care facility. They will need to crawl to a stable piece of furniture that they can use to push themselves up.

**Supervising a fallen client who is conscious and uninjured (Technique 5)**

| | |
|---|---|
| 1. Assess client | 2. Ask client to roll on to their side and push up with their hands |
|  |  |
| 3. Ask client to roll on to their hands and knees | 4. Place a chair at the client's side, close to hip |
|  |  |
| 5. Client leans on chair with their closest hand | 6. Client pushes up to sitting position, sliding bottom into chair using both legs and arms |
|  |  |

| Self-check-5 | Written test |
|---|---|

Direction –give short answer for the following questions on the provided answer sheet.

1. List only suitable in standing hoist.(5P)
2. Effective communication between career and client is part of what?.(5P)
3. Steps for Preparation for a specific transfer prior to moving a person?.(5P)
4. What are the Preparations for caregivers Pre-maneuver?.(5P)

***Note:*** **Satisfactory rating - 20 points Unsatisfactory - below 20 points**
**You can ask you teacher for the copy of the correct answers.**

**Answer Sheet**

Score =

Rating:

Name: _____ Date: _____

**Short Questions Answer**

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Information sheet -6 packing loads

- 

- Packing loads

loads is preferable to pulling because it involves less work by the muscles of the lower back, allows maximum use of body weight, less awkward postures and generally allows employees to adopt a forward facing posture, providing better vision in the direction of travel.

- Reduce the effort required to start the load in motion by:
  - ✓ Using motorized push/pull equipment such as tugs, bed movers or electric pallet jacks
  - ✓ Using an overmatch or slide sheets to reduce friction when moving patients
  - ✓ Positioning trolleys with wheels in the direction of travel
  - ✓ Encouraging employees to use large power muscles of the legs and whole body momentum to initiate the push or pull of a load.
- Reduce the effort to keep the load moving by:
  - ✓ Using motorized hand trucks and trolleys that are as lightly constructed as possible and have large wheels or castors that are sized correctly and roll freely
  - ✓ Using hand trucks or trolleys that have vertical handles, or handles at a height of approximately one meter
  - ✓ Ensuring that hand trucks and trolleys are well maintained treating surfaces to reduce resistance when sliding loads
  - ✓ For pushing, ensuring handles allow the hands to be positioned just above waist height and with elbows bent close to the body

- ✓ for pulling, ensuring handles allow the hands to be positioned just below waist height allowing employees to adopt a standing position rather than being seated so the whole body can be used

- Reduce the effort needed to stop the load by:
  - ✓ Indicating the place where loads need to be delivered
  - ✓ Planning the flow of work
  - ✓ Encouraging employees to slow the load down gradually
  - ✓ Fitting brakes and speed limiters so speed can be controlled, particularly if there is a need to stop quickly to avoid other traffic.

- Weight Limits
  - ✓ This code does not prescribe weight limits because whether work involves hazardous manual handling does not depend solely on the weight of the load. It also depends on the postures, movements and forces involved in the work (which may be affected by the weight of the load) and the frequency and duration of the work. While lifting a heavy object is generally more likely to require high force, even a relatively small weight may be difficult to lift and require the application of high force depending on the circumstance. This is illustrated by the examples below:
  - Using mechanical aids
    - ✓ Mechanical equipment can help control the risk of MSD in relation to, for example, lifting, carrying or supporting items, animals or people. A wide range of mechanical aids are available for various industries, for example:
    - ✓ Lifting hoists
    - ✓ Loading dock levelers
    - ✓ Turntables
    - ✓ springs or gas struts, mechanical devices such as hand winches, hydraulic pumps, and battery powered motors
    - ✓ forklifts, platforms trucks, tractor-trailer trains, tugs and pallet trucks

- ✓ lift tables, mechanical and hand stackers, lift trolleys, two-wheel elevating hand trucks, and vacuum or magnet assisted lifters

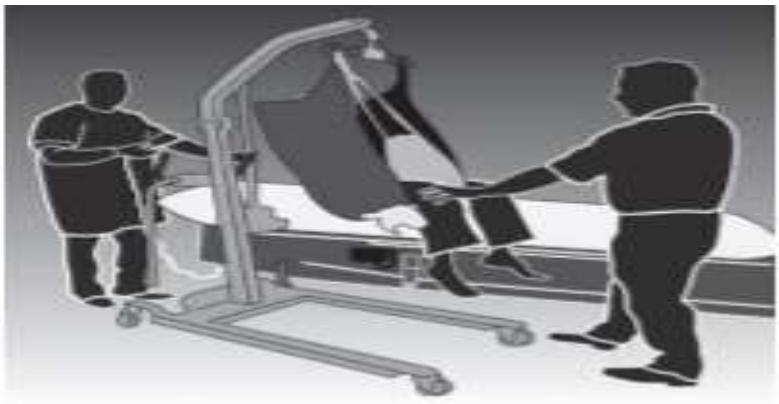

Figure – A mobile hoist reduces the forces required to transfer a patient

- Job rotation
  - ✓ Job rotation involves moving employees for set periods of time through a variety of work that requires different postures, movements and forces. Job rotation requires the work to be sufficiently different to ensure that different muscle groups are used in different ways so that they have a chance to recover. While it can reduce exposure time, it does not address the source of the risk.
  - ✓ Job rotation should only be used as an interim measure while implementing other risk control measures, when trialing other control measures.

| Self-check -6 | Written test |
|---|---|

Direction –say true or false for the following question and put your answer on the provided answer sheet.

1. Job rotation should only be used as an interim measure while implementing other risk control measures, when trialing other control measures.
2. Mechanical equipment can help control the risk of MSD in relation to, lifting, carrying or supporting items, animals or people.
3. Loads is preferable to pulling because it involves less work by the muscles of the lower back.
4. Encouraging employees to use large power muscles of the legs and whole body momentum to initiate the push or pull of a load.
5. Using an overmatch or slide sheets to reduce friction when moving patients

**Answer Sheet**

Score =

Rating:

Name: _____ Date: _____

**True /false Questions Answer**

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***Note:*** **Satisfactory rating - 10 points Unsatisfactory - below 10 points**
**You can ask you teacher for the copy of the correct answers.**

**Answer Sheet**

Score =

Rating:

Name: _____ Date: _____

**True /false Questions Answer**

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| Information sheet -7 | Guidelines for lifting |
|---|---|

- To safely lift and carry a patient, you and your team must understand each other and each move must be performed in a coordinated manner. Before lifting the patient, team leader should coordinate the move and indicate the sequence of steps each member should go after. Orders that will initiate the actual lifting or moving should be given in two parts: Preparatory command and command of execution/implementation.
  - **Additional Lifting and carrying guidelines**
    1. Find out how much the patient weighs before attempting to lift. With proper lifting technique, you and one other EMT can safely lift a weight between 100 to 210 lb. (45-95 kg) However, for safe lifting, it is better to use four rescuers lifting technique.
    2. Know how much you can comfortably and safely lift.
    3. If lifting the patient places strain on you, stop lifting and lower the patient and obtain additional help before attempting to lift again.
    4. Communicate clearly and frequently with your partner and other rescuers whenever you are lifting a patient.
    5. Do not attempt to lift a patient who weighs more than 250 lb. with fewer than four rescuers.
    6. Find out the weight limitations of the equipment you are using and how to handle patient who exceed the weight limitation.

7. Special techniques, equipment, and resources are required to move any patient who weighs more than 300 lb. (136 kg) to the ambulance.
8. The strongest of the available EMTs should be located at the head end of the device as more than half of the patients weight is distributed to the head end of the backboard or cot.
9. Whenever possible, use a chair or canvas pole stretcher instead of a wheeled stretcher to carry a patient down stairs. Follow the following steps:

a. Secure the patient to the stair chair with straps.

b. Rescuers take their places around the patient seated on the chair: one at The head and oneat the foot.

- The rescuer at the head gives directions to coordinate.

c. A third rescuer precedes the two carrying the chair to open doors and spot them on stairs. For lengthy carries, the third person can rotate and provide breaks for the other two.

d. When reaching landings or other flat intervals, lower the chair to the ground and roll it rather than carrying it.

e. When reaching the level where the cot awaits, position next to the cot in preparation for transferring the patient.

10. Always remember to keep your back in the locked position.
11. Flex at your hips, not at your waist.
12. Bend your knees and keep the patient's weight and your arms as close to your body as possible.
13. Avoid any unnecessary lifting and carrying of the patient.

| | |
|---|---|
| Self –check -7 | Written test |

Direction –give short answer for the question below.

1.list down AdditionalLifting and carrying guidelines. (10**pt.)**

***Note:*****Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**
**You can ask you teacher for the copy of the correct answers.**

# Answer

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Name: _____ Date: _____

**Short Questions Answer**

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| Information sheet -8 | Lifting limitations |
|---|---|

The use of stretching is appropriate as part of a comprehensive ergonomic program. Stretching must not be used in place of engineering and/or administrative improvements.

- ✓ Check for tags on loads.
- ✓ Before lifting, always test the load for stability and weight.
- ✓ For loads that are unstable and/or heavy, follow management guidelines for:
- ✓ Equipment use
- ✓ Reducing the weight of the load
- ✓ Repacking containers to increase stability

• Plan the lift:

- ✓ Wear appropriate shoes to avoid slips, trips, or falls.
- ✓ If you wear gloves, choose the size that fi ts properly. Depending on the material the gloves are made of and the number of pairs worn at once, more force may be needed to grasp and hold objects. For example, wearing a single pair of heat-resistant gloves can reduce your grip strength up to 40 percent. Wearing two or more pairs of gloves at once can reduce your grip strength up to 60 percent. - Lift only as much as you can safely handle by yourself.
- ✓ Keep the lifts in your power zone (i.e., above the knees, below the shoulders, and close to the body), if possible.
- ✓ Use extra caution when lifting loads that may be unstable.

- When lifting:
  - ✓ Get a secure grip.

- ✓ Use both hands whenever possible.
- ✓ Avoid jerking by using smooth, even motions.
- ✓ Keep the load as close to the body as possible.
- ✓ To the extent feasible use your legs to push up and lift the load, not the upper body or back. - Do not twist your body. Step to one side or the other to turn.
- ✓ Alternate heavy lifting or forceful exertion tasks with less physically demanding tasks.
- ✓ Take rest breaks.

Avoid lifting from the floor whenever possible. If you must lift from the floor, do not bend at the waist. The techniques shown below help the worker to keep the spine in a safer position while lifting from the floor.

Keep the load close to your body and lift by pushing up with your legs.

| Self-check-8 | Written test |
|---|---|

Direction .give short answer for the following questions and put your answer on the answer sheet.

1. What are the key tips for plan lifting patient?(5Pt)
2. What are the steps when lifting patients.(5pt)
3. What are those limitation for lifting.(5pt)

***Note:*** **Satisfactory rating - 10 points Unsatisfactory - below 10 points**
**You can ask you teacher for the copy of the correct answers.**

# Answer

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**Short Questions Answer**

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| Information sheet -9 | Safe work practices in handling loads |
|---|---|

- A safe patient handling policy provides for a safer approach to patient/client handling whereby the manual lifting of patients/clients is eliminated or minimised wherever possible and so far as reasonably practicable.

• Plan the workflow to eliminate unnecessary lifts.

• Organize the work so that the physical demands and work pace increase gradually.

• Minimize the distances loads are lifted and lowered.

• Position pallet loads of materials at a height that allows workers to lift and lower within their power zone.

• Avoid manually lifting or lowering loads to or from the floor.

- ✓ Store materials and/or products off the fl oor.
- ✓ Arrange materials to arrive on pallets, and keep materials on pallets during storage.
- ✓ Use a forklift to lift or lower the entire pallet of material, rather than lifting or lowering the
- ✓ material individually.
- ✓ Arrange to have material off-loaded directly onto storage shelves. Store only lightweight orinfrequently lifted items on the fl oor.
- ✓ Use mechanical devices (e.g., lifts, hoists ) whenever possible.
- ✓ Avoid designing jobs that require workers to lift or lower materials to or from floor level.

• For loads that are unstable and/or heavy:

- ✓ Tag the load to alert workers.
- ✓ Test the load for stability and weight before carrying the load.
- ✓ Use mechanical devices or equipment to lift the load.
- ✓ Reduce the weight of the load by:
- ✓ Putting fewer items in the container.
- ✓ Using a smaller and/or lighter-weight container.
- ✓ Repack containers so contents will not shift and the weight is balanced.
- ✓ Use team lifting as a temporary measure for heavy or bulky objects.

• Reduce the frequency of lifting and the amount of time employees perform lifting tasks by:

- ✓ Rotating workers in lifting tasks with other workers in non-lifting tasks.
- ✓ Having workers alternate lifting tasks with non-lifting tasks.

• Clear spaces to improve access to materials or products being handled. Easy access allows

workers to get closer and reduces reaching, bending, and twisting.

- Work Environment
  - ✓ Clear the aisles and doorways for safe passage and maneuvering of equipment.
  - ✓ Set barriers that prevent employees from coming close to or beneath supported ormoving loads.
  - ✓ In tight spaces, use equipment with four swivel casters or wheels. Loads are easier to turn and control.
- Work Practices
  - ✓ Train employees on proper equipment use and appropriate work practices.
  - ✓ Push and pull equipment with the entire body instead of with just the arms and shoulders.
  - ✓ When pushing or pulling use both hands when feasible.

- ✓ To move heavy loads over long distances, either reduce the load or use powered equipment.
- ✓ Inspect pallets before loading or moving them.

| Self –check-9 | Written test |
|---|---|

Direction –give short answer the following question.

1. List down the work environment for safe practice loads. (5pt)
2. List down the Work Practicesfor safe practice loads. (5pt)

***Note:*** **Satisfactory rating - 10 points Unsatisfactory - below 10 points**
**You can ask you teacher for the copy of the correct answers.**

# Answer

Score =

Rating:

Name: _____ Date: _____

**Short Questions Answer**

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|---|---|---|
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| Information sheet-10 | Personal Protective Equipment |
|---|---|

- **Personal protective equipment**

**Learning objectives**

At the end of this session, trainees will able to:

- ✓ List personal protective equipment
- ✓ Describe their Use, effectiveness and limitations
- ✓ List types of gloves
- ✓ Demonstrate the correct way of putting and removing PPE (glove)

- **Personal protective equipment's**

  Protective barriers and clothing are now commonly referred to as personal protective equipment (PPE). Personal protective equipment includes: gloves, masks/respirators, eyewear (face shields, goggles or glasses), caps, gowns, aprons and other items. The basic principle behind wearing personal protective equipment is to get physical barrier/ protection of healthcare providers and patients/clients from microorganisms. The most effective barriers are made of treated fabrics or synthetic materials that do not allow water or other liquids (blood or body fluids) to penetrate them. These fluid-resistant materials are not, however, widely available because

they are expensive. In many countries caps, masks, gowns and drapes are made of cloth or paper. Lightweight cotton cloth (with a thread count of 140/ inch$^2$) is the material most commonly used for surgical clothing (masks, caps and gowns) and drapes in many countries. Unfortunately, lightweight cotton does not provide an effective barrier because moisture can pass through it easily, allowing contamination.

- **Caps**

✓ Caps are used to keep the hair and scalp covered so that flakes of skin and hair are not shed into the wound during surgery. Caps should be large enough to cover allhair.

- **Masks**
  - ✓ Masks are worn in an attempt to contain moisture droplets expelled as health workers or surgical staff speak, cough or sneeze, as well as to prevent accidental splashes of blood or other contaminated body fluids from entering the health workers' nose or mouth. Masks should be made of fluid-resistant materials. Masks should be large enough to cover nose, lower face, jaw and all facial hair. When removing, handle masks by the strings as the center of the mask contains the most contamination.

**Table:** Types of personal protective equipment

| Type of PPE | Must be used for | Primarily protects |
|---|---|---|
| Caps, Gowns/scrub suits, masks, aprons, drapes | Invasive procedure where tissue beneath the skin is exposed | Service provider and client |
| Closed boots or shoes (open sandals are not acceptable) | Situation involving sharp instruments or contact with blood and/or body fluids is likely | Service provider |
| Goggles or glasses, Masks, Apron or Mackintosh | Situation were splashing or blood, body fluids, secretions or | Service provider |

| | | |
|---|---|---|
| | excretions is likely | |
| Apron or Mackintosh | Situation were splashing or spillage of blood, body fluids, secretions or excretions is likely | Service provider |
| Masks | Situation which call for air borne or droplet transmission precaution | Service providers |
| Sterile Drapes | Major or minor surgical procedures | Client |

**Respirators**

- ✓ Respirators are specialized types of masks, called particulate respirators worn by healthcare personnel to protect them from inhalation exposure to airborne infectious agents that are < 5μm in size. These include infectious droplet nuclei from patients with M. tuberculosis and dust particles that contain infectious particles, such as spores of environmental fungi (e.g., Aspergillus sp.). The N95 disposable particulate, air purifying, respirator is the type used most commonly by healthcare personnel.

**Eyewear**

- ✓ Eyewear protects staff in the event of an accidental splash of blood or other body fluid by covering the eyes. Eyewear includes clear plastic goggles, safety goggles, and faces shields.

**Scrub suits or cover gowns**

- ✓ Are worn over, or instead of, street clothes. The main use of cover gowns is to protect the healthcare workers' clothing.

**Surgical gowns**

- ✓ Were first used to protect patients from microorganisms present on the abdomen and arms of the healthcare staff during surgery. Lightweight cloth gowns, generally available in Ethiopia, however, offer little protection. Under

the circumstances, either wear a plastic apron before putting on the surgical gowns or, if large spills occur, take shower or bathe as soon as possible after completing the surgery or the procedure. When surgical gowns are worn, sleeves should either taper gently toward the wrists or end with elastic or ties around the wrists. (Large, droopy sleeves invite accidental contamination.) In addition, the cuffs of the surgical gloves should completely cover the end of the sleeves.

**Mackintosh or plastic apron**

- ✓ Is used to protect clothing or surfaces from contamination. Aprons made of rubber or plastic provide a waterproof barrier along the front of the healthcare worker's body and should also be worn during cleaning and procedures where there is a likelihood of splashes or spillage of blood, body fluids, secretions or excretions (e.g., when conducting deliveries).

**Footwear**

- ✓ Is worn to protect feet from injury by sharp or heavy items or fluids that may accidentally fall or drip on them. For this reason, sandals, "thongs" or shoes made of soft materials are not acceptable.

**Drapes**

- ✓ Are used to create an operative field around an incision, wrap instruments and other items for sterilization, cover tables in operating room and keep clients warm during surgical procedures.
- ✓ There are four types of drapes:
    1. **Towel drapes:** used for drying hands, squaring off the operative site and wrapping small items
    2. **Drapes or lap sheets:** used for covering the patient
    3. **Site drapes:** used for minor surgical procedures and have circular opening

4. **Pack wrapper drapes:** large drapes that become a table cover when the sterile instrument pack is opened

**GLOVES**

Hand hygiene, coupled with the use of protective gloves, is a key component in minimizing the spread of disease and maintaining an infection-free environment.

Healthcare workers wear gloves for the following three reasons:

1. To reduce the risk of staff acquiring bacterial infections from patients.
2. To prevent staff from transmitting their skin flora to patients.
3. To reduce contamination of the hands of staff by microorganisms that can be transmitted from one patient to another (cross-contamination).

- **Types of gloves**

There are three types of gloves used in healthcare facilities. These are:

1. **Surgical glove** should be used when performing invasive medical or surgical procedures. The best surgical gloves are made of latex rubber, because of rubber's natural elasticity, sensitivity and durability and it provides a comfortable fit. High-level disinfected surgical gloves are the only acceptable alternative if sterile surgical gloves are not available, when performing surgical or invasive procedures.
2. **Clean Examination gloves** provide protection to healthcare workers when performing many of their routine duties. These can be used when there is contact with mucous membrane and non-intact skin (e.g., performing medical examinations and procedures such as pelvic examination).
3. **Utility or heavy-duty household gloves** should be worn for processing instruments, equipment and other items, for handling and disposing of contaminated waste, and when cleaning contaminated surfaces. Double gloving using either new examination gloves or reprocessed surgical gloves provide some protection in case utility gloves are not available.

- **When to wear gloves**

Depending on the situation, surgical gloves, clean examination or utility gloves should be worn by all staff where:

- ✓ There is reasonable chance of hands coming in contact with blood or other body fluids, mucous membranes or none intact skin;
- ✓ They perform invasive medical procedures (e.g., inserting vascular devices such as peripheral venous lines); or
- ✓ They handle contaminated waste items or touch contaminated surfaces.

**Note:**

- ✓ When using latex rubber gloves, do not use hand cream or lotions that contain mineral oil, petroleum jelly (Vaseline) or lanolin to protect your hands, because they may cause the gloves to break down within minutes.
- ✓ A separate pair of gloves must be used for each client to avoid cross-contamination or when moving from one site to another site on the same patient (i.e., from respiratory care to a dressing change).
- ✓ It is preferable to use new and single use (disposable) gloves.

- **Removing and discarding or reprocessing gloves**
  - ✓ If gloves are to be discarded, briefly immerse them in 0.5% chlorine solution, remove and dispose in a container for contaminated waste.
  - ✓ If gloves are to be re-processed and reused, immerse them in a 0.5% chlorine solution briefly, remove gloves by inverting them and then soak the gloves in the 0.5% chlorine solution for 10 minutes before cleaning and processing them.
- **The following figures show how to don and remove gloves.**

**Figure:** How to don examination gloves

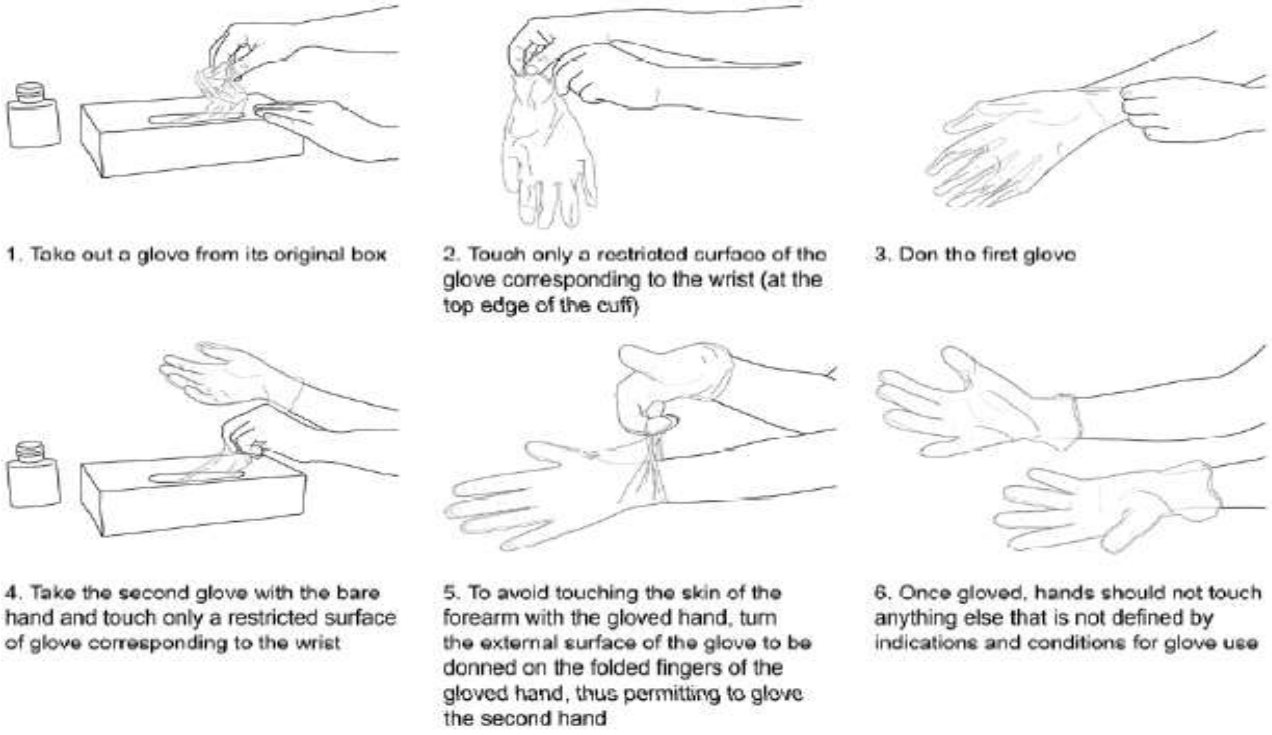



**Figure :**How to remove examination gloves

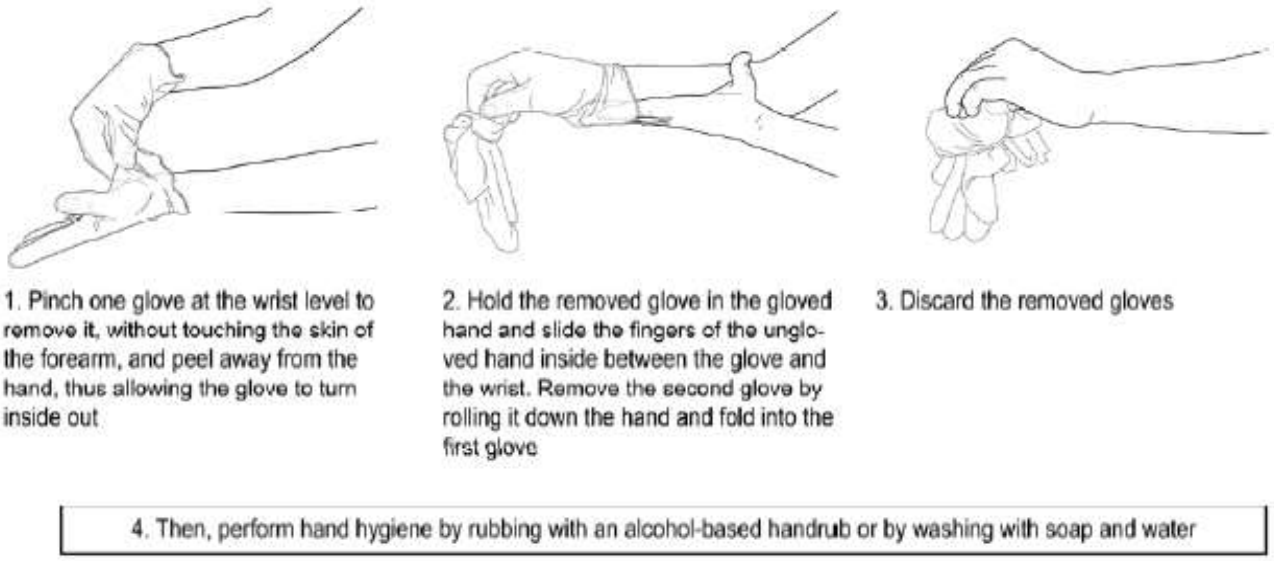
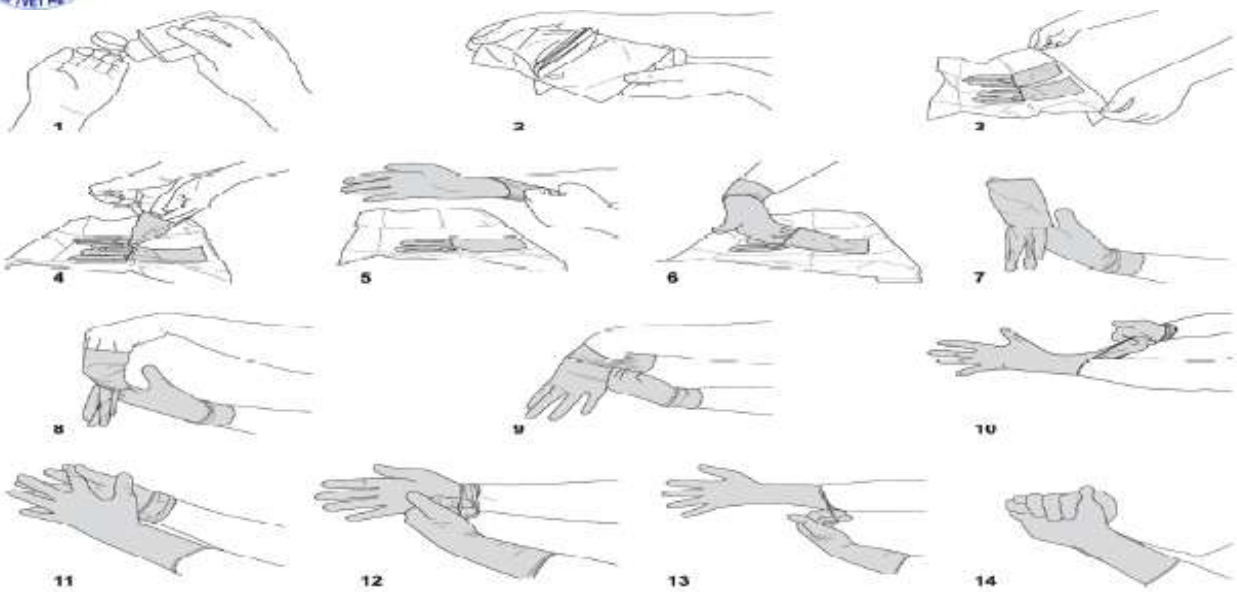
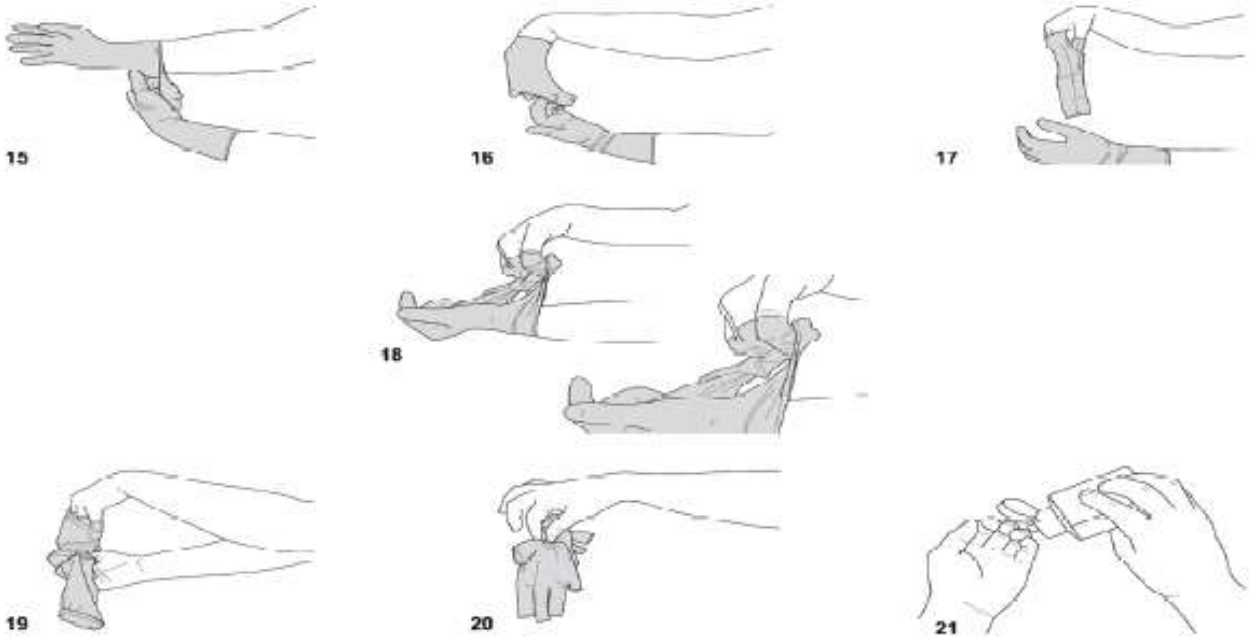



**Figure:** How to don sterile gloves



1. Perform hand hygiene before an "aseptic procedure" by handrubbing or hand washing.
2. Check the package for integrity. Open the first non-sterile packaging by peeling it completely off the heat seal to expose the second sterile wrapper, but without touching it.
3. Place the second sterile package on a clean, dry surface without touching the surface. Open the package and fold it towards the bottom so as to unfold the paper and keep it open.
4. Using the thumb and index finger of one hand, carefully grasp the folded cuff edge of the glove.
5. Slip the other hand into the glove in a single movement, keeping the folded cuff at the wrist level.
6-7. Pick up the second glove by sliding the fingers of the gloved hand underneath the cuff of the glove.
8-10. In a single movement, slip the second glove on to the ungloved hand while avoiding any contact/resting of the gloved hand on surfaces other than the glove to be donned (contact/resting constitutes a lack of asepsis and requires a change of glove).
11. If necessary, after donning both gloves, adjust the fingers and interdigital spaces until the gloves fit comfortably.
12-13. Unfold the cuff of the first gloved hand by gently slipping the fingers of the other hand inside the fold, making sure to avoid any contact with a surface other than the outer surface of the glove (lack of asepsis requiring a change of gloves).
14. The hands are gloved and must touch exclusively sterile devices or the previously-disinfected patient's body area.

**Figure :**How to remove sterile gloves




15-17. Remove the first glove by peeling it back with the fingers of the opposite hand. Remove the glove by rolling it inside out to the second finger joints (do not remove completely).
18. Remove the other glove by turning its outer edge on the fingers of the partially ungloved hand.
19. Remove the glove by turning it inside out entirely to ensure that the skin of the health-care worker is always and exclusively in contact with the inner surface of the glove.
20. Discard gloves.
21. Perform hand hygiene after glove removal according to the recommended indication.

NB: Donning surgical sterile gloves at the time of a surgical intervention follows the same sequences except that:
- it is preceeded by a surgical hand preparation;
- donning gloves is performed after putting on the sterile surgical gown;
- the opening of the first packaging (non-sterile) is done by an assistant;
- the second packaging (sterile) is placed on a sterile surface other than that used for the intervention;
- gloves should cover the wrists of the sterile gown.

- **When to double glove**

Even the best quality, new latex rubber surgical gloves may leak up to 4% of the time. Moreover, latex gloves especially when exposed to fat in wounds, gradually become weaker and lose their integrity. Although double gloving is of little benefit in preventing blood exposure if needle sticks or other injuries occur, it may decrease the risk of blood-hand contact.

Double glove can be used during the following

- ✓ The procedure involves coming in contact with large amounts of blood or other body fluids (e.g. vaginal deliveries and cesarean sections).

- ✓ Orthopedic procedures in which sharps bone fragments, wire sutures and other sharps are likely to be encountered.
- ✓ Surgical procedures lasting more than 30 minutes.

- **When to use elbow length gloves**

Elbow length gloves should be used during vaginal deliveries and cesarean sections when the chance of coming in contact with blood is 25% and 35% respectively. Elbow length gloves are also recommended while performing procedures like manual removal of placenta and any other procedure where there is a contact with a large volume of blood or body fluids. It gives protection of the hand including the forearm(s).

When readymade elbow length gloves are not available, an effective alternative can be easily made from previously used surgical latex gloves that have been re-processed (decontaminated, cleaned and dried, and either sterilized of high-level disinfected).

The steps for making elbow level glove are:

1. Cut the one finger (one or more fingers depending on the size of your hands) completely off each glove just below where all the fingers join the gloves.
2. Sterilize or HLD 2–3 pairs of cut-off (fingerless) gloves according to the recommended process for each method and store the gloves after final processing in a sterile or high-level disinfected container until needed.

- **How to Use elbow length gloves?**

- ✓ Perform surgical hand scrub.
- ✓ Put intact sterile or HLD surgical gloves on both hands so that the distal end of the fingerless gloves is completely covered
- ✓ Put fingerless sterile or HLD gloves and pull up to the forearms

**Some DOs and DON'Ts about gloves**

**Do**

- ✓ Wear the correct size gloves, particularly the surgical gloves. A poorly fitting glove can limit your ability to perform the task and may get damaged easily
- ✓ Change surgical gloves periodically (every 45 minutes) during long cases as the protective effect of latex gloves decreases with time and unapparent tears may occur
- ✓ Keep fingernails trimmed moderately short (less than 3 mm beyond the finger tip) to reduce the risk of tears
- ✓ Pull gloves up over cuffs of gown (if worn) to protect the wrists
- ✓ Use water-soluble hand lotions and moisturizers often to prevent hands from drying, and cracking due to frequent hand washing and gloving

**Figure:** shows how to make and use elbow length gloves

**1**

**2**

**3**

**4**

**Don’t**

- ✓ Use oil-based hand lotions or creams, because they will damage latex surgical and examination gloves
- ✓ Use latex gloves if you or the patient have an allergy to latex
- ✓ Store gloves in areas where there are extremes of temperature (e.g., direct sunlight, near the heater, air conditioner, ultraviolet light, and X-ray machine). These conditions may damage the gloves (cause breakdown of the material they are made of), thus reducing their effectiveness as a barrier
- ✓ Reprocess gloves that are cracked or have detectable holes/tears
- ✓ Reprocess examination gloves for reuse

| Self –check-10 | Written test |
|---|---|

1. List different types of personal protective equipment with their use and to whom they are primarily protectors.(5pt)
2. What are the three main reasons healthcare workers should wear gloves?(5pt)
3. List down Don't for gloves?(5pt)
4. How to Use elbow length gloves? (5pt)
5. When to use elbow length gloves?(5pt)
6. When to wear gloves?(5pt)

***Note:*****Satisfactory rating - 30 points** **Unsatisfactory - below 30 points**
**You can ask you teacher for the copy of the correct answers.**

## Answer

Score =

Rating:

Name: _____ Date: _____

**Short Questions Answer**

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| Transporting and Assisting Patient by Safe Handling<br>Version: 1 Revision : 0 | Author: Ferhan Abubaker(BSC,MPH) & Eskender Birhanu(BSC) : Harar Health Science College , Harar Ethiopia | Date : September 2019 |

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