Ministry of Labour, Human Resource Development & Training

GUIDELINES ON
MANUAL HANDLING

Occupational Safety and Health Division

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1.0 INTRODUCTION

Everyday people are engaged in manual handling operations, be it at the workplace or at home. If appropriate manual handling techniques are not adopted, these persons may suffer health problems resulting thereof. The aim of this guideline is to provide practical guidance for the identification, assessment, prevention and control of the hazards and risks associated with manual handling at the workplace.

2.0 EXTENT OF THE PROBLEM

Manual handling can result in fatigue and lead to injuries of the back, neck, shoulders, arms or other body parts. According to the Sixth European Working Conditions Survey carried out in the EU-28 in 2016, the most prevalent risks in Europe include those related to lifting people, carrying heavy loads and repetitive movements. Furthermore, 32% of all workers were exposed to the risk of carrying or moving heavy loads at their workplace in 2015 and more men than women were exposed to such risks.

In Mauritius, according to statistical data obtained from the Ministry of Health and Wellness, for the years 2019 and 2020, the number of cases of occupational musculoskeletal disorders diagnosed during screening sessions at the Government Occupational Health Clinics were 46 and 41 respectively. Moreover, it was noted that for the year 2019 there were 191,486 cases of diseases related to musculoskeletal system and connective tissue which included 85,235 cases of spondylosis, neck pain, low back pain and headache while in 2020 there were 187,075 cases which included 82,817 cases of spondylosis, neck pain, low back pain and headache.

3.0 DEFINITION

According to Section 84(3) of the Occupational Safety and Health Act 2005, "manual handling operations" means any transporting or supporting of a load, including the lifting, putting down, pushing, pulling, carrying or moving thereof by hand or by bodily force. "Load" includes any person or animal.

4.0 LEGAL PROVISIONS – OCCUPATIONAL SAFETY & HEALTH ACT 2005

4.1 Section 5(2)(d) of Occupational Safety and Health Act 2005

Under this section, an employer has to provide, so far as is reasonably practicable, information, instruction, training and supervision as is necessary to ensure the safety and health at work of his employees.

4.2 Section 10 of the Occupational Safety and Health Act 2005

This section requires every employer to make a suitable and sufficient assessment of any safety risk and health risk to which any employee is exposed whilst he is at work and to review the assessment within a period of 2 years.

4.3 Section 82(1) of the Occupational Safety and Health Act 2005

"Where any process carried out at a place of work is likely to cause bodily injury and such bodily injury cannot be prevented by other means, every person employed in that process and liable to such bodily injury, shall be provided with such suitable and appropriate personal protective equipment and clothing as will protect him from risk of injury."

4.4 Section 84(1) of Occupational Safety and Health Act 2005

"Every employer shall -

(a) so far as is reasonably practicable, avoid the need for his employees to undertake any manual handling operations at work which involve a risk of bodily injury;

(b) where it is not reasonably practicable to avoid the need for his employees to undertake any manual handling operations at work which involve a risk of bodily injury-

(i) take appropriate steps to reduce the risk of bodily injury to those employees arising out of their undertaking any such manual handling operations to the lowest level reasonably practicable;

(ii) take appropriate steps to provide any of those employees who are undertaking such manual handling operations with general indications and precise information on the weight and nature of each load to be handled; and

(iii) provide sufficient training in the safe techniques or methods of manual lifting and handling to any employee who is required in the normal course of his work regularly to lift, carry or move loads exceeding 18 kilograms for any employee."

Note: With respect to (b)(i), employers need to take such measures as may be practicable in relation to the task, the load, the working environment and individual capability of an employee.

5.0 HEALTH EFFECTS OF POOR MANUAL HANDLING

Two categories of injuries may result from manual handling:

- Cuts, bruises, fractures etc. due to sudden unexpected events such as accidents.

- Damage to the musculoskeletal system of the body (muscles, tendons, ligaments, bones, joints, bursa, blood vessels and nerves) as a consequence of gradual and cumulative wear and tear through repetitive manual handling. These injuries are called 'musculoskeletal disorders' (MSDs) and can be divided into 3 groups:

  - Neck and upper limb disorders.
  - Lower limb disorders.
  - Back pain and back injuries.

6.0 MANAGEMENT OF RISKS ASSOCIATED WITH MANUAL HANDLING

6.1 RISK ASSESSMENT

To enable prevention of manual handling injuries, it is deemed important to conduct a proper risk assessment of manual handling activities beforehand. A risk assessment is a careful examination of risk factors in the work being carried out which could cause harm to people. Simple steps can be followed to carry out an effective risk assessment in the workplace:

- Identifying the hazards that could cause accidents, injuries or ill health by considering the load, the task, the environment and the workers;

- Decide who might be harmed and how by evaluating the potential consequences of the hazards;

- Determine whether existing precautions are adequate or whether additional control measures need to be implemented to eliminate or minimize the risk; and

- Monitor the risks, and review preventive measures.

6.1.1 Hazard Identification

Hazards associated with manual handling tasks that are likely to be a risk to health and safety, need to be fully identified. Hazard identification should therefore be undertaken on a regular basis.

There are three basic steps to hazard identification:

1. Analysis of workplace injury records;

Records of accidents and incidents can be examined to identify where, and in what jobs, manual handling injuries have occurred or are most prevalent.

Indicators to consider, amongst others, include:

- The area of the workplace where the injury occurred;

- The occupation or job/task of the injured person;

- The part of the body injured, for example, back, neck or shoulder;

- The nature of the injury, for example, strain, sprain, laceration or fracture; and

- The type of incident, for example, over-exertion and physical stress in lifting objects, or slips and falls while handling objects.

It is often useful to examine injury records to find out the frequency and severity of injuries and compare them with the number of employees or hours worked to determine the incidence rate. Comparisons can also be made between locations, occupations or tasks.

2. Consultation with employees;

It is important to consult employees performing the tasks, as they are likely to be aware of the risks of manual handling injuries associated with their jobs.

Consultation during the hazard identification process with employees carrying out the tasks and with their representatives on safety and health issues can provide relevant information about the associated risk factors.

It is also advisable to consult employees while setting priorities for risk assessment. Employees may be well-placed to indicate tasks or movements which are particularly fatiguing, strenuous or difficult to perform.

3. Direct observation or inspection of the task or work area;

Direct observation by the employer and all employees of work areas and of the task being performed will assist in identifying risks. This need not be the sole responsibility of one individual. Workplace inspections, audits, and walk through surveys as well as the use of checklists are helping tools in the risk identification process. These should, however, be customised according to the specificity/ies of the organisation or industry concerned.

6.1.2 Evaluation of risks

Employers are required to evaluate the safety and health risks resulting from the hazards relating to manual handling activities. One needs to identify those who are at risk and determine whether sufficient precautions have been taken, or whether more needs to be done to prevent harm. The challenge is to eliminate, or reduce, the probability of accidents, injury or ill health that could originate from working activities and tasks.

6.1.3 Risk Control

When implementing control measures, the two important things to consider are:-

- **Avoiding** the need for hazardous manual handling, so far as is reasonably practicable (e.g. using mechanical handling equipment).

- In case hazardous manual handling cannot be avoided, **assessing** the risks and taking appropriate measures to reduce the risks so far as is reasonably practicable (e.g. job rotation, providing breaks, information, instruction, training and supervision to workers).

Consultation with and involvement of employees is a fundamental principle to be observed, especially in view of their knowledge of the risks at the workplace they can better equip to contribute in proposing practical solutions to the risks they are themselves exposed to.

6.2 INFORMATION, INSTRUCTION AND TRAINING OF EMPLOYEES

To ensure that employees are aware of the hazards related to manual handling, it is important that they be provided with relevant information, instruction and training on:

- manual handling risk factors and how injuries can occur,
- safe and good manual handling techniques in the performance of their duties,
- appropriate systems of work for the individual's load, tasks, working environment, individual capacity, handling aids and equipment and work organisation factors,
- use of mechanical aids,
- practical work to allow the trainer to identify and put right anything the trainee is not doing safely.

Note: Training and 'demos' are important in addressing risks related to manual handling.

7.0 KEY FACTORS TO CONSIDER WHEN MAKING AN ASSESSMENT OF MANUAL HANDLING

When making an assessment, the undermentioned key factors need to be considered while identifying hazards and risks related to manual handling at the workplace:

- Tasks
- Load
- Working Environment
- Individual Capacity
- Handling Aids and Equipment
- Work Organisation factors

The above mentioned key factors are described in the table as follows:

SN.	Problems to look for when making an assessment	Ways of reducing the risk of injury
1.	The **tasks**, do they involve:	Is it possible to:
	holding loads away from the body?	use a lifting aid?
	a work rate imposed by a process?	
	twisting, stooping or reaching upwards?	reduce the amount of twisting and stooping?
		improve workplace layout to improve efficiency?
	large vertical movement?	avoid lifting from floor level or above shoulder height, especially heavy loads?
	long carrying distances?	reduce carrying distances?
	repetitive handling?	avoid repetitive handling?
	insufficient rest or recovery time?	vary the work, allowing one set of muscles to rest while another is used?
	strenuous pushing or pulling?	push rather than pull?

2.	The **loads**, are they:	Can the load be made:
	heavy or bulky (e.g. oversized)?	lighter or less bulky?
	too large for the handler to see over?	
	difficult to grasp?	easier to grasp?
	unstable or likely to move unpredictably (like animals)?	more stable?
	awkwardly stacked?	evenly stacked?
	harmful, e.g. sharp or hot?	secure/less harmful before handling?
	If load is heavy, seek help. If the load comes in from elsewhere, the help of the supplier can be sought, e.g. by providing handles or smaller packages?	
3.	The **working environment**, are there:	Is it possible to:
	restrictions on posture?	remove obstructions to free movement?
	bumpy, obstructed or slippery floors?	provide better flooring?
	variations in floor levels?	avoid steps and steep ramps?
	specific activities such as carrying loads while climbing stairs or ladders?	
	hot/cold/humid conditions?	prevent extremes of hot and cold?
	poor lighting conditions?	improve lighting?
	restrictions on movements from clothes or personal protective equipment (PPE)?	provide protective clothing or PPE that is less restrictive?
	gusts of wind or other strong air movements?	avoid working in these conditions?

SN.	Problems to look for when making an assessment	Ways of reducing the risk of injury
4.	**Individual capacity**, does the job:	Is it possible to:
	require unusual capability, e.g. above average strength or agility?	pay particular attention to those who have a physical weakness?
	endanger those within a specific age group, with health problem or learning/ physical disability?	
	endanger pregnant workers?	take extra care of pregnant workers?
	call for special information or training?	give employees more information, e.g. about the range of tasks they are likely to face?
		provide more training?
5.	**Handling aids and equipment:**	Is it possible to:
	is the device the correct type for the job?	adjust the work rate?
		provide equipment that is more suitable for the task?
	is it well-maintained?	carry out planned preventive maintenance to prevent problems?
	are the wheels on the device suited to the floor surface?	change the wheels, tyres and/or flooring so that equipment moves easily?
	do the wheels run freely?	
	is the handle height between the waist and shoulders?	provide better handles and handle grips?
	are the handle grips in good condition and is it comfortable?	
	are there any brakes? If so, do they work?	make the brakes easier to use, reliable and effective?

6.	**Work organisation factors:**	Is it possible to:
	is the work repetitive or boring?	change tasks to reduce the monotony?
	have workers little control of the work and working methods?	make more use of workers' skills?
	is there poor communication between managers and employees?	encourage good communication and teamwork?
		involve workers in decisions?
		provide better training and information?
	do workers feel the demands of the work excessive?	make workloads and deadlines more achievable?
	are the working hours too long?	
	is work machine-paced?	reduce the workload?

8.0 BENEFITS OF ADOPTING GOOD MANUAL HANDLING PRACTICES IN THE ORGANIZATION

Poor manual handling techniques may expose workers to physical conditions (e.g. force, awkward postures, and repetitive motions) that can lead to injuries and wasted time during working hours.

To avoid manual handling problems, the organization can directly benefit from ***improving the fit*** between the demands of work tasks and the capabilities of the workers. It should be remembered that workers' abilities to perform work tasks may vary because of differences in age, physical condition, strength, gender, stature, and other factors. In short, changing the workplace by ***improving the fit*** can benefit the workplace by:

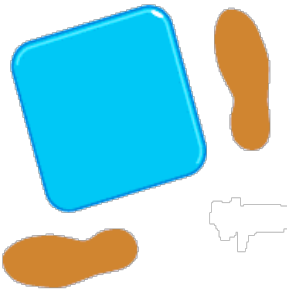
- Reducing or preventing injuries or ill-health such as musculoskeletal disorders,
- Reducing workers' efforts by decreasing forces in lifting, handling, pushing and pulling materials,
- Increasing productivity, product and service quality and worker morale,
- Lowering costs by reducing or eliminating production bottlenecks, error rates or rejects, use of medical services because of musculoskeletal disorders, workers' compensation claims, excessive worker turnover, absenteeism, and retraining.

9.0 SAFE MANUAL HANDLING TECHNIQUES

Some practical tips to be followed to avoid manual handling injuries:

(1) Plan the lifting/handling beforehand

(2) Adopt a stable position



(3) Get a good hold

(4) Start in a good posture

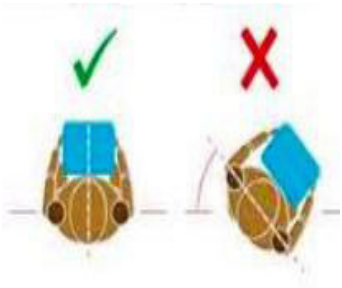
At the start of the lift, slight bending of the back, hips and knees is preferable to fully flexing the back (stooping) or fully flexing the hips and knees (squatting).

(5) Keep the back straight while lifting

This can happen if the legs begin to straighten before starting to raise the load.

Bend the knees, not the back.

(6) Avoid twisting the back or leaning sideways



(7) Keep the load close to the waist

(8) Keep the head up when handling

(9) Move smoothly

(10) Don't lift or handle more than can be easily managed

(11) Put down, then adjust

10.0 CONCLUSION

Manual handling injuries can have serious implications for the employer and the employee who has been injured. They can occur almost anywhere in the workplace and heavy manual labour, awkward postures, repetitive movements of arms, legs and back or previous/existing injury can increase the risk.

It is the duty of the employer to protect his employees from the risk of injury and ill health from hazardous manual handling tasks in the workplace. Equally, it is the duty of employees to adopt good manual handling practices to avoid injuries. The proposals made in this document will surely help both the employers and employees in minimizing risks associated with manual handling and thus prevent employees from sustaining injuries or illness due to manual handling.

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