

# SAFE WORKING GUIDELINES MANUAL HANDLING

## 1. Introduction

The objective of this procedure is to prevent the occurrence of injury and reduce the severity of injuries resulting from Manual Handling tasks performed by employees and subcontractors of Proline Building Commercial Pty Ltd.

## 2. Purpose

The purpose of this document is to provide suitable information for the identification, assessment and control of hazards associated with Manual Handling.

## 3. Definitions

'Manual Handling' means any activity requiring the use of force exerted by a person to lift, lower, push, pull, carry or otherwise move, hold restrain any animate or inanimate object.

## 4. Roles & Responsibilities

Project Managers/Supervisors are to ensure the following requirements are carried out in reference manual handling:

- Ensure employees / subcontractors are aware of their responsibilities and are provided with adequate information, instruction and training in reference to safe manual handling techniques
- Ensure employees / subcontractors use safety equipment and aids provided for manual handling
- Ensure all hazards are identified where possible and corrective action taken to controls those risks.

All persons must adhere and ensure that:

- A safe and healthy work environment is provided and maintained for employees, subcontractors and visitors;
- Compliance with all manual handling safety instructions of their supervisors;
- Reporting any potential manual handling hazards;
- Use of all manual handling aids, personal protective equipment and any safety devices properly;
- Not put themselves or others at risk by their actions or omissions.

## 5. Procedure

Employees and subcontractors are responsible for developing an understanding of an becoming competent in the implementation of risk management principles and practices on site/s.

This is a four phase process:-

1. Risk Identification
2. Risk Assessment

- 3. Risk Control
- 4. Risk Evaluation




### **5.1 Risk Identification**




Identification of risks associated with manual handling should be undertaken by the following means:

- Consultation with employees / subcontractors
- Observation of work practices
- Inspections of the task and associated work areas
- Examine workplace injury records to assess what manual handling injuries have occurred to what jobs being carried out.

## Characteristics of Hazardous Manual Tasks

(Obtained from the Hazardous Manual Tasks Code of Practice)

<p><b>Force</b> is the amount of muscular effort required to perform a movement or task. Forceful muscular exertions overload muscles, tendons, joints and discs and are associated with most MSDs.</p>		
<p><i>Repetitive force</i> - using force repeatedly over a period of time to move or support an object</p>	<ul style="list-style-type: none"> <li>• lifting and stacking goods onto a pallet</li> <li>• gripping and handling bricks when bricklaying</li> <li>• repetitively pressing components with the thumbs or other part of the hand to assemble an item</li> <li>• prolonged application of therapeutic massage treatments</li> <li>• removing splinting material from patients using shears.</li> </ul>	
<p><i>Sustained force</i> - occurs when force is applied continually over a period of time.</p>	<ul style="list-style-type: none"> <li>• pushing or pulling a trolley around hospital wards</li> <li>• holding down a trigger to operate a power tool</li> <li>• supporting a plaster sheet while fixing it to a ceiling</li> <li>• carrying objects over long distances</li> <li>• supporting, positioning or stabilising a patient's limb during surgery or when applying splinting or casting material</li> </ul>	
<p><i>High force</i> – may be exerted by the back, arm or leg muscles or by the hands and fingers.</p> <p>High force occurs in any tasks that:</p> <ul style="list-style-type: none"> <li>• a worker describes as very demanding physically</li> <li>• a worker needs help to do because of the effort it requires</li> <li>• require a stronger person or two persons to do the task.</li> </ul>	<ul style="list-style-type: none"> <li>• Lifting, lowering or carrying a heavy object</li> <li>• Lifting, lowering or carrying an object that cannot be positioned close to the body</li> <li>• pushing or pulling an object that is hard to move or stop</li> <li>• restraining a person or animal.</li> </ul>	

	<p>Examples of high force using the hands and fingers include:</p> <ul style="list-style-type: none"> <li>• using a finger-grip, a pinch-grip or an open-handed grip to handle a heavy or large load</li> <li>• operating hand tools with tight squeeze grips</li> <li>• gripping small instruments with high force, for example, a dental hygienist cleaning teeth.</li> </ul>	
<p><i>Sudden force</i> – jerky or unexpected movements while handling an item or load are particularly hazardous because the body must suddenly adapt to the changing force.</p> <p>Tasks where force is applied suddenly and with speed also generates high force.</p>	<ul style="list-style-type: none"> <li>• impact recoil of a large nail gun</li> <li>• throwing or catching objects</li> <li>• cutting reinforcement steel with large bolt cutters</li> <li>• carrying an unbalanced or unstable load such as bagged stock feed pellets that suddenly moves</li> <li>• handling frightened or resistant animals</li> <li>• handling patients who suddenly resist or no longer assist during the handling procedure.</li> </ul>	
<p><b>Movement</b></p>		
<p><i>Repetitive movement</i> – using the same parts of the body to repeat similar movements over a period of time.</p>	<ul style="list-style-type: none"> <li>• painting</li> <li>• lifting goods from a conveyor belt and packing them in a carton</li> <li>• typing and other keyboard tasks</li> <li>• repeatedly reaching for and assembling components in electronics manufacturing</li> <li>• using a socket and ratchet or spanner to unscrew long bolts.</li> </ul>	

**Posture**

An ideal posture is one where the trunk and head are upright and forward facing, the arms are by the side of the body, the forearms are either hanging straight or at right angles to the upper arm, and the hand is in the handshake position.

Postures that are both awkward and sustained are particularly hazardous.

*Sustained posture* – where part of or the whole body is kept in the same position for a prolonged period.

- supporting plasterboard sheeting while it is nailed into place
- continually standing with weight mainly on one leg while operating a power press with foot pedal controls.



*Awkward posture* – where any part of the body is in an uncomfortable or unnatural position, such as:

- postures that are unbalanced or asymmetrical
- postures that require extreme joint angles or bending and twisting.

- squatting while servicing plant or a vehicle
- working with arms overhead
- bending over a desk or table
- using a hand tool that causes the wrist to be bent to the side
- kneeling while trowelling concrete or laying carpet
- bending the neck or back to the side to see around bulky items pushed on a trolley.

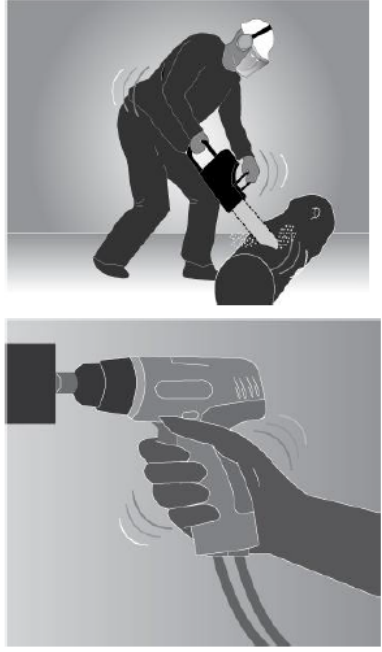


**Vibration** There are two common forms of vibration according to contact points between the body and the source:

*Whole body vibration* occurs when vibration is transmitted through the whole body, usually via a supporting surface, such as a seat or the floor in heavy vehicles or machinery. This may result in lower back pain, degeneration of the lumbar vertebrae and disc herniation.

- operating mobile plant such as heavy earth moving machinery
- driving a vehicle over rough terrain.



<p><i>Hand-arm vibration</i> occurs when vibration is transferred through a vibrating tool, steering wheel or controls in heavy machinery to the hand and arm. This can disrupt blood circulation in the hand and forearm and damage nerves and tendons. Localised vibration contributes to 'vibration-induced white finger' and 'carpal tunnel syndrome' through the gripping force needed to hold the vibrating tools (the tighter the grip, the more vibration is absorbed) and the repetitive shock loads of some tools.</p>	<ul style="list-style-type: none"><li>• using impact wrenches, chainsaws, jackhammers, grinders, drills or vibrating compacting plates</li><li>• using needle guns in de-rusting metal.</li></ul>	
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## 5.2 Risk Assessment

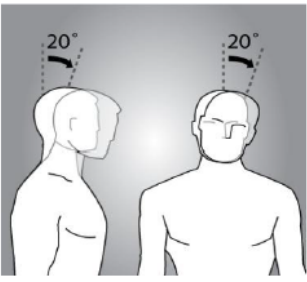
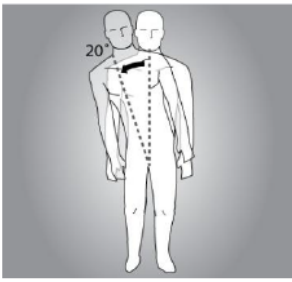

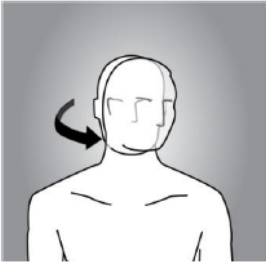


Identified hazards should then be prioritized according to the severity of injury, frequency of task and probability whilst performing the task. When assessing the risk, consideration will be given to:




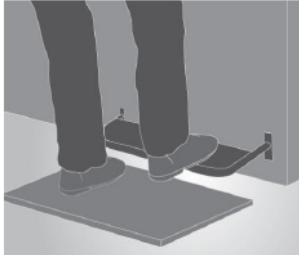

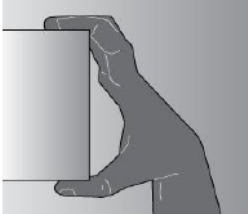

- Movements, Posture and Layout
- Task and Object
- Work environment
- Duration and frequency
- Characteristics of Loads - weights
- Skills and Experience
- Age, health and fitness

Use of Doc OHS018 Manual Handling Checklist is the best method of assessing risks associated with manual handling hazards.

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Examples of postures and movements that pose a risk if they are repetitive or sustained are:

<p>Bending the back or head forwards or sideways more than 20 degrees</p>		
<p>Bending the back or head backwards more than 5 degrees or looking up</p>		
<p>Twisting the back or neck more than 20 degrees</p>		
<p>Working with one or both hands above shoulder height</p>		

<p>Reaching forward or sideways more than 30cm from the body</p>		
<p>Reaching behind the body</p>		
<p>Standing with most of the body's weight on one leg</p>		
<p>Twisting, turning, grabbing, picking or wringing actions with the fingers, hands or arms that includes excessive bending of the wrist</p>		
<p>Working with the fingers close together or wide apart</p>		
<p>Squatting, kneeling, crawling, lying, semi-lying or jumping.</p>		



### 5.3 Risk Control

It is the responsibility of all employees and subcontractors involved in the Manual Handling hazard management process to ensure that they co-operate with control measures that are put in place by Proline. Risk Control is the means for minimizing or eliminates the identified risk and is carried out using the following hierarchy of control:

- *Eliminate the risk by ceasing the hazardous component or activity*
- *Substitute a less harmful alternative hazard substance or process*
- *Isolate the hazard at source using engineering means*
- *Introduce administrative controls to minimize exposure*
- *Use of Personal Protective Equipment*

Control options should include the following:

- Remove the need for manual handling
- Modify the object
- Modify the workplace layout
- Rearrange materials flow
- Use mechanical equipment
- Use special tools or other devices
- Use team lifting arrangements
- Use particular training or instruction

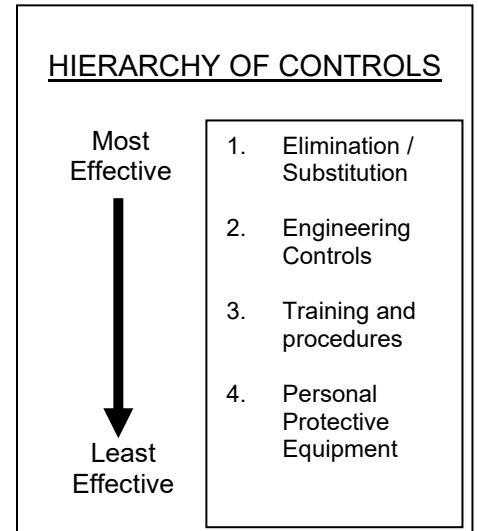
**Various Risk Controls could include:**

**(obtained from the Hazardous Manual Tasks Code of Practice)**

Mechanical aids should be:

- designed to suit the load and the work being done
- as light as their function will allow
- adjustable to accommodate a range of users
- easy to use
- suited to the environment in which the task is performed
- located close to the work area so they are readily available but do not cause an obstruction
- supported by a maintenance program to ensure they are safe and that the required effort to use them is kept at the lowest possible level
- introduced with suitable instruction and training in their use.

When you introduce a mechanical aid into the workplace, you must provide adequate information, instruction, training and supervision to ensure that new arrangements do not introduce any additional risks to workers, for example, a forklift operated in the same workspace used by other workers.





A trolley can eliminate many of the risks involved in manual handling, however, the load will still need to be manoeuvred onto the trolley and through the workplace.

### **Handling loads**

Examples of control measures that should be considered when handling loads include:

- purchasing products in smaller loads for manual handling or larger loads to be shifted mechanically
- reducing the size or capacity of containers
- using handheld hooks or suction pads to move loads such as sheet materials
- using grip devices adapted to the particular object to be carried.



Use handling grip devices adapted to the particular object to be carried

### **Tools and equipment**

Hand tools should be designed to:

- be held in a neutral wrist or handshake position
- allow the hand to retain a comfortable grip span
- be well-balanced (the heaviest part of the tool needs to be behind the wrist)
- be suitable for use by either hand
- provide a good grip surface
- prevent a worker from adopting a pinch grip with high force or for prolonged periods.

Minimise the level of muscular effort, particularly of the shoulder and wrist, needed to use hand tools by:

- using power tools where possible
- suspending or supporting heavy tools where they are used repetitively and in the same place
- counterbalancing heavy tools that are used repetitively and need to be kept away from the body
- using trigger locks where the grip has to be sustained for more than 30 seconds
- holding the work piece in place with either jigs or fixtures selecting tools that produce the least amount of vibration
- reducing impact shocks

### ***Pushing and pulling loads***

Pushing 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 workers 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 motorised push/pull equipment such as tugs or electric pallet jacks
- using slide sheets to reduce friction when moving patients
- positioning trolleys with wheels in the direction of travel
- using 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 motorised 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 metre
- 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 above waist height and with elbows bent close to the body
- for pulling, ensuring handles allow the hands to be positioned below waist height allowing workers 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 workers to slow down gradually
- fitting brakes and speed limiters so speed can be controlled, particularly if there is a need to stop quickly so as to avoid other traffic.

### **Administrative Controls:**

Administrative control measures do not address the risk factors or source of the risk – they only attempt to reduce risk by reducing *exposure* to those risk factors.

#### ***Job rotation***

The risk of MSDs may be minimised by rotating staff between different tasks to increase task variety. Job rotation requires the tasks to be sufficiently different to ensure that different muscle groups are used in different ways so they have a chance to recover. To increase task variety, you should consider:

- combining two or more tasks so both are done by one worker and alter the workstation and items used accordingly
- providing breaks doing another task when the job is monotonous.

#### ***Rest breaks***

Regular rest breaks provide opportunities for workers to prevent the build-up of, or recover from the effects of, fatigue in muscle groups used during hazardous manual tasks that involve:

- repetitive awkward postures or sustained postures
- application of high force

- vibration
- long duration
- high levels of mental demand combined with hazardous manual tasks, for example inspection work.

The frequency and duration of rest breaks will be dependent on the nature of the task. Generally, the greater the force required, or the longer a posture is sustained, the greater the recovery time.

More frequent and shorter rest breaks are better for rest and recovery than fewer, longer breaks. Build short breaks into task rotation arrangements where work is of a similar nature, for example process production or hand tool use. Micro-pauses (very short intermittent breaks) in physical activity are also beneficial. Build these into the design of tasks and methods of work, for example:

- workers put down hand tools or release them (suspension) between operations
- keyboard operators remove hands from keyboards during natural keying breaks
- stagger manual tasks over the full work shift.

### ***Team handling***

Team handling is manual handling of a load by two or more workers. Team handling brings its own risks and requires coordination. It should only be used as an interim control measure. You should redesign manual tasks to allow the use of mechanical equipment, or eliminate the need to lift, if there is a regular need for team handling. Team lifting can increase the risk of MSD if:

- the load is not shared equally
- workers do not exert force simultaneously
- individual workers need to make foot or hand adjustments to accommodate other team members, reducing the force each can exert
- performed on steps or on a slope where most of the weight will be borne by handlers at the lower end
- individual workers unexpectedly lose their grip, increasing or changing the balance of the load on other team members.

Whenever team handling is used it is essential to match workers, co-ordinate and carefully plan the lift. You should ensure that:

- the number of workers in the team is in proportion to the weight of the load and the difficulty of the lift
- one person is appointed to plan and take charge of the operation
- enough space is available for the handlers to manoeuvre as a group
- team members are of similar height and capability, where possible
- team members know their responsibilities during the lift
- training in team lifting has been provided and the lift rehearsed, including what to do in case of an emergency
- aids to assist with handling (a stretcher, slings, straps, lifting bars, lifting tongs, trolleys, hoists) are used where possible and training is provided in their use.

## **5.4 Risk Evaluation**

It is important to evaluate the effectiveness of the control measures implemented, to ensure that they are effective and that they do not lead into the introduction of additional hazards within the work environment. An evaluation of control measures must be carried out by the Site Supervisor during the tasks Safe Work Method Statement Reviews.

## 6. Training

The Systems Manager will train employees during WHS EMS QA Seminars to ensure that employees can identify risky activities and receive appropriate training.

Project Manager/Supervisors should ensure Site Supervisor train employees / subcontractors in safe manual handling techniques during Safe Work Method Statement training for any manual handling type work activities. Site Supervisor should ensure the person/s being trained understand the reason for performing the task with the least amount of risk, can recognise the risks and decide the most appropriate method to complete the task and can perform the task in the correct way.

## 7. Review & Evaluation

In order to ensure this procedure remains effective, it will be reviewed by Senior Management on an annual basis or in the event of an injury or near miss resulting from manual handling, changes in legislation or if raised by an employee's concern.

## 8. References / Legislation

- Work Health & Safety Act 2011
- Work Health & Safety Regulation 2017
- Hazardous Manual Tasks Code of Practice
- National Occupational Health and Safety Commission: Standard for Manual Handling and National Code of Practice for Manual Handling 1990

## 9. Version Control

<b>Date</b>	<b>Version</b>	<b>Owner</b>	<b>Comments</b>
12.03.09	1	Michelle Noy	For Issue
11.11.11	2	Michelle Murphy	Following External 3 <sup>rd</sup> Party Audit
18.04.12	3	Michelle Murphy	Revisions following WHS Act 2011 / Code of Practices
05.06.15	4	Michelle Murphy	Updates – following Management Review
01.09.17	5	Michelle Murphy	General Review
01.06.18	6	Michelle Murphy	Change Legislation
01.12.23	7	Michelle Murphy	General Review